TAIWAN

Disaster Management Reference Handbook

April 2026

CENTER FOR EXCELLENCE IN DISASTER MANAGEMENT & HUMANITARIAN ASSISTANCE

WWW.CFE-DMHA.ORG

Acknowledgements

CFE-DM would like to thank the following people for their knowledge and support in developing this resource:

Dr. LI Wei-Sen, Secretary General, National Science and Technology Center for Disaster Reduction, Taiwan

Mr. HSIAO Huan-chang, Director-General, National Fire Agency, Ministry of the Interior, Taiwan

Mr. CHIOU Juinn-Cherng "Leo," Senior Inspector, and Ms. WEI, Kai-Hsien "Chelsea," Officer, National Police Agency, Ministry of the Interior, Taiwan

Mr. Pope Thrower, Spokesperson; and Ms. Jennifer Steffensen, Public Diplomacy Officer; American Institute in Taiwan

Front Cover

Taipei, Taiwan by Timo Volz on Unsplash.com.
https://unsplash.com/photos/aerial-view-of-city-buildings-during-daytime-KmZdPr2i8HI

Disaster Management Reference Handbook Series:

Download books at https://www.cfe-dmha.org/Publications/Disaster-Management-Reference-Handbooks

Disclaimer

This publication has been prepared in good faith based on resources available at the time of production. Information was gathered from the public domain, from local sources, from various governments, and from subject matter experts. Where possible, a link to the original source is provided in the endnote (reference) section at the end of the document. While we have made every attempt to ensure the information is relevant and accurate, the Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM) does not guarantee or warrant the accuracy, reliability, completeness, or currency of the information in this publication. Each publication is a working document and will be updated periodically as new and significant information becomes available.

Invitation for Feedback

We hope that you find our publications useful in understanding disaster management and response. We invite your feedback to improve our documents and enhance their future utility.
Please email comments to indopacom.jbphh.indopacom.mbx.cfe-dmha@us.navy.mil.

Use and Citation

All parts of this publication may be reproduced, stored, and transmitted without the permission of the publisher. Please visit our website to download copies of this publication and other products (https://www.cfe-dmha.org). For the CFE-DM's own tracking purposes, notice to indopacom.jbphh.indopacom.mbx.cfe-dmha@us.navy.mil with a webpage URL (as available) would be appreciated if this publication is used for any other means. We recommend that information found in this publication refer to the original source, as found in the reference section.

Other references may cite this publication using the following format:
CFE-DM. Title. Year. Date Accessed. URL

Date of publication: 21 April 2026
Updated: May 26, 2026 (20260526v1.1)
ISBN 978-1-955429-73-3

Table of Contents

Acknowledgements 2
Letter from the Director 6
About the Center for Excellence in Disaster Management & Humanitarian Assistance 7
Executive Summary 8
Overview 9
Geography and Environment 10
Society and Demographics 11
Government 14
Economic Profile 16
Disaster Profile 18
Hazards 18
Large-Scale Responses: Typhoon and Earthquake 20
Disasters by Numbers 23
Recent Disasters 24
Disaster Management Policy, Planning, and Response 29
National Disaster Management System 29
Subnational and Local Implementation 35
Civil-Military Coordination in Disaster Response 38
International / Regional Organizations 40
Other Disaster Management Partners 41
International Engagements 47
Taiwan-hosted International Trainings and Engagements 47
U.S. Government Disaster Management Engagement 49
CFE-DM Supports International Trainings in Taiwan 52
Taiwan Supports Trainings in the Asia-Pacific and Beyond 53
Taiwan Responds to Disasters Globally 54
Critical Infrastructure for Disaster Management 55
Transportation 55
Airports 56
Seaports 57
Roads 59
Railways 59
Navigable Waterways 59
Communications 60
Early Warning Systems and Information Sharing 60
Telecommunications Infrastructure 67
Mass and Social Media 70

Utilities 71
Power 72
Water and Sanitation 73
Health Systems 75
Shelter and Housing 78
Food Security 79
Conclusion 81
Appendices 82
Reception and Departure Center (RDC) Procedures 82
Taiwan's Disaster Prevention and Protection Act (DPPA) 107
Risk Index 129
Additional Resources 130
Acronyms and Abbreviations 132
Endnotes 136

Figures

Figure 1: Relief Map of Taiwan 10
Figure 2: Taiwan's Administrative Regions 16
Figure 3: Number of Typhoons by Month of Landfall, 1980-2025 18
Figure 4: Epicenter Distribution of Damaging Earthquakes in Taiwan, 1901-2022 19
Figure 5: Share of Total Natural Disasters in Taiwan, by Hazard, 1980-2024 23
Figure 6: Frequency of Natural Disaster Events, by Hazard and Year, 1980-2025 24
Figure 7: Paths of Two Typhoons that Hit Taiwan in October 2024 25
Figure 8: Taiwan Disaster Management System at the National Level 31
Figure 9: Disaster Prevention and Protection Organizational Structure to Local Levels 35
Figure 10: Taiwan Military Support to Typhoon and Earthquake Relief Efforts, 2023-2025 38
Figure 11: Regional and Onsite Earthquake Early Warning System 62
Figure 12: Warning and Response for Landslide and Debris Flow Disaster Types 64
Figure 13: Command Structure of the National Health Command Center 77

Photos

Photo 1: Buildings in Highly Urbanized Taipei 11
Photo 2: Taiwan SAR Team Supports 921 Disaster Preparedness Exercise 32
Photo 3: Search-and-Rescue Drill at NFA Training Center 33
Photo 4: Firefighters Undergoing Training at the NFA Training Center. 33
Photo 5: International Headquarters, S.A.R., Taiwan Assists in Nepal After Earthquake in 2015 44
Photo 6: Tzu Chi Set Up Shelter in Hualien after 2024 Earthquake 46
Photo 7: Forward Alliance Conducts Role-Play Training to Improve Civil Resilience 46
Photo 8: Participants, Including President Lai (center), 20 September 2024 47
Photo 9: USAR Coordination Cell, 921 Disaster Exercise, September 2025 47
Photo 10: Yilan County Fire Personnel Brief 921 Disaster Exercise Observers 47
Photo 11: MOI Minister and NFA Director General Support 921 Disaster Exercise 48
Photo 12: Minister Ma Conducts Training at 921 Disaster Exercise 48
Photo 13: Taiwan-Philippines Joint Training for Firefighting and Disaster Rescue 48
Photo 14: Disasters Workshop Led by CFE-DM and Taiwan NFA in 2024 52
Photo 15: CFE-DM and Taiwan's NCDR Staff Briefed Participants at HART-D, Bangkok, 2025 53
Photo 16: NCDR's Dr. Wei-Sen Li Comments at the HART-D, Bangkok, 2025 53
Photo 17: Participants of Pacific Partnership 2024 Workshop Led by NCDR and CFE-DM in Palau .. 53
Photo 18: Taiwan SAR Team Assists After Earthquake, Turkey, 2023 54
Photo 19: Emergency Network Mobile Vehicle in Hualien 70

Tables

Table 1: Taiwan Lead Agency for Disaster Response, by Hazard Type 29
Table 2: Taiwan AID Member Organizations 43
Table 3: Planned Airport and Seaport RDC Site Locations 56

Letter from the Director

Taiwan's proactive approach to disaster management has yielded impressive results in the last 25 years. The progress is evident when comparing the devastating 1999 Chi-Chi earthquake, which resulted in thousands of fatalities, to the similarly powerful 2024 Hualien earthquake, which resulted in less than two dozen deaths. Widespread disaster management reorganization starting in 2000 led to reforms in building codes, regular national and local disaster exercises, the establishment of search and rescue teams that meet international standards, and the development of the National Fire Agency's high-tech disaster training complex in central Taiwan's Nantou County. Taiwan's disaster management system continues to evolve with a new civil resilience approach, which resulted from the whole-of-society defense resilience initiative the current administration started in 2024.

Taiwan is sharing its disaster management capability with others in the region. It often offers assistance when other countries are struck by large disasters and recently deployed its search and rescue teams to Turkey (Türkiye) in response to the 2023 earthquake. It increasingly hosts participants from other countries at the Nantou training complex. Taiwan also hosts international workshops to share expertise and lessons learned on a variety of topics, including disaster management, under the Global Cooperation and Training Framework co-sponsored by the United States, Japan, Australia, Canada, and United Kingdom.

The United States and Taiwan share a diverse partnership across numerous sectors, including humanitarian assistance and disaster response and related security cooperation activities. The Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM) has also contributed to engagements with Taiwan for several years. CFE-DM observes Taiwan's annual national disaster preparedness exercise in September and contributes to various international workshops relating to disaster management.

CFE-DM has a long partnership with Taiwan's National Science and Technology Center for Disaster Reduction, with the two organizations becoming implementing partners in a humanitarian assistance and disaster relief memorandum of understanding signed in 2023 between the American Institute in Taiwan and the Taipei Economic and Cultural Representative Office. Taiwan's National Fire Agency has also long been a valued partner of CFE-DM and has hosted and together co-organized many interagency disaster management workshops. CFE-DM is also starting to work more with Taiwan's National Police Agency and looks forward to further developing the relationship centered in disaster and emergency response.

CFE-DM is pleased to offer this handbook, which provides an overview of Taiwan's approach to disaster risk and response management, including the roles of key responders and disaster management partners. This publication is intended to serve as a source of information for planners, disaster responders, and other personnel who may support disaster response in Taiwan and otherwise work alongside Taiwan first responders in disaster-relevant exercises and engagements.

Sincerely,

Joseph D. Martin, SES
Director

About the Center for Excellence in Disaster Management & Humanitarian Assistance

Overview

The Center for Excellence in Disaster Management & Humanitarian Assistance (CFE-DM) is a United States (U.S.) Department of War (DoW, also known as Department of Defense) 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 non-governmental 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

Resilient Joint Forces, Allies, and Partners that are fully prepared to respond across the spectrum of humanitarian crises.

Mission

CFE-DM builds crisis response capacity in US, Allies and Partner militaries across the Indo-Pacific to save lives before, during, and after emergencies.

Contact Information

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

EXECUTIVE SUMMARY

This handbook provides information about the disaster management (DM) system of Taiwan.* It includes key actors, natural hazards, and context to inform international planners and practitioners who may respond to a disaster in Taiwan or work alongside Taiwan responders in disaster exercises and related engagements.

The island's geography and location along the Pacific Ring of Fire means that typhoons, floods, landslides, earthquakes, and droughts are common. In an average year, three to five typhoons make landfall, and one damaging earthquake shakes the island. More than 70% of the land area and population are exposed to three or more natural hazards.[1]

Taiwan's contemporary DM structure was framed out by the 2000 Disaster Prevention and Protection Act (DPPA), which was passed following the second deadliest earthquake in the island's recorded history.[2] On 21 September 1999, a 7.7-magnitude quake struck near Chi-Chi (or Jiji) town in central Taiwan; it killed approximately 2,400 people and injured 10,000 others. The devastating earthquake prompted reforms in building codes and their enforcement, construction monitoring, and DM organization.[3] The 2000 DPPA addressed the whole DM cycle and has been revised repeatedly as new disaster issues have emerged.[4]

Taiwan retains a single-hazard DM approach. Instead of one national DM organization, the agency in charge of a disaster response depends on the hazard type. Given the frequency of typhoons and earthquakes, which fall under the purview of the Ministry of the Interior (MOI), the MOI's National Fire Agency (NFA) has amassed a significant amount of disaster experience and influences the DM system with a fire- and response-centric model. The NFA has extensive disaster training facilities in central Taiwan that were upgraded in June 2025 to become the largest firefighter training center in Asia and third largest in the world. The stated vision is to serve as a major hub for disaster response training for the Indo-Pacific region.[5]

Taiwan is reframing crisis management toward a civil resilience approach. This process started with President Lai's June 2024 announcement of the establishment of the Whole-of-Society Defense Resilience Committee, which aims to ensure that government and society maintain normal operations during a national emergency or natural disaster.[6] This initiative is spurring change in the DM system to relate disaster exercises to Whole-of-Society Defense Resilience, conduct fewer scripted exercises, and include more civil-military cooperation among interagency coordination.[7]

Taiwan's diplomatic isolation, including not being recognized by the United Nations (UN), poses a challenge for its international engagements and coordination. In a large-scale disaster or other humanitarian crisis that requires international assistance, UN entities and the International Red Cross and Red Crescent Movement lack an effective way to engage with Taiwan without agreement from the People's Republic of China (PRC).

Despite these roadblocks, Taiwan has significantly increased its DM capabilities and capacity in recent decades. In April 2024, a Moment Magnitude Scale (Mw) 7.5 earthquake struck off the east coast, resulting in 18 fatalities and limited infrastructure damage.[8] There were dramatically fewer fatalities than the comparable Chi-Chi earthquake, representing a major improvement in resilience. In the intervening 25 years, Taiwan also significantly developed its own search-and-rescue teams, meeting international standards and often deploying rescue teams to assist other countries that accept their help. Taiwan continues to develop domestic capacity and international partnerships to increase its resilience for future disasters or crises.

*Taiwan is officially named the "Republic of China" but mostly referred to as "Taiwan." Accordingly, this handbook will use "Taiwan," which also avoids confusion with the People's Republic of China (PRC or China). Where "Republic of China" is part of an organization's name, that will be stated for clarity upon identifying the organization.

OVERVIEW

Taiwan, a densely populated mountainous island in the Western North Pacific, faces exceptional disaster risk due to converging geographic, climatic, and social factors. The island's location exposes it to frequent seismic activity and an average of three to four typhoons annually, while its steep terrain and short river systems amplify flash flooding and landslide risks. High population density on the low-lying western plains significantly increases the number of people exposed to multiple hazards. Social vulnerabilities compound physical risk. Taiwan's rapidly aging population creates challenges for evacuation and response capacity. Indigenous communities and migrant workers face disproportionate risk due to their concentration in remote, hazard-prone areas and limited access to resources. This combination of exposure and vulnerability have driven Taiwan to develop and maintain robust coping capacity despite its ambiguous international status.

Taiwan's International Status

Taiwan faces unique challenges due to its lack of international diplomatic recognition. Taiwan is officially recognized by only 12 countries.* It has robust unofficial relations, trade, or exchanges with many countries, but it is not a member state of the UN or many other international organizations. This status challenges efficient international coordination. In large-scale disasters in Taiwan, such as the 1999 earthquake and Typhoon Morakot in 2009, UN organizations were delayed in responding in Taiwan until the government of the PRC agreed.

Taiwan's current international status is rooted in the Chinese Civil War. The Republic of China was established on the Chinese mainland in 1912 and governed by the Kuomintang (KMT, Nationalist Party), which lost control to the Chinese Communist Party (CCP) in 1949. The KMT evacuated some 2 million people from China to Taiwan and established one-party rule in Taiwan until the island democratized in the late 1980s. The KMT had also claimed to keep ruling all of China, a status Western powers recognized until the 1970s. In 1971, the UN switched recognition from Taiwan to China through UN General Assembly Resolution 2758. This shift was followed by a wave of countries switching recognition; the U.S. established diplomatic relations with the PRC in 1979 and recognized the PRC as "the sole legal Government of China" but maintained relations with Taiwan on an unofficial basis. The government of PRC currently claims Taiwan. While the island functionally operates as a separate entity, Taiwan authorities stop short of formally declaring independence.

* Countries that conduct diplomatic relations with Taiwan as a sovereign country: Belize, Eswatini, Guatemala, Haiti, Holy See (Vatican), Marshall Islands, Palau, Paraguay, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, and Tuvalu.

Geography and Environment

Taiwan extends 394 kilometers (km; 245 miles [mi]) from north to south and 144 km (89 mi) from east to west. It covers approximately 35,980 km^2 (13,892 mi^2) of land, including outlying islands – Penghu (Pescadores), Matsu, and Kinmen. Situated 130 km (81 mi) east of mainland PRC and approximately 320 km (200 mi) north of Luzon, Philippines, Taiwan has 1,566 km (973 mi) of coastline.[9]

About two-thirds of Taiwan is mountainous, dominated by the Central Mountain Range, which stretches the island's length and peaks at Yushan (Jade Mountain) at 3,997 meters (m; 13,113 feet [ft]).[10] These rugged mountains act as natural barriers by influencing weather patterns, creating transportation constraints, and complicating emergency access to eastern and upland regions. Figure 1 displays a relief map of Taiwan.[11]

Western Taiwan features fertile plains that host most of Taiwan's population, industry, agriculture, and critical infrastructure. Short, fast-flowing rivers drain from the mountains to the sea, and their physical characteristics carry risks of flash flooding, high sediment loads, and destructive debris flows during periods of heavy rainfall.

The island lies at a tectonically active boundary, where the Philippine Sea Plate, Okinawa Platelet, and Eurasian Plate converge, resulting in frequent earthquakes and fault movements with both vertical and horizontal displacement.[12] This seismicity heightens disaster risk, as it intersects with terrain and population patterns.

The climate ranges from subtropical in the north to tropical in the very southern part of the island. Taiwan experiences a warm, humid summer from May to September, when temperatures average around 28°C (82°F). Winters are mild and last from December to February, with January temperatures averaging 18°C (64°F). Snow falls in the mountains and occasionally at lower elevations in the north.[13] The climate is shaped largely by the East Asian monsoon system and the Western North Pacific typhoon tracks, both of which produce heavy rainfall. Taiwan receives abundant precipitation throughout the year, totaling 2,500-2,600

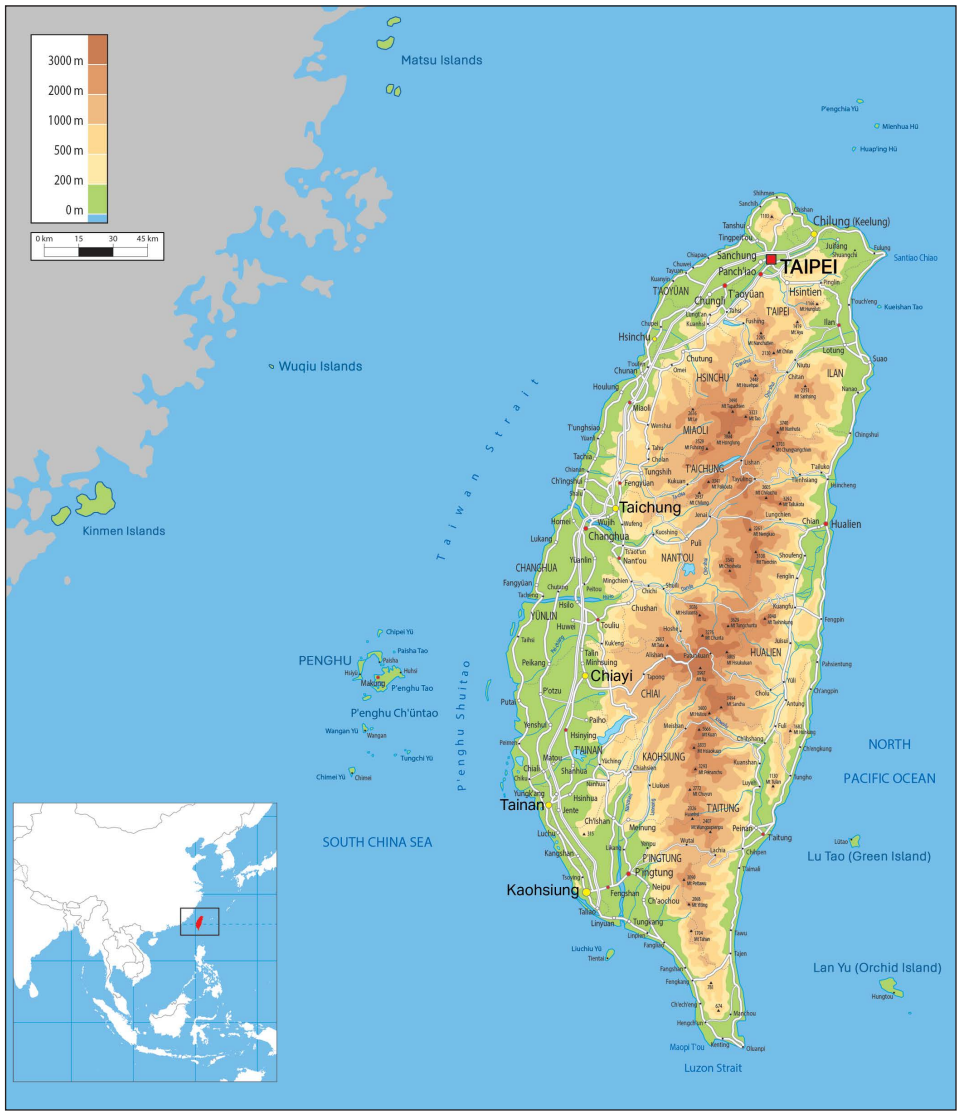


Figure 1: Relief Map of Taiwan

millimeters (mm; 98-102 inches [in]) of rainfall annually, and these totals contribute to flooding and landslide risks.[14]

Typhoon season runs from June to October. Influences that steer typhoons toward Taiwan include large-scale climate phenomena such as the Antarctic Oscillation, which is a pattern of atmospheric variability that influences weather and climate, along with variations of the western Pacific subtropical high, which is a crucial atmospheric circulation system that influences weather patterns in East Asia. Related typhoon influences include the Asian summer monsoon and the oceanic tunnel or channel for water masses that connects different sea basins and atmospheric regions.[15]

Society and Demographics

The intersections of demographic diversity and vulnerability in Taiwan require inclusive disaster planning that addresses varied functional needs. Effective response strategies must include multilingual risk communication, culturally informed engagement with Indigenous and migrant communities, accessible evacuation and sheltering arrangements, and child-friendly facilities. The increasing proportion of elderly residents, growing migrant worker population, and persistent socioeconomic disparities present ongoing challenges for ensuring equitable disaster resilience across all segments of Taiwan's society.

Taiwan has a population of about 23.4 million, with a high population density of about 644 people per km^2 (1,668 people per mi^2).[16] More than 80% of the population resides in urban areas along the western part of the island.[17] There are a total of six special municipalities – Taipei, Taoyuan, New Taipei, Taichung, Tainan, and Kaohsiung – each with its own unique characteristics and contributions to the island's economy and culture. Photo 1 shows an aerial view of buildings in Taipei and illustrates Taiwan's high degree of urbanization.[18]

Taiwan's population is predominantly Han Chinese, with about 95% of the population identifying as having Han Chinese ancestry, including Hokkien, Hakka, and "mainlander" groups.[19] About 2.5% of the population consists of Indigenous peoples, divided into 16 officially recognized Indigenous groups – Amis, Atayal, Bunun, Hla'alua, Kanakaravu, Kavalan, Paiwan, Puyuma, Rukai, Saisiyat, Sakizaya, Seediq, Thao, Truku, Tsou, and Yami. Indigenous communities are further categorized into Mountain Indigenous Peoples, who primarily reside in central and eastern Taiwan, and Plains Indigenous Peoples, whose culture has been eroded by centuries of colonialism and urbanization.[20]

Taiwan is a linguistically diverse society. Mandarin Chinese is the official language and the primary medium of instruction, but many people also speak Taiwanese (also referred to as Tai-gi,[21] Taiyu, Taiwanese Hokkien, Hoklo, Minnanyu, or Southern Min),[22] Hakka, Japanese, and English. Additionally, the 2017 Indigenous Language Development Act[23] granted recognition to the indigenous Austronesian languages of the 16 officially recognized tribes.[24] At various points in

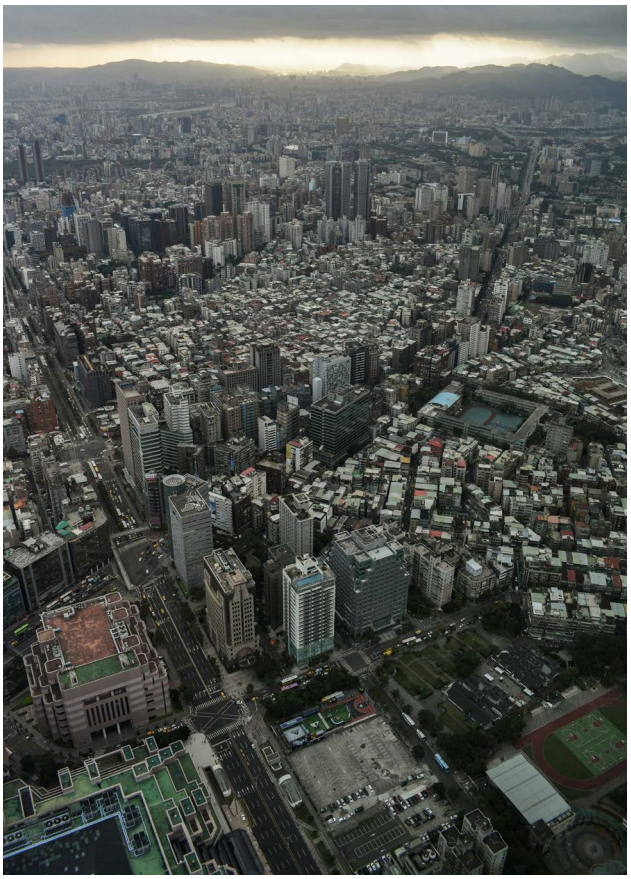


Photo 1: Buildings in Highly Urbanized Taipei

Taiwan's history, the island's people have had to learn Japanese, Mandarin, Tai-gi, or English to have access to certain resources; the result is that most people speak at least two languages, and many speak more.[25] Prior to 1945, the most widely spoken language in Taiwan was Taiwanese, which was used across many of Taiwan's ethnic communities. However, during the martial law period (1949-1987), language policies became stricter and, to uphold the legitimacy of the Republic of China, the ruling Kuomintang required that only Mandarin be used in public life, including in classrooms, government announcements, and on television.[26] This linguistic history is an important consideration for disaster communication and response planning.

Religious practices reflect Taiwan's cultural diversity. A 2023 study found that 27.9% of the population practices traditional folk religions, 19.8% Buddhism, 18.7% Taoism, 5.5% Protestantism, 2% I-Kuan Tao, and 1.4% Roman Catholicism. Another 23.9% identify as nonbelievers, while the rest (less than 2%) of the population adheres to Judaism, Sunni Islam, Tien Ti Chiao (Heaven Emperor Religion and Heaven Virtue Religion), Li-ism, Hsuan Chiao, Tian Li Chiao, Precosmic Salvationism, Church of Scientology, Baha'i, Jehovah's Witnesses, Mahikari, the Church of Jesus Christ Latter-day Saints, and the Family Federation for World Peace and Unification. Additionally, as many as 80% of religious practitioners combine multiple faith traditions.[27] Faith-based organizations like the Buddhist Tzu Chi Foundation and various Christian groups play vital roles in disaster response efforts, providing shelter, food, and medical aid during emergencies.

Taiwan is undergoing rapid demographic shifts, including an aging population and declining fertility rates as seen across East Asia.[28] Taiwan became an aging society (7% of people are aged 65 years or older) in 1993, an aged society (14% are aged 65 years or older) in 2018, and a super-aged society (20% are aged 65 years or older) in 2025.[29] In 2025, 20.1% of the population is aged 65 years and above, and the median age is 44.8 years. Low fertility rates, delayed marriage, and rising divorce rates contribute to declining population size and changing family structures, increasing the number of older adults who live alone or are dependent on paid care.[30]

Vulnerable Groups

Population aging presents significant challenges for DM. Older adults are disproportionately affected during disasters due to reduced mobility, chronic health conditions, and lower digital literacy, all of which complicate evacuation, sheltering, and access to information. MOI data between 2014 and 2017 indicated that older adults were disproportionately affected by natural disasters with higher fatality rates.[31] Evidence from the 1999 Chi-Chi earthquake revealed higher mortality and injury rates among older adults, a characteristic that underscores the intersection of age, health, and disaster vulnerability. For example, in Nantou County people 65 years of age and older comprised 37% of the earthquake's fatalities, yet only comprised 10.1% of the general population.[32] Between 2005 and 2023, 85.09% of villages that received landslide warnings had over 14% of their population comprised of older adults.[33] Many rural areas, especially in the east, have large elderly populations, as young people move to cities for better job opportunities. The digital literacy gap and ineffective communication were blamed for elder populations not evacuating during Typhoon Ragasa in September 2025, and many elders were trapped by water surging into their homes.

A study found that most older adults in Taiwan do not invest time or money in disaster preparedness. However, past experiences may lead older adults to prepare for disasters; those people severely affected in past disasters know how difficult and slow emergency assistance can be. Conversely, older adults who have experienced minor impacts or no effects in disasters usually have insufficient preparation for possible disasters, and they are, therefore, exposed to higher risk.[34]

Taiwan's Indigenous communities face disproportionate disaster vulnerability due to geographic, social, and economic factors.[35] Many settlements are in steep upland terrain or along hazard-prone river valleys. Between 2006 and 2020, 43% of hydrometeorological disaster events occurred in or directly impacted Indigenous communities. Indigenous Taiwanese remain socially disadvantaged, often with lower education levels, shorter life expectancy, lower family income, and higher rates of single-parent families, unemployment, and obesity.[36]

Agriculture is the primary employment sector for Indigenous people, who comprise 20% of the agricultural labor force; for comparison, 6.6% of the total workforce participates in agriculture. Many Indigenous workers are employed in "3K jobs" (from the Japanese expression "kitanai, kiken, kitsui" or "dirty, dangerous, and demanding") in manufacturing and construction, often on a contract basis during agricultural off-seasons.[37] This pattern of labor force participation translates into economic vulnerability, which compounds disaster risk, as 64% of Indigenous farmers experience off-seasons ranging from 1 to 6 months, a period during which they seek temporary work and housing in nearby towns.

An example of the type of disproportionate impact disasters can have on vulnerable communities can be found in Typhoon Morakot, which struck in 2009 and killed 699 people, destroyed 1,766 houses, and displaced 45,000 people. Nearly 80% of the affected areas were home to Indigenous peoples.[38] Post-disaster reconstruction efforts often lacked culturally informed engagement, and the result was tension between recovery frameworks and local needs. Several Indigenous groups with historical rivalries were resettled in the same villages without adequate consultation, and reconstructed villages were planned without necessary input from residents. Indigenous households were unable to resell their homes or return to their old farming and hunting grounds.[39] While response was swift, challenges emerged in aligning national-level organizations with the cultural, historical, and political contexts of Indigenous communities.

Children and youth are also groups who are vulnerable during disasters. Infants and children are more susceptible to dehydration, illness, and injury, and they depend on caregivers for evacuation and access to services. These vulnerabilities highlight the importance of family-based evacuation planning and child-friendly shelter arrangements. Taiwan's education system serves approximately 555,000 preschool students, 1,203,000 primary school students, 569,000 junior high school students, 550,000 senior secondary school students, and 1,074,000 university, college, and junior college students. Damage to schools and childcare facilities or their use as temporary shelter can have cascading effects on child well-being, as they interrupt education and are accompanied by psychosocial stress.

Poverty can also increase vulnerability. At the end of 2023, there were 252,332 households (564,081 individuals) classified as low-income and middle-low-income.[40] These households are more likely to inhabit older, substandard, or hazard-prone housing and have limited financial reserves to absorb income loss or housing damage following disasters. They are more dependent on government assistance for evacuation, shelter, and recovery support and may experience prolonged displacement or delayed recovery.

Foreign residents may also confront complications in building disaster resilience. Taiwan hosts 753,430 foreign workers as of December 2023. They primarily hail from Indonesia (264,300), Vietnam (260,700), and Philippines (152,100).[41] There are two main categories of foreign worker in Taiwan: social welfare workers (domestic helpers and caregivers) and industrial workers (manufacturing, construction, and fishing). Migrant workers in domestic caregiving and distant-water fishing are among the most vulnerable because they are not covered by the Labor Standards Act and do not receive guaranteed minimum wages or access to social protections.[42] There are ongoing concerns about inadequate safeguards against the exploitation

of migrant workers. Despite laws and guidelines meant to protect them, some migrant workers experience illegal movement restrictions, such as the withholding of travel documents by employers.[43]

Foreign fishermen working on Taiwan-owned and -flagged or Taiwan-owned and foreign-flagged fishing vessels have experienced non- or under-payment of wages, long working hours, physical abuse, lack of food or medical care, denial of sleep, substandard safety equipment, and poor living conditions, and they commonly become indebted to complex, multinational brokerage networks through the continued imposition of recruitment fees and deposits.

Taiwan hosts more than 500,000 foreign spouses, the majority of whom are women from Southeast Asia. These women play a central role in sustaining Taiwan's care economy and demographic future, as they raise children and support aging in-laws. However, they are often marginalized due to limited fluency in Mandarin. The resulting communication gap can be a deep-rooted barrier that shapes access to health care, employment, education, and community life. Additionally, many foreign spouses lack social support networks that further constrain integration in Taiwan.[44]

In September 2024, Taiwan announced plans to attract 25,000 foreign students to study and then work in Taiwan. As Taiwan's birth rate continues to fall, the Ministry of Economic Affairs said it will recruit international students to address industry labor shortages. The National Development Council estimates that Taiwan's labor force gap will be about 350,000 people by 2028.[45]

An additional group with specific vulnerabilities are people living with disabilities. At the end of 2023, 1,214,668 individuals held disability certificates; this number marked an increase of 89,555 from 2013.[46] Taiwan's Persons with Disabilities Rights Protection Act defines people living with disabilities as those with physical or mental impairments that limit ordinary living activities and social participation. Most jobs in Taiwan are inaccessible to people living with disabilities, and these people make up 7% of the unemployed population. For the families of people living with disabilities, the loss of a job means the loss of household income. A newly developed disability could require additional medical care and its associated costs, and additional financial strains result.[47] In Taiwan, the needs of people living with disabilities are seldom addressed specifically; instead, they are routinely included within the umbrella term of "vulnerable people" in disasters. Evacuation and shelters are the topics most often discussed in relation to DM strategies and vulnerable people.

Taiwan maintains one of the most comprehensive welfare regimes in Asia. The Taiwan Ministry of Health and Welfare oversees disaster victim shelter and accommodation, essential supplies readiness, and victim care and support, and it maintains comprehensive pre-disaster preparations to ensure effective crisis response.[48] Taiwan's society participates in several population-wide annual exercises intended to instill resilience, including the annual Min'an exercise, which focuses on disaster response and management of internally displaced persons.[49]

Government

Taiwan's government continuously innovates in ways that enhance disaster preparedness and leverage technology to strengthen resilience. These initiatives reflect Taiwan's ability to adapt its governance structures to address domestic challenges. However, Taiwan's contested international status significantly shapes its ability to engage with the global community during disasters. While Taiwan operates as a sovereign democracy with robust governance systems, its limited diplomatic recognition and exclusion from key international organizations often complicate large-scale disaster response efforts.

Taiwan is a stable, liberal democracy that has undergone a remarkable transition from authoritarian rule to a vibrant multiparty system. Officially known as the Republic of China and formerly known as Formosa, Taiwan has transitioned from nearly four decades of one-

party rule under the Kuomintang. Martial law was lifted in 1987; the first direct election for the Legislative Yuan was held in 1992; and the first presidential election followed in 1996.[50]

Taiwan operates as a semi-presidential republic governed by a constitution promulgated in 1947 and amended over time to support democratic development. While the constitution was originally enacted in mainland China before the Kuomintang's relocation to Taiwan, it has been exclusively in force in Taiwan since 1949. The document's principles and amendments have played a significant role in advancing Taiwan's human rights and democratic values.[51] The constitution grants all citizens the right to vote, regardless of gender, ethnicity, religion, sexual orientation, or gender identity.[52]

The constitution established a unique five-branch government system known as the "Five Yuans," which ensures a comprehensive division of administrative power:

- The Executive Yuan formulates and implements policies, including for disaster response. It is headed by a premier appointed by the president, while other members comprise the vice premier, ministers, chairpersons of commissions, and ministers without portfolio.[53]
- The Legislative Yuan is the main lawmaking body. It reviews and enacts legislation, conducts hearings on policy matters, and examines budgetary bills and government operations. It is a unicameral body with 113 members who are directly elected to 4-year terms.[54] Taiwan's constitution and electoral laws include gender quotas for at-large Legislative Yuan seats. Furthermore, six Legislative Yuan seats are reserved for Indigenous candidates elected by Indigenous voters.[55]
- The Examination Yuan oversees the civil service through examinations and personnel administration, including selection, appointment, and management of all civil servants in Taiwan.[56]
- The Judicial Yuan is the highest judicial body. It oversees the Supreme Court, Constitutional Court, and subordinate courts including high courts, district courts, and administrative courts.[57]
- The Control Yuan investigates misconduct, audits public government agencies, and has the power to impeach and censure officials.[58]

The president serves as head of state and commander-in-chief of the armed forces. The president holds most executive authority in practice.[59] Directly elected for up to two 4-year terms, the president appoints the premier with legislative consent and appoints Executive Yuan members on the premier's recommendation. This centralized executive leadership is crucial for coordinating national disaster response efforts.

While governance is centralized at the national level, Taiwan delegates to local governments substantial responsibility, particularly for public safety, emergency response, and DM. Taiwan is divided into 22 administrative divisions: 13 counties, 6 municipalities, and 3 county-controlled cities.[60] Figure 2 shows Taiwan's 22 administrative divisions.[61] These top-level jurisdictions are subdivided into 368 districts, with varying governance structures – urban district officials are bureaucratically appointed while rural and indigenous district officials are directly elected by citizens.[62] District-level officials serve as important points of contact between citizens and national-level authorities to implement social welfare programs and emergency services.

Since the late 1990s, Taiwan has demonstrated strong commitment to e-governance, though development has been largely driven by top-down mandates rather than citizen demand.[63] The government's effective use of digital tools was particularly evident during the Coronavirus Disease 2019 (COVID-19) pandemic, when open-access data repositories and the LINE app helped maintain public trust through transparent communication.[64]

Contested Status

The PRC claims to be the legitimate government of Taiwan, while current Taiwan

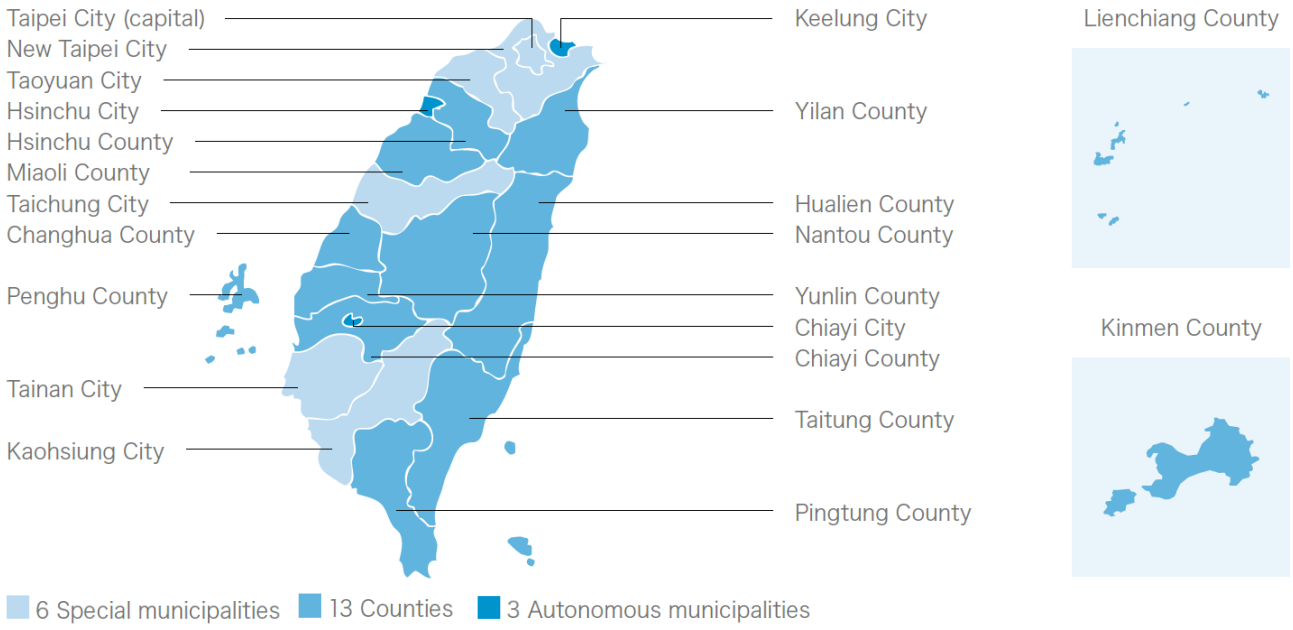


Figure 2: Taiwan's Administrative Regions

President Lai-Ching-te, like his predecessors, maintains that Taiwan is an independent, sovereign country.[65]

Because of its contested status, Taiwan faces significant international constraints. It is not a member of international organizations, such as the UN, that require formal statehood, and most countries do not maintain official diplomatic relations with Taiwan or recognize it as a sovereign state separate from PRC. As of 2025, only 11 states and the Holy See maintain official diplomatic relations with Taiwan, while 142 countries support the PRC's position that Taiwan is part of PRC.[66] Since the 1971 United Nations General Assembly (UNGA) Resolution 2758 recognized PRC representatives as "the only legitimate representatives of China to the United Nations," Taiwan has been excluded from the UN and many specialized agencies.[67] While Taiwan maintains membership in some international bodies like the World Trade Organization, the Asian Development Bank, and the Asia-Pacific Economic Cooperation, PRC continues efforts to limit Taiwan's international participation and diplomatic ties.[68]

These constraints can significantly complicate disaster response. Following the 21 September 1999 Chi-Chi earthquake, the Chinese Communist Party took advantage of Taiwan's lack of UN representation and stood in the way of the global body providing aid.[69] In the immediate aftermath, the UN Office for the Coordination of Humanitarian Affairs (OCHA) said all it could do was to pass on information about the quake. To do more would require Beijing to request assistance on behalf of Taiwan, which both PRC and the UN consider to be a province of PRC. UN OCHA official Rudolf Mueller said, "We are awaiting China's official position indicating it would welcome assistance." A green light from Beijing would enable more countries to respond.[70] PRC provided clearance for international aid on 22 September 1999, and this clearance allowed more than 700 aid workers to arrive from 20 countries.[71] Many international rescue teams found that the delayed arrival, combined with high initial mortality rates, reduced search-and-rescue opportunities.

Economic Profile

Taiwan is a highly developed, export-oriented economy, and it is a global leader in advanced manufacturing, particularly semiconductors and electronics. Strategically located on the world's busiest shipping lanes, Taiwan plays a critical role in global trade and supply chains. In the past half century, the economy has transformed

from an agriculture-based economy into a high-income industrial and services economy, driven by innovation, technological advancement, and strategic economic policies. Nonetheless, it is not immune from disruptions related to natural hazard events or global shocks.

Taiwan's trade-dependent economy is underpinned by its competitive manufacturing sector, which specializes in high-end semiconductors and electronic components. Producing 92% of the world's advanced chips, Taiwan is a cornerstone of global technology supply chains and a critical supplier for industries ranging from artificial intelligence (AI) to quantum computing.[72] Manufacturing is a major contributor to the economy, as it encompasses machinery, petrochemicals, textiles, steel, cement, and pharmaceuticals. The services sector, which includes finance, retail, tourism, and information technology, also plays a significant role. Although agriculture contributes only around 2% of gross domestic product (GDP) and employs about 5% of the labor force, it remains vital for rural livelihoods and food security.[73]

Taiwan's economy is robust despite international and domestic challenges. It shows consistent GDP growth and low unemployment rates. In late 2025, Taiwan's statistics bureau reported 8.21% year-on-year GDP growth, driven by a 36.5% surge in exports.[74] Approximately 70% of Taiwan's GDP is export-driven, underscoring its dependence on global trade.[75]

Despite its economic success, Taiwan faces challenges such as income inequality, stagnant wages, and rising housing costs. While electronics manufacturing contributes over 15% of GDP, it employs only 6.5% of the workforce, an imbalance that highlights the concentration of economic gains in specific sectors. The official poverty rate in Taiwan was 2.6% as of 2021, but this figure may underestimate the true prevalence of poverty due to the low income-based poverty line.[76] Economic disparities are further exacerbated by rising housing costs, stagnant wages, and limited upward mobility for workers.

Despite the global dominance of Taiwan's semiconductor industry, recent developments suggest growing risks to its long-term sustainability. Externally, geopolitical competition has diluted the monopoly held by Taiwan Semiconductor Manufacturing Company Limited (TSMC), and countries such as the United States, PRC, Japan, and South Korea have adopted semiconductor sovereignty laws. Cybersecurity threats are also on the rise, as demonstrated by the Russian-based LockBit ransomware attack that targeted TSMC's data.[77] Internally, Taiwan's semiconductor industry faces resource constraints, including its dependence on imports for 97% of its energy needs and the water-intensive nature of chip production, which is increasingly threatened by depleting water reserves. Additionally, a decline in the talent pool for skilled engineers poses challenges to sustaining innovation in the sector.[78]

Taiwan's reliance on high-tech manufacturing makes its economy particularly vulnerable to disruptions. The 1999 Chi-Chi earthquake caused island-wide power failures that resulted in US$400 million in losses in the semiconductor subsector alone.[79] Similarly, the April 2024 earthquake caused slight damage to TSMC facilities, and initial losses were estimated at US$92.44 million.[80] Disruptions to semiconductor production can have ripple effects across multiple industries, as they may delay product launches and impact global supply chains.[81]

Acknowledging these vulnerabilities, Taiwan is seeking to diversify its economy. The New Southbound Policy, launched in 2016, aims to expand trade ties across South and Southeast Asia, while Taiwan's bid to join the Comprehensive and Progressive Agreement for Trans-Pacific Partnership reflects its efforts to strengthen economic connectivity with other global partners. Taiwan is also exploring growth in emerging sectors such as space technologies and biotechnologies.[82]

DISASTER PROFILE

Located on the Pacific Ring of Fire and along the northwest Pacific tropical cyclone corridor, Taiwan is exposed to frequent earthquakes as well as typhoons (tropical cyclones) during the typhoon season. Flooding and landslide events are frequent. The deadly and destructive 1999 Chi-Chi earthquake and 2009's Typhoon Morakot are two major disasters that drove significant advancements in disaster preparation, prevention, and response planning. The impacts of the Chi-Chi earthquake led to upgrades to the island's infrastructure and seismic resistant building codes, while the devastation of Typhoon Morakot drove amendments of the DPPA and formalization of the military's role in disaster relief.[83] These disasters also prompted improved laws, response plans, and the development of early warning systems (EWS).

Hazards

Taiwan is exposed to multiple natural hazards – typhoons, earthquakes, floods, landslides, droughts, wildfires, epidemics, and tsunamis. According to the MOI, over the last 50 years, typhoons have been the island's most frequently occurring disaster, followed by flooding and earthquakes. Statistics from the Central Weather Administration (CWA) reveal an average of three to five typhoons making landfall annually. Additionally, typhoon activity and heavy rain during the monsoon season leave Taiwan at high risk of flooding. Approximately 100 earthquakes occur daily, although most are not felt, but an average of 2.8 quakes of Mw 6.0 or greater occur each year.[84]

Typhoons

Located along the northwest Pacific tropical cyclone basin on the western edge of the Pacific Ocean, Taiwan is frequently exposed to heavy rainfall and high winds. The island is positioned where typhoons branch towards western or northern paths. Over the last 100 years, Taiwan has experienced more than 350 typhoons and 100 significant rainfall events.[85] Figures from the CWA show an average of three to five typhoons making landfall in Taiwan annually[86] and an annual average of slightly over a dozen typhoons entering Taiwan's area.[87]

Figure 3 depicts how frequently typhoons occurred by month of landfall during the 1980-2025 period, per the international disaster database (EM-DAT) from the Centre for Research on Epidemiology of Disasters (CRED). The chart visually emphasizes the height of typhoon season.[88]

Taiwan's typhoon season generally runs from July to October; however, less severe typhoons can occur as early as April. Typhoons become larger and stronger as the typhoon season progresses due to Taiwan's location in the transition area between the warm Western Pacific and the weather systems of East Asia. Typhoons that enter Taiwan's area form east of Taiwan and north of the equator, and, driven by trade winds, they initially track west towards the Philippines, then turn north or northwest.

The Zhongyang or Central Mountain Range of Taiwan reaches up to 3,950 m (12,959 ft) in altitude and extends along the southeast coast. Its Pacific-facing slopes are steep and rocky near the coastline, and they form a natural protective barrier for parts of the island by

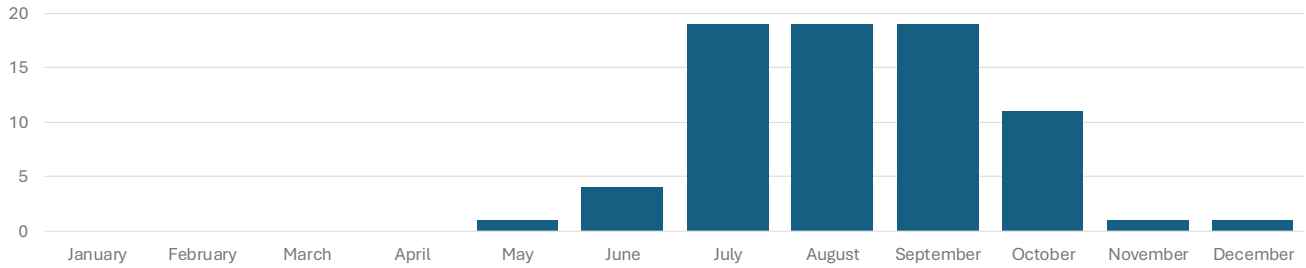


Figure 3: Number of Typhoons by Month of Landfall, 1980-2025

weakening storms close to the ground. Extreme rainfall usually affects the eastern side of the mountains, while the western side remains drier. The heavy rainfall brought by typhoons regularly causes landslides, and coastal areas suffer from storm surges, flooding, and erosion. Despite the damage caused by typhoons, these storms are the source of a significant portion of annual rainfall and fill water reservoirs used for agriculture and energy.[89]

Earthquakes

Taiwan sits in one of the most seismically active regions of the world. The ongoing collision between the Philippine Sea Plate and the Eurasian Plate has the potential to drive devastating earthquakes. At least 36 active fault lines run beneath the island, with the east coast being particularly vulnerable due to its proximity to some of the most significant faults.[90]

On average, Taiwan experiences one damaging earthquake annually and a severe earthquake every 10 years.[91] It records more than 2,000 small earthquakes annually, although only a fraction of them are noticeable.[92] According to the CWA, Taiwan averages 100 earthquakes per day, though the majority are not felt. An earthquake generally needs a magnitude of at least Mw 3.5, and typically Mw 4.5 or higher, to be felt by people near its epicenter. While Taiwan averages only 2.8 earthquakes of Mw 6.0 or above per year, there were 12 such events in 2022, the most in one year since the Mw 7.6 Chi-Chi earthquake.[93] Since 1980, Taiwan and the surrounding waters have experienced approximately 2,000 earthquakes of Mw 4.0 or greater, and more than 100 of Mw 5.5 or greater, according to the United States Geological Survey (USGS).[94]

Historically, one of the deadliest and most destructive earthquakes in Taiwan was the Chi-Chi earthquake that struck on 21 September 1999. Its epicenter was near Chi-Chi town in Nantou County. It caused widespread destruction, killing 2,400 people and injuring approximately 10,000 others. This disaster highlighted the need for improved disaster preparedness and response efforts. Since then, Taiwan has implemented stricter building codes and regulations, developed specialized earthquake sensing and warning technology, improved disaster laws and plans, retrofitted older buildings, and conducted regular disaster drills and public education campaigns. The national annual disaster preparedness event is called the "921" exercise in commemoration of the Chi-Chi earthquake's date. More recently, an Mw 7.4 earthquake on 3 April 2024 was the strongest quake to hit Taiwan in 25 years. It resulted in far fewer deaths – 18 – and injuries - 1,100 – than the Chi-Chi quake.[95]

Figure 4 approximates the locations of destructive earthquakes in Taiwan from 1901 to 2022.[96]

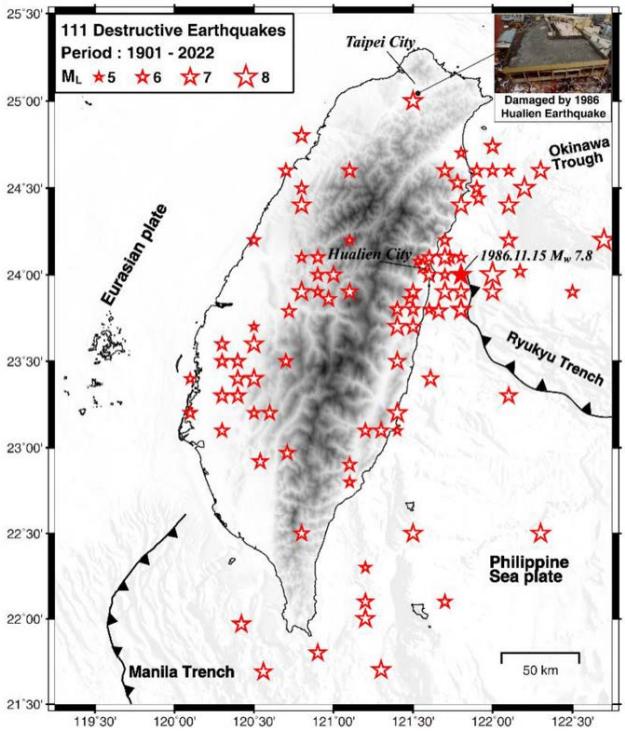


Figure 4: Epicenter Distribution of Damaging Earthquakes in Taiwan, 1901-2022

Taiwan residents are used to earthquakes and are trained on how to respond, as school and workplace drills have been mandated since 1999. Additionally, disaster first responders actively monitor social media and can access surveillance cameras to assess damage.[97] Nationwide disaster drill day is 21 September in commemoration of the Chi-Chi earthquake, and the day features practice alerts and evacuation exercises.[98]

Large-Scale Responses: Typhoon and Earthquake

Typhoon Morakot – August 2009

Typhoon Morakot made landfall in Taiwan on 7 August 2009. It left at least 602 people dead and 92 missing. From 8 to 9 August, the storm passed over Taiwan with heavy rains and wind speeds of more than 160 kph (100 mph). The result was extensive flooding and mudslides. More than 24,000 people were evacuated from affected areas. Additionally, 5,311 people were displaced. The storm mainly affected remote mountainous regions of the south-central part of the island. Pingtung, Tainan, and Kaohsiung were the three most affected counties. Between 6 and 9 August, Morakot dumped more than 3 m (9.8 ft) of water and caused estimated economic losses of US$3.4 billion. More than 40,000 Taiwanese troops were involved in search and rescue efforts. Morakot was reportedly one of the deadliest typhoons to have hit the island in 50 years.[99]

On 11 August, the AIT issued a disaster declaration. In response, USAID/ Office of US Foreign Disaster Assistance (OFDA, later BHA) provided US$250,000 through the AIT to support the relief efforts of Taiwan's Red Cross and deployed two advisors to Taiwan between 14 and 24 August to conduct assessments and coordinate U.S. Government efforts. Taiwan requested heavy lift assistance from the U.S., and the U.S. Secretary of Defense directed U.S. Pacific Command (USPACOM, now U.S. Indo-Pacific Command) to assist, and the task was assigned to Combined Task Force 76 (CTF 76). CTF 76 redeployed Commander, Amphibious Squadron 11 (CPR11), along with elements of the commodore's staff, and 31st Marine Expeditionary Unit aboard the USS Denver, which had two MH-53E and two MH-60S helicopters and an LCAC hovercraft aboard. CPR 11's commodore assembled a Humanitarian Assistance Survey Team and flew ashore to discuss the host nation's priorities with USAID representatives.[100]

On 15-16 August, the Department of Defense (DoD, now also DOW) delivered 517,420 water purification tablets and 120 rolls of plastic sheeting via two C-130 cargo planes. In addition, USPACOM provided two heavy-lift helicopters and two medium-lift helicopters from the USS Denver to transport excavation equipment. The commodore deployed 45 sailors and Marines to provide a tactical air control team, a helicopter rigging team, a helicopter logistics and maintenance team, and a public affairs team at Tainan Air Force Base, where they worked together with their Taiwanese counterparts. The MH-60S provided aerial damage surveys and verification of helicopter landing zones, while the MH-53E performed lift missions. The team flew 55 sorties, lifting 20 construction vehicles and 20 boxes of relief supplies, for a total of 116,000 kilograms (255,800 pounds). Personnel assisted the USAID/OFDA Principal Regional Advisor in conducting field assessments in southern Taiwan between 20 and 22 August. U.S. military helicopters also assisted assessments in Kaohsiung County and the Pingtung coast.[101]

Chi-Chi Earthquake – September 1999

A team from the U.S. Army Corps of Engineers was sent to Taiwan to conduct site analysis and assess damage patterns in urban areas after the devastating 921 earthquake. The U.S. DoD also contributed US$82,000 toward the response effort by supplying 1,500 body bags to local authorities. USAID provided US$25,000 through AIT, which channeled assistance through the TRC. USAID also committed US$2,386,200 for the cost of an SAR team comprised of 92 SAR specialists.[102]

Floods

Due to frequent heavy rains and typhoons, Taiwan is at high risk of various types of flooding – urban, river, and coastal. Potentially damaging and life-threatening urban and river floods are expected to occur at least once in 10 years, and potentially damaging waves are expected to flood the coast at least once in 10 years.[103]

Barrier lake flooding has become a recent concern after Typhoon Ragasa brought heavy rains in September 2025. It caused the Mataian Creek to overflow and send flood waters and sediment into Guangfu township and nearby communities, where at least 19 people were killed and more than 150 people were injured. A barrier lake had formed in July after a large landslide occurred on the upstream section of the creek.[104] The barrier lake was approximately 11 km (7 mi) away from communities and held approximately 91 million tons of water. About three-fourths of the water was suddenly released when the lake overflowed. At least 88 barrier lakes have formed on the island since the 1970s, according to Taiwan's Public Television Service. Approximately 57% were formed following typhoons, while 23% were formed from earthquakes. Most reportedly disappear within a year, but four barrier lakes have existed for decades.[105]

Due to the risk of floods, Taiwan has utilized flood inundation maps for risk identification and to depict the extent and depth of floodwater under different scenarios. These maps are produced by Taiwan's Water Resources Agency and have been used for planning, risk communication, and resource allocation. Flood maps are also prepared by local governments, research centers, and universities.[106] In July 2024, the Executive Yuan approved a NT$3.09 billion (US$94.1 million) plan to utilize AI to manage flood risk. The plan includes virtual disaster simulations that assess potential scenarios and strategically deploy relief resources to priority areas.[107]

Landslides

Taiwan is one of the most landslide-prone areas in the world, and it experiences thousands of landslides each year. The island's topography, frequent earthquakes, and heavy rains drive landslide risk. In 2019, forest and bare land areas experienced over 34,000 landslides, and in 2023, there were 29,000 landslide events.[108]

Nearly two-thirds of Taiwan is mountainous, and the island's steep mountains can amplify the ground shaking from earthquakes, resulting in landslides. Recently, several landslides occurred on the eastern coast near the epicenter of the April 2024 earthquake near Hualien County; several deaths were recorded there.[109]

With heavier precipitation and more frequent and intense tropical cyclone activity projected, a higher likelihood of landslides in Taiwan may be expected. The mountainous terrain includes more than 200 peaks exceeding 3,000 m (9,842 ft), and annual rainfall can exceed 3,000 mm (118 in) in some areas. These factors contribute to widespread slope instability where landslides may occur.[110]

Damaging rain-induced landslides have been recorded. During the period 2001-2010, more than 1,000 deaths were caused by landslides. Typhoons drove the majority of landslide deaths, with most fatalities attributed to Typhoon Morakot in August 2009, followed by Typhoon Toraji in 2001, when at least 214 deaths occurred. Morakot was the most severe rain-induced landfall event in Taiwan from 2003 to 2017.[111] The rainfall from Morakot triggered landslides that buried more than 400 people.[112] As part of typhoon preparedness measures, officials initiate warning procedures the day before a typhoon reaches coastal waters in order to prompt the evacuation of residents from landslide-prone areas in the mountains.[113]

To help mitigate the effects of landslides, Taiwan has worked with the Philippines on subject matter expert exchanges on slope disaster management. Taiwan's Agency of Rural Development and Soil and Water (ARDSWC) and the Philippine Institute of Volcanology and Seismology, Department of Science and Technology (PHIVOLCS-DOST) have promoted technical exchanges and signed a Memorandum of Understanding (MOU) in May 2024. The "MOU on Landslide and Debris Flow Disaster Research" covers soil and water

conservation, geological disaster research, climate change adaptation, and the application of technology.[114] Additional international collaboration includes a Japanese delegation visit to Taiwan during 20-24 September 2024 for a week-long exchange to discuss issues related to large-scale landslides, dam lakes, and sediment management in watersheds.[115] In December 2022, the ARDSWC organized the "2022 Taiwan-US Slope Disaster Prevention Technology Exchange Workshop," inviting experts from the USGS and a scholar from Louisiana State University (LSU) to participate. Additionally, a bilateral symposium was held and a bilateral cooperation agreement was signed with LSU.[116]

Drought

Droughts are not uncommon for Taiwan. They tend to occur for just a couple of months per year and often end in subsequent rainy periods, which usually fall between May and September and mitigate the long-term effects of drought.

Although Taiwan is one of the wettest places in the world, most of the rainfall is brought by typhoons. The island has experienced drought when the typhoon season was abnormally calm, as seen most recently in 2021, when a lower-than-average typhoon season resulted in one of the worst droughts in Taiwan's history. During that unusual period, not a single typhoon made landfall in Taiwan. Water shortages in the western region, where most people live, were particularly severe. Water-intensive industries, such as the semiconductor industry and rice farming, were affected along with power output from hydroelectric power plants. Authorities ordered water rationing for more than 1 million households and businesses after water reservoirs fell below 5% of their capacity. The agricultural sector uses more than two-thirds of Taiwan's water, and the twice-yearly harvesting of rice and tropical fruit was affected. Around 74,000 hectares (182,858 acres) of rice fields (around 24% of the total planted area) were cut off from water, and there was no second yield that year. Tech industries were also ordered to cut water usage by up to 15%.[117]

Although total annual rainfall has not changed much since 1911, since 1961 the number of drier years has increased significantly compared to the time period before 1960. The annual maximum number of consecutive days without rainfall has increased by around 5.3 days over the past 30 years.[118] A 2021 UN report stated that the island will continue to face water shortages. By the end of the 21st century, the rainfall that feeds reservoirs could diminish by up to 25% in northern areas and by 50% in central and southern areas.[119]

Wildfires

Although a hazard, wildfires are historically not considered a major risk for the island, as Taiwan has rarely experienced large-scale wildfires. High humidity, rainfall, and a large number of evergreen trees across the island mitigate the risk. Forest fires are most frequent during the October to April timeframe and usually occur in grasslands. The Forestry and Nature Conservation Agency reported that 2024 saw a record low incidence of only 36 forest fires that affected approximately 26.94 hectares (66.6 acres).[120] An average of 57 wildfires occur annually in Taiwan's forested areas;[121] they rarely result in fatalities.

According to official records, more than 10 fires that burn an area larger than 0.1 hectares (0.25 acres) are reported each year. Most of the fires occur in March and April, the end of the dry season, as temperatures become warmer. Fires triggered naturally, such as by lightning strikes, are relatively rare, and human activities are the primary cause of wildfires.[122] Ignition sources include activities such as agricultural work, weed clearing, and festivals.[123]

During the latter period of the island's severe drought of 2020-2021, a major fire occurred. On 16 May 2021 in Yushan National Park, hikers accidentally tipped over a gas stove, igniting a blaze that burned over 70 hectares (173 acres). The fire burned for 12 days, and over 100 firefighters, military personnel, and forest rangers helped extinguish it. Around 960 people in total were involved in firefighting efforts.[124]

Taiwan's mountainous areas contain high-altitude forests that may also confront fire risk. Sitting at 1,500-2,500 m (4,921-8,202 ft) above sea level, trees such as the Taiwan red pine are common and burn easily because leaves are easy to ignite when dry and the trees are rich in oil. Consequently, the "fire zone" covers a significant area of the island. Forest fires can also exacerbate flood and landslide risk as burned-out areas are likely to have surfaces that do not absorb water well and are vulnerable to erosion.[125] Wildfires may be an increasing threat in Taiwan, according to a 2024 study. The risk will be particularly high during the November to April dry season. The study predicts central and northern Taiwan will be at greater risk.[126]

Tsunami

Although relatively uncommon, the tsunami hazard for Taiwan is considered high, according to the Global Facility for Disaster Reduction and Recovery's ThinkHazard.org. There is a more than a 40% chance of a potentially damaging tsunami occurring in the next 50 years.[127] In a study of a "worst-case" tsunami risk from an Mw 9.4 earthquake along the Manila Trench, the scenario predicts the highest risk in southwest Taiwan. It foresees a wave of up to 4 m (13.12 ft) at the Port of Kaohsiung, Taiwan's principal port.[128] The Manila subduction zone is identified as one of the most hazardous tsunami source regions, and areas around the South China Sea, including Taiwan, are under threat from tsunamis. The Manila Trench is longer than 1,000 km (621 mi) and stretches between southern Taiwan and the southeastern coast of Luzon Island, Philippines.[129]

Taiwan has been affected by tsunamis generated by both local and distant earthquakes. Most recently, the Mw 7.4 earthquake in April 2024 shook the entire island and generated a small tsunami that affected southern Japanese islands.[130] Historically, the 1867 Keelung tsunami, triggered by a near-field earthquake, reportedly left hundreds dead. Taiwan has also experienced distant tsunamis, including those triggered by the 1960 Chile earthquake, 1964 Alaska earthquake, 1999 Vanuatu earthquake, and 2023 Tonga underwater volcano eruption.[131]

More than 70% of the earthquakes that affect Taiwan occur off the coast of Yilan and Hualien. Observation stations have been installed on the seafloor and are connected via submarine cables that run from Toucheng in Yilan to Fangshan and along the eastern edge of the Manila Trench. This system can calculate the parameters of an offshore earthquake in just over 20 seconds, and it enables the CWA to provide tsunami warnings if needed.[132]

Disasters by Numbers

The following data are intended to further visualize and characterize the most common types of hazard events, including their timing, frequency, impacts, and trends. Data was sourced from CRED's EM-DAT, which classifies disasters as events resulting in 10 or more deaths, affecting 100 or more people, or triggering a declared state of emergency. Typhoons (tropical cyclones) comprise the vast majority of storms.

Figure 5 shows hazards' share of total disaster events in Taiwan from 1980 to 2025. Storms (primarily typhoons) were the most frequent; they accounted for 76.5% of natural disasters (78 out of 102 events). Next most

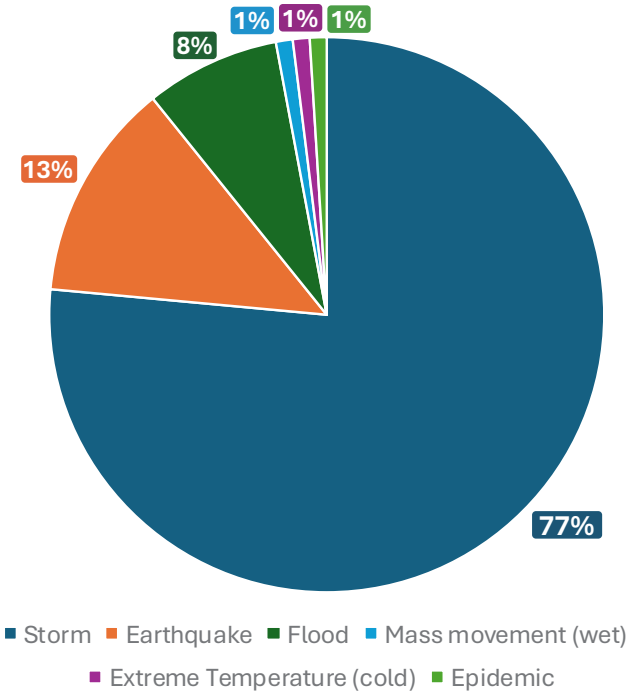


Figure 5: Share of Total Natural Disasters in Taiwan, by Hazard, 1980-2024

frequent is earthquake at 12.7% (13 events), followed by flooding at 7.8% (8 events). Mass movement (wet), extreme temperature (cold), and epidemic (excluding pandemics) each occurred once, accounting for less than 1% of hazards each. While only one event was primarily categorized as mass movement (wet) during the time period, EM-DAT noted 23 other events (e.g., typhoons, earthquakes, etc.) had associated slides (land, mud, snow, rock). EM-DAT only listed one epidemic as they only provided data for epidemics within Taiwan and not pandemics affecting a larger region (e.g., excludes COVID-19, Severe Acute Respiratory Syndrome [SARS]).[133]

Figure 6 shows the number of natural disaster events by hazard type each year from 1980 to 2025. For example, in 2025 Taiwan had five events that met EM-DAT disaster criteria -- three storms, one earthquake, and one flood.[134]

Storms, the most frequent disaster, are increasing in frequency. Typhoons usually impact the Pacific-facing mountainous east coast, which is less populated overall but has a higher proportion of Indigenous residents in remote mountain areas. The island saw an unusual typhoon season in 2024, when two typhoons, Krathon and Kong-rey, made landfall in October, relatively late in the season. Both storms attained Category 4 intensity on the Saffir-Simpson Hurricane Wind Scale. Furthermore, Typhoon Krathon was unusual in making landfall on the populated southwest coast. Figure 7 shows the paths of the two typhoons that struck Taiwan in October 2024.[135]

Recent Disasters

The following list includes major disasters in Taiwan over the period 2015-2025. Significant disasters outside of the date range include Typhoon Morakot in August 2009 and the 1999 Chi-Chi earthquake.

Typhoon Fung-Wong – 11 November 2025

The CWA issued a land warning for Typhoon Fung-Wong as the storm neared Taiwan on 11 November 2025. Over 3,000 residents were evacuated ahead of the storm, and by 12

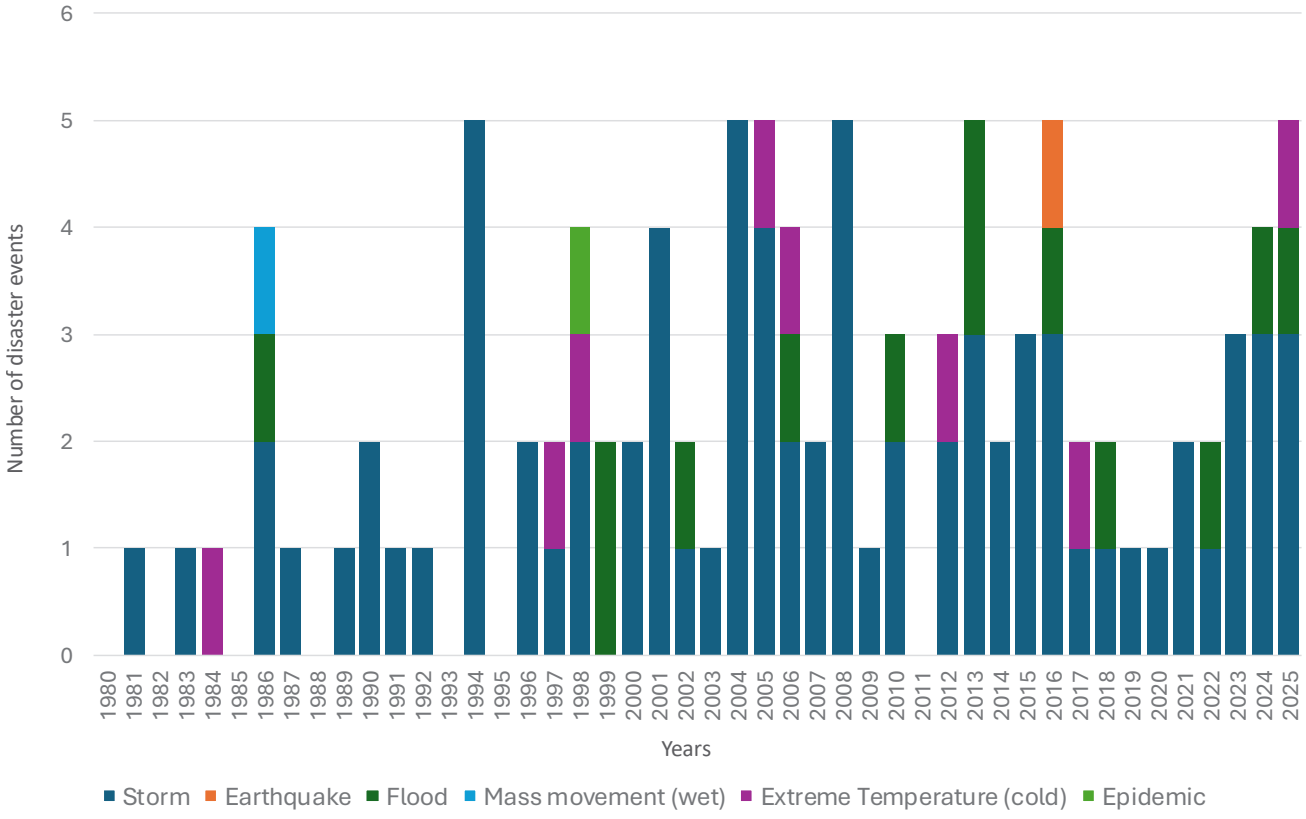


Figure 6: Frequency of Natural Disaster Events, by Hazard and Year, 1980-2025

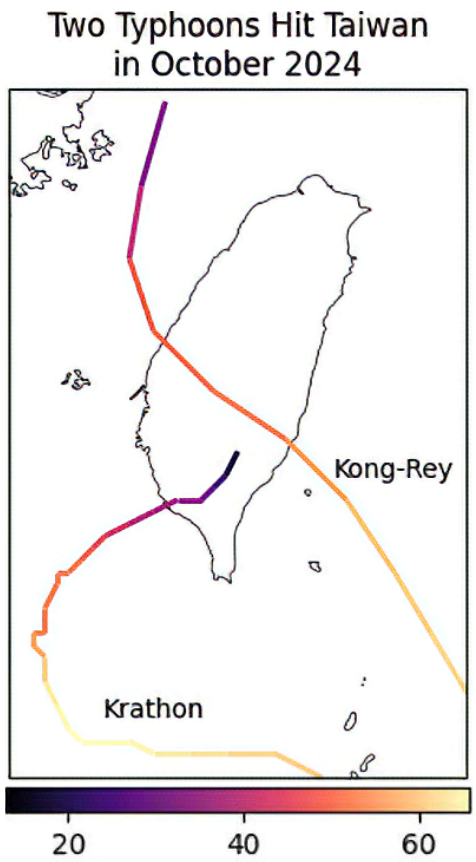


Figure 7: Paths of Two Typhoons that Hit Taiwan in October 2024

November an additional 8,300 people were evacuated. Flooding was reported in parts of eastern Taiwan, and 51 injuries were reported. In Suao, Yilan County, more than 1,000 homes were flooded. Agricultural authorities reported losses amounting to NT$11.22 million (US$366,378).[136]

Typhoon Ragasa – 22 September 2025

At least 17 people were killed and others went missing after rains from Typhoon Ragasa caused a barrier lake to burst in eastern Taiwan, where the town of Guangfu was flooded. The lake, located in Hualien County, was a barrier lake that was formed by a landslide in July of that year. The lake was formed on a tributary of the Matai'an Creek in a remote part of the mountains above Guangfu. Scientists say the lake breech caused an estimated 15.4 million tons of water to be released. The flooding washed away bridges and left many homes underwater. Ragasa, a Category 5 storm, was the world's most powerful storm in 2025.[137]

Typhoon Podul – 13 August 2025

Typhoon Podul injured 33 people and left 1 person missing after it made landfall in Taitung County on 13 August 2025. More than 7,300 people were evacuated, and more than 134,500 households suffered power outages. Wind gusts of up to 178 km per hour (kph; 111 mi per hour [mph]) were recorded shortly before the typhoon made landfall.[138]

Flooding and Landslides - 4 August 2025

Heavy rainfall and the effects of Typhoon Co-May triggered flooding and landslides in central and southern Taiwan from 28 July to 4 August 2025. The floods and landslides resulted in at least five deaths, three people missing, 78 people injured, and widespread damage. Some areas reportedly recorded more than 2.1 m (6.88 ft) of rainfall. Some 5,900 residents were evacuated.[139]

Typhoon Danas – 7 July 2025

Typhoon Danas left two people dead and injured more than 630 others in early July 2025. The typhoon dumped more than 500 mm (19.7 in) of rain. In a relatively uncommon occurrence, it mainly affected the densely populated west coast of the island. The typhoon made landfall along the southwestern shore and swept through the southwestern county of Yunlin with windspeeds around 220 kph (137 mph). Three major electric towers and more than 650 electric poles were knocked down. The Taiwan Power Company described the damage to its grid as "unseen for decades."[140]

Mw 6.0 Earthquake – 20 January 2025

An earthquake of Mw 6.0 at a depth of 10 km (6.2 mi) occurred on 20 January 2025. The epicenter was located 12 km (7.5 mi) north of Yujing district, in eastern Tainan City, southern Taiwan. The main earthquake was followed by three aftershocks, ranging between Mw 4.7 and Mw 5.1. The USGS estimated that up to 124,000 people were exposed to very strong shaking and up to 1,262,000 people to strong shaking. At least 27 people were injured, several buildings were evacuated, and moderate damage

to infrastructure was recorded in Chiayi and Tainan cities.[141]

Typhoon Kong-Rey – 31 October 2024

On 31 October 2024, Typhoon Kong-Rey passed over southern and central Taiwan with maximum sustained winds up to 185 kph (115 mph). It caused at least three deaths and more than 690 injuries across the island. Kong-Rey brought heavy rainfall and strong winds, and flooding was widespread.[142]

Typhoon Krathon – 3 October 2024

Typhoon Krathon made landfall in Kaohsiung on 3 October 2024. It left two people dead, several more missing, and more than 120 others injured. Several landslides were also reported. The slow-moving storm brought more than 1.6 m (5.25 ft) of rain to some areas.[143]

Typhoon Gaemi – 24 July 2024

Taiwan was hit by Typhoon Gaemi on 24 July 2024. The typhoon killed 11 people, injured more than 200 others, brought widespread flooding, and grounded several ships. It made landfall in Yilan County with sustained winds up to 205 kph (125 mph). Gaemi was the first storm of the season for Taiwan, but it was the worst to hit the island in eight years. The southern city of Kaohsiung recorded 1,350 mm (53 in) of rain that left large areas of the city under more than 1 m (3.28 ft) of water.[144]

Earthquakes – 22 April 2024

Taiwan experienced a series of earthquakes beginning 22 April 2024; the strongest quake had a magnitude of Mw 6.1, and another strong Mw 6.0 quake was also recorded. Up to 45 earthquakes in total occurred around Hualien County in eastern Taiwan. Some quakes were recorded offshore on the eastern side of the island. USGS estimated that up to 5,000 people were exposed to severe shaking, 144,000 to very strong shaking, and 207,000 to strong shaking. Several buildings were reported damaged, but no casualties were recorded. The quakes were located in the same area as the Mw 7.4 earthquake that had occurred weeks earlier.[145]

Hualien Earthquake – 3 April 2024

Taiwan's eastern Hualien County was struck by a large Mw 7.4 earthquake on 3 April 2024.[146] It left at least 18 people dead, more than 1,100 people injured, and at least 2 other people missing. The quake damaged houses, businesses, schools, and communication and transportation infrastructure, with landslides burying several mountain roads. The National Land Management Agency reported 848 cases of damaged structures in Hualien, Taipei, New Taipei, and Taoyuan. The island was hit by 700 aftershocks within a 24-hour period and 1,300 aftershocks by 10 May. The aftershocks were as strong as Mw 6.1, with one such quake located 28 km (17.4 mi) south of Hualien City. Several buildings were reported damaged following the series of aftershocks.[147]

Typhoon Haikui – 3 September 2023

Typhoon Haikui made landfall over the southeastern coast of Taiwan on 3 September 2023. It brought heavy rains, strong winds, and storm surge. Haikui injured around 80 people and forced the evacuation of around 7,000 people. Additionally, some 160,000 houses experienced power outages. The storm eventually moved across southern Taiwan and made its way across the northern South China Sea towards eastern PRC.[148]

Mw 6.9 Earthquake – 18 September 2022

An Mw 6.9 earthquake shook southeastern Taiwan on 18 September 2022. It was followed by two aftershocks of Mw 5.5, with one occurring on the same day, while the other occurred the following day. The quakes triggered landslides, affecting hundreds of people. The Mw 6.9 earthquake was located in southern Hualien County, approximately 19 km (11.8 mi) south of Yuli Town. At least one person died in Yuli, and more than 140 people were injured. Some buildings and water pipes were reportedly damaged, and more than 7,000 households lost power in Yuli. USGS estimated that up to 21,000 people were exposed to severe shaking, 76,000 to very strong shaking, and 634,000 to strong shaking.[149]

Mw 6.7 Earthquake – 23 March 2022

An Mw 6.7 earthquake occurred on 22 March 2022; its epicenter was located offshore, approximately 13 km (8 mi) southwest of Changbin Town in Taitung County, at a depth of 24 km (15 mi). At least 10 aftershocks with magnitudes up to Mw 5.8 were recorded in the area. The Mw 5.8 aftershock occurred inland around 9 km (5.6 mi) southeast of Ruisui Town, Hualien County. One person was injured and a bridge collapsed in Taitung County, while power outages were also recorded.[150]

Drought – 2021

A calmer-than-average typhoon season in 2020-2021 resulted in one of the worst droughts in Taiwan's history. During that unusual period, not a single typhoon made landfall in Taiwan for the first time in 56 years. This phenomenon made the first half of 2021 one of the worst drought periods experienced by the island. Water shortages in the western region, where most people live, were particularly severe. Water intensive industries were affected, as well as power output from hydroelectric power plants. Authorities ordered water rationing for more than 1 million households and businesses.[151]

Severe Weather (Snow) – 12 January 2021

Heavy snowfall and low temperatures affected Taiwan for four days from 8 January 2021. The severe cold resulted in at least 18 deaths. Most of the deaths were in Taipei and neighboring New Taipei. Northern and western areas were particularly affected.[152]

COVID-19 Outbreak – January 2020

Taiwan was affected by the COVID-19 pandemic when it first broke out in early 2020. Taiwan recorded less than 500 confirmed cases and 6 deaths in total.[153] Public health measures were put in place, with mandatory mask and temperature checks in public transportation and large events. At least three small community outbreaks were recorded; the first started in February 2020, the second in January 2021, and the last April through September 2021.[154]

Typhoon Mitag – 30 September 2019

Typhoon Mitag affected Taiwan on 30 September 2019 with heavy rain and strong winds. Rains affected eastern Taiwan, with Datong Township receiving some 229-356 mm (9-14 in) of rain on 30 September alone, according to Taiwan's CWA. According to media reports, 12 people were injured in northeast Taiwan. Taipei's Taoyuan airport saw wind gusts close to 80.5 kph (50 mph).[155]

Mw 5.9 Earthquake – 7 August 2019

An Mw 5.9 earthquake occurred offshore in the Philippine Sea, close to the coast of northeastern Taiwan, on 7 August 2019. One person was killed by the tremor's impact. The epicenter was located approximately 27 km (16.77 mi) southeast of Luodong Township in Yilan County at a depth of 10 km (6.2 mi). USGS estimated that up to 383,000 people were exposed to strong shaking. More than 10,000 houses around the greater Taipei area and neighboring Yilan County experienced power outages.[156]

Tornado – 1 July 2019

A tornado hit Pingtung County in the southern part of Taiwan on 1 July 2019. It resulted in casualties and damage. Two people were injured, 30 houses were damaged, and some 7,500 people were without electricity in Linbian and Nanzhou.[157]

Mw 6.5 (Hualien) Earthquake – February 2018

An earthquake of Mw 6.5 shook Hualien County on 6 February 2018. It was reportedly the worst earthquake to hit Hualien in 67 years. It left at least 17 people dead and 285 people injured. Most of the victims were killed after a 12-story building collapsed. At least three other buildings were partially collapsed by the quake, which was followed by more than 160 aftershocks, some exceeding Mw 5.0.[158]

Typhoons Nesat and Haitang – 29-30 July 2017

On 29 July 2017, Typhoon Nesat made

landfall near Yilan in northeastern Taiwan. It packed maximum sustained winds of 130-140 kph (81-87 mph). The next day, Typhoon Haitang made landfall in southwestern Taiwan with wind speeds of around 119 kph (70 mph). At least 128 people were injured, and 1 person was reported missing. Over 12,900 people were evacuated, and over 643,200 households experienced power outages in Tainan and Pingtung counties. The CWA reported that it was the first time the island had issued alerts for two storms simultaneously in some 50 years.[159]

Typhoon Megi – 27 September 2016

Typhoon Megi made landfall over Hualien County on 27 September 2016 with maximum sustained winds of 213 kph (132 mph). Over 20 people were injured, more than 5,000 people were evacuated, and 203,000 households were left without power across several counties.[160]

Typhoon Meranti – 14 September 2016

Typhoon Meranti hit southern Taiwan on 14 September 2016. It left one person dead, injured over 50 people, and damaged over 30 buildings.[161]

Typhoon Nepartak – 14 July 2016

On 8 July 2016, Typhoon Nepartak made landfall near Taimali, Taitung County, in eastern Taiwan. It left three people dead and at least 172 others injured. Over 17,000 people were evacuated, and around 131,000 households suffered power outages. Additionally, thousands of tourists were evacuated from the Green and Orchid Islands, two popular tourist spots off the coast. Around 900 mm (35.4 in) of rain were recorded. The most affected area was in Taitung, where most of the injuries were reported.[162]

Mw 6.4 (Meinong) Earthquake – 5 February 2016

On 5 February 2016, an earthquake of Mw 6.4 hit southern Taiwan at a depth of 23 km (14.2 mi). Taiwan's Central Disaster Coordination Center reported at least 35 dead and 524 injured. Around 200 people were rescued from collapsed buildings, but 117 people were reported missing. The epicenter was located in Kaohsiung County, close to Pingtung County, approximately 28 km (17 mi) northeast of Pingtung and 48 km (30 mi) southeast of Tainan. The city of Tainan, with a population of approximately 2 million people, was the worst affected area.[163]

Cold Snap – January 2016

A cold snap that swept across East Asia left at least 85 dead in Taiwan in January 2016. Local media reported deaths from hypothermia and cardiac events following a sudden drop in temperatures. The temperature in Taipei city fell to a 44-year low of 4°C (39°F). Of the deaths, many were reportedly among elderly people living in northern regions such as Taipei and Taoyuan. Those areas alone accounted for 66 of the fatalities. Another 16 people died in the southern city of Kaohsiung. Many homes in Taiwan lack central heating.[164]

DISASTER MANAGEMENT POLICY, PLANNING, AND RESPONSE

Taiwan has undertaken DM reforms over the past 25 years, and these efforts are reflected in reduced casualties, although the island's society and economy still suffer damages. A single-hazard approach to DM is in effect and officially assigns response authority to different agencies, depending on the hazard type. Table 1 shows the various agencies that serve as central regulating authorities in national disaster response and the type of hazards for which they are responsible, in accordance with the DPPA as of the 2025 amendment.[165]

The MOI is the lead for responding to the most frequently occurring disasters, and its extensive experience means it is a leader among Taiwan's interagency for large-scaled domestic responses. Efforts are underway to build resilience with a focus on a whole-of-society approach, and under this approach Taiwan's DM system is undergoing rapid change. The Taiwan Office of Disaster Management (ODM) within the Executive Yuan is promoting more realistic and challenging DM education and training, and it is preparing individuals to be resilient and conduct key actions during a disaster.

National Disaster Management System

The DPPA (2000) is Taiwan's primary disaster law. It was promulgated on 19 July 2000,[166] following the devastating 1999 Chi-Chi earthquake, and it laid the foundation for the establishment of key agencies.[167] The DPPA pertains to disasters stemming from natural and man-made, non-conflict hazards and contains detailed provisions on prevention, mitigation, preparedness, early warning, response including search and rescue, and recovery. The act has been amended 11 times to address emerging issues,[168] most recently on 28 May 2025.[169]

The central regulating authority is responsible for the following disaster prevention and protection tasks:

- Command, supervise, and coordinate the central regulating authorities, municipal government, and county (city) government for disaster prevention and protection
- Draft and implement amended disaster prevention and protection operation plan
- Support and deal with disaster prevention and protection activities

Central Regulating Authority	Hazard
Ministry of the Interior (MOI)	Windstorm, typhoon, earthquake (including soil liquefaction), fire, explosion, and volcanic disaster
Ministry of Economic Affairs (MOEA)	Flooding, drought, mining disasters, industrial pipeline disaster, public gas, fuel pipeline, and power transmission line failure
Ministry of Agriculture (MOA)	Frost, debris flow, and large-scale landslide disaster
Ministry of Transportation and Communications (MOTC)	Air crash, shipwreck, and land traffic accidents
Ministry of Environment (MOENV)	Toxic and chemical substances of concern and suspended particulate disaster
Ministry of Health and Welfare (MoHW)	Biological disaster
Nuclear Safety Commission (NSC)	Radiation disaster
The central regulating authorities of Disaster Prevention and Protection business designated by Central Disasters Prevention and Protection Council	Other disasters

Table 1: Taiwan Lead Agency for Disaster Response, by Hazard Type

- Handle command and coordination of disaster prevention and protection affairs
- Coordinate when the disaster region includes the sea and crosses two municipal governments or county (city) governments, or when the disaster situation is significant and the municipal or the county (city) government is unable to coordinate and process in a timely manner
- Manage disaster resources, organize information, perform disaster prevention and rescue tasks, and cooperate with the Ministry of Education and relevant agencies to conduct disaster prevention and protection education for all citizens

The strengths of this approach are that various agencies can bring their expertise to lead responses to disaster types most relevant to them. Challenges include coordination during complex events, as demonstrated by the 2014 Kaohsiung pipeline explosion that led to confusion over which ministry was responsible: the MOI for explosions, the MOEA for pipeline incidents, or the Environmental Protection Administration for toxic chemicals.[170]

Figure 8 depicts Taiwan's DM system at the national level.[171]

Structure

The central government handles contingency planning and disaster response while municipal, county and township, or district administrations implement plans and coordinate with responders on the ground. Often at the onset of a disaster, the local government's fire department receives the initial report and conducts the first response. Depending on the severity and scope of the disaster, the fire department determines whether to activate a local disaster response center. The local government reports the situation to the central government, where the central disaster authority evaluates whether to establish a central disaster response center for the affected region. Taiwan DM professionals are considering adopting the U.S. Emergency Support Functions (ESF) model, which streamlines resource coordination by aligning response efforts across government ministries. The framework has facilitated Taiwan's disaster prevention system developing from a primarily fire protection approach to a more comprehensive disaster response framework.[172]

The DPPA enactment led to the establishment of the **Central Disaster Prevention and Protection Council**, which is chaired by the Premier. It sets policy and provides oversight at the national level. The Council also set up the National Rescue Command Center (NRCC) to command, supervise, and coordinate personnel of functional authorities among government agencies to carry out disaster rescue missions.[173]

Falling under the Council is the **Central Disaster Prevention and Protection Commission**, which is chaired by the Vice Premier. It defines basic disaster prevention and protection guidelines and oversees implementation of the DPPA. The Commission plays a crucial role in coordinating disaster prevention and protection efforts across various sectors and levels of government. It sets policy, provides oversight, and ensures effective disaster preparation across all levels of government and local communities.

Every five years, the Commission is responsible for drawing up the **Basic Plan of Disaster Prevention and Protection**, which is colloquially called the **Basic Operating Plan (BOP)**. This plan serves as the overarching, national plan. The Executive Yuan disseminates the plan to all relevant central authorities in charge of disaster operations and to relevant municipal and county (city) governments. Central authorities then review and revise their operational disaster plans to align with the Basic Plan, and local government authorities align their regional disaster plans at the county and municipal level. The current plan, covering 2024-2028, lays out three policies:

1) Advance measures for adapting to extreme disasters in response to climate change
2) Introduce digital transformation to strengthen the effectiveness of intelligent disaster prevention and protection
3) Improve DM to strengthen recovery capacity for large-scale disasters

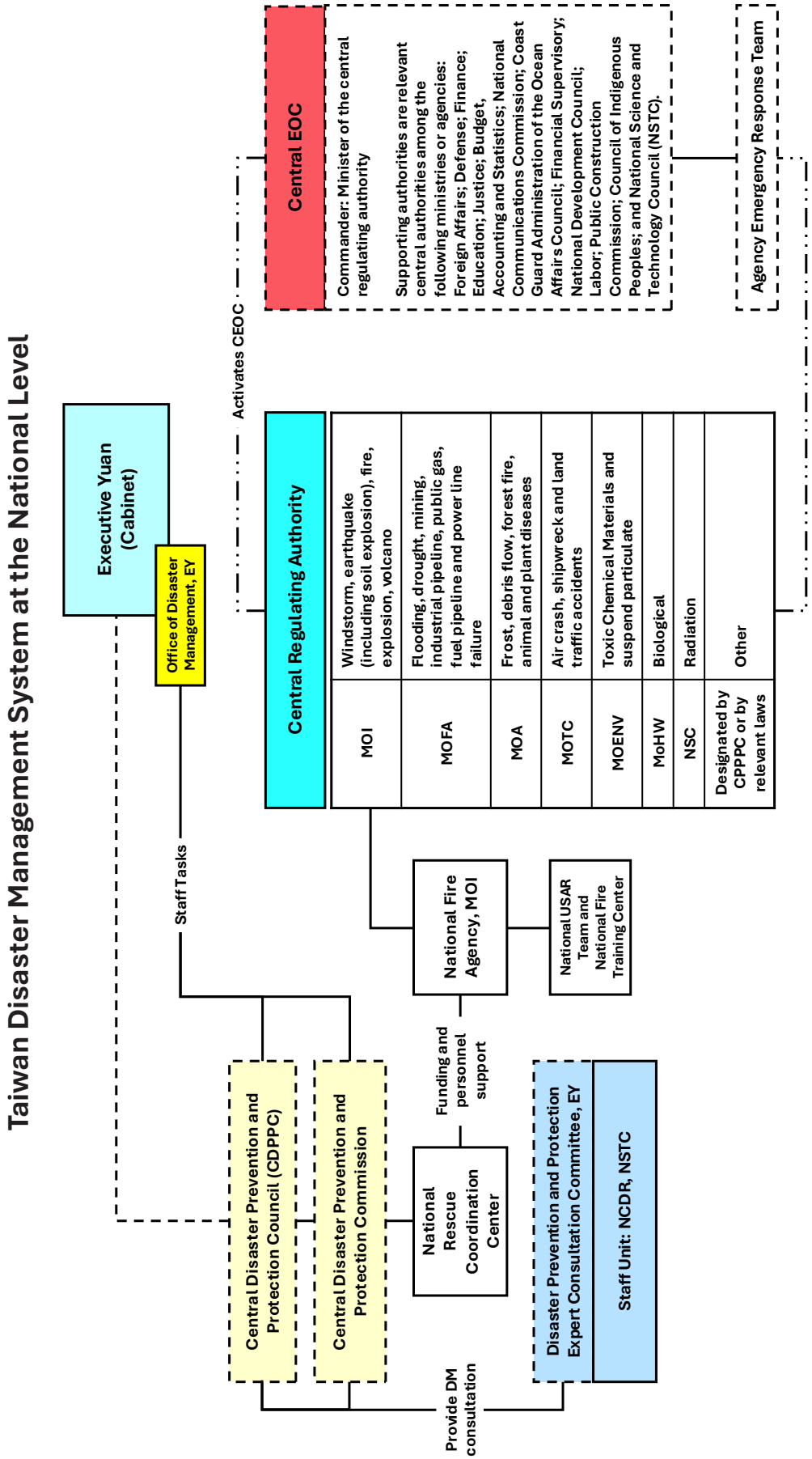


Figure 8: Taiwan Disaster Management System at the National Level

The Executive Yuan's ODM coordinated the interagency consultation process that resulted in consensus on the three policies and served as the administrative staff advisor to the Basic Plan's task force.[174]

Central DM authorities maintain 24-hour monitoring with 17 personnel to assist local governments, and the President and Premier can establish a **Central Emergency Operation Center (CEOC)** for severe disasters.[175] The Executive Yuan coordinates national-level DM through agencies such as MOI. The ODM and MOI's NFA maintain the CEOC during non-emergency periods.[176]

The CEOC, situated at the NFA, becomes Taiwan's command hub in extreme weather events or other natural disasters. The NFA and local fire departments are delegated a large proportion of response missions, partly due to Taiwan's DM system having evolved from a fire and response-centric system.[177] Also present at the CEOC are the **National Police Agency (NPA)** and the **National Airborne Service Corps (NASC)**, both of which fall under the MOI and play roles in search and rescue (SAR). Other ministries would also be present at the CEOC depending on the crisis and the relevance of their role – ministries and offices usually present include the ODM, CWA (also known as the Central Weather Bureau, which falls under the MOTC), Water Resources Agency (WRA, under the MOEA), Ministry of National Defense (MND), MOA, and MoHW. They align central decisions and pass them down to municipal and county governments to be adapted to local conditions in affected areas, where township and district offices handle immediate disaster response tasks.[178] Co-located with the CEOC is the NRCC's 24-hour watch floor, which handles initial alerts as CEOC activities expand and includes representation from the NFA, NPA, NASC, MND, and Coast Guard.

The NFA plays a pivotal role in Taiwan's DM system. Established in 1995, it provides emergency medical, fire prevention, and disaster rescue services, and it protects civilian lives and property.[179] While Taiwan still takes a single hazard approach to disaster response across multiple ministries, the DM system has been heavily influenced by fire-centric responses. The NFA has ample disaster experience, partly due to its central role in disaster response and that its parent agency, MOI, is responsible for some of Taiwan's most frequently occurring and impactful disaster hazards – i.e., typhoons and earthquakes. The NFA runs a modern training center in Nantou County that provides firefighting and disaster response training, including international collaborations. Upgraded in 2025, it is reportedly the largest firefighter training center in Asia and the third largest in the world.[180]

Search and Rescue – The NFA is the main government agency providing urban search and rescue (USAR) capability. The NFA manages an elite SAR team comprised of at least 126 personnel.[181] Photo 2 shows the SAR team supporting the annual 921 disaster preparedness exercise.[182]

SAR Team members include firefighters, first responders, five doctors and seven nurses specializing in disaster injuries, one veterinarian, six search-and-rescue dogs, and 15 tons of specialized rescue equipment. The team can respond domestically and internationally, if requested.[183] Other government agencies supporting SAR efforts include the Coast Guard Administration, which supports maritime SAR, and NASC, which supports air rescue operations in disasters and severe accidents, including air transport of rescue personnel, equipment, and

Photo 2: Taiwan SAR Team Supports 921 Disaster Preparedness Exercise

goods.[184] At the municipal level, Taipei City's Fire Department has the premier city SAR team, which obtained certification for heavy USAR capabilities in 2021 from the NFA.[185] There are also SAR groups among civil society. International Headquarters, S.A.R. Taiwan is a volunteer-based, non-governmental organization that self-funds its relief missions with the aid of donations. Additionally, the Taiwan Red Cross organization has established SAR teams in various regions of Taiwan.

In the event Taiwan needs to accept assistance from international SAR teams, the NFA has prepared Reception and Departure Center (RDC) procedures to be implemented at designated ports. Please see Appendix - RDC Procedures for details.

The **NPA** supports post-disaster rescue and recovery efforts, oversees volunteer civilian defense forces as a function of administering the civil defense system,[186] and provides critical infrastructure protection (CIP).[187] Critical infrastructure broadly covers physical and digital assets, manufacturing systems, and networks that, if damaged by natural disasters or sabotage, would affect the running of government or society, cause injuries or death, lead to an economic recession or changes to the environment, or undermine the nation's welfare.[188] The Second Special Police Corps actively participates in CIP, identifies threats to critical infrastructure, and develops protocols. They conduct dedicated CIP training drills around specific infrastructure facilities, including submarine cable stations.[189] The NPA responds to large-scale disasters and has the authority to mobilize local police departments. police departments. The police support traffic control, evacuation of people, forensic identification of bodies, and public security and order. Following the September 2025 flooding in Guangfu Township, Hualien County, NPA established a Joint Command Center, dispatched 1st and 5th Special Police Corps, and coordinated with Taiwan Railway Corporation on transport.[190]

NFA's World-Class Training Center

The NFA's training complex, covering 209 hectares (516 acres) in Nantou County, is the largest firefighting training center in Asia and the third largest in the world. It has been recently upgraded with state-of-the-art equipment and facilities. Firefighters from other countries often travel to Taiwan to receive training and participate in professional exchanges at the Training Center. The complex was expanded in 2017 to better enable international exchanges. It includes comprehensive simulation grounds for various scenarios, including collapsed buildings, ship fires, and aviation accidents. Photo 3 shows a SAR drill and Photo 4 shows firefighters undergoing simulation training, both at the NFA training center in Nantou County.[191]

Photo 3: Search-and-Rescue Drill at NFA Training Center

Photo 4: Firefighters Undergoing Training at the NFA Training Center.

Whole-of-Society Resilience

On 19 June 2024, President Ching-te Lai announced the establishment of the Whole-of-Society Defense Resilience Committee. The purpose of the committee is to "ensure that in times of national emergency or natural disaster, both the government and society will be able to maintain normal operations."[192] The five key areas the committee addresses are:

1) Civilian Force Training and Utilization
2) Strategic Material Preparation and Critical Supply Distribution
3) Energy and Critical Infrastructure Operations and Maintenance
4) Social Welfare, Medical Care, and Evacuation Facility Readiness
5) Information, Transportation, and Financial Network Protection[193]

The Committee comprises government departments, non-governmental organizations (NGO), corporations, and academic experts who focus on maintaining government operations, sustaining critical social services, and providing civil support to military operations, and it was backed by NT$150 billion (US$5 billion) in funding.[194] Since its announcement, the Whole-of-Society Defense Resilience Committee has convened at least six meetings,[195] in addition to conducting a field exercise in March 2025.[196]

As a result of the current administration's focus on whole-of-society resilience, Taiwan's DM system is undergoing rapid change. In the 2024 Disaster Prevention and Rescue Exercise Summary Report, the Taiwan ODM connected disaster exercises directly to Whole-of-Society Defense Resilience and emphasized the importance of conducting realistic training.[197] In the report, ODM promoted disaster exercise concepts derived from the U.S. Homeland Security Exercise Evaluation Program as a framework to improve disaster exercise design. Taiwan authorities have also focused on updating and expanding the training available to volunteers, government employees, and the Auxiliary Service Corps.

The Disaster Response Volunteer (DRV) program[198] and the Taiwan Community Emergency Response Team (T-CERT) program have increased in size and number of training opportunities. The DRV program focuses on preparing individuals to be resilient and to conduct self-rescue during a disaster, while T-CERT is focused on training teams within community groups,[199] schools, businesses, or critical infrastructure sites[200] to provide disaster relief support to alleviate the burden on government during initial disaster response.[201] The training and integration of the Auxiliary Service Corps has also been updated as a result of resilience efforts.[202] Lastly, in its efforts to educate the public, the All-Out Defense Mobilization Agency of the MND released an updated civil defense handbook in September 2025. The handbook provides information to the public on how to prepare for all types of crises to include both natural disasters and conflict.[203]

As the DM system continues to adapt, future amendments to the DPPA were further discussed after Typhoon Ragasa caused Hualien County's Matai'an barrier lake to burst.[204] These amendments would likely focus on:

- Explicitly adding "barrier lake disasters" (landslide dam disasters) and stipulating that disaster response operations must be conducted through ESFs
- The Central Disaster Prevention and Protection Council designating specific central government agencies to formulate disaster prevention and protection operation plans
- Mandating that government agencies shall establish the position of Chief Disaster Prevention and Protection Officer and that township (city) and indigenous district offices establish a disaster relief coordination center
- Staffing and Leadership: Stipulating that the Chief Disaster Prevention and Protection Officer shall serve as the Director of Office of Local Disaster Management, which must be assigned full-time staff, and correspondingly removing the provision allowing for part-time staff at the township (city) and indigenous district offices
- Wide-area Disaster Prevention and

Protection Base: Adding regulations regarding the preparedness and emergency response handling of wide-area disaster prevention and protection bases
- Disaster-Affected Areas Designation: Including severe property loss caused by disasters as a valid criterion for designating disaster-affected areas
- Auxiliary Service Corps Utilization: Adding provisions allowing all levels of government to utilize general Auxiliary Service Corps personnel to assist in disaster prevention and protection tasks[205]

Subnational and Local Implementation

Taiwan's DM system operates across three coordinated levels: central, municipal/county, and township. Each level maintains a Disaster Prevention and Rescue Committee, with response centers activated based on disaster scale and severity.[206] The system emphasizes local responsibility while maintaining strong central oversight. Local response centers handle first response, while central authorities determine policy, allocate resources, and provide support.[207] During a disaster response, township and district offices handle immediate response tasks, such as issuing evacuation orders, maintaining contact with vulnerable populations, and managing shelters. If higher-level disaster support is needed, national authorities will pass central decisions to local-level authorities and coordinate support.[208] Figure 9 depicts the disaster prevention and protection organizational structure down to the county and township levels.[209]

Civil Defense

Taiwan's civil defense forces are organized into civil defense groups at the city and county level. The NPA trains civilian defense forces at local levels, with training including rescue operations during disasters, exchanges with counterparts in other countries, provision of tools and equipment, and improved preparedness and resilience in contingencies. Civilian defense forces fall under the command of the city mayor and county commissioner. Additionally, local police precincts organize civil defense brigades, while villages and boroughs form watch patrol teams for communities and mountain auxiliary police teams for mountain villages.[210]

Taiwan's civil defense system, administered by the NPA, spans the spectrum from disaster prevention and relief during peacetime to support for military missions during wartime. According to the Civil Defense Act, promulgated in 2001 and most recently

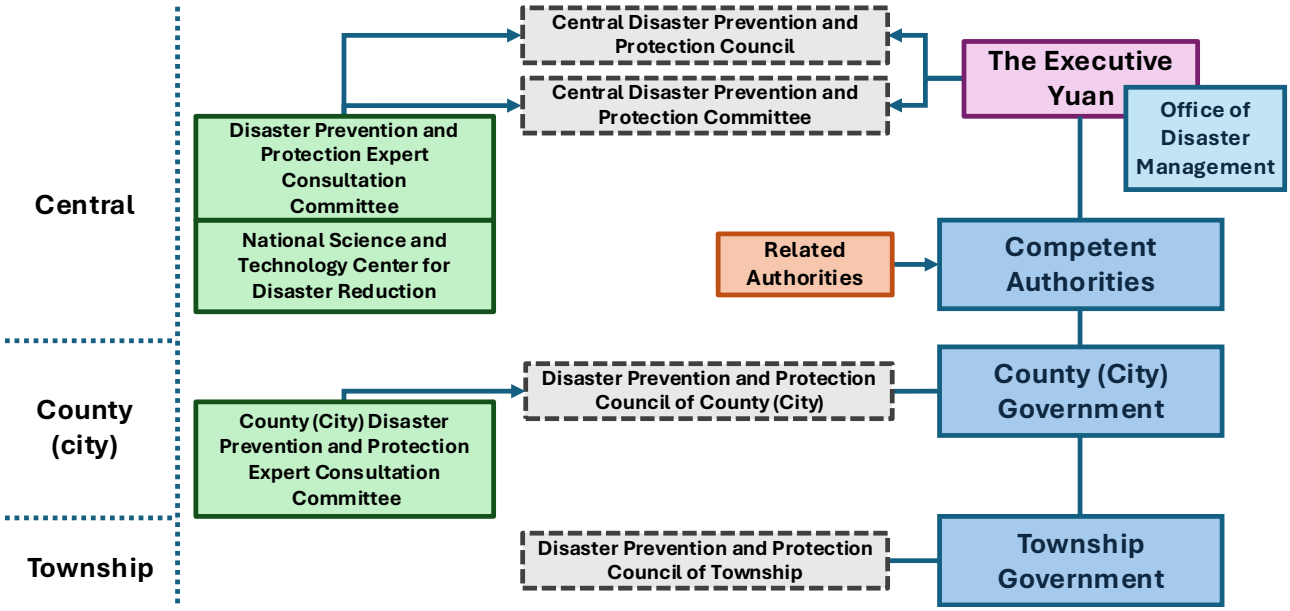


Figure 9: Disaster Prevention and Protection Organizational Structure to Local Levels

amended in 2021, civil defense work includes: assisting rescue operations following serious disasters; disseminating air attack information and alarms and facilitating evacuation and sheltering; assisting maintenance of local social order or civil self-defense; training and duty execution for manpower, vehicles, equipment, and materials; and supporting military tasks.[211]

Whole-of-Society

As part of Taiwan's newer whole-of-society resilience approach, cross-sector collaboration is prioritized and local communities are increasingly involved in national resilience efforts, including disaster preparedness and response. The MOI has spearheaded several efforts that integrate local communities into national civil resilience initiatives.

Taiwan Community Emergency Response Teams

The T-CERT program launched in 2023 following the Executive Yuan's approval of the Mid-Term Plan for Establishing Taiwan Community Emergency Response Teams.[212] The program is anticipated to last until 2029.[213] It is overseen by the NFA and trains teams on basic emergency response that can precede government response. The T-CERT program has empowered local organizations and deepened ties among them, government agencies, and the private sector.

T-CERTs are volunteer teams comprised of civilians trained in autonomous basic emergency response capabilities to ensure their communities quickly receive first-response aid in the immediate hours following a disaster before official government rescue teams arrive. They are designed to supplement, not replace, official search and rescue teams. In the event of a large-scale disaster, including earthquakes and typhoons, government disaster relief can be delayed in reaching the most affected people. The T-CERT program aims to enable community members to provide mutual assistance during the critical time before outside assistance arrives.

Taiwan's goal is to set up 80 teams every year and to train a minimum of 320 teams. Teams need at least 25 people to join and undergo a 3-year training period; they receive training the first year, pass the drill test to receive certification the second year, and make a commitment to sustainable operations the third year. Volunteers learn about disaster assessment, initial and basic rescue activities, and basic emergency medical treatment and psychological support. As of May 2025, Taiwan had trained more than 195 teams with another 30 teams expected to be trained by the end of 2025. The teams are distributed across the island; at least 22 cities and counties have T-CERTs. Every city and county has at least three T-CERTs, with some having up to nine teams. Many T-CERTs are site-based and focused – e.g., on medical buildings, schools, apartment buildings, or critical infrastructure.[214]

The port of Hualien is among critical infrastructure sites that joined the T-CERT program. After joining in 2024, it continued to develop its on-site T-CERT team with further training. The goal is to raise internal capabilities to respond quickly to major disasters while awaiting the deployment of organized external assistance. Enhanced training included post-disaster evaluation of buildings' stability, medical triage, first aid, and other emergency response skills. Additionally, the port has developed a network across public and private sectors to facilitate immediate access to resources, supplies, and assistance in the event of a disaster affecting the port.[215]

Women participate to a significant degree in various organizations and activities relating to community-based disaster preparation, response, and resilience. The first batch of the initial T-CERT demonstration team was 70% women.[216]

Auxiliary Service Corps

Taiwan has one year of mandatory military service for young men,[217] and the Auxiliary Service Corps (ASC) provides a pathway to fulfill the military obligation through non-combat roles for qualifying individuals, including people with medical conditions or Indigenous conscripts. ASC postings include assignments in social and public welfare

services, infrastructure support, and defense-adjacent positions. ASC reservists are men who, following conscription and completion of ASC training, are discharged and placed under the administrative supervision of the township, city, or district office in their place of household registration.[218]

The ASC has expanded to include disaster response training and is stationing approximately 10,000 personnel to support local disaster response centers at the township, city, or district level.[219] In 2024, Taiwan began expanding the ASC to include new training in Emergency Medical Technician-Level 1 (EMT-1), public security maintenance, disaster relief, live-fire shooting, and urban resilience exercises. EMT-1 training is often conducted by instructors from local fire departments. Trained personnel achieved a pass rate over 99% with the EMT-1 certification exam, as of September 2024. Upon entering service, those trained as EMT-1 act as mobile first responders.[220]

According to the MOI, the ASC trained more than 6,000 personnel in 2023, and approximately 50,000 in 2024. By 2025, ASC personnel will also undergo disaster prevention specialist training, expected to result in the certification of more than 30,000 personnel. Of these, 10,000 are to be stationed across Taiwan's 368 townships, cities, and districts to support local disaster response centers.[221] The MOI first called up ASC reservists in response to deadly flooding in Guangfu Township in September 2025, when the Mataian barrier lake overflowed following Typhoon Ragasa.

Disaster Relief Volunteers

The Taiwan DRV Corps (or Disaster Prevention Specialist Program) is designed for community volunteers to contribute by becoming better able to protect their own lives, help others in their communities with disaster prevention and response, and participate in disaster prevention collaborations between the government and the private sector.

Partially modeled after Japan's "Bousai" holistic disaster prevention organization, the DRV Corps is based on the values of self-reliance, mutual aid, and community-wide disaster response.[222] It aims to create a large cadre of volunteers who assist with and implement disaster prevention and response in their communities in a bottom-up approach.[223] The approach includes the MOI establishing Disaster Coordinating Centers in every township, city, and district. The centers are intended to support local government disaster relief efforts by coordinating training exercises, preparedness planning, and emergency response operations. During a crisis, they would manage evacuation registrations, damage assessments, victim assistance, and logistical resource distribution. Each center would be led by a high-ranking township or district official, who will be joined by members of local volunteer networks, resilience community teams, and NGOs.

The program is a key part of achieving the Resilient Taiwan Large-scale Wind and Earthquake Preparedness and Cooperation Plan. As of 31 December 2025, the Disaster Prevention Specialist Program had certified at least 255 resilient communities and 100,832 personnel (approximately 67% men and 33% women), with the number of personnel expected to reach 110,000 by the end of 2026.[224]

In order to boost social resilience, the MOI has provided disaster prevention training for borough and village wardens, housewives, military conscripts, and NGO members. Launched in 2018, the training covers disaster prevention and response, assessment of disaster situations, household protective measures, community coordination, evacuation route planning, and hands-on first-aid training such as how to staunch bleeding, bandage wounds, initiate cardiopulmonary resuscitation, and use automated external defibrillators.[225]

Private Sector

Partnerships between the private sector and NGOs are increasing in disaster preparation, response, and recovery in Taiwan. Google and Costco partner with the Chinese Christian Relief Association (CCRA). Costco, which has 10 warehouses across Taiwan, also partners with the Presbyterian Church of Taiwan (PCT)

on storage plans in a large-scale disaster. Local truck companies have also partnered with PCT. Convenience store chains Family Mart and 7-Eleven have partnered with Tzu Chi, the CCRA, and Mustard Seed Mission to provide food and resources following disasters. Initiatives include volunteers using a 7-Eleven card to collect as much food and water as necessary for their designated district. With over 6,700 7-Elevens and 4,164 Family Marts in Taiwan, these private sector partnerships have a wide reach.[226]

Civil-Military Coordination in Disaster Response

Taiwan's armed forces, officially the Republic of China Armed Forces, play various roles in disaster response, particularly following major disasters, in coordination with civilian authorities. The military's role in disaster relief was formalized with a 2010 amendment to the DPPA, following 2009 Typhoon Morakot.[227]

Taiwan's military supports disaster prevention and relief in peacetime, following the command of the central government, in accordance with the DPPA. One of the MND's five strategic goals is supporting disaster prevention and responses to safeguard public welfare. In addition to main duties, the armed forces also participate in disaster relief exercises, integrating available military resources to assist in disaster prevention and relief, emergency evacuation of offshore islands, epidemic prevention, and traffic dispersion. When facing natural disasters and epidemics, the armed forces engage in disaster relief according to the government's instructions and play a crucial role. The armed forces complete force deployment in areas prone to flooding and debris flow 24 hours in advance of a typhoon's landfall, and they maintain forces on stand-by in barracks. Depending on the disaster situation, commands plan and dispatch intelligence officers and liaisons to be stationed in the 368 districts/townships of 22 counties/cities to establish a communication channel with local governments and better assist in disaster prevention and relief missions.

Figure 10 depicts support provided by Taiwan's military to domestic typhoon and earthquake relief efforts, 2023-2025, per the 2025 National Defense Report.[228]

Starting in 2024, military hospitals cooperate with the MoHW and the NFA in exercises that

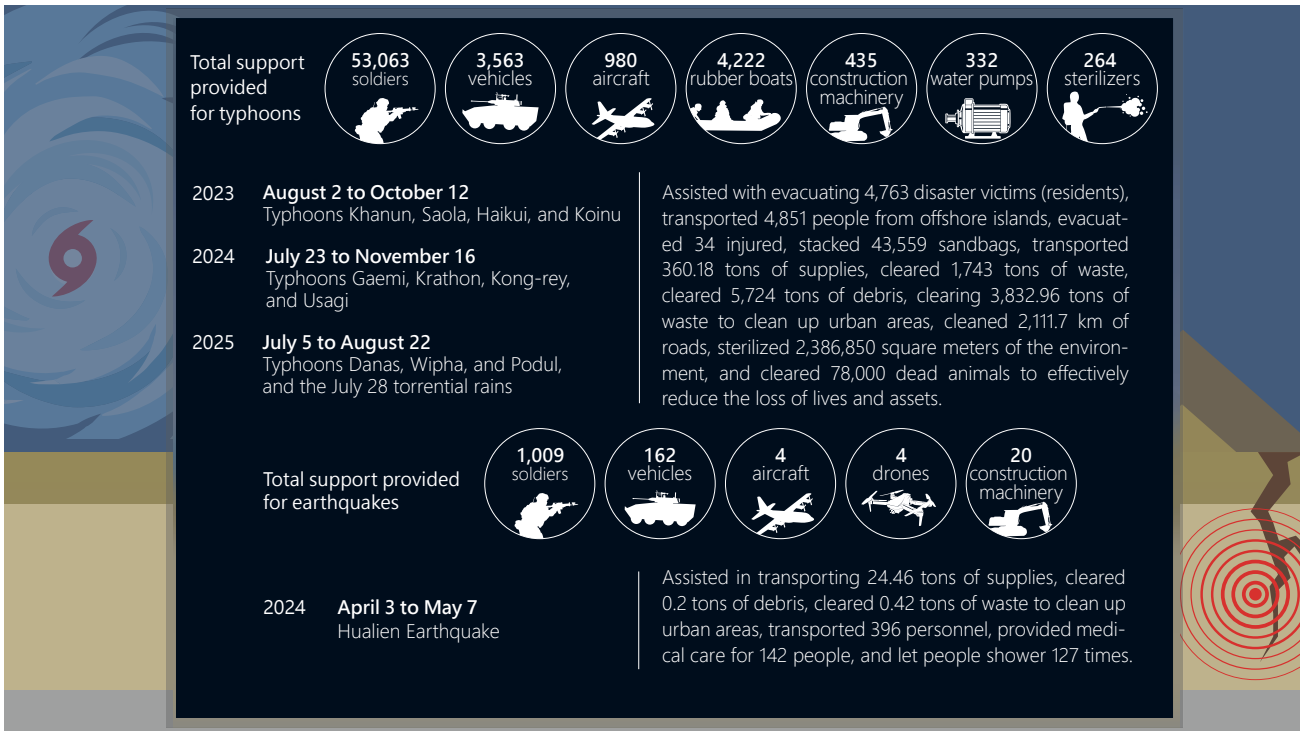


Figure 10: Taiwan Military Support to Typhoon and Earthquake Relief Efforts, 2023-2025

integrate military, public, and private hospitals to strengthen disaster prevention and relief and combat casualty care capabilities. Taiwan's armed forces also prepare for the rare possibility of assisting with international disaster relief following large-scale natural disasters in the region.[229]

The commander of a disaster response center may command, supervise, and coordinate among the national army, fire department, police department, and other government agencies or community organizations to conduct rescue work, in accordance with the DPPA. If the municipal, county, or city government or the central authorities lack capacity, they may request support from the army, which actively supports response measures as required.[230] The DPPA also states that the MND shall mobilize military reserves, an authority that has since been delegated to MND's All-out Defense Mobilization Agency (ADMA), established in January 2022.

ADMA was launched at the instruction of the President to develop cross-department integration mechanisms as pertain to military reserve mobilization to achieve unity in reserve mobilization. ADMA duties span a range of areas coordinating among ministries and between national and subnational levels of government. Duties pertaining to disaster response or civil-military coordination include planning and supervising all-out defense mobilization and disaster rescue practice policies.[231]

Matai'an Creek Barrier Lake Disaster

On 30 September 2025, Taiwan deployed 550 soldiers to Guangfu Township in Hualien County to assist disaster relief efforts. This mission followed rainfall from Typhoon Ragasa causing the Matai'an Creek barrier lake to burst on 23 September 2025.[232] Military commanders coordinated the largest single-day troop deployment for emergency response operations. Soldiers from 13 military units, including the Guandu Command and Taoyuan City Reserve Command, departed from Hsinchu, Taoyuan, Keelung, and Yilan Counties, and they arrived via special train transport to conduct environmental cleanup, road repairs, and urban restoration operations. The 6th Army Command, Taiwan's regional military headquarters, coordinated the multi-unit deployment, demonstrating unprecedented cross-regional military support for civilian disaster relief operations.[233] Soldiers also participated in distributing relief supplies, including by going door-to-door in an armored personnel carrier.[234] Military personnel worked recovery efforts alongside local residents and civilian volunteers, as the disaster spurred a huge spontaneous civilian mobilization.[235]

Disaster Exercises

MND participated in the 2024 National Disaster Prevention Day Large-Scale Earthquake Relief Mobilization Drill, the 921 Exercise, in coordination with the MOI in Chiayi City, Chiayi County, and Penghu County. The 921 Exercise has grown in international participation and observation in recent years, with the 2024 exercise including 167 disaster relief personnel from 8 countries.[236] The armed forces also participate in annual disaster prevention and relief drills run by 22 municipal, county, and city governments, and they have dispatched over 430 troops, over 80 vehicles, 3 aircraft, and over 70 pieces of machinery in the past 2 years.[237]

During 15-17 July 2025, Taiwan launched a new exercise, Urban Resilience, to better integrate military and civilian authorities and local communities in approaching emergency response, including during natural disasters. The exercise focused on inclusive, whole-of-society resilience, including civil-military coordination, and followed in the footsteps of countries like Sweden and Singapore that have long conducted civil defense exercises that mobilize both citizens and institutions. Another first that occurred in the exercise was the participation of PX Mart, one of Taiwan's largest supermarket chains, a reflection of the growing role of the private sector in disaster response.[238]

International / Regional Organizations

Taiwan strives to develop international engagements and relationships despite its diplomatic isolation.

Due to its exclusion from the UN, Taiwan does not participate in the Sendai Framework for Disaster Risk Reduction, led by the UN Office for Disaster Risk Reduction. Neither is Taiwan officially recognized for its efforts toward UN Sustainable Development Goals (SDGs) as part of the 2030 Agenda for Sustainable Development.

Nonetheless, to show Taiwan's progress and self-alignment with international standards, the Executive Yuan's National Council for Sustainable Development developed the draft SDGs of Taiwan based on the UN framework and agenda, and the non-profit Circular Taiwan Network publishes progress reports. Taiwan also contributes to additional DM-related communities and agendas.[239]

Asia-Pacific Economic Cooperation (APEC)

Taiwan is a participating economy in APEC and its Emergency Preparedness Working Group (EPWG). APEC's mission is to support sustainable economic growth and prosperity in the Asia-Pacific by supporting free and open trade and investment, promoting regional economic integration, encouraging economic and technical cooperation, enhancing human security, and facilitating a favorable and sustainable business environment.[240] Whereas Taiwan is often excluded from inter-governmental organizations as it is not recognized by many as a country, Taiwan participates significantly in APEC under the title "Chinese Taipei." It sends an economic representative who interacts with heads of state. Taiwan's former president Tsai Ing-wen once described APEC as Taiwan's most important international platform.[241]

Taiwan's National Science and Technology Center for Disaster Reduction (NCDR) is active in the APEC EPWG,[242] where it has served as a co-chair.[243] APEC's EPWG is responsible for capacity building in the Asia Pacific region for disaster risk reduction (DRR) and emergency preparedness. The EPWG seeks to build capacity so that APEC member economies can better mitigate, prepare for, respond to, and recover from emergencies and natural disasters. It focuses on building business and community resilience; fostering private-public partnerships to protect communities and businesses from disruption; and sharing information, knowledge, and technology to improve regional capacity on DRR. In 2015, APEC Leaders adopted the APEC DRR Framework to address the pressing concerns resulting from the increasing frequency, magnitude, and scope of disasters, which disrupt production and supply chains. In 2023, APEC revised both its DRR Framework and Action Plan.[244]

Women, Peace and Security

Taiwan ranked in the top 15% globally for women's well-being among countries scored in the 2025/26 Women, Peace and Security (WPS) Index. The index analyzes data relating to security, justice, and inclusion to understand women's status and welfare, scoring countries on a scale of 0 (worst) to 1 (best). The 2025 Index generated a score of 0.854 for Taiwan and ranked it 27th out of 181 countries, the highest ranking in the East Asia and the Pacific region.[245] The WPS agenda is a global framework that was formalized with the unanimous adoption of UN Security Council Resolution 1325 in 2000 and nine subsequent resolutions, which together support women's meaningful participation in peace and security processes and recognize the disproportionate impact of crises upon women and girls.[246]

On 4 September 2025, Taiwan launched its first disaster prevention training program designed specifically for women. The groundbreaking initiative in emergency preparedness efforts was held at the New Taipei City Fire Department, with Vice President Hsiao Bi-khim and New Taipei City Deputy Mayor Liu Ho-jan attending the inaugural session. Participants focused on learning cardiopulmonary resuscitation techniques and other essential emergency response skills over

ten sessions.[247]

International Obstacles

Lack of UN recognition and pressure from the PRC to not recognize Taiwan significantly complicate international response to disasters in Taiwan. While Taiwan has a lot of disaster experience and capability and does not often request international disaster assistance, it occasionally experiences large-scale, devastating disasters. No UN agencies, funds, offices, or programs operate in Taiwan. Thus, the UN Cluster Approach to international humanitarian coordination is not supported for international disaster responses in Taiwan. International disaster assistance to Taiwan is usually conducted bilaterally. Meanwhile, there is no connection for Taiwan with the International Federation of Red Cross and Red Crescent Societies (IFRC) or International Committee of the Red Cross (ICRC). The Taiwan Red Cross (officially the Red Cross Society of the Republic of China) is not among the 191 National Red Cross or Red Cresent societies that are officially recognized.[248]

At least twice – in 1999 after the 921 earthquake and again in 2009 after Typhoon Morakot – Beijing has delayed approval for UN missions. In both cases, once approved, UN agency representatives arrived after the initial stages of the response. Looking forward, in case of a major disaster, the UN Cluster Approach to international humanitarian coordination would not be supported, as its proponents and lead agencies do not have a presence. The Cluster Approach supports coordination among national and international responders,[249] and without practitioners of this method, Taiwan's structures for coordination may be less familiar to international responders.

Other Disaster Management Partners

There are several key international NGOs that operate in Taiwan and that partner with Taiwan entities for international development and humanitarian action.

The **Taiwan International Cooperation and Development Fund** (TaiwanICDF) is Taiwan's development assistance agency that helps carry out the government's official development assistance (ODA). A specialized aid agency, TaiwanICDF offers technical assistance, hosts overseas volunteer programs, offers humanitarian aid, organizes international workshops, and sponsors scholarships. TaiwanICDF is headquartered in Taipei. It works on improving socio-economic development, enhancing human resources, and promoting economic relations in developing partner countries. The organization also offers humanitarian assistance and aid for natural disasters or international refugee crises. The mission is based on four core operations: lending and investment, technical cooperation, humanitarian assistance, and international education and training.[250]

World Vision (WV) has an office in Taipei and partners with TaiwanICDF to coordinate with Taiwan on providing foreign disaster relief. It has also assisted Taiwan with large-scale domestic disaster responses. WV provides food assistance, access to clean water and sanitation, and increased access to medical care for children. WV is a faith-based (Christian) relief, development, and advocacy NGO with approximately 37,000 staff members working in an estimated 100 countries worldwide.

The Lions Clubs International (LCI) has 15 districts and more than 50,000 members in Taiwan, with several district clubs involved in providing assistance following domestic disasters. They particularly focus on facilitating donations of household goods and money. The Taipei Shang Bin Lions Club has stated it helps provide food, water, clothing, and medical supplies and assists in long-term reconstruction.[251] The Taipei Jenai Lions Club and the Taoyuan Kuan Yin Lions Club have also stated they provide disaster assistance.[252] Taiwan Lions Club chapters have been among the largest Lions Club fundraisers to aid Ukrainian refugees since the 2022 Russian invasion of eastern Ukraine.[253]

Rotary Club has dozens of local chapters across 12 districts in Taiwan. They engage in

community service activities including disaster relief and mitigation efforts.[254] Following Typhoon Morakot (2009), many local Rotary clubs provided disaster relief, including plans to build temporary shelters, providing supplies for educational institutions, repair of damaged pipelines and water towers, medical professional volunteers and supplies; and distributing cash donations from Rotarians worldwide.[255] The Rotary Club of Taipei (RCT) is the oldest Rotary Club in Taiwan; it was chartered in 1948 and actively participates in aid projects regionally and internationally. The RCT has worked on overseas projects and collaborated with other Rotary Clubs and NGOs.[256]

Kiwanis has more than 19,000 members across 486 Kiwanis Clubs in Taiwan.[257] Kiwanis community service activities include emergency relief and international aid fundraising. Kiwanis has collaborated with the UN Children's Fund (UNICEF) to some extent on children's funding and poverty alleviation in Taiwan.[258]

Taiwan-Based NGOs

Many NGOs in Taiwan are medium-sized, legacy, development-oriented NGOs that do not usually receive foreign funding. More than 90% of Taiwanese development NGOs raise funds domestically even for work they may do internationally. The self-reliant nature of Taiwan development NGOs, operating without foreign funding, may be attributed to several elements including Taiwan's diplomatic isolation and that it does not have a large footprint on the ground in target development areas abroad.[259] An additional factor is that Taiwan's international development ecosystem has not been long institutionalized, partly due to Taiwan having democratized relatively recently and partly due to its diplomatically isolated government being focused on aid to diplomatic allies and on business and investment versus humanitarian aid efforts. A large outlier in Taiwan's NGO landscape is the Buddhist Tzu Chi Foundation, Taiwan's most well-known NGO, which has millions of members globally and provides extensive humanitarian aid domestically and internationally.[260]

NGO Platform: Taiwan AID

The Taiwan Alliance in International Development (Taiwan AID) was registered in 2013 as Taiwan's first NGO platform dedicated to international development and relief. It aims to strengthen transparency, efficiency, and cooperation among Taiwan-based NGOs involved in international humanitarian aid. Its primary goals include fostering international connections, enhancing the quality of international development and relief, advocating for policies related to international development, and public education. There are nearly 30 members – Taiwan-based NGOs with projects spanning 5 continents and that are actively involved in education, health care, poverty alleviation, social welfare, gender equality, humanitarian assistance, international volunteering, information technology, climate change, and renewable energy. Table 2 lists Taiwan AID members.[261]

In 2023, Taiwan AID launched an NGO Fellowship Program, jointly funded by the American Institute in Taiwan (AIT) and Taiwan's Ministry of Foreign Affairs (MOFA), to provide training for young NGO professionals from South and Southeast Asia. The fellowship enables regional NGOs to more effectively tackle problems of inequality and human rights in their own countries and build a support network among NGOs in Asia. The 2023 pilot program supported 10 fellows, and positive feedback led to an 8-fold increase in applicants in 2024 and expansion to applicants from Japan, Mongolia, and South Korea.[262]

Chinese Christian Relief Association (CCRA)

CCRA provides disaster and emergency relief for families in need as well as community services, including after-school tutoring for disadvantaged children and food banks. CCRA has established 1,919 service centers in 324 villages and townships in partnership with 1,566 churches, and this community care network is able to react and deliver assistance effectively to disaster events. CCRA has approximately 30 staff and 14,600 volunteers. Its partners include Tzu Chi, Mustard Seed Mission, and several

Organization Name	Membership Type
Bjorgaas Social Welfare Foundation	Formal
Calls Over Ridges	Formal
Changhua Christian Hospital	Formal
ECPAT Taiwan	Formal
Eden Social Welfare Foundation	Formal
Formosa Budding Hope Association	Formal
Fubon Cultural & Educational Foundation	Formal
Garden of Hope Foundation	Formal
Good Neighbors	Formal
Harmony Home Association Taiwan	Formal
International Climate Development Institute	Formal
International Headquarters S.A.R, Taiwan	Formal
Landseed Culture and Education Foundation	Formal
Mustard Seed Mission	Formal
Noordhoff Craniofacial Foundation	Formal
One-Forty	Formal
Overseas Medical Mission Center	Formal
Taiwan Dental Association	Formal
Taiwan Equality Campaign	Formal
Taiwan Fund for Children and Families	Formal
Vision Youth Action	Formal
Zhi-Shan Foundation TAIWAN	Formal
Child Welfare League Foundation	Observing
Glocal Action	Observing
Relieve Disaster Foundation	Observing
Sunshine Social Welfare Foundation	Observing
Step30	Observing
Chaoyang International Volunteer	Student
Federation of Medical Students in Taiwan	Student

Table 2: Taiwan AID Member Organizations

private enterprises like Google and Costco.[263] CCRA was founded in 1998 and is composed of members of the church. The mission of CCRA is to provide community service as well as aid in times of major disaster. In addition to disaster responses in Taiwan, CCRA has been involved with disaster assistance in the 2004 Indian Ocean tsunami, 2008 Sichuan earthquake, 2010 Haiti earthquake, 2011 Japan earthquake, 2013 Typhoon Haiyan in Philippines, and the 2015 Nepal earthquake.[264]

International Headquarters, S.A.R., Taiwan

International Headquarters, S.A.R., Taiwan was established in 1981, and it is the first non-governmental, volunteer-based search-and-rescue organization of its kind in Taiwan. Members of the organization include emergency response specialists and volunteers, such as retired military personnel, academics, and community groups. The organization has 97 local branches in Taiwan and two international SAR units (known as the International Search and Rescue Operations Taiwan). Relief missions have come in the wake of earthquakes,

mudslides, typhoons, flooding, and accidents in the air, at sea, or on mountains.[265] In February 2023, it deployed a 21-member rescue team to Türkiye following an earthquake.[266] It also responded to Thailand following the 2004 tsunami, to El Salvador after earthquakes, to Philippines after mudslides, to Nepal after the 2015 earthquake, and to other disasters in Indonesia, Malaysia, and Myanmar. The organization is funded by member dues and donations. It is a member of Taiwan AID.[267] Photo 5 shows International Headquarters, S.A.R., Taiwan responding to the 2015 earthquake in Nepal.[268]

Mustard Seed Mission

Mustard Seed Mission provides resources in response to local needs through food banks, sponsorship of children, youth employment, and building a solid network for vulnerable groups – e.g., disadvantaged families, children and youth, women, seniors, indigenous people, and new immigrants. It creates storage points for areas most affected in times of disaster, including rural communities. It has approximately 10 staff and 1,300 volunteers. It partners with the government, schools, churches, Tzu Chi, and local indigenous non-profits. It is a member of Taiwan AID.[269]

Presbyterian Church of Taiwan (PCT)

PCT has a variety of missions in Taiwan and overseas. They include youth development, disaster relief, and civil defense initiatives. It has worked overseas in Turkiye, Ukraine, and PRC's Sichuan Province. PCT has approximately 30-40 staff and draws volunteers from its 1,271 congregations with 257,550 members.[270]

Taiwan Foundation for Disaster Relief

Taiwan Foundation for Disaster Relief assists with natural disaster relief in affected areas and coordinates with the private sector. Established by the Executive Yuan in 2001, it first assisted domestically, and in 2020, it amended its charter to extend humanitarian assistance overseas. Aid sent abroad has included Japan, Ukraine, and the Palestinian Territories (Gaza), and it has assisted the Taiwanese search and rescue team in deploying to Turkiye after the 2023 earthquake. In Taiwan, it played a significant part in fundraising for disaster response and recovery after the April 2024 Hualien earthquake. It has approximately 25-30 staff. It draws partners from both the public and private sectors, including PCT and Mustard Seed Mission. It is a public foundation under the supervision of the MoHW.[271]

Photo 5: International Headquarters, S.A.R., Taiwan Assists in Nepal After Earthquake in 2015

Taiwan Fund for Children and Families

Taiwan Fund for Children and Families provides livelihood assistance, medical care, health promotion, learning and education support, vocational training, living environment improvement, community development, livestock programs, and cash and in-kind family support. It has approximately 1,592 employees, of which 1,278 are women, and 7,458 volunteers. It is a member of Taiwan AID.[272]

Taiwan Red Cross

Taiwan Red Cross (TRC, officially called the Red Cross Society of the Republic of China) was established in

1904. Though it is not officially recognized by the IFRC, there have been some cooperative interactions.[273] Following the 1999 Chi-Chi earthquake, TRC worked with the Danish Red Cross and began organizing disaster preparedness and organizational development plans. As a result, the TRC has implemented disaster preparation and response plans and has established Disaster Preparedness Centers in at least 25 counties and cities. The Centers offer disaster management courses to full-time staff and volunteers.[274] During typhoons, the Centers have been used to supply food to emergency shelters.

The TRC opened the Hualien Disaster Preparedness Center in 2019. The center is a two-story building with a warehouse on the first floor and the branch office, training venue, and disaster relief dispatch center on the second floor. The warehouse has enough space to store 100 tents for 10 people each, 800 sleeping bags, 800 blankets, and 800 pieces of mattress material. After a disaster, the center will be able to offer supplies and trained Red Cross Disaster Teams, as well as other government resources.[275]

Domestically, the TRC has established major SAR teams in the northern, central, southern and eastern regions of Taiwan. At the 25 Disaster Preparedness Centers in Taiwan, volunteers may take part in basic search-and-rescue and preparedness training.[276] TRC has worked in cooperation with the NFA by offering SAR training aligned with international standard operating procedures that lays the groundwork for participants to quality for the NFA's special SAR certification.[277]

As it is not officially part of the International Red Cross and Red Crescent Movement, TRC cannot participate in international decision making in the IFRC or the ICRC. Nonetheless, TRC strives to adhere to IFRC's guidelines and doctrine. The Taiwan Red Cross refers to themselves as the TRC, though entities such as the IFRC often refer to them as the Taiwan Red Cross Organization, or TRCO. In 2016, against the wishes of TRC, Taiwan's Executive Yuan abrogated the Red Cross Society Act of the Republic of China[278] to remove TRC's special legal status and subject it to the Civil Associations Act and Charity Donations Act.[279] This decision makes the TRC more akin to an NGO, in contrast to IFRC-recognized national societies that are typically an auxiliary to public authorities in the humanitarian field.[280]

Taiwan Root Medical Peace Corps (TRMPC, or Taiwan Root)

TRMPC, or Taiwan Root, is a private medical services and health education NGO founded in 1995. TRMPC is comprised of medical personnel and volunteers. Aside from working domestically, Taiwan Root has helped respond to foreign disasters such as Typhoon Haiyan in Philippines in 2013. Following Typhoon Morakot in August 2009, Peace Winds America and Taiwan Root delivered medical treatment to victims.[281] TRMPC conducted a number of medical missions domestically in response to COVID-19.[282]

Tzu Chi

Tzu Chi is Taiwan's largest NGO. Officially known as the Buddhist Compassion Relief Tzu-Chi Foundation, it not only has extensive domestic activities but also a significant global footprint. Founded in 1966, Tzu Chi provides emergency aid, medical assistance, and recycling services. It provides second-line assistance, including provision of drinking water, hot food, and shelter to disaster-affected areas. The organization operates Tzu Chi hospitals throughout Taiwan. It has signed memoranda of cooperation with over 16 central ministries and academic institutions and 22 local governments to improve disaster prevention and response. Tzu Chi has approximately 1,000-1,200 staff and 97,000 volunteers worldwide, and they have provided assistance in 68 countries. In 1991, it was reportedly the first NGO to provide emergency relief assistance overseas to people affected by Cyclone Marian in Bangladesh. Its partners include Mustard Seed Mission, CCRA, and PCT, among local churches and organizations in Taiwan.[283] Photo 6, by Kun-cheng Xue, shows a temporary shelter set up by the Tzu Chi Foundation at

Zhonghua Elementary School after the Mw 7.4 earthquake struck on 3 April 2024 near Hualien. After a previous earthquake struck Hualien in 2018, Tzu Chi developed the pictured Jing Si partition tents from recycled plastic to prioritize privacy and dignity for disaster-affected people.[284]

Civil Resilience Organizations

Unique to Taiwan's civil society landscape is that newer NGOs are contributing to disaster and crisis preparedness efforts as part of a civil resilience or civil defense approach, as opposed to a traditional humanitarian aid framework.

Forward Alliance, founded in 2020, is a non-profit dedicated to enhancing Taiwan's social resilience. It conducts numerous trainings to provide basic first aid, disaster response, and other emergency skills to community members.[285] Photo 7 shows Forward Alliance conducting a civil resilience training with an emergency response role-played scenario.[286]

Academia Formosana, established in 2024, is a Christian non-profit committed to promoting community-based civil resilience. It coordinates civil defense and resilience training with a network of 1,300 Presbyterian congregations around Taiwan to enhance community networks as much as individual skills.[287]

Kuma Academy, founded in 2021, aims to prepare civilians for conflict scenarios with its civil defense training covering basic first aid, evacuation planning, and mitigating misinformation.[288] Kuma Academy has been officially sanctioned by Beijing on the basis of promoting "separatism."[289]

Women participate significantly in these emerging civil resilience activities. Women comprised 70% of Forward Alliance volunteers and 60% of Kuma Academy trainees in 2023.[290] Women comprised even more Kuma Academy trainees (70%) by September 2025, when it had reportedly trained around 80,000 people, mostly ages 25-45 years. This character contrasts with Taiwan's traditional civil defense units that tend to be comprised of older men. This gender dynamic flips when looking at Taiwan's longstanding humanitarian organizations; the well-established Tzu Chi, founded by a nun, has around 70% women volunteers.[291]

Photo 6: Tzu Chi Set Up Shelter in Hualien after 2024 Earthquake

Photo 7: Forward Alliance Conducts Role-Play Training to Improve Civil Resilience

INTERNATIONAL ENGAGEMENTS

Taiwan-hosted International Trainings and Engagements

Taiwan has hosted or provided numerous international DM trainings and engagements in recent years. The 921 Disaster Exercise is Taiwan's high-profile, national-level disaster exercise, which regularly includes international participants and observers. The week-long event is held to coincide with National Disaster Preparedness Day, September 21st, as the date commemorates the 921 Earthquake that struck that day in 1999. Photo 8 depicts participants at the 921 Disaster Exercise on 20 September 2024 in Chiayi County. Taiwan's President Ching-te "William" Lai (center, front row), AIT Director Raymond Greene (right of President), various Taiwan ministers, and the CFE-DM Deputy Director, joined participants.[292]

Photo 8: Participants, Including President Lai (center), 20 September 2024

Photo 9 shows the Urban Search and Rescue Coordination Cell in the 921 Disaster Exercise in September 2025 in Yilan County. Photo 10 shows a Search and Rescue representative from the Yilan County Fire Bureau and international international observers, including CFE-DM Director Martin, at the 921 Disaster Exercise on 18 September 2025 in Yilan County. Photo 11 shows MOI Minister Shyh-Fang Liu (center) and NFA Director General Huan-Chang Hsiao (left) supporting the annual 921 Disaster Exercise. Photo 12 shows MOI Deputy Minister Ma Shih-yuan, or Sawyer Mars, conducting training during a 921 disaster preparedness exercise.

The Philippines routinely participates in robust disaster trainings and exchanges in Taiwan. The NFA's Training Center has had close ties with the Philippines since the center's inauguration in 2010. In 2018 Taiwan announced training would be extended

Photo 9: USAR Coordination Cell, 921 Disaster Exercise, September 2025

Photo 10: Yilan County Fire Personnel Brief 921 Disaster Exercise Observers

to professional Philippine firefighters and exchanges between the two have since increased.[293] Between 2019 to 2024, at least 132 firefighters from the Philippines completed training at the NFA's Training Center in Nantou County. Taiwan and the Philippines signed a Memorandum of Understanding in 2024 to strengthen disaster prevention and management cooperation.[294] Photo 13 shows Taiwan and the Philippines conducting joint firefighting and disaster rescue training.[295]

Photo 11: MOI Minister and NFA Director General Support 921 Disaster Exercise

Photo 12: Minister Ma Conducts Training at 921 Disaster Exercise

Photo 13: Taiwan-Philippines Joint Training for Firefighting and Disaster Rescue

Each year, Taiwan hosts dozens of international seminars, trainings, and workshops related to disaster management. A small sampling of events from 2023 include:[296]

- Subject Matter Expert Exchange with Japan Coast Guard, hosted by the NRCC in March
- Taiwan-Philippines Firefighting and SAR workshop in September
- Taiwan-Vietnam High-Tech Disaster Relief and Firefighting Workshop in November
- Taiwan-Japan-Philippines Firefighting Senior Cadre Training Camp in November
- Taiwan-Japan Disaster Prevention Education Seminar with the Chiayi County Fire Department and head of`the Yokohama City Fire Department in February
- Taiwan-Japan-US Disaster Management Symposium in Taichung in September.
- International Symposium on Natural Disaster Prevention and Control, hosted by the Rural Development and Soil and Water Conservation Administration in April
- Exchange on Emergency Response Mechanisms for Debris Flows and Large-Scale Landslides by the Belize Inter-Ministerial Rapid Response Team in August
- Exchange Activities on Disaster Prevention and Early Warning Programs with Guatemala in December

Taiwan also addresses disaster-related topics among the several Global Cooperation and Training Framework workshops it annually hosts; these events are discussed in the appendix on U.S. Government Disaster Management Engagement.

U.S. Government Disaster Management Engagement

To build preparedness rather than simply react to large-scale events, U.S. government stakeholders undertake regular engagements for training, information sharing, and capacity strengthening. When a disaster overwhelms the response capacity of an affected country and its international humanitarian partners, the U.S. Government may respond to a request for international assistance. The Chief of Mission (COM) of the U.S. mission for the country can issue a Declaration of Humanitarian Need (DHN). Due to the unofficial nature of U.S.-Taiwan relations, the Director of the American Institute in Taiwan would typically make this request. The DHN triggers assistance – in the form of funding, technical support, or relief items – via the U.S. State Department's Bureau of Disaster and Humanitarian Response (DHR), which was established in 2026 and integrates the Directorate of International Disaster Response (IDR) to replace the U.S. Agency for International Development's Bureau for Humanitarian Assistance (USAID/BHA). Additional support may be in the form of Urban Search and Rescue teams or experts to help manage a chemical, biological, radiological, nuclear, or explosive incident. If civilian capacity is insufficient to meet life-saving need, the State Department may request U.S. DOW support via an intra-U.S. Government process.[297]

American Institute in Taiwan

The AIT is a non-profit, private corporation established shortly after the United States Government changed its diplomatic recognition from Taipei to Beijing on 1 January 1979.[298] The Taiwan Relations Act (TRA; Public Law 96-8) of 10 April 1979 authorized the continuation of "commercial, cultural and other relations between the people of the United States and the people on Taiwan." It also provided that "any programs, transactions, or other relations conducted or carried out by the President or any Agency of the United States Government with respect to Taiwan shall, in the manner and to the extent directed by the President, be conducted and carried out by or through the American Institute in Taiwan."[299] The Department of State, through a contract with the Institute, provides a large part of AIT's funding and guidance in its operations. Congress, in passing the Taiwan Relations Act, also assumed an oversight role with respect to the Institute's operations.

In addition to the TRA, U.S. policy on Taiwan is guided by the three U.S.-PRC Joint Communiqués ("Three Communiqués")[300] and the "Six Assurances" to Taiwan (1982).[301]

The 1st Communiqué (28 February 1972), also called the Shanghai Communiqué, resulted from President Nixon's trip to China that year and includes the following statements:

- The U.S. "acknowledges that all Chinese on either side of the Taiwan Strait maintain there is but one China and that Taiwan is a part of China. The United States Government does not challenge that position."
- The U.S. "reaffirms its interest in a peaceful settlement of the Taiwan question by the Chinese themselves," —a reference to the populations on both sides of the Taiwan Strait—and "affirms the ultimate objective of the withdrawal of U.S. forces and military installations from Taiwan."[302]

The 2nd Communiqué (15 December 1978), the U.S.-PRC Normalization Communiqué, stated the terms under which the two countries agreed to establish diplomatic relations on 1 January 1979; they include:

- The U.S. government "recognizes the Government of the [PRC] as the sole legal Government of China. Within this context, the people of the United States will maintain cultural, commercial, and other unofficial relations with the people of Taiwan," and
- The U.S. government "acknowledges" —but does not endorse— "the Chinese position that there is but one China and Taiwan is part of China."[303]

The 3rd Communiqué (17 August 1982) stated:

- The U.S. "does not seek to carry out a long-term policy of arms sales to Taiwan, that its arms sales to Taiwan will not exceed, either in qualitative or in quantitative terms, the level of those supplied in recent years since the establishment of diplomatic relations between the United States and China, and that it intends to reduce gradually its sales of arms to Taiwan, leading over a period of time to a final resolution."[304]

The Six Assurances (July 1982) were issued by President Reagan just prior to the 3rd Communiqué in order to relay to Taiwan's president what the U.S. did not agree to in negotiations with the PRC. They communicated that the U.S. had:

1. "not agreed to set a date certain for ending arms sales to Taiwan";
2. "not agreed to prior consultations [with the PRC] on arms sales" to Taiwan;
3. "not agreed to any mediation role for the U.S." between Taipei and Beijing;
4. "not agreed to revise the Taiwan Relations Act"; and
5. "not agreed to take any position regarding sovereignty over Taiwan;" and that the United States
6. "will never" pressure Taiwan to negotiate with the PRC.[305]

The Global Cooperation and Training Framework (GCTF), of which AIT is a founding sponsor, is a capacity-building platform through which Taiwan shares its expertise with the international community in tackling issues of global concern. AIT, Taiwan's MOFA, Japan-Taiwan Exchange Association (JTEA), Australian Office in Taipei (AO), Canadian Trade Office in Taipei (CTOT), and British Office Taipei (BOT) jointly administer the GCTF program. GCTF assists countries throughout the world through training programs for officials and experts, while also enhancing Taiwan's international cooperation. Workshop topics include disaster management and humanitarian assistance, public health, law enforcement cooperation, energy efficiency, e-commerce, cybersecurity, and media literacy. As of December 2025, more than 10,000 government officials, experts, and civil society representatives from over 130 countries have participated in GCTF workshops.[306] GCTF was established in 2015 between the U.S and Taiwan, with Japan joining in 2019, Australia joining in 2021, Canada joining in 2024, and the United Kingdom joining in 2025, as full partners. Palau was the first country to host a GCTF

workshop outside Taiwan in 2019, and the Czech Republic was the first country to host a GCTF-affiliated franchise workshop in 2021. In July 2025, GCTF launched "GCTF Connect," a new initiative to deliver longer-term trainings and exchanges for Taiwan participants focused on whole-of-society resilience and other critical areas. GCTF workshops in Taiwan relating to DM or humanitarian assistance and disaster response (HA/DR) include:[307]

- GCTF Workshop on Global Public-Private Partnerships in HA/DR: Disaster Governance and Sustainable Operation (23-25 June 2025)[308]
- GCTF International Workshop on Whole-of-Society Resilience Building, Preparation, and Response (4-6 March 2025)[309]
- GCTF International Workshop on Impacts of Climate Change on the Ocean (1-2 October 2024)[310]
- GCTF Workshop on Strengthening Civilian Training (focused on responders and societal resilience, 25-27 June 2024)
- GCTF International Workshop on Maritime Disaster Measures (18-19 October 2023)
- GCTF International Humanitarian Rescue Workshop (20-23 September 2023)
- GCTF Seminar on Building the Resilience of Nations and Communities to Disasters (10 March 2021)[311]
- Virtual GCTF Conference on Building Disaster Resilience at Global and National Levels (24 September 2021)[312]
- Virtual GCTF Workshop on COVID-19: Preparing for the Next Wave (24 June 2020)[313]
- Virtual GCTF Workshop on Combatting COVID-19 Disinformation (29 April 2020)[314]
- GCTF Workshop on Humanitarian Assistance and Disaster Relief (12-14 December 2018)
- GCTF Workshop on Humanitarian Assistance and Disaster Relief (5 July 2017)

In addition to GCTF workshops, AIT supports various other activities in Taiwan related to disaster response and emergency management at the national and local levels.

AIT Director Raymond Greene provided remarks at Forward Alliance's Cross-Sector Emergency Response Preparedness Exercise on 14 September 2024.[315] The exercise, sponsored by Spirit of America, simulated a rural-located disaster; 300 participants, including civilian volunteer teams, professional first responders, and medical professionals, worked together to enhance Taiwan's resilience to emergencies. Professional and volunteer teams collaborated on search and rescue, medical care, providing shelter, and other tasks.[316]

AIT cooperates with the Taiwan Development Association for Disaster Medical Teams (TWDMTDA) in regular workshops to train first responders in emergency situations. AIT partnered with TWDMTDA and the New Taipei City Government to co-host the "援手 [Helping Hand] Take Action 2.0" humanitarian assistance and disaster relief first-responder training workshops on 23 and 24 November 2024 in Wulai District Office and at the New Taipei City Fire Department.[317]

AIT often commemorates the devastating 921 Earthquake of 1999 upon its anniversary, timed with Taiwan's major annual disaster exercise, the 921 National Disaster Prevention Exercise. AIT partnered with Japan to collaborate on a commemorative video for the 25th anniversary of the earthquake.[318]

Memorandum of Understanding on Humanitarian Assistance and Disaster Response

In January 2023, AIT and the Taipei Economic and Cultural Representative Office (TECRO) in the U.S. signed a Memorandum of Understanding on Humanitarian Assistance and Disaster Response, with CFE-DM and NCDR as their respective Designated Representatives. This agreement accelerated international cooperation focused on activities related to disaster management.

CFE-DM Supports International Trainings in Taiwan

CFE-DM has delivered several workshops on disaster response and other humanitarian crises involving civil-military operations for Taiwan interagency audiences. Workshops are often supported by U.S. interagency partners and have the aim of enhancing coordination, decision-making, and interoperability. Photo 14 shows a module of a training workshop hosted by Taiwan's NFA, co-organized by CFE-DM, and supported by FEMA; it took place on the floor of Taipei's Central Emergency Operations Center in April 2024.

Photo 14: Disasters Workshop Led by CFE-DM and Taiwan NFA in 2024

Taiwan Supports Trainings in the Asia-Pacific and Beyond

Taiwan's NCDR supported CFE-DM's Humanitarian Assistance and Response Training – Disasters (HART-D) at U.S. Embassy Bangkok for 37 participants from the Embassy, security cooperation officers in the region, and Royal Thai Armed Forces. Photo 15 shows participants, presenters, instructors, and facilitators from CFE-DM's HART-D Course in Bangkok, Thailand, in August 2025. Photo 16 shows NCDR Secretary General, Dr. Wei-Sen Li, providing comments at the same HART-D training in Bangkok.

Photo 15: CFE-DM and Taiwan's NCDR Staff Briefed Participants at HART-D, Bangkok, 2025

Photo 16: NCDR's Dr. Wei-Sen Li Comments at the HART-D, Bangkok, 2025

NCDR has supported Palau's disaster management upgrades over several years. During Pacific Partnership 2021, NCDR agreed to install a weather sensor network and develop a GIS- and cloud-based system to enhance Palau's capacity to anticipate and respond to meteorological threats. In July 2023, this Smart Sensor Network system was completed. In January 2024, NCDR and CFE-DM led a disaster management workshop in Palau in support of Pacific Partnership, with NCDR leading the first day of practical training on the operation and maintenance of the sensor network. NCDR then worked with Palau National Emergency Management Office (NEMO) to troubleshoot and perform maintenance on the system during Pacific Partnership. Photo 17 shows the participants of the Pacific Partnership workshop in Palau in January 2024.[319]

Photo 17: Participants of Pacific Partnership 2024 Workshop Led by NCDR and CFE-DM in Palau

Taiwan Responds to Disasters Globally

Taiwan is widely respected for its disaster response capabilities, and its Search and Rescue Team is internationally recognized for its efficiency in post-disaster operations. Demonstrating their expertise and commitment to humanitarian relief efforts, Taiwan's responders have provided critical assistance in emergencies in multiple countries.

Major examples include:

Turkey 2023 Earthquake — Taiwan dispatched more than 130 rescuers and contributed millions of dollars in aid following the devastating earthquake. Photo 18 shows the Taiwan Search and Rescue Team assisting victims during this response.[320]

Indonesia 2018 Earthquake and Tsunami — Taiwan's government and NGOs provided financial aid, medical supplies, and post-disaster assistance.

Nepal 2015 Earthquake — Taiwan deployed search and rescue teams, supplied medical aid, and supported rebuilding initiatives.

Philippines 2013 Typhoon Haiyan — Taiwan sent rescue teams, medical personnel, and relief supplies to support recovery operations.

Japan 2011 Earthquake and Tsunami — Taiwan was among the largest donors, providing over US$165 million in aid and sending emergency relief teams.

Haiti 2010 Earthquake — Taiwan deployed medical teams, delivered essential supplies, and contributed financial assistance for rebuilding efforts.[321]

Photo 18: Taiwan SAR Team Assists After Earthquake, Turkey, 2023

CRITICAL INFRASTRUCTURE FOR DISASTER MANAGEMENT

Taiwan has a modern and well-developed transportation infrastructure. It has several international airports and seaports available for the movement of bulk cargo and passengers, and the island serves as a regional hub for transit and logistics. Taiwan also has an island-wide rail and road network, as well as Mass Rapid Transit (MRT) systems in its major cities.[322] Taiwan is known for its advanced technology industry and has a highly developed and modernized communications environment, with near-universal mobile phone usage and robust fixed and wireless broadband infrastructure. This modern telecommunications infrastructure underpins Taiwan's disaster preparedness, EWS, and response efforts. Housing and buildings are of generally good quality in Taiwan and there are hundreds of tsunami shelters across the island for the safe evacuation of citizens. A modern and near-universal healthcare system is also well-equipped to help its citizens cope with most major disasters on the island.

There are key infrastructure vulnerabilities, especially energy infrastructure, with the nation's power grid struggling to keep up with demand. It is heavily dependent on imports to generate energy and operate the grid. In May 2025, Taiwan closed its last remaining nuclear power plant and now imports nearly all energy supplies. Researchers have also highlighted potential water shortage issues, as Taiwan relies heavily on extracted groundwater, river water, and rain collection for its drinking water supply.

Taiwan is working on a project to build up its overall infrastructure over the next 30 years. Known as the Forward-looking Infrastructure Development Program, it includes funding for eight categories: railway projects, water environments, green energy infrastructure, digital infrastructure, urban and rural projects, childcare facilities, infrastructure for food safety, and human resources infrastructure.[323]

Transportation

Taiwan is a regional hub for sea and air transport in the Asia-Pacific region. Taipei is well-connected to major regional cities such as Tokyo, Seoul, Shanghai, Hong Kong, and capitals in Southeast Asia. There are 210 air passenger routes and 114 cargo routes that connect 148 cities to the island. Moreover, Taiwan has a robust overland transportation network, including high-speed rail (HSR) from north to south, two freeways spanning the island from north to south, and railways that travel around the island. There are mass rapid transportation networks in the two major cities – Taipei and Kaohsiung. The MRT systems, trains, and HSR allow travelers to reach any part of Taiwan within a day.[324]

The capital, Taipei City, is the island's largest transport hub, offering three types of railways (trains, HSR, and the MRT metro system), buses, taxis, and a YouBike network. The Taipei Railway Station serves as the city's transportation center, with 500,000 passengers passing through daily to access the MRT, HSR, Taiwan Rail, and buses. Passengers departing from Taipei can reach Taoyuan International Airport, Taiwan's largest airport, within one hour. Key industrial areas such as Taoyuan and Hsinchu are accessible from Taipei in two hours.[325]

Reception and Departure Centers (RDC)

Taiwan has designated five airports and one seaport as locations for Reception and Departure Centers to receive international rescue teams in the event of a large-scale disaster in Taiwan that requires foreign assistance. Table 3 lists these ports and their identified areas for RDCs.[326] Also see the Appendix, "Reception and Departure Center Procedures," for photos and additional details.

Airport	RDC Site Location
Taipei International Airport (Songshan)	Terminal 1 Gate 8R
Taoyuan International Airport	Terminal 2 Gate C5R
Taichung Airport	Airport Fire Brigade
Kaohsiung International Airport	Airport Fire Brigade
Hualien Airport	Airport Fire Brigade

Seaport	RDC Site Location
Hualien Port	Pier 23 (Passenger Clearance Service Station)

Table 3: Planned Airport and Seaport RDC Site Locations

Airports

Taiwan's airports are well-connected internationally and domestically. As of 2025, there are 57 airports and 56 heliports.[327] However, the number of major airports is smaller, with just four international airports: Taoyuan International Airport, Kaohsiung International Airport, Taichung International Airport, and Taipei Songshan Airport. Several domestic airports are capable of organizing international chartered flights.[328]

Taiwan's largest airlines are:

- China Airlines — Taiwan's state-owned flag carrier, founded in 1959. (Not to be confused with Air China, which is PRC's flag carrier, or China Eastern or China Southern Airlines, which are major PRC airlines.)
- Eva Air — Founded in 1989 as Taiwan's first private international airline. Owned by the Evergreen Group conglomerate.
- Starlux Airlines — Founded in 2018.

Taiwan Taoyuan International Airport

The Taiwan Taoyuan International Airport (IATA code: **TPE**, ICAO code: **RCTP**; formerly Chiang Kai-shek International Airport) is Taiwan's largest and busiest airport. Located in Dayuan, Taoyuan County, approximately 40 km (25 mi) west of Taipei, it has two terminals, and plans for a third terminal are underway.[329] Between January and May 2025, the airport recorded over 1.8 million arrivals and departures per month.[330] The airport has two parallel runways (3,660 m × 60 m [12,000 × 200 ft] and 3,800 m × 60 m [12,500 × 200 ft]) and 116 aircraft parking positions. It is capable of handling over 60 aircraft movements per hour. Most international travelers will arrive at this airport, which is connected to central Taipei by the MRT.[331]

RDC site location: Terminal 2, Gate C5R

Taipei Songshan Airport (Officially Taipei International Airport)

Taipei Songshan Airport (IATA code: **TSA**, ICAO code: **RCSS**) is located in downtown Taipei.[332] Most flights using Songshan are domestic routes or serve routes to PRC and other East Asian and Southeast Asian cities. Domestic flights include Hualien, Penghu, Kinmen, Matsu, and Hengchun. As demand outgrew facilities, most major international flights were moved to Taoyuan Airport in 1979. Part of the airport remains an Air Force base, operating flights for the President and Vice President. The civilian section's two terminals handle over 6 million passengers and 43,500 tons of cargo each year.[333] The airport is connected to the rest of the city by bus and the MRT, with its own dedicated station.[334]

RDC site location: Terminal 1, Gate 8R

Kaohsiung International Airport

Kaohsiung International Airport (IATA code: **KHH**, ICAO code: **RCKH**) is the second-largest airport in Taiwan by passenger volume. Located in Kaohsiung City, it serves as an important aviation gateway for southern Taiwan. The airport has two terminals (international and domestic), and its single runway measures 3,150 × 60 m (10,335 × 197 ft), meeting international standards to serve large aircraft. The apron accommodates 48 aircraft parking positions.

The airport serves over 35 destinations in 10 countries, including Japan, Malaysia, PRC, and South Korea, as well as domestic destinations.[335] It is located 8.4 km (5.2 mi) from the city center, approximately 15-20 minutes by subway or taxi.[336]
RDC site location: Airport Fire Department

Taichung International Airport/Ching Chuan Kang Air Base

Taichung International Airport (IATA code: **RMQ**, ICAO code: **RCMQ**) is Taiwan's fourth-largest airport by passenger volume. The airport is shared with Ching Chuan Kang Air Base. It is located in Shalu district, approximately 21 km (13 mi) from Taichung city center. The airport primarily serves Asian destinations such as PRC, South Korea, and Vietnam, as well as domestic destinations. Its single runaway runs 3,659 × 61 m (12,004 × 200 ft). The parking facilities have seven stalls for aircraft and five slots for helicopters.[337] Originally built during Japanese rule, and serving the U.S. Air Force from the 1950s, the airport began serving civilian domestic flights in 2004 and was upgraded to an international airport in 2017.[338]
RDC site location: Airport Fire Department

Hualien Airport

Hualien Airport (IATA code: **HUN**, ICAO code: **RCYU**) is a commercial airport located in a civilian area of a military airbase in Hualien on Taiwan's rugged east coast. While it primarily serves domestic flights, it can also handle international charter flights, having been certified to serve international flights in 2001. The single runway is 2,750 m (9,022 ft) in length, has a concrete surface, and an elevation of 16 m (52 ft).[339]
RDC site location: Airport Fire Department

Seaports

Taiwan's four port authorities, Keelung, Taichung, Kaohsiung, and Hualien, were originally administrative units under the MOTC but are now consolidated into the Maritime and Port Bureau (MPB) and the Taiwan International Ports Corporation Ltd. The MPB acts as a government body in charge of maritime and port-related public administration, and Taiwan International Ports Corporation is an independent business in charge of management and development.[340]

Port of Kaohsiung

The principal port for Taiwan is the Port of Kaohsiung, a natural port located on the southwestern coast. It is Taiwan's largest international commercial harbor and the major port for bulk cargo imports and exports. It serves as a key maritime transit point between Asia, Europe, and the Americas, with over 300 routes spanning 5 continents.[341] The port handles over 9.8 million Twenty-foot Equivalent Units (TEU) annually and is among the top 25 largest ports in the world.[342] Exports include electronics, basic metals, plastic, and rubber. The port features nine terminals with 93 berths, 69 warehouses and transit sheds with a capacity of 936,089 tons, and 12 outdoor yards with a capacity of 41,012 tons. It is also a very important fishing port for the island. In line with the government's promotion of the port as a key center for container shipping in the Asia Pacific, recent government infrastructure improvement works include developing a new passenger terminal, a viaduct expressway project, the Nanxing (South Star) land development project, and the construction of a new sewage treatment system.[343]

Port of Hualien

The Port of Hualien is an international harbor located in eastern Taiwan facing the Pacific Ocean. It has 25 deepwater wharves with an annual loading capacity of over 34 million tons, and it is connected to the road network and the double-track eastern line of the Taiwan railroad. There are 16 inner harbor wharves, which are used for multi-functional, oil, general goods, cement, gravel/sand, minerals, and passenger transport. Nine outer harbor wharves are multi-functional and used for gravel/sand, cement, and oil/general goods.[344]

RDC Site Location: Pier 23 (Passenger Clearance Service Station)

Port of Keelung

The port of Keelung, near the northern tip of the island, is a key logistics hub in the Asia Pacific region. It serves as a port for short-sea shipping, cross-strait passengers and cargo, international cruises, and tourism. The port spans 572 hectares (1,413 acres), with the water area consisting of 376 hectares (929 acres). There are 56 wharves with a total length of 9,000 m (29,527 ft). The main channel is 15.5 m (50.85 ft) deep. Facilities can accommodate post-Panamax container vessels and bulk cargo vessels up to 60,000 tonnage. Facilities include the West Coast Container Terminal with a North Container Yard and a South Container Yard, the East Coast Container Terminal, and the Bulk and General Cargo wharf area with 19 sets of bulk and general cargo docks.[345]

Port of Taichung

Located in central Taiwan and bordered by the Dajia River to the north and the Dadu River to the south, the Port of Taichung covers more than 4,000 hectares (9,884 acres). The port set up a Free Trade Zone of more than 600 hectares (1,482 acres). Its berthing facilities include 58 wharves with a total length of 14,695 m (48,211 ft) and handle general, bulk and heavy lift cargo, grain, cement, containers, waste iron, coal, liquified natural gas (LNG), and passengers.[346]

Port of Su-ao

The port of Su-ao, located in Ilan County in northeastern Taiwan, 21 km (13 mi) southeast of Ilan city, was developed into an international deepwater commercial port in the late 1970s. It is connected to Hualien city (about 90 km (55 mi) away) by a railway line and serves nearby industries, including export-import industries concentrated 2.7 km (1.7 mi) west of the harbor; they include fish processing, cement manufacturing, food canning, woodworking, and processing of copper, silica, mica, and manganese.[347]

Port of Anping

The port of Anping, on the southwestern coastline, was once the island's biggest harbor. It operates a cargo port handling construction material, plastic goods, steel products, and chemicals, among other products. Plans are underway to further develop the port into a multi-functional facility capable of handling large passenger ships and linking to other regional ports. The port is comprised of 19 wharves capable of accommodating ships weighing up to 35,000 tons, 2,000-TEU container ships, and 70,000-ton cruise ships. The port covers more than 239 hectares (590.6 acres) and handles around 18 million tons of bulk cargo each year.[348]

Port of Taipei

The port of Taipei (also known as Tan-Shui) is the biggest container facility in the northern region of Taiwan. The man-made harbor is located in in Pali, near Keelung. A relatively new harbor, the first phase of the project was completed in 2012. The port has 14 operational docks and 7 berths that manage containers with an annual capacity of more than 2,600,000 TEUs. The port has massive storage space and six warehouses with separate paved areas for containers. The port's annual cargo throughput is around 38.4 million tons of general cargo and 440,760 TEUs of containers. The modern port is equipped with wireless sensors and automated loading and unloading operations.[349]

Mailiao Port

Mailiao, located in the industrial region of Yunlin County in western Taiwan, has a man-made harbor that was created after the coastal area was dredged. The port's area is 475 hectares (1,174 acres), and the operational area consists of 20 specialized wharves and 10 public berths divided into 3 port areas – north, eastern, and western docks. The North dock handles shipments of asphalt, liquefied petroleum gas (LPG), chemicals, and oil. The Eastern dock is a multipurpose facility dealing with industrial salt, coal, cement, chemicals, and LPG. The western facility deals with crude oil. Numerous

warehouses and storage spaces are available, and the port also has a shipyard offering repair, maintenance, and a workshop.[350]

Roads

Taiwan has a highly developed and well-maintained freeway and road network. According to the Highway Bureau (HB), MOTC, as of early November 2025, Taiwan has 10 national freeways, 97 provincial highways, 159 city/county roads (including 5 in Penghu County), 2,250 district/county roads, and 35 special highways.[351] Roadways total around 170,135 km (105,717 mi) in length.[352] Taiwan's national freeway system is organized so that the odd numbers represent north-south roads, and even numbers represent east-west roads. Freeways 1 and 3 are the longest routes and serve the island's west coast.[353]

Two major road infrastructure projects are being undertaken by the HB – the Pingtung-Eluanbi Highway in the island's south and the Central Alishan Highway in the southern county of Chiayi. Additionally, older roadways are being improved; these roads include the Old Suhua Highway, which starts in Yilan County's Suao Township and heads southward along the Pacific coast. Another new road infrastructure project includes the Danjiang Bridge at the mouth of northern Taiwan's Tamsui River in New Taipei City; it is scheduled to open in 2026. The bridge will support light rail and connect Bali District, where the port of Taipei is located, to Tamsui and the national highway system. Additionally, the HB is renovating parts of Provincial Highway 9 through the East Rift Valley in Hualien and Taitung Counties.[354]

In May 2022, the Southern Cross-Island Highway reopened after being closed for approximately 13 years. The 154 km (96-mi) highway was destroyed by 2009's Typhoon Morakot, which damaged 90% of the road and destroyed 22 bridges. The highway links Tainan City in the southwest with Taitung City in the southeast. Rebuilt sections of the highway were washed away following subsequent typhoons and heavy rain events. Eventually, re-engineering efforts allowed the highway to slowly be built back until it was completed.[355]

Railways

Taiwan has three different rail systems – the HSR, the MRT system in large cities, and the Taiwan Railway. The island's HSR provides rail services between major cities on the west coast. The busy rail system transported 6.47 million passengers in June 2025 alone. Top speed for the HSR is 300 kph (186 mph), and the trains have a very high on-time arrival rate of 99.73%. Stations provide free shuttle buses, bus services, taxis, and bicycle rentals.[356]

The MRT in Taipei is comprised of five lines, two branch lines, one gondola, and 117 stations forming a 136.9-km (85-mi) transport network. The MRT serves hundreds of millions of passengers annually. In June 2025, around 55.76 million passengers boarded. The MRT operates from 6 am to midnight, with trains running every 2-8 minutes during peak hours, and every 4-12 minutes during off-peak hours.[357] Other large cities, particularly Taichung and Kaohsiung, also have MRT systems, though they are significantly smaller in scope.

The Taiwan Rail network is comprised of three lines – western, eastern, and south-link. There are 16 operational routes with 242 rail stations. In May 2025, the system transported over 21 million passengers. The trains operate at a maximum speed of 150 kph (93.2 mph); the on-time arrival rate is 93.04%.[358]

The Taiwan Rail includes:

- Total tracks: 1,613.1 km (1,002.3 mi) (2018)
- Standard gauge: 345 km (214.4 mi) (2018); 1.435-m gauge (345 km [214.4 mi] electrified)
- Narrow gauge: 1,118.1 km (694.75 mi) (2018); 1.067-m gauge (793.9 km [493.3 mi] electrified)
- 0.762-gauge track operated by the Forestry Bureau, Taiwan Cement, and TaiPower[359]

Navigable Waterways

Modern-day cities in Taiwan no longer rely on inland waterways for the transport of goods. Historically, however, river transport was used for trade in cities such as Taipei, which utilized

the Tamsui River. Today, riverbanks are often used for dining or recreation, and rivers are primarily used for tourism and sightseeing. Rivers also serve as sources of drinking water, irrigation, and hydroelectric power.[360]

Most rivers in Taiwan originate from the mountains and generally are short and swift-moving. The Tamsui River, the largest river by volume, is the only navigable river and the longest river, while the Zhuoshui is mainly used for hydropower.[361] Other large rivers in Taiwan include the Gaoping River, Dahan River, Zengwun River, and Dajia River. The Tamsui River is approximately 159.3 km (99 mi) in length and flows from Pintian Mountain in northern Taiwan from the confluence of Xindian and Dahan Creeks. It has a basin size of 2,727 km^2 (1,053 mi^2). The Tamsui River flows northwards and northwestwards before emptying into the Taiwan Strait.[362]

The Zhuoshui River is the longest river in Taiwan at 186.7 km (116 mi) long. It serves as an unofficial boundary between south and north Taiwan. The watershed covers an area of 3,157 km^2 (1,219 mi^2), and there are many dams along the river's course. The Gaoping River is the largest by volume and drainage area, and it is the second longest river at 170.6 km (106 mi). The upper reaches of the Gaoping River flow through Liouguei and Gaoshu. The river is used for irrigation, as a source of water for industry, and for domestic water consumption.[363]

At 135 km (84 mi) long, the Dahan River is another large river. It originates from Pintian Mountain in northern Taiwan and flows northward. It is used for water recreation before it turns west to the Shihmen Dam. After the dam, the river flows northeast and joins the Tamsui River. The river provides water for hydroelectricity.

The Dajia River is located in north-central Taiwan and originates from Nanhu Mountain. It covers a distance of 124 km (77 mi) and ends on the Taiwan Strait. It has a river basin covering 1,235.4 km^2 (477 mi^2). It helps generate hydroelectric power and is a source of domestic water. During typhoons, the river has overtopped its banks and destroyed bridges, damaged homes, and claimed lives.

The Zengwun River is important because of the Zengwun Reservoir, the largest water reservoir in Taiwan.[364]

Communications

Taiwan has a highly developed and modernized communications environment that underpins disaster preparedness, early warning, and response coordination. Communications networks are largely centrally regulated but commercially operated, with strong state oversight through the National Communications Commission (NCC) and sectoral coordination led by the Executive Yuan and the Ministry of Digital Affairs (MODA). High levels of internet penetration, mobile telephone usage, and digital literacy enable rapid dissemination of official warnings and public guidance during typhoons, earthquakes, and other hazard events. At the same time, resilience in Taiwan's communications faces several challenges relevant to DM; they include physical vulnerabilities in remote and outer island areas, dependence on electricity and undersea cable infrastructure, congestion during major emergencies, and persistent foreign interference and disinformation risks related to the PRC. While public trust in official emergency messaging remains comparatively high, ensuring redundancy, last-mile access, and continuity of communications during large-scale or compound crises remains a key planning priority.

Early Warning Systems and Information Sharing

When the CWA issues a warning, it notifies the Executive Yuan and various disaster prevention agencies and organizations. If the impact is anticipated to be severe, the MOI will activate a central disaster response. The CWA's Forecast Center provides forecasts, and the NCDR interprets these forecasts into actionable strategies.

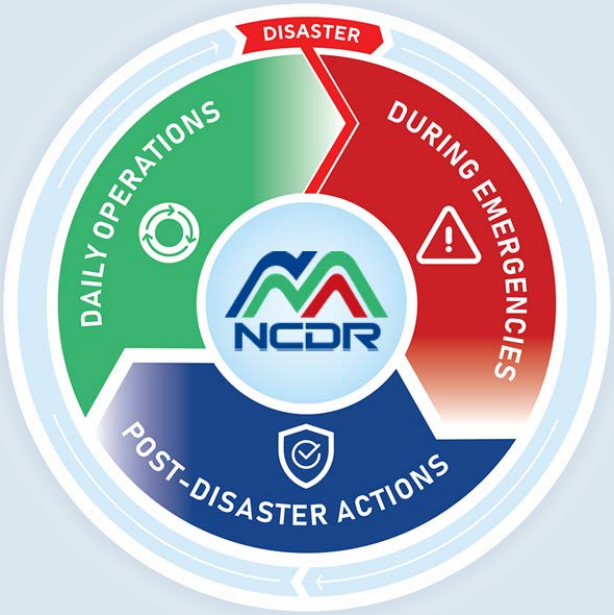
The CWA's Forecast Center operates 24 hours a day, 7 days a week to analyze satellite imagery, radar, and models to predict the timing

and severity of weather events. The forecasts help guide official decisions on preparedness and emergency operations, including school and work closures and the opening of shelters. Early warnings have assisted in the early evacuation of populations ahead of natural hazard events. The Center also benefits the agriculture and public health sectors, for example, by also providing warnings of phenomena like the hot, dry wind that can affect farmers along the central mountain range and climate indicators related to dengue fever.[365]

When the CWA issues a weather warning or alerts for a significant earthquake, it notifies the Executive Yuan and various DM agencies, including the MOI, MOEA, MOTC, and MOA, as well as local governments in possibly affected areas. When a typhoon approaches, the CWA provides wind and rainfall forecasts and a projected path. If it is likely the typhoon will make landfall or the impact will be severe, the MOI will activate the CEOC in response to the warning. The CWA also provides weather risk assessments to local governments to allow them to initiate preparedness efforts.[366] The Cell Broadcast Service (CBS) is used for the Public Warning System and is able to transmit messages through various channels where users can receive messages within a few seconds. The system is capable of transmitting messages to a large number of people and determining potentially affected areas.[367]

Role of NCDR

The National Science and Technology Center for Disaster Reduction plays an important role before a disaster in EWS, as well as after a disaster by providing timely information and longer-term monitoring and assessment.[368] NCDR was founded in 2003 in response to Article 7 of the DPPA, and now falls under the National Science and Technology Council. NCDR actively hosts and contributes to numerous international conferences, trainings, and seminars related to disaster management.



DAILY OPERATIONS
Conducts mission-oriented research and international collaborations to facilitate expert policy advice and enhance national disaster prevention capacity.

DURING EMERGENCIES
Provides integrated information in CEOC, delivers common operational picture, and helps with multi-channel dissemination of disaster alerts.

POST-DISASTER ACTIONS
Conducts on-site investigations to provide interdisciplinary advice, annually updates hazard maps, and monitors long-term recovery.

Earthquake

Taiwan has multiple earthquake EWS (EEWS). A major earthquake in 1986 sparked development, and the nationwide EEWS network was finally established in 2002.[369] When a mega-quake occurs, the EEWS sends messages to people's phones and automatically switches to the Public Television Service to give people warning.[370] Internet-connected broadband earthquake sensors are located across the island and are able to pick up the first vibrations of an earthquake and provide mobile phone and television alerts near the epicenter with an 8-15 second lead time.[371]

The CWA operates the nationwide regional system through the Central Weather Administration Seismographic Network (CWASN) and the Taiwan Strong Motion Instrumentation Program (TSMIP) network. An onsite/regional hybrid system from National Taiwan University (NTU) runs on Micro-Electro-Mechanical System Sensors, and it has been broadly adopted by the business sector. Other systems are from the National Center for Research on Earthquake Engineering (NCREE) and Academia Sinica.

The CWA has deployed around 730 force-balanced seismometers and is responsible for issuing warnings. After decades of effort and investment, the CWA system can determine key parameters, such as magnitude and intensity, to issue warnings within 7 seconds of receiving seismic waveforms from TSMIP. The CWA system provides alerts through text messages, TV, and directly to schools. It has provided public alerts since 2016. The NTU system can generate near-real-time shakemaps for rapid response. The NCREE system comprises 98 stations installed in schools and can provide several seconds of lead time in the area near the epicenter. The system can also receive CWA regional alerts for warning regions located away from the epicenter.[372]

Figure 11 shows the concept of the regional EEWS system by the CWA on the left (a), and the NTU onsite EEWS on the right (b).[373] As a regional system, the CWA is not well suited to providing warnings in near-source regions, known as a "blind zone." Since 2010, a low-cost micro-electro-mechanical system (MEMS)-based P-Alert EEWS, installed in schools by NTU with support from the National Science and Technology Council, has been operational as an additional source for both on-site warnings and shakemap production. The NTU system fills the blind zone gap of the regional system. Using real-time seismic signals of the Primary waves, each P-Alert sensor can provide a 2–8 second warning for locations in the CWA system's blind zone. The NTU shakemaps are delivered to key stakeholders, including the NCDR, for initial damage assessment and emergency operations,

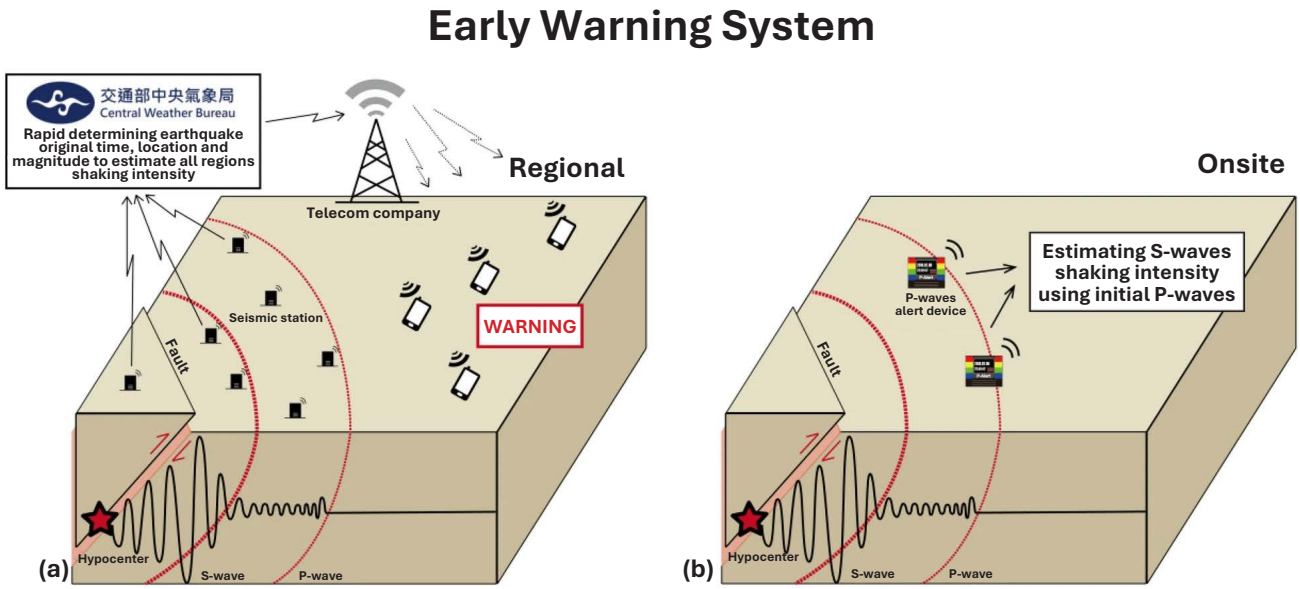


Figure 11: Regional and Onsite Earthquake Early Warning System

and they are also posted on the P-Alert Strong Monitoring Network.[374]

CWA's Seismological Center, first established in 1989, provides automated earthquake analysis and can transmit warnings to public systems, media, and mobile phones. There are 700 more remote stations spaced less than 10 km (6.2 mi) apart, and they send signals to the center for analysis by a supercomputer and for archiving. The center also operates 200 observation stations that run crustal deformation, seismic groundwater, geomagnetic, and geoelectric observation networks.[375]

Landslide

Under the DPPA, the Agency of Rural Development and Soil and Water Conservation (ARDSWC) of the MOA is the primary government agency responsible for issuing large-scale landslide or debris-flow warnings to the public. ARDSWC is responsible for monitoring rainfall thresholds, disseminating alerts, and assisting local governments in evacuating people to emergency shelters by providing notices and reporting on disasters.[376] There are two types of debris flow alerts: yellow and red. When predicted rainfall exceeds a threshold, the ARDSWC issues a yellow alert for debris flow. When actual precipitation exceeds the threshold value, the agency issues a red alert.[377] When a yellow alert is issued, local governments urge residents within areas affected by potential landslides to evacuate. With a red alert, local governments must begin mandatory evacuations.[378]

The ARDSWC has outlined the following alert and response process for landslide and debris flows.[379] First, field images and monitoring data are transmitted to the Debris Flow Disaster Emergency System through Monitoring Stations and satellite transmissions. The Debris Flow Disaster Emergency Team conducts an analysis and announces debris flow restricted areas through the Debris Flow Disaster Emergency System and reports to the Central Disaster Emergency Operation Center and local Disaster Emergency Centers via fax and telephone. The warning message is then sent via mass media and SMS or CBS to emergency contacts, including the village chief and debris-flow specialists, to notify residents. Figure 12 depicts the flowchart of this warning process.[380]

Along with the weather forecast, there are six debris flow forecasts per day (issued at 00:30, 06:30, 12:30, 15:30, 18:30, and 21:30). The forecasts serve as a reference for evacuation decisions, and additional forecasts are provided if necessary.[381]

At least 24 fixed sediment observation stations have been built; they include 21 debris flow observation stations, two sediment concentration observation stations in Shimen Reservoir watershed area, and one slope collapse observation station. In addition, there are at least three mobile debris flow observation stations and 17 simple observation stations that can be dispatched to areas where landslides may occur. At least 63 automatic rainfall stations deliver information that is integrated into the ARDSWC debris flow disaster prevention response system.[382]

Unmanned Aerial Vehicles (UAV) have also been utilized to augment information from observation stations. For example, 27 aerial photography missions were carried out in 2019. Data from the missions were compiled on the ARDSWC Debris Flow Disaster Prevention Information Network for disaster prevention researchers to analyze.[383]

Recent earthquakes may increase the risk of landslides or debris flow. Rockfall shelters are located on some of Taiwan's roads, and automobile drivers have utilized these shelters for protection from rockfalls after receiving mobile phone alerts of earthquakes. Dashcam footage from residents' vehicles during the 3 April 2024 Mw 7.4 Hualien earthquake highlights the usefulness of EEWS and landslide prediction, as well as the utility of protective structures on mountain roads.[384]

Tsunami

The CWA is responsible for issuing tsunami warnings. Taiwan first installed an undersea earthquake and tsunami warning system in 2011. It comprises ocean-bottom seismographs,

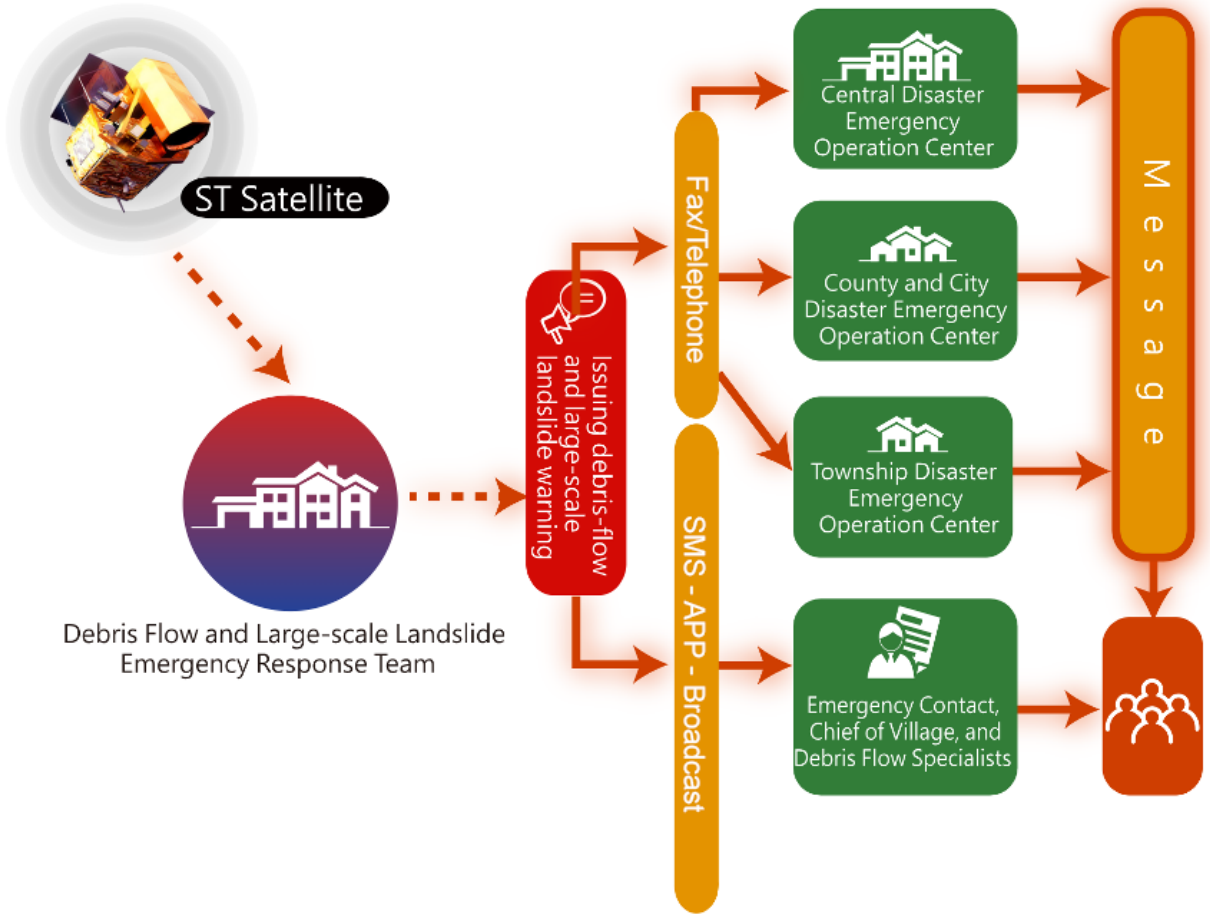


Figure 12: Warning and Response for Landslide and Debris Flow Disaster Types

tsunami pressure gauges, and underwater microphones. The main purposes are to help capture earthquakes happening in the ocean and help identify the risk of tsunami. In early 2021, it launched an expanded system with the installation of a 735-km (457-mi) undersea cable monitoring system along the east coast between Yilan County and Pingtung County in the south. The CWA says that the system will automatically issue a tsunami warning about 10 seconds before an earthquake or 20-30 minutes before a tsunami would arrive. According to the CWA, nine underwater seismic detection stations were installed on the ocean floor at depths to 5,554 m (18,222 ft), and the cable between the stations reaches a maximum depth of 5,796 m (19,016 ft). The system was built by Japan-based NEC Corporation.[385] Recently, on 30 July 2025, Taiwan's CEOC was activated in response to a tsunami, after a Mw 8.8 earthquake off the coast of Russia. The CEOC convened its work and intelligence assessment meeting after the CWA issued a tsunami warning. An alert was issued for all coastlines; however, the highest wave reached just 9 centimeters (3.5 in) off the coast of Yilan County's Suao Township, and no damage was reported.[386]

Taiwan also depends on regional mechanisms, particularly the Pacific Tsunami Warning Center (PTWC) for farther off earthquakes. According to the Taoyuan Disaster Education Center, if the PTWC warns that a tsunami could reach Taiwan within 3 hours, the CWA will issue a tsunami warning. For closer earthquakes, if the CWA's earthquake warning system detects a near-shore earthquake that is larger than Mw 7.0 and is located in a region shallower than 35 km (21.7 mi), the CWA will issue a warning. If the CWA tide station

indicates there is no longer a threat or the PTWC lifts its warning, the CWA will also lift its warning.[387]

Typhoons and storms

Taiwan's weather data integration system puts together data from radar, satellites, ground observations, and rainfall measurements. The CWA's Weather Forecast Center begins typhoon warning procedures the day before a typhoon's periphery reaches coastal waters, a period that allows government agencies and the public to prepare. Taiwan has an officially defined system of "typhoon holidays." When a typhoon is forecast to bring average wind speeds of 50 kph (31 mph) or higher or gusts at least 89 kph (55 mph) to an area, local governments can declare a holiday from work or school, thereby reducing the risk to the public.

In recent years, the CWA has improved its techniques by installing regional rainfall radar systems in urban areas to gather data on local low-altitude rainfall. It is able to deliver forecasts down to the level of 368 townships and municipal districts, providing forecasts for around 1,000 locations. The CWA can also accurately predict weather 3-6 hours ahead for areas as small as 3 km (1.8 mi) in diameter.[388]

Floods

AI has been used to enhance Taiwan's flood forecasting system by helping predict water levels in urban areas and rivers to help officials with preparedness. In addition to utilizing AI to enhance weather forecasting and monitoring, the CWA is also incorporating radar data to enhance short-term heavy rainfall forecasts. The CWA also aims to improve the accuracy of heavy rainfall advisories and rainfall forecasts by continuing to utilize AI and big data.[389]

In December 2025, a micro-seismometer was installed near the Mataian Creek barrier lake, which burst its banks following the arrival of Typhoon Ragasa in September 2025. This placement was intended to enhance monitoring of potential floods or landslides. The instrument was installed by a team from the National Yang Ming Chiao Tung University around 1 km (0.6 mi) south of the lake. The instrument can detect ground vibrations triggered by landslides for real-time alerts and helps determine whether debris has blocked the creek or if the lake will overflow. The instrument is meant to complement two other stations downstream.[390]

EWS Apps (Applications)

Taiwan has several smartphone apps for disaster information. They include the CWA apps for weather and earthquakes. Other apps include the national "Easy-to-Know Disaster Prevention App," and the "Taipei City Disaster Prevention App," developed by the Taipei City Fire Department.

In August 2022, the NFA integrated information services of the 119 Reporting App and other services to launch the Easy-to-Know Disaster Prevention App, which aims to provide the public with real-time disaster information and alerts, rainfall and earthquake information, and disaster preparedness. It shows weather conditions and forecasts based on users' geographical locations. The app also provides guidance on how to prepare emergency evacuation kits and delivers disaster prevention messages. During disasters like earthquakes or typhoons, the system immediately pushes alert notifications and displays evacuation instructions, including nearby shelters or hospitals, and safest routes.[391]

The Taipei City Disaster Prevention App provides users with temperature, rainfall, air quality, and other environmental information, and it delivers push alerts based on the user's location. The app also has maps and disaster prevention tips and is available in several languages to aid foreign visitors.[392]

CWA's Taiwan Weather App provides a list of useful weather information features, including weather push alerts, current conditions, 7-day and 3-hr forecasts and charts, air quality, and radar and satellite images.[393] Similarly, the CWA's Earthquake App provides earthquake information and alerts. Notifications are sent to users within the area of estimated intensity above Mw 3 when an earthquake occurs and the notifications are sent 10-15 seconds after an

earthquake occurs. "Felt earthquake reports" are sent to users 5-10 minutes after an earthquake. Tsunami updates are also available, with notifications sent about 20 minutes after an earthquake that could trigger a tsunami.[394]

Taiwan's experience with earthquakes has also led to the development and popularity of private sector EWS apps. One such app is called the Disaster Prevention Information Platform, launched in 2022; it had nearly 370,000 users as of 3 May 2024. The app tracks seismic waves from more than 130 seismic sensors the team installed across Taiwan. It provides alerts for smaller quakes that do not trigger government warnings.[395]

Early Warning System Drills

Taiwan's government has held regular, annual, nationwide drills to help with disaster preparedness since the 1999 Chi-Chi earthquake. In September 2025, the CWA issued nationwide mobile telephone messages to mark National Disaster Prevention Day and simulate earthquake and tsunami alerts to test EWS. Thousands of residents in Yilan County participated in a drill simulating a Mw 8.5 earthquake in the Ryukyu trench. The exercise tested emergency response capabilities, including evacuations and tsunami scenarios, and residents took shelter. The drills allowed officials to evaluate preparedness and identify areas for improvement.[396]

Artificial Intelligence and Early Warnings

Taiwan has begun to incorporate AI to enhance early warning capabilities and disaster preparedness. CWA has developed AI application techniques related to weather forecasting and monitoring. One such test occurred in September 2024, when Tropical Storm Bebinca approached and local weather forecasters used AI models to forecast trajectory and severity. AI also plays a role in Taiwan's flood forecasting system by predicting water levels in urban areas and rivers to help preparedness efforts. AI models can also analyze seismic data to identify patterns that may precede earthquakes, while AI-driven satellite imaging and meteorological models help refine typhoon forecasts. The Technology Development Division of the CWA is utilizing a high-performance computing system to enhance local weather forecasts. The CWA uses more than 15 typhoon track forecasts from machine-learning weather prediction models as additional guidance in forecasting. AI-assisted early detection is also helping in monitoring landslide-prone areas and evaluating the structural integrity of infrastructure. For disaster assessments, the National Center for High-Performance Computing (NCHC), a division of the Hsinchu Science Park-based National Applied Research Laboratories, uses AI to process real-time satellite imagery for rapid damage assessment and to guide response efforts.[397]

Information Sharing Platforms

The Public Alert Open Data Platform was established following a 2012 Executive Yuan directive mandating that government departments provide open data. To develop the platform, NCDR collaborated with other agencies to facilitate the sharing and application of government disaster alert data. The inter-agency partnership led to the finalization of the platform in 2019. The NCDR received a government assignment to standardize disaster-related alert formats for hazard events using the Common Alerting Protocol (CAP) through a partnership with relevant agencies. This standardization enables users to obtain data alerts from a centralized platform. Users include academia, local and central governments, the military, private companies, and app developers. Users can contribute to public hazard warnings by converting data alerts into various additional formats such as websites, mobile apps, and text messages.[398]

The NCDR uses meteorological, seismic, and hydrological results to help Taiwan with better response strategies and preparedness. Simulation exercises are a core task of the NCDR, and before the typhoon season, the NCDR models potential storm impacts to guide local governments in preparing evacuation

plans and testing emergency response under a national project funded the National Science and Technology Council. Similar modeling applies to other hazards, such as earthquakes and landslides, to assist with coordination.[399] The NCDR operates information platforms that provide real-time access to rainfall levels, seismic activity, landslide warnings, and evacuation statuses. After hazard events, the NCDR compiles databases on damages, government response times, and recovery.[400]

The NFA established the Personalized Disaster Prevention Information Website (https://bear.emic.gov.tw/) in 2020. The site provides disaster information, including a disaster prevention map and disaster information section, which lists historical disasters in Taiwan.[401]

Information Sharing Focal Points

No single entity can have all the information needed by stakeholders responding to an emergency. Sharing information among technical agencies, coordinating authorities, and implementing partners both in-country and among potential responders promotes timely, efficient, and effective delivery of disaster relief. The following are some focal points within Taiwan, and in the wider region that have and share data and information regarding the hazards that impact Taiwan's communities.

National Offices

Central Weather Administration (CWA)
Address: 64, Gongyuan Road, Taipei 100006, Taiwan (R.O.C.)
Phone: +886-2-2349-1000
Weather consulting hotline: +886-2-2349-1234
Earthquake consulting hotline: +886-2-2349-1168

National Fire Agency (NFA)
Address: 8F, No.200, Sec.3, Beixin Rd., Xindian District, New Taipei City 231007 Taiwan (R.O.C)
Phone: +886-2-8196-6487

National Science and Technology Center for Disaster Reduction (NCDR)
Address: 9F., No.200, Sec. 3, Beisin Rd., Xindian District, New Taipei City 23143, Taiwan (R.O.C.)
Phone: +886-2-8195-8600 (General/Office)
Email: *office@ncdr.nat.gov.tw*

Civil Defense Office (CDO), National Police Agency, MOI
Address: No.15-3 Wansheng St., Wenshan District, Taipei City 116063, Taiwan (R.O.C.)
Phone: +886-2-29349940
Fax: +886-2-29334452

Agency of Rural Development and Soil and Water Conservation (ARDSWC), MOA
Address: No.6, Guanghua Rd., Nantou City, Nantou County 540206, Taiwan (R.O.C.)
Phone: +886-49-239-4300

Regional Organizations

Pacific Disaster Center (PDC Global)
Address: 1305 N Holopono St #2, Kihei, HI 96753, U.S.A.
Phone: +1-808-891-0525
X: @PDC_Global
Instagram: pacificdisastercenter/
YouTube: @PacificDisasterCenter

Telecommunications Infrastructure

Taiwan's telecommunication infrastructure is among the most advanced in the world in a reflection of its status as a global leader in technology. With near-universal mobile phone penetration, robust broadband networks, and cutting-edge satellite systems, Taiwan's telecommunication capabilities are integral to its economic success, DM, and societal resilience. However, geographic disparities, age-related digital divides, and reliance on undersea cables introduce vulnerabilities that are operationally significant during disasters and crises.

Taiwan boasts widespread access to modern telecommunication services, with 100% of households having access to a telephone – either

fixed-line or mobile.[402] Chunghwa Telecom commands a sizeable share of Taiwan's fixed-line, mobile, and broadband markets. Internet use grew rapidly after its introduction, and broadband is widely available.[403] Mobile phone penetration is exceptionally high, with 96.7% of individuals owning a mobile cellular device. The internet penetration rate stands at 90.7%, representing 21.71 million users.[404] Users can access the internet through various connection standards, including fiber-optic broadband, DSL, and 4G/5G mobile networks. Free public Wi-Fi services are also available, with nearly 10,000 hotspots across Taiwan.

Despite these achievements, certain segments of the population face barriers to connectivity. Internet penetration is lower among older adults, with only 42.7% of individuals aged 65 years and above accessing the internet. Geographic disparities also persist, particularly in remote outer islands such as Kinmen and Matsu, where internet penetration is only 40.4%.[405] The government has implemented initiatives like the i-Tribe program to improve wireless broadband access for Indigenous communities to enhance their ability to access digital healthcare services and other information.[406]

Taiwan's telecommunication infrastructure includes fixed-line and mobile networks, undersea cables, satellite systems, and cloud-based services. The mobile communications market is dominated by Chunghwa Telecom, Far EasTone, and Taiwan Mobile. Fixed broadband services are divided among fiber-optic, cable broadband, and ADSL segments, with telecom operators actively deploying fiber-optic networks to enhance connectivity. In 2020, Taiwan launched 5G services, enabling faster internet speeds, lower latency, and higher bandwidth. By 2024, the MODA reported approximately 150 private 5G networks, primarily supporting agile manufacturing. These private networks are isolated from public systems and provide secure and localized connectivity.

Undersea cables are the backbone of Taiwan's global connectivity. They carry over 95% of international internet traffic, including voice calls, financial transactions, and government communications. Taiwan is connected to 15 international subsea cables and 10 domestic cables, with most landing stations concentrated in the northern regions of the island. These cables link Taiwan to neighboring countries as well as global hubs like the United States. However, disruptions to these cables, such as the 2023 Matsu incident where Chinese vessels severed two cables, can isolate Taiwan from international communication networks and impact coordination with external responders. In 2006, an Mw 7.0 earthquake damaged several subsea cables and disrupted internet services for Taiwan, Japan, PRC, and South Korea. Financial services and the exchange market were also interrupted in an event that demonstrated additional economic consequences.[407]

Given their indispensability to global connectivity, undersea cables are unsurprisingly an attractive target for disruption. As more communication cables descend underwater, a less visible factor behind the ascendance of shadow fleets (state-directed fishing, merchant, and auxiliary vessels operating in grey zones) is the ownership structure of these cables.[408] Undersea communication cables, some as thin as a garden hose, stretch nearly 1.7 million km (1,056,331 mi) and carry over 95% of global data used worldwide and are predominantly owned by large private corporations and consortia, who often prioritize profitability at the expense of security.[409] The cables are inherently fragile and repairs can take weeks, and this work requires a specialized vessel to reach the site, locate the breaks, lift the cable, splice, and test before full-service returns. Timelines are constrained because only about 60 repair ships operate worldwide. Satellite workarounds offer limited relief; even low-Earth-orbit (LEO) constellations carry only a small fraction of international traffic. Over 95% of cable damage each year comes from environmental damage related to earthquakes or man-made damage such as dragging anchors, including by grey zone actors operating through shadow fleets that create plausible pathways for international interference or sabotage that can be disguised as routine maritime accidents. The interdependence of cables is a feature that

historically discouraged deliberate attacks, but paradoxically this interdependence creates incentives to target long, lightly redundant "their-only" routes, where disruption can be more geographically contained yet strategically impactful. A worrisome trend is the move toward a bifurcated ecosystem that avoids landfall in PRC (including Hong Kong). The Apricot cable—backed by a consortium including Google, Meta, and NTT—will span roughly 12,000 km (7,456 mi) to connect Japan, Taiwan, Guam, Philippines, Indonesia, and Singapore, purposefully avoiding PRC. While concerns over Chinese control and surveillance are real, building a de facto bifurcated network may increase rather than reduce vulnerability.[410]

To mitigate these risks, Taiwan is investing in satellite communications as a backup system. The MODA plans to use SES medium-Earth orbit satellites and the OneWeb LEO satellite system to ensure uninterrupted communication for military and government command systems during crisis.[411]

The integrity of Taiwan's information infrastructure, including data centers, undersea cables, broadcasting hubs, and telecommunications nodes is essential for emergency response and the public's ability to communicate. However, disasters often disrupt infrastructure, as seen during the Chi-Chi earthquake and Typhoon Morakot, where emergency communication systems failed to meet the needs of affected communities. For example, following Typhoon Morakot, the government was unaware of hundreds of survivors in mountainous areas of Kaohsiung County until the news media reported on them.[412] The primary reason that the information systems failed is not simply due to the difficult environment that the disaster created or its own internal limitations but rather to inadequate organizational capacity associated with a lack of support and oversight. The emergency telephone system is not designed for disasters, and this design resulted in difficulty in prioritizing the thousands of incoming calls. The government has since strengthened its disaster communication capabilities by integrating satellite systems and mobile base stations to provide redundancy and ensure stable connectivity.

Throughout 2024, the MODA progressed in disaster response and critical infrastructure protection. It installed 773 LEO satellite reception stations at key military, police, and fire department locations across Taiwan. These stations are a crucial backup communication channel during disasters. MODA also developed Taiwan's first high-altitude communication balloon, designed to provide domestic network support during emergencies.[413] These innovations demonstrate Taiwan's commitment to enhancing disaster resilience through advanced telecommunications.

The April 2024 earthquake temporarily disabled over 200 base stations for Taiwan's three major mobile operators and disrupted communication in some areas. MODA responded by dispatching Taiwan's first "Emergency Network Mobile Vehicle," equipped with asynchronous satellite terminal equipment to provide communication services in disaster areas by using LEO and MEO satellite receivers to provide public Wi-Fi, except where local conditions did not allow the vehicles to operate. The emergency network mobile vehicle can assist telecommunications operators to restore commercial network services by quickly establishing satellite backend transmission networks in the event of interruption in existing transmission networks in disaster areas.[414] The availability of satellite backup communications assisted first responders in their relief efforts, and they helped those people who were trapped or rescued to communicate with their families.[415] Additionally, MODA and the Telecommunications Technology Center collaborated with helicopters from the MND and the Airborne Service Corps of the MOI to transport LEO satellite communication equipment to the disaster area. The equipment was airlifted to the Tianxiang area, and technical personnel successfully received signals from OneWeb LEO satellites and established an emergency network to provide essential network communication for nearby rescue missions. This event marked Taiwan's first time using the LEO satellite communication deployed in disaster

missions.[416] Photo 19, by MODA, shows an emergency network mobile vehicle arriving in Hualien for disaster relief.[417]

Taiwan has actively pursued international collaborations to strengthen its telecommunications infrastructure. Chunghwa Telecom has partnered with global companies like AT&T and Nippon Telegraph & Telephone to co-own subsea cables. Additionally, Taiwan is exploring partnerships with Amazon's Project Kuiper and other LEO satellite providers to diversify communication networks. To enhance communications resiliency, Taiwan is partnering with three major foreign satellite providers. Taiwan's first commercial license for an LEO satellite, provided by the United Kingdom's Eutelsat Oneweb, has been approved and will be serviced by Chunghwa Telecom. Taiwan has inked an additional deal with Luxembourg's SES to provide medium-Earth orbit satellites. Finally, Chunghwa Telecom signed a contract with the U.S.-based Astranis to purchase a microGEO satellite, a smaller, more flexible, and less expensive version of geostationary satellites.[418]

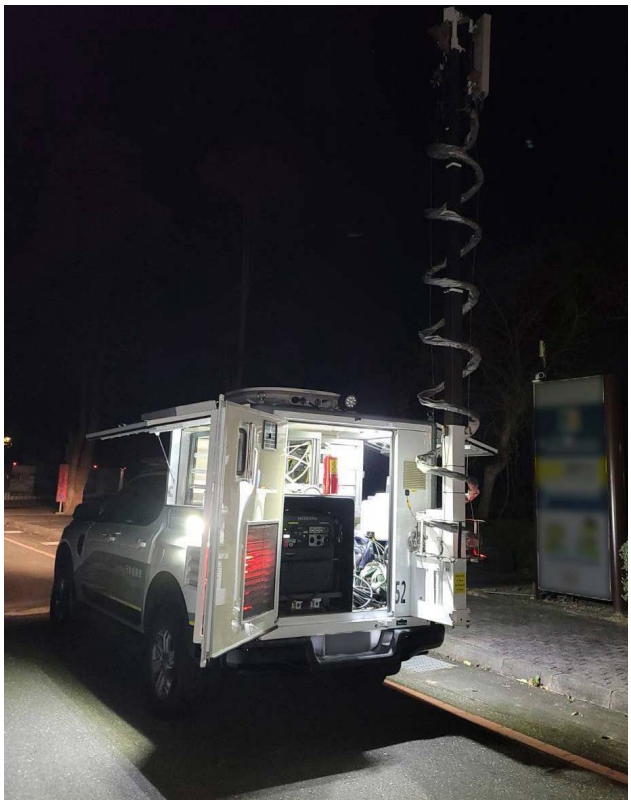


Photo 19: Emergency Network Mobile Vehicle in Hualien

Mass and Social Media

Mass media can play a critical role in disaster communication, providing timely updates, hazard alerts, and instructions for accessing safe spaces or relief. Both traditional and digital media are essential for reaching diverse audiences.

Taiwan enjoys a vibrant and pluralistic media landscape supported by strong constitutional protections for freedom of expression and a dynamic digital ecosystem. The media environment is diverse, encompassing traditional outlets such as television, radio, and print, as well as a robust digital and social media presence. These platforms play a critical role in disseminating information, particularly during emergencies and disasters, where timely and accurate communication is essential.

Television and radio remain widely accessed forms of mass media. Mass media plays a significant role in providing the public with information and awareness about emerging issues and concerns and can influence the problems that the public perceives as important.[419] According to the NCC, Taiwan has 186 radio stations, 5 terrestrial television stations, 88 satellite broadcasting providers (209 channels), and 64 cable television operators. State-owned broadcasters, such as Taiwan Broadcasting System (TBS), and private networks provide a mix of news, entertainment, and educational programming. Local television broadcasters operate in Mandarin Chinese, Taiwanese Hokkien, Hakka, and English. International Community Radio Taipei and Taiwan Plus are notable English-language outlets that cater to both domestic and international audiences and play a key role in Taiwan's global messaging.[420]

The news media are generally free and reflect diverse views and reporting, although many outlets display strong political party affiliation in their coverage. Challenges such as misinformation, generational differences in media consumption, and PRC influence campaigns highlight the need for continued investment in media literacy and resilience.

The Central News Agency is Taiwan's foremost news service, and it sends representatives to foreign countries and provides global information daily. There are hundreds of other news agencies, but only financial information agencies retain influence.[421]

The constitution provides for freedom of expression, including for members of the press and other media, and Taiwan authorities generally respect this right. However, Taiwan journalists report difficulty publishing content critical of the PRC; they allege that PRC authorities pressured Taiwan businesses with operations in the PRC to refrain from advertising with Taiwan media outlets that published such material.[422] PRC has sought influence over key print and television media through direct funding, seeking to control advertising revenues, and PRC content farms.[423] Additionally, Taiwan influencers have been used to influence social media content favorable to PRC. To combat disinformation, the government has established emergency response teams in key ministries tasked with identifying and responding to false information within two hours.[424] The 2019 Anti-Infiltration Act also requires platforms to remove fabricated or misleading content. These measures aim to strengthen digital resilience and protect the integrity of Taiwan's media space.

Online media have become a dominant source of news for many in Taiwan, particularly younger generations. According to a 2022 survey conducted for the Reuters Institute for the Study of Journalism at the University of Oxford, 84% of Taiwan's population consumed news online and 58% obtained it via social media; only 16% read print news, down from 41% in 2017. Misinformation online and across popular social media platforms can undermine people's ability to access reliable information.[425]

Overall, the most used online and social media platforms in Taiwan are Facebook, YouTube, Instagram, PTT, and Dcard, with the most popular reasons for using social media being to watch entertaining content, connect with family and friends, and obtain news information.[426] Platforms such as PTT (a popular bulletin board system) and Dcard are widely used for discussions and real-time updates. During 2009's Typhoon Morakot, web users on PTT created an unofficial disaster report center, which was later integrated into local government communications systems.[427] During the 2016 Meinong earthquake, social media provided valuable real-time information, such as photos and location updates, which complemented conventional news reports.[428] However, communities also need alternative information access points when smartphones fail or internet access is disrupted, and this access will include instructions on use of FM radio or community bulletin boards or even where to find in-person updates and assistance.[429] In another example, during Typhoon Ragasa in 2025, social media platforms lit up with grassroots relief efforts, as over 30,000 volunteers mobilized to assist in flood-affected areas.[430] This event highlights the role of social media in facilitating rapid community-driven responses during crises.

Public trust in media varies across platforms. Traditional outlets such as television and radio are generally trusted for news and information, while social media outlets are often viewed with skepticism due to the prevalence of disinformation. A 2024 study by NTU found that exposure to disinformation rose from 82% in 2023 to 95% in 2024, with over 80% of people in Taiwan encountering false information online.[431]

Utilities

Taiwan's utilities infrastructure is robust and widely accessible, with nearly universal coverage of electricity, water, and sanitation. The government has made significant investments in resilience. Taiwan Power Company (Taipower) has enhanced grid reliability through disaster-resistant infrastructure, while the Water Resources Agency implements flood prevention, drought mitigation, and inter-basin water transfer systems. However, aging infrastructure and exposure to typhoons, earthquakes, and landslides underscore the need for ongoing modernization and disaster-proofing efforts.

Power

Taiwan's electricity grid and energy infrastructure support both a dense population and one of the world's most advanced and energy-intensive technology sectors. With the closure of its last nuclear power plant in May 2025, Taiwan now imports most of its energy supplies, primarily in the form of oil and natural gas.[432] This heavy dependence on imported fuels, combined with an aging grid infrastructure and increasing energy demands from AI and semiconductor production, creates a vulnerability within Taiwan's energy sector.[433]

Taiwan's electricity system is managed by Taipower, a state-owned monopoly under the MOEA.[434] Taipower operates an extensive network of 622 substations, with a transmission network totaling 18,466.4 circuit km (11,474 mi) and a distribution network totaling 434,463 circuit km (269,962 mi) across Taiwan.[435] In 2024, Taiwan's total electricity generation reached 239.1 billion kilowatt-hours (kWh), with thermal power accounting for 152.4 billion kWh (64%), nuclear power contributing 11.73 billion kWh (5%), renewable energy providing 4.88 billion kWh (2%), and pumped-storage hydroelectricity adding 3.07 billion kWh (1%). The electricity consumption breakdown shows industry consuming 56% of total power, residential use accounting for 21%, commercial activities using 15%, and other sectors consuming 8%.[436] This industry-heavy consumption pattern reflects Taiwan's role as a global manufacturing hub, particularly in semiconductor production, which requires enormous amounts of stable electricity, as well as ample supplies of water.

Taiwan's energy security is constrained by its lack of indigenous hydrocarbon resources. The island can produce only four types of energy at scale domestically: nuclear, offshore wind, onshore wind, and solar.[437] However, renewable resources alone cannot provide adequate levels of energy security and resilience for the island. In 2023, Taiwan imported more than 96% of the fossil fuels needed to meet its energy needs, with petroleum primarily sourced from the Middle East, coal from Australia, Indonesia, and South Africa, and natural gas from Qatar, Malaysia, and Indonesia.

The government's energy transition strategy has significantly increased reliance on LNG, which powered 32% of Taiwan's electricity in 2016 and rose to 42% in 2024, with plans to reach 50% by 2030. This shift toward LNG is part of a broader campaign to phase out nuclear power and reduce coal dependence. However, LNG presents unique vulnerabilities. It has a limited shelf life due to boil-off effects, making long-term storage difficult and expensive, and Taiwan's LNG supply chains pass through multiple international chokepoints, including the Strait of Hormuz, the Strait of Malacca, and the South China Sea.

Taiwan maintains limited strategic energy reserves, and it is exposed to supply disruptions. In February 2023, Taiwan reported 56 days of supply of coal inventories, and it aims to raise its natural gas inventories from 11 days to more than 20 days by 2030.[438] The Petroleum Administration Act of 2023 requires oil refinery operators and importers to maintain security stockpiles of at least 60 days of oil supply and 25 days of LPG.[439] While these requirements represent improvements in energy resilience, the reserves remain insufficient for extended disruptions.

Taiwan's power infrastructure faces multiple vulnerabilities from natural disasters, as demonstrated by recent events. Earthquakes pose risks to power plants, transmission lines, and substations. During the April 2024 Mw 7.4 earthquake, more than 300,000 households lost power after 3.404 million kW of generation was lost within 4 minutes.[440] The earthquake caused the Ho-Ping Independent Power Producer's Unit 1 to go offline, Taichung Power Plant's Unit 7 to suffer a boiler tube rupture, and additional outages at Datan Power Plant and Mingtan pumped storage units.[441]

Typhoons represent another major threat to Taiwan's electrical infrastructure. Following Typhoon Megi in 2016, nearly 3.9 million households experienced power outages.[442] Post-disaster recovery proved difficult, as repair teams worked under hazardous conditions to

restore power and ensure reliable electricity for communities. For example, three Taipower workers fell into a 10-m (32.8-ft) valley as they were on their way to restore power in Miaoli County's Touwu District.[443] More recently, Typhoon Danas in July 2025 collapsed more than 650 electricity poles and 3 transmission towers, leaving 710,000 households without power. In response, Taipower mobilized 4,000 personnel for emergency repairs.[444]

Taipower has developed comprehensive emergency response mechanisms to address power outages and restore service following disasters.[445] During the April 2024 earthquake, the company demonstrated rapid response capabilities by activating pumped hydro storage, implementing time-of-use pricing, deploying demand response measures, and utilizing ancillary services.[446] Within 12 minutes of the initial outage, supply increased by 4.306 million kW, enough to successfully maintain system stability. Over 6,500 personnel were mobilized for repairs, with over 95% of affected customers having power restored within 4 hours and 99.7% restoration achieved within 12 hours.[447]

To enhance long-term grid resilience, Taipower has implemented several strategic initiatives. The Grid Resilience Enhancement Plan focuses on developing distributed networks to deliver local power directly to nearby science parks and industrial zones, reducing transmission losses and improving supply stability.[448] The Five-Year Distribution System Upgrade Plan strengthens the grid through overhead line reinforcements, equipment replacements at secondary substations, and undergrounding of disaster-prone lines. Additionally, Taipower has established decentralized projects to reduce risks associated with grid concentration, reinforced infrastructure to improve equipment stability, and strengthened system defense mechanisms to prevent the spread of power outages.

Taiwan's electricity demand is projected to grow significantly over the coming decade, driven primarily by AI and advanced technology applications. The MOEA predicts that AI-related technologies will drive a 2.8% annual increase in energy consumption through 2033.[449] This growth trajectory poses additional challenges for an already stressed grid system that has experienced numerous power outages in recent years, particularly during summer periods of high energy demand.

Taiwan's power infrastructure vulnerabilities have direct implications for DM. Power outages can cripple communication systems, emergency response coordination, medical facilities, and evacuation operations. The concentration of Taiwan's grid system means that localized disasters can have island-wide impacts, while the dependence on imported fuels creates risks during extended emergencies when supply chains may be disrupted.

While Taipower has demonstrated effective emergency response capabilities and is implementing grid modernization initiatives, the fundamental challenges of energy import dependence, limited strategic reserves, and increasing demand from AI and technology sectors require comprehensive policy responses. Strengthening Taiwan's power infrastructure resilience will be essential for maintaining economic competitiveness, supporting disaster response capabilities, and ensuring the welfare of Taiwan's population during emergencies.

Water and Sanitation

Safe and sustainable water supply is closely related to flood and drought hazard mitigation. Taiwan faces unique water management challenges due to its terrain, rapid runoff, seasonal precipitation patterns, and high population density. Water security is critical not only for public health but also for Taiwan's semiconductor industry and agricultural sector, making resilient water infrastructure essential for disaster preparedness and response.

Taiwan derives most of its drinking water from extracted groundwater, river water, and rain collection that is then treated and distributed or stored in reservoirs. Water usage is managed centrally by the state-owned Taiwan Water Corporation, which operates alongside the Water Resources Agency of the MOEA.[450] The Water Resources Agency is responsible for

formulating policies for water supply, reclaimed water management, water rights allocation, and flood and drought response measures.[451]

Despite Taiwan having a high average annual precipitation, approximately 2.5 times the global average, nearly three-quarters of rainfall flows directly to the sea or evaporates due to the island's steep terrain and rapid runoff.[452] Taiwan's water supply is primarily sourced from rivers (surface water), groundwater, and reservoir water. The island has 95 publicly announced reservoirs, with 66 on the main island and 29 on outlying islands. The largest is the Zengwen Reservoir with an effective capacity of 491.81 million m^3 (17.368 billion ft^3).[453]

Agriculture accounts for approximately 70.47% of water usage, domestic use for 19.56%, and industry for about 9.97%.[454] The current water supply capacity in each county and city can meet the demand for public water usage under normal conditions. However, Taiwan's water distribution faces significant challenges during extreme weather events, particularly droughts and typhoons.

Typhoon events typically meet about half of Taiwan's annual water needs, making the island heavily dependent on seasonal precipitation. Reservoir systems such as Zengwen, Shihmen, and Feitsui are critical for public supply, agriculture, and semiconductor manufacturing. These reservoirs are increasingly stressed by sedimentation, shifts in rainfall patterns, and prolonged dry seasons, with sediment accumulation reducing effective storage capacity.

Taiwan's water management faces several challenges that affect disaster resilience. The 2020-2021 drought led to one of the worst water shortages in nearly 50 years. Many reservoirs fell to less than 20% capacity, with some below 10%. The Baoshan No. 2 Reservoir in Hsinchu County, a primary water source for Taiwan's semiconductor industry, reached only 7% capacity.[455]

Droughts reduce water availability for domestic, agricultural, and industrial use, and they can be particularly concerning in areas where water resources are already under stress. During the 2021 drought, the government stopped irrigation of over 74,000 hectares (182,857 acres) of farmland and implemented water rationing for residents and businesses in major cities, including Taichung, two days per week. This measure highlighted the competition between different sectors for limited water resources, particularly between agriculture and high-tech manufacturing. The decision to redistribute water from farmers to chip makers had negative spillovers on the agricultural sector.[456]

Infrastructure challenges compound water security issues. Leaking pipes cause Taiwan to lose nearly 14% of its water supply, though this amount has improved from 20% a decade ago. Deforestation has led to soil runoff during rainfall, causing sediment build-up in reservoirs and reducing their capacity to collect water during rainy periods. Taiwan's notably low water prices provide little incentive for water conservation.[457]

Rapid industrialization has significantly degraded Taiwan's rivers through industrial, agricultural, and municipal pollution. According to the Environmental Protection Administration's Department of Water Quality Protection, of the 2,934 km (1,823 mi) of streams and rivers, in 2020 an estimated 68.1% were non-polluted, 9.3% were lightly polluted, 19.3% were moderately polluted, and 3.3% were heavily polluted.[458]

Heavy use of ammonium-based fertilizers has contributed to environmental degradation. While "black water" (wastewater from toilets) is almost always treated before discharge, often by septic tanks, "grey water" from bathrooms and washing machines is often released untreated into streams and rivers.[459] Many local governments are working to increase the percentage of grey water that receives treatment, but more progress is needed to improve wastewater treatment rates.

Aging drainage systems in older cities like Tainan, Keelung, and Taipei create vulnerabilities to combined sewer overflows during typhoons. Outdated stormwater networks can exceed system capacity, leading to backflow and contamination of water supplies. To address

these challenges, in 2015, Taipei initiated the Sponge City Policy, focusing on "resilient water adaptation," "sustainable water utilization," and creating a "water-friendly environment."

Different types of hazards pose specific risks to Taiwan's water and sanitation systems. Typhoons and flooding can cause contamination of water sources with sediment, agricultural runoff, and sewage, which can be particularly problematic in low-lying areas and rural regions where water treatment infrastructure may be less robust. Flooding also increases the risk of waterborne diseases such as diarrhea, leptospirosis, and melioidosis.[460] In 2024, when Typhoon Gaemi hit Taiwan, 69 cases of melioidosis were reported, and 13 people died from the disease.[461] Earthquakes can damage water pipelines, reservoirs, and treatment plants, disrupting water supply and sanitation services and leading to poor hygiene practices that increase the risk of communicable diseases. Contaminated water supplies could also result in outbreaks of gastrointestinal diseases.

Taiwan has established comprehensive emergency response protocols for water and sanitation during disasters. According to the Taiwan All Out Defense Handbook, the Water Resources Agency, Taiwan Water Corporation, Taipei Water Department, and water supply plants in Kinmen and Lianjiang Counties are responsible for water resource management and operation nationwide. During large-scale water outages, these agencies announce outage information and develop water shortage prevention and relief policies.[462]

Local authorities coordinate inspection and testing of water supply systems, request support from other regions for water allocation, and cooperate with central agencies in resource distribution. Village chiefs coordinate with water supply units to establish water supply stations, deploy mobile water trucks, and provide packaged drinking water during emergencies.[463]

The MoHW maintains capabilities to deploy mobile water purification units and emergency sanitation kits during disasters. Backup systems include chlorination facilities and groundwater pumping stations. The Taiwan Center for Disease Control mobilizes Infectious Disease Emergency Response Teams when waterborne disease outbreaks become a concern post-disaster, and these teams provide environmental disinfection, vaccine resource management, epidemic surveillance, and health education.

To address growing water security challenges, Taiwan is implementing various adaptation strategies. The National Development Council and Water Resources Agency are developing smart grids, groundwater recharge systems, desalination plants, and inter-basin transfer systems. The government has plans to build more seawater desalination plants and has experimented with cloud seeding to increase precipitation. Water resource management strategies focus on resource expansion, water conservation, allocation, backup systems, and improved management practices to ensure stable water supply and tackle challenges posed by extreme weather, industrial development, and population concentration.[464] These efforts are essential for maintaining Taiwan's water security and public health resilience in the face of increasing climate variability and growing demand from multiple sectors.

Health Systems

Taiwan's health system boasts near-universal coverage and has been praised for being accessible and efficient. The National Health Insurance (NHI) and healthcare services have ranked among the top in Asia and the rest of the world, with quality close to that of advanced Western countries. In fact, Taiwan was once ranked as the second healthiest country in the world by The Economist. However, despite being seen as a model of affordable and accessible health care, the health system is facing some emerging challenges. Similar to other countries in Asia, such as Japan and South Korea, Taiwan finds itself grappling with public health issues including an aging population and chronic diseases.[465]

The MoHW oversees several areas in disaster preparedness and response, including shelters and accommodations, essential supply readiness, and victim care and support. The MoWH also maintains pre-disaster preparations

ahead of emergencies. In 2023, 5,835 shelters were planned by counties and cities to be capable of accommodating 2,368,487 people. During the typhoon season in 2023, shelters were opened for Typhoon Doksuri, Typhoon Kanun, Typhoon Saola, Typhoon Haikui, and Typhoon Koinu.[466]

Healthcare System

In 2025, Taiwan celebrated 30 years of universal health coverage, having launched the NHI system in 1995. The system covers 99.9% of the population and operates on a pay-as-you-go self-sustaining model,[467] also known as a single-payer health system. Healthcare services are provided by contracted private providers. The NHI initiated its "second-generation phase" in 2013 to focus on applying internet, cloud, and other information technologies to optimize use and efficiency. Many treatments or examinations using more advanced medical devices are considered too expensive and not reimbursable under the NHI system. In such cases, a self-pay category is utilized.[468]

The NHI provides comprehensive coverage, including inpatient and outpatient care, pharmaceuticals, dental services, and traditional Chinese medicine. Enrollment is mandatory for all citizens and for foreigners legally residing in Taiwan for more than 6 months. Local governments do not play a significant role in financing health care. There are both public and private hospitals and practices. By law, private hospitals are non-profit. As of 2016, 67% of all beds were in private facilities.[469] Despite the system's relative overall success, there are some concerning trends, related to workforce shortfalls, non-communicable conditions, and disease control.

As of 2023, there were 476 hospitals, 23,420 clinics, and a total of 101,417 general inpatient hospital beds and 37,244 specialty care beds. Of the hospitals, 206 are emergency responsibility hospitals, 46 of which are advanced, 77 are intermediate, and 83 are of general grade. As of 2023, the total number of healthcare professionals was 359,954. This number included 78,184 physicians (including western medicine doctors, traditional Chinese medicine doctors, and dentists), 36,726 pharmacists, 10,491 medical laboratory technicians, 7,451 radiology technicians, and 187,725 nurses.[470]

Disease Control and Outbreaks

To prevent the incidence and prevalence of communicable diseases, the Communicable Disease Control Act (2023) and related regulations are intended to prevent the occurrence, infection, and spread of communicable diseases.[471] The Taiwan Centers for Disease Control (CDC) of MoHW is responsible for the formulation and review of communicable disease control policy and supervises six regional control centers that provide guidance to local authorities on disease control and quarantine operations. Local officials are responsible for drafting and implementing local disease control plans. CDC is also responsible for lab testing and research of communicable diseases. There are 12 CDC labs and 347 accredited testing institutions. During normal times, the International Health Regulations Focal Point remains operational and facilitates reporting of cases and response to epidemics and health emergencies.

To respond to disease outbreaks, the National Health Command Center (NHCC) was established in 2005. The NHCC operates at the central, regional, and local government levels. Taiwan CDC has also established a communicable disease surveillance system. Figure 13 shows the overall command structure.[472]

The six regional emergency medical operation centers were established after the 1999 earthquake and provide continuous monitoring of regional emergency medical services operations, capacity, and disaster threats in real-time. During disasters they coordinate, communicate, and share timely data with local and central health authorities and other relevant agencies to carry out emergency medical responses.[473]

Taiwan has several mechanisms in place to help prevent the importation or spread of infectious diseases. The Communicable Disease Prevention and Control Medical Network includes a total of 142 designated isolation

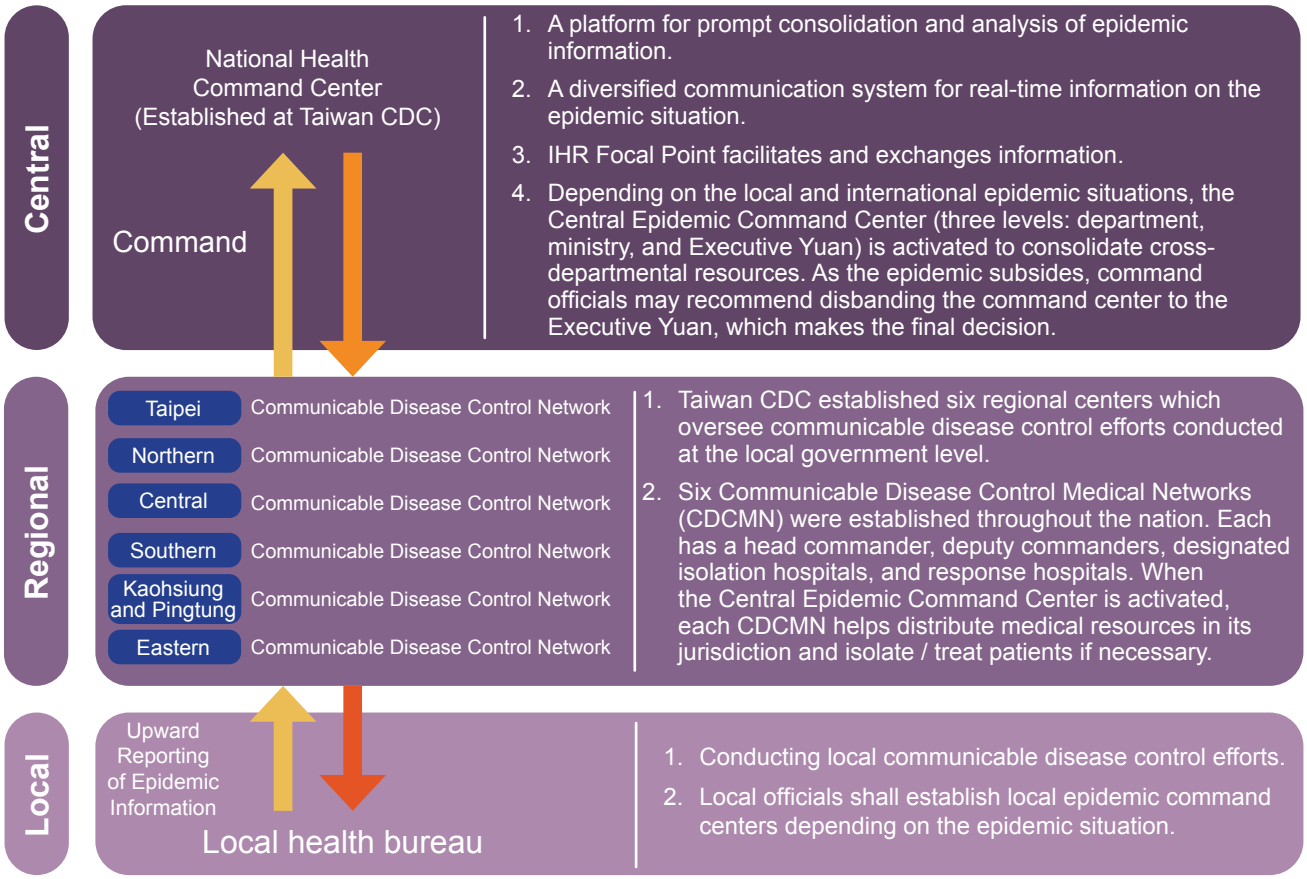


Figure 13: Command Structure of the National Health Command Center

hospitals. In addition, the MoHW has continued to stockpile epidemic prevention supplies and sought to maximize the management of and distribution system.[474] An international port quarantine is in place; it uses active reporting and screening mechanisms for travelers with suspected infectious disease symptoms upon entry. For Taiwanese traveling abroad, 32 contracted hospitals are commissioned to provide international travel medicine services. A Travel Medicine Education and Training Center was also established.[475]

International Cooperation

While not a member state of the World Health Organization (WHO), a UN organization, Taiwan has participated in various activities and meetings of the organization, including the World Health Assembly (WHA). Taiwan's WHO Action Team was sent to Geneva to participate and held bilateral meetings with some national delegations and international organizations. At the 2023 meeting, the MoHW co-hosted an emergency medical forum with the World Medical Association sharing experiences in disaster response.[476]

The MoHW and the MOFA established a joint task force called the Taiwan International Health Action (TaiwanIHA) to coordinate international health coordination and humanitarian medical aid. TaiwanIHA sometimes collaborates with other organizations, such as the Association of Medical Doctors of Asia (AMDA), to distribute medical equipment to other countries in need. The Global Medical Instruments Support and Service Program (GMISS) donates medical equipment from hospitals to countries in need. Taiwan also provides training to other countries. The MoHW founded the Taiwan International Healthcare Training Center (TIHTC) in 2002 to conduct training in health insurance, management, and clinical techniques. As of 2023, it had trained over 2,000 people from 80 countries. The MoHW and MOFA have cooperated to implement various projects in the region under

the "Medical Cooperation Project with Pacific Allies and Friendly Countries." These projects include the "Taiwan Health Center Program in the Marshall Islands," the "Taiwan Medical Program in Palau, Nauru, and Tuvalu," the "Mobile Medical Team in Fiji," and the "Mobile Medical Team in Papua New Guinea."[477]

Shelter and Housing

Taiwan's shelter and housing systems are characterized by high home ownership rates, generally good housing quality, and robust disaster preparedness measures. While homelessness is not a widespread issue, housing affordability remains a challenge, particularly in urban areas like Taipei.[478] Taiwan's government has implemented policies to improve housing resilience, provide emergency shelter options, and support displaced populations during disasters.

The quality of housing in Taiwan has improved significantly over the years, driven by advancements in construction standards and seismic safety regulations. Following the devastating 1999 Chi-Chi earthquake, which damaged over 57,000 buildings, Taiwan introduced stricter building codes to enhance earthquake resilience. The seismic force requirements for building structures, first implemented in 1974, have been updated multiple times, with the latest revision in October 2022.[479] These updates include provisions to address near-fault effects, prevent collapses in buildings with weak first stories, and improve soil liquefaction resistance. Despite these measures, older buildings and structures with soft or weak first stories remain vulnerable.

Taiwan has a well-developed system of emergency shelters to support disaster-affected communities. In 2023, a total of 5,835 disaster relief shelters were planned by counties and cities to accommodate 2,368,487 people.[480] Shelters were opened for Typhoons Doksuri, Khanun, Saola, Haikui, and Koinu, with a total of 286 shelters accommodating 5,216 people.[481]

In addition to disaster relief shelters, Taiwan has more than 1,000 tsunami shelters identified by the MOI. These shelters are integrated into disaster response plans, with designated evacuation routes and locations accessible via smartphone applications such as Disaster Prevention e-Point, Fire and Disaster Prevention, and the Emergency Management Information Cloud.[482] Taipei City alone has over 4,600 air raid shelters capable of accommodating 12 million people. These shelters, located in subway stations, shopping malls, and other public spaces, are maintained to ensure cleanliness and accessibility, although they are not stocked with food or water.[483]

Taiwan's government has established policies to support displaced populations during disasters. Following 2009's Typhoon Morakot, which caused widespread destruction and displaced thousands, the Tzu Chi Foundation collaborated with the government to build 752 new housing units for survivors.[484] The government streamlined administrative processes to expedite construction permits and provided land free of charge for the project. However, the reconstruction efforts faced criticism for failing to incorporate traditional features and cultural characteristics of the affected villages.

Emergency cash relief and low-interest loan programs are also available to assist farmers and residents affected by disasters. For example, after Typhoon Danas in 2025, the MOA activated these programs to help communities recover from crops and property damage. Additionally, the government has implemented temporary housing solutions, such as easy-to-set-up tents with privacy features, which were first introduced by Tzu Chi volunteers following the 2018 Hualien earthquake.

Homelessness is not a major issue in Taiwan, with only 2,934 homeless individuals registered with local governments as of 2023.[485] Over 70% of the homeless population resides in six municipalities, including Taipei City, while no homeless individuals were reported in Kinmen, Lienchiang, and Penghu Counties. The government provides social welfare programs and temporary housing options to support vulnerable populations, ensuring that basic needs are met during emergencies.

Taiwan's shelter and housing systems are well-equipped to support disaster-affected

communities, with robust emergency shelter networks, resilient building codes, and policies for displaced populations. However, addressing challenges such as housing affordability, older building vulnerabilities, and cultural sensitivity in reconstruction efforts will be essential to ensuring long-term resilience. By continuing to invest in innovative technologies and community-driven solutions, Taiwan can further strengthen its shelter and housing systems to protect its population during emergencies.

Food Security

Taiwan's food system is shaped by limited agricultural land, high import dependence, and exposure to natural hazards. While the island maintains strong institutional capacity, technological sophistication, and emergency reserves, structural constraints, particularly reliance on global food markets, water scarcity, and climate variability, present persistent food security risks. These vulnerabilities are magnified during disasters, when supply chains, domestic production, and public confidence can be rapidly disrupted.

The agricultural sector is primarily focused on domestic consumption. It produces staple crops such as rice, fruits, vegetables, and tea, alongside livestock including pigs and poultry.[486] Only about one-quarter of the island's area, concentrated mostly on the western plains, is suitable for farming.[487] This limited agricultural land, combined with water scarcity and reliance on imported fertilizers and seeds, constrains Taiwan's ability to achieve food self-sufficiency.[488]

Taiwan's food supply comprises five main categories: crop products, fishery products, livestock products, Taiwan-made products, and imported products. Rice remains Taiwan's dominant domestically produced staple and is the only grain under direct government production support. Fisheries contribute significantly to protein supply through inshore, offshore, aquaculture, and distant-water operations. However, Taiwan relies heavily on imports for essential grains – wheat, maize, and soybeans – which are critical both for human consumption and as livestock feed.[489]

Despite investments in modern farming technologies, Taiwan's food self-sufficiency has steadily declined. According to MOA data, Taiwan produced only 30% of the food it consumed in 2023, the lowest self-sufficiency ratio in 18 years.[490] This trend reflects long-term economic and dietary shifts following rapid economic growth since the 1980s, when rising incomes drove demand for diversified diets and imported food products.

Taiwan's food system is highly exposed to international markets. In 2023, agricultural and related imports totaled US$18.9 billion, compared to exports of US$5.4 billion.[491] Major imports include soybeans, corn, wheat, beef and beef products, dairy products, fresh fruits, and processed vegetables. While domestic production meets a high share of demand for meat, fruits, and vegetables – 71%, 84%, and 82%, respectively — these figures obscure significant upstream dependencies.[492]

Livestock production depends heavily on imported feed grains, particularly corn and soybeans, a reliance that increases vulnerability to global price volatility and supply disruptions. Domestic crop production also relies on imported fertilizers and agricultural inputs and further reinforces exposure to external shocks. Growth in the food service sector has intensified reliance on imported ingredients and food processing inputs.[493]

Food security is a core element of Taiwan's agricultural policy, guided by four strategic levers: increasing domestic production, expanding food inventories, strengthening supply-chain resilience, and reducing import dependence. Under the Food Administration Act and Domestic Rice Safety Stock Standards, the MOA's Agriculture and Food Agency is required to maintain rice stocks equivalent to at least 3 months of national consumption.

As of 2025, Taiwan holds approximately 5.5 months of public grain reserves, a substantial buffer against short-term supply disruptions. The government has also established 143 food distribution stations nationwide, with distribution coordinated between central and local authorities to enable rapid activation during emergencies.[494]

Dietary transitions complicate these efforts. Per capita rice consumption has declined as diets have become increasingly westernized, while demand for wheat-based products and meat has grown. Although Taiwan produced approximately 1.15 million tons of rice in the 2024-2025 marketing year, World Trade Organization commitments require annual imports of at least 144,720 tons.[495]

Agriculture is highly vulnerable to meteorological events. Annual agricultural losses from extreme weather can disrupt farmer livelihoods and food supply stability. Additionally, biological disasters, such as pest outbreaks and abnormal crop growth, can be devastating. Recent typhoons illustrate ongoing exposure. Typhoon Gaemi in July 2024 caused agricultural damage of US$86.4 million, exceeding total typhoon losses from all of 2023 combined.[496] In July 2025, Typhoon Danas caused at least NT$1.005 billion (US$31.8 million) in agricultural losses, with bananas, citrus, bamboo shoots, and pomelos among the most affected crops. To help farmers recover, the MOA activated emergency cash relief and low-interest loan programs for the hardest-hit areas of Tainan, Chiayi County, and Chiayi City.[497]

Water scarcity presents a critical systemic risk. During the 2020–2021 drought, authorities halted irrigation on 74,000 hectares (182,850 acres) of rice fields, approximately 24% of planted area, to prioritize water for industrial and municipal use.[498] Losses exceeded NT$824 million (US$26 million) and highlighted competition between agriculture and high-tech industry for limited water resources.

Animal disease outbreaks pose additional risks to protein security. Avian influenza outbreaks led to the culling of more than 1.3 million birds in 2015 and further mass culling in 2017.[499] In October 2025, a suspected African swine fever case prompted comprehensive containment measures, including suspension of food-waste feeding practices, establishment of a forward operations post in Taichung, and whole-of-government coordination to prevent market contamination.[500]

Taiwan integrates food security into its broader DM framework. Strategic food reserves and distribution networks are designed to ensure continuity of food access during crises. The MOA provides emergency cash and loans to disaster-affected farmers. If a disaster occurs, the MoHW sets up a transit center and provides relief resources, including food, medicine, and other donations that are provided to victims.[501] Early warning and adaptation are supported through the Agricultural Meteorological Observation Network, established in 1986 by the MOA and CWA, which provides data to anticipate and mitigate weather-related agricultural losses.[502]

Community-based food assistance complements government mechanisms. The Taiwan Food Bank collaborates with supermarkets at district and municipal levels to redistribute surplus food to vulnerable households.[503] Taiwan's extensive convenience-store network also plays a role in disaster response by offering food supplies, warehousing, and cold-chain storage during emergencies. Taiwan's has 143 food distribution stations and supply chains that are fully planned in the event of an emergency.[504] The distribution process is a collaboration between central and local governments.

Taiwan has expanded international cooperation to strengthen food security. In 2024, the American Institute in Taiwan and the Taipei Economic and Cultural Representative Office signed a memorandum of cooperation to enhance collaboration between the U.S. Department of Agriculture Foreign Agricultural Service and Taiwan's MOA.[505]

Taiwan's food security ultimately depends on balancing domestic production capabilities with strategic import diversification, maintaining robust emergency reserves and distribution systems, and building resilience against both natural disasters and global supply chain disruptions. The government's multi-faceted approach, combining production support, strategic stockpiling, emergency preparedness, and international cooperation, provides a foundation for addressing these complex challenges, though continued adaptation will be necessary as conditions evolve.

CONCLUSION

Taiwan is exposed to multiple hazards, including typhoons, floods, landslides, earthquakes, tsunami, drought, wildfires, and disease outbreaks. Typhoons are the most frequent hazard event, with roughly three to five making landfall annually. Earthquakes also occur frequently, with around 100 earthquakes per day that are not felt and an average of 2.8 quakes per year of Mw 6.0 or greater.

Taiwan has developed one of the world's most sophisticated DM systems over the past 25 years. Reforms were driven by lessons learned from catastrophic events such as the 1999 Chi-Chi earthquake and 2009's Typhoon Morakot. The result is a transformed approach to disaster preparedness, response, and recovery. Taiwan's search and rescue teams are internationally recognized for their efficiency and expertise, while the island's DM capabilities are widely respected.

Taiwan's DM system operates under the DPPA, which was enacted in 2000 to establish a comprehensive framework and has been repeatedly amended to address emerging issues. The central government sets policy and provides oversight, while township and district offices handle immediate preparedness and response tasks. In taking a single-hazard DM approach, Taiwan assigns response authority to different agencies based on hazard type, which ensures responding agencies have relevant expertise but also poses coordination challenges during complex incidents. With frequent hazards such as typhoons and earthquakes falling under the MOI, that ministry's NFA has gained considerable disaster experience overall.

Taiwan recently adopted a whole-of-society approach to civil resilience, which extends to its DM system. The establishment of the Whole-of-Society Defense Resilience Committee in 2024 prioritized cross-sector collaboration to address natural and human-induced disasters. The initiative also recognized that coordination must occur across government levels and with private sector entities, civil society organizations, and individual citizens.

Taiwan faces unique challenges. Its contested international status creates diplomatic and operational challenges that must be considered in a large-scale international response to a disaster or humanitarian crisis on the island. Taiwan is also affected by significant pro-PRC disinformation campaigns that leverage domestic disagreements, undermine public trust, and complicate disaster response efforts. Yet Taiwan also exhibits community resilience. For example, in 2025, after Typhoon Ragasa caused a barrier lake to overflow and flood Guangfu Township, there was an unprecedented grassroots mobilization of over 30,000 spontaneous volunteers.

Despite constraints, international engagement remains crucial for Taiwan's DM development and represents an area of significant opportunity for enhanced cooperation with like-minded partners who share commitments to humanitarian assistance and disaster resilience. Taiwan actively engages in bilateral and multilateral DM initiatives despite its exclusion from many international organizations. Furthermore, Taiwan's high capacity enables it to significantly contribute to international engagements.

Taiwan faces continued threats from hydrometeorological hazards and seismic activity. As Taiwan continues to refine its DM systems, initiatives such as the Whole-of-Society Defense Resilience Committee and investments in resilient infrastructure will play a critical role in addressing these challenges. Taiwan's evolving approach, coupled with its high capacity and commitments to international engagement, positions it as a valuable partner in regional and global disaster resilience efforts. By fostering deeper collaboration with international partners, Taiwan can further strengthen its DM capabilities in the face of growing disaster risks.

APPENDICES

Reception and Departure Center (RDC) Procedures

Regulations on the operation of Reception and Departure Centers for international rescue teams arriving in Taiwan to provide disaster relief

Source: Taiwan NFA. CFE-DM is responsible for any errors in English translation.

1. Purpose

In order to strengthen the implementation of matters such as information grasping, acceptance and registration, entry and exit courtesy customs clearance, and transportation and transportation support for international rescue teams coming to Taiwan to cooperate with international disaster relief teams, these operating regulations are hereby formulated when necessary to set up reception and departure centers for international rescue teams (hereinafter referred to as RDCs) at international airports, air stations and ports on the island.

2. Definition of Terms

(1) International Rescue Team: refers to the rescue team composed of foreign governments, non-governmental organizations or international organizations, including the United Nations-certified Urban Search and Rescue Team (USAR), International Emergency Medical Teams (Foreign Medical Teams, referred to as FMT), components of the International Red Cross and Red Crescent Movement and other foreign life rescue organizations.

(2) Reception/Departure Center (RDC): Refers to the center established at airports and ports to handle coordination and contact matters related to the entry and exit of international rescue teams and disaster relief when the Central Disaster Response Center activates the mechanism to accept international disaster relief support. Interdepartmental work center.

3. Location

In principle, the RDC will be set up in the locations entered in the table below, but if necessary, it may be set up in other places according to the actual situation or needs.

Domesitic RDC Planned Locations

Airport	RDC Site Location
Taipei International Airport	Terminal 1 Gate 8R
Taoyuan International Airport	Terminal 2 Gate C5R
Taichung Airport	Airport Fire Brigade
Kaohsiung International Airport	Airport Fire Brigade
Hualien Airport	Airport Fire Brigade

Seaport	RDC Site Location
Hualien Port	Pier 23 (Passenger Clearance Service Station)

4. Establishment
When the Central Disaster Response Center starts to receive international disaster relief support, and when it is necessary for an international rescue team to come to Taiwan to support disaster relief and there is a need to set up a RDC, the Fire and Rescue Department of the Ministry of the Interior will notify each agency (unit) to send personnel to station and operate.

5. RDC Supporting Agencies and Equipment
In principle, the Ministry of Foreign Affairs, the Customs Administration of the Ministry of Finance, the Animal and Plant Epidemic Prevention and Quarantine Administration of the Ministry of Agriculture, Taoyuan International Airport Co., Ltd., the Air Station of the Civil Aviation Administration of the Ministry of Communications, the Taiwan Port Co., Ltd., the Police Administration of the Ministry of the Interior, and the Immigration Department of the Ministry of the Interior will send personnel to work together, and may notify the Ministry of Health and Welfare, the Ministry of National Defense, the Ministry of Communications, the Airport and Port Bureau, the Airport Service Company or other agencies (units) to send personnel to the station at any time as necessary. The number of personnel stationed in the relevant units and the equipment on duty are detailed in the following table.

RDC Responsible Authority Unit Number of Persons/Demand List

Unit or Agency	# of Personnel	Required Equipment	Remarks
Ministry of Interior / National Fire Agency	2	1. Emergency generator & fuel. 2. Two satellite phones. 3. Two laptops. 4. One Printer. 5. Projector and screen. 6. Three Clocks. 7. RDC strips. 8. Contact information and other relevant documents. 9. Relevant stationery	N/A
Ministry of Interior / Immigration Department	1	3 laptops and inspection equipment.	N/A
Ministry of Interior / National Police Agency	1	N/A	N/A
Ministry of Agriculture / Animal and Plant Inspection and Quarantine Bureau	1-2	N/A	N/A
Airport Fire Brigade	2	Inventory Chip Scanner	N/A
Ministry of Finance / Customs Administration	1	N/A	N/A
Taoyuan International Airport Co., Ltd.	1	Assist and support the Fire Department in building relevant logistical facilities, equipment and operational supplies for the reception and departure center.	Arrival will be coordinated with actual flights arriving in Taiwan
Ministry of Transportation / Civil Aviation Administration Airport Terminals Taipei, Taichung, Kaohsiung, Hualien	1	Assist and support the Fire Department in building relevant logistical facilities, equipment and operational supplies for the reception and departure center.	Arrival will be coordinated with actual flights arriving in Taiwan

Unit or Agency	# of Personnel	Required Equipment	Remarks
Taoyuan Airlines Co., Ltd.	1	Assist in the loading, unloading, transportation and connection of international rescue team personnel, equipment and equipment.	Settled in by a flight service company that cooperates with flights to Taiwan
Evergreen Aviation Co., Ltd.	1	Assist in the loading, unloading, transportation and connection of international rescue team personnel, equipment and equipment.	Settled in by a flight service company that cooperates with flights to Taiwan
Taiwan Airlines Co., Ltd.	1	Assist in the loading, unloading, transportation and connection of international rescue team personnel, equipment and equipment.	Settled in by a flight service company that cooperates with flights to Taiwan
Taiwan Port Corporation	2	Assist and support the Fire Department in establishing logistics facilities, equipment, and operational supplies related to the reception and departure center.	Coordinated with Port Corporation
Ministry of Health and Welfare	1	N/A	Notify the dispatched personnel to move in if necessary
Civil Aviation Administration	1	N/A	Notify the dispatched personnel to move in if necessary
Highway Bureau, Ministry of Transportation	1	N/A	Notify the dispatched personnel to move in if necessary
Ministry of National Defense	1	N/A	Notify the dispatched personnel to move in if necessary

6. Operation process

(1) Before the international rescue team arrives in Taiwan:

1. The Fire Department of the Ministry of Interior, in consultation with the Ministry of Foreign Afairs and the Ministry of Transport, will set up a RDC at the location specified in point 3, and notify all units stationed there (see tables on pages 85-87). Personnel stationed in each unit should receive notification by fax, text message or phone call After that, the settlement is completed within the specified time.
2. When the Ministry of Foreign Afairs requests or receives international support from abroad through its overseas agencies or consulates in China, it shall simultaneously provide the basic information sheet of the international rescue team, the application form for the quarantine consent document for the importation of search and rescue dogs, the equipment and supplies list of the international rescue team, and the international rescue team. Fill in rescue team forms (see pages 88-94) in advance for Taiwan authorities to understand information of the international rescue team coming to Taiwan and provide it to all stationed units at any time.
3. When the international rescue team reports to the airline at the departure point, it is recommended to check in as a group. The checked baggage should be made with a unified label or hang tag in advance to facilitate the identification of the group members to whom the checked baggage belongs, and to make special service requirements. (Special Services Request) The entire group's checked baggage will be placed centrally in the cargo hold of the

aircraft to facilitate the diversion of checked baggage at the baggage handling center.

4. The equipment and supplies carried by the international rescue team should comply with the "International Civil Aviation Organization's Technical Specifications for the Safe Transport of Dangerous Goods by Air", which stipulates that team members and passengers can carry or check dangerous goods on board the aircraft (for example: lithium battery capacity, etc.) , to ensure smooth entry to Taiwan.
5. The Fire Department of the Ministry of Interior assesses the scale of the disaster and support requests in the afected counties and cities, the search and rescue capabilities of each international rescue team coming to Taiwan, and coordinates information with the emergency response centers of the afected counties and cities, allocates international rescue teams to support counties and cities in advance, and masters the reporting locations and Contact the window and notify the RDC.
6. The Fire Department of the Ministry of the Interior coordinates with the Ministry of National Defense or the Ministry of Transportation to dispatch transport vehicles to the RDC on standby based on the number of needs, and notify the RDC of relevant information.

(2) International rescue team arrives in Taiwan:

1. Reception of entry operations:
   (1) Taoyuan International Airport Co., Ltd., airports afiliated with the Civil Aviation Administration of the Ministry of Transportation, and Taiwan Port Authority Co., Ltd. will plan in advance the flights (vessels) of the international rescue teams to Taiwan based on the information provided by the Ministry of Foreign Afairs of the international rescue teams (The ship) arrives at the parking (berthing) apron (pier) and is dispatched by Taoyuan Airline Co., Ltd., Evergreen Airline Co., Ltd., Taiwan Airline Co., Ltd. or the Ministry of National Defense and the Ministry of Transportation. The international rescue team (personnel, equipment, equipment, materials, search and rescue dogs) and general passengers will be diverted and transported to the RDC for customs clearance and check-in.
   (2) The Immigration Service of the Ministry of Interior, the Police Service, the Animal and Plant Inspection and Quarantine Service of the Ministry of Agriculture, the Customs Service of the Ministry of Finance and relevant required units will assist in completing quarantine, customs clearance, and inspection procedures.
   (3) After the international rescue team completes all entry inspections and reports at the RDC, the transportation vehicles dispatched by the Ministry of National Defense and the Ministry of Transportation or the international rescue team's own vehicles will be dispatched to their respective authorities and responsibilities. The ground service unit will guide you to report to the assigned disaster relief support gathering base, the disaster-stricken county and city response center, the on-site forward command post in the disaster area, or other reporting locations through the designated entry routes at each airport.

2. Evacuation and outbound operations:
   (1) After the search and rescue mission is completed, the Civil Aviation Administration of the Ministry of Transport will arrange or control the return flight of the international rescue team and plan the special flight of the international rescue team.

(2) The Ministry of National Defense or the Ministry of Transportation assists in transporting the international rescue team. They first go through the customs clearance of goods and then go to the exit hall to go through the exit procedures for search and rescue dogs and personnel.

(3) When leaving the country, the customs clearance of goods (equipment, equipment, supplies, etc.) will be handled by the Customs Administration of the Ministry of Finance at the apron. The Aviation Police Department of the Ministry of the Interior will cooperate with the safety inspection. The aviation service company will dispatch transport vehicles to transport the international rescue team personnel. , search and rescue dogs, and cargo are transferred to the flight and loaded onto the plane.

(4) Quarantine units under the jurisdiction of the Animal and Plant Inspection and Quarantine Administration of the Ministry of Agriculture assist in handling dog export operations.

(5) The customs clearance operations for international rescue team personnel shall be handled in accordance with the "International Airport Courtesy Operation Procedures" of the Civil Aviation Administration of the Ministry of Transport.

(6) Personnel from the Fire Department of the Ministry of the Interior and the Ministry of Foreign Afairs accompanying each international rescue team will assist in coordinating, contacting and guiding matters related to various outbound operations.

RDC Stationed Units Contact List

Agency (Unit)	Sub-Unit	Business Phone	Fax
Ministry of Foreign Affairs	Protocol Section	02-23482603	02-23821874
Ministry of Health and Welfare Food and Drug Administration	Food and Drug Information Center	02-27877081	02-27877089
Ministry of the Interior National Police Agency	Civil Defense Office	02-29308596 #3102	02-29306415
Ministry of National Defense	Planning Office	02-85099681	02-85099673
Ministry of Transportation	Comprehensive Planning Department	02-2349 2890	02-23492886
Ministry of Transportation	Civil Aviation Administration	02-87702272	02-87702572
Ministry of Transportation	Maritime and Port Administration	02-89788039	02-23253432

Taoyuan International Airport Stationed Units		
Agency (Unit)	**Business Phone**	**Fax**
Ministry of Health and Welfare, Department of Disease Control, North District Control Center	03-3982583 #67	03-3982718
Ministry of Agriculture Animal and Plant Inspection and Quarantine Service, Taoyuan Branch, Taoyuan Airport quarantine station	03-3982431	03-3982310
Ministry of Finance and Customs Administration Taipei Customs	03-3938239	03-3932767
Home Office Immigration Service Border Services Team	03-3985010 #7201	03-3931750
Interior Ministry Police Agency Aviation Police Department	03-3982234	03-3833054
Taoyuan International Airport Corporation Operation control center	03-2733501	03-2733588
Taoyuan Airlines Co., Ltd.	03-3982338 #12 03-3982604 #12	03-3982690
Evergreen Aviation Co., Ltd.	03-3916040	03-3834892
Taiwan Airlines Co., Ltd. head office	02-27152811	02-25454767

Taipei International Airport Stationed Units		
Agency (Unit)	**Business Phone**	**Fax**
Taipei International Airport Flight Operations Group	02-87703442	02-87703543
Ministry of Health and Welfare, Department of Disease Control, Taipei District Control Center	02-27122391	02-25475173
Interior Ministry Police Bureau Aviation Police Desk, North Branch	02-87702657	02-27136147
Ministry of Agriculture Animal and Plant Inspection and Quarantine Service Keelung Branch Taipei Songshan Airport quarantine station	02-87701535	02-25462802
Taipei Customs Service, Taipei Customs Office, Songshan Branch, Ministry of Finance	02-2546469802-87701528	02-25468112
Songshan Airport, Border Affairs Brigade, Immigration Service, Ministry of the Interior border affairs team	02-25474161 #1011	02-25474825
Taiwan Airlines Co., Ltd. Taipei Station	02-87708646	02-25465811
Evergreen Aviation Co., Ltd. Taipei Station	02-27156968	02-87702957

Taichung Airport Stationed Units		
Agency (Unit)	**Business Phone**	**Fax**
Taichung Airport Flight Operations Team	04-26155222	04-26155223
Ministry of Health and Welfare, Department of Disease Control, Central District Control Center	04-26155156	04-26155157
Ministry of Interior Police Department Aviation Police Taichung Branch	04-26155001	04-26155002
Ministry of Agriculture, Animal and Plant Inspection and Quarantine Bureau, Taichung Branch, Taichung Airport Quarantine Station	04-26155003	04-26151796
Taichung Customs Service, Ministry of Finance and Customs	04-26155098	04-26155171
Home Office Immigration Service Border Services Team	04-26155028	04-26155152
Taiwan Airlines Co., Ltd. Taichung Station	04-26155007	04-26155005
EVA Airline Co., Ltd. Taichung Station	04-26155126	04-26155130

Kaohsiung Airport Stationed Units		
Agency (Unit)	**Business Phone**	**Fax**
Kaohsiung International Airport Flight Operations Group	07-8057556	07-8057990
Ministry of Health and Welfare, Department of Disease Control, Gaoping Control Center	07-8057796	07-8039446
Ministry of Interior Police Department Aviation Police Kaohsiung Branch	07-8057776	07-8011800
Ministry of Agriculture Animal and Plant Inspection and Quarantine Service Kaohsiung Branch Kaohsiung Airport quarantine station	07-8057790	07-8068427
Ministry of Finance Customs Administration Kaohsiung Customs	07-8057740	07-8013831
Border Affairs Brigade, Immigration Service, Ministry of the Interior, Kaohsiung Airport border affairs team	07-8017311	07-8026016
Taiwan Airlines Co., Ltd. Kaohsiung Station	07-8038157	07-8032600
Evergreen Aviation Co., Ltd. Kaohsiung Station	07-8057801	07-8061891

Hualien Airport Stationed Units		
Agency (Unit)	**Business Phone**	**Fax**
Hualien Airport Stationed Unit Aviation Operations Team	03-821071103-8210713	03-821072003-8210774
Ministry of Health and Welfare, Department of Disease Control, Eastern District Control Center	03-8223106	03-8222643
Ministry of Interior, Police Department, Aviation Police Bureau, Taipei Branch, Hualien Branch	03-8210776	03-8267404
Ministry of Agriculture Animal and Plant Inspection and Quarantine Service Keelung Branch Hualien Quarantine Station	03-8533613	03-8514713
Customs Administration of the Ministry of Finance Keelung Customs Hualien Branch	03-8226145	03-8228663
Border Affairs Brigade, Immigration Department, Ministry of the Interior Keelung Port Hualien Detachment	03-8223951	03-8239480
Taiwan Airlines Co., Ltd. Hualien Station	03-8210622	03-8268389
Taiwan PetroChina Co., Ltd. Hualien Aviation Fuel Station	03-8210621	03-8269936

Hualien Seaport Stationed Units		
Agency (Unit)	**Business Phone**	**Fax**
Taiwan Port Co., Ltd. Hualien Port Branch	03-8325131 #2503	03-8335575
Ministry of Interior Police Department Hualien Port Police Corps	03-8222701	03-8222710
Fire Department of the Ministry of Interior Hualien Port Fire Brigade	03-8230103	03-8236771
Customs Administration of the Ministry of Finance Keelung Customs Hualien Branch	03-822-6145	03-8228663
Hualien Port Detachment, Immigration Department of the Ministry of Interior	03-822-3951	03-8239480
Ministry of Agriculture Animal and Plant Inspection and Quarantine Service Keelung Branch Hualien Quarantine Station	03-8533613	03-8514713

國際救援隊基本資料表 TEAM FACT SHEET

隊伍訊息 Team Information								
A.0	隊伍代碼 Team-ID							
A.1	隊伍名稱 Team name			A.2	國家 Home country			
A.3	人數 Number of persons			A.4	犬數 Number of dogs			
A.5	隊伍類型 Team type responding	輕型 Light	V	中型 Medium	V	重型 Heavy	V	其他 other _____
A.6	INSARAG 分類級別 INSARAG Classification	無 None	V	中型 Medium	V	重型 Heavy	V	

能力 Responding Elements								
A.7	技術搜索 Technical Search	是 Yes	V	否 No	V	備註：		
A.8	搜救犬搜索 Canine search	是 Yes	V	否 No	V	備註：		
A.9	救援 Rescue	是 Yes	V	否 No	V	備註：		
A.10	醫療 Medical	是 Yes	V	否 No	V	備註：		
A.11	危害物偵測 Hazmat detection	是 Yes	V	否 No	V	備註：		
A.12	建築工程師 Structural engineers	是 Yes	V	否 No	V	人數 Number		備註：
A.13	支援 RDC/OSOCC RDC/OSOCC support	是 Yes	V	否 No	V	備註：		
A.14	支援 UCC UCC support	是 Yes	V	否 No	V	備註：		
A.15	其他能力 Other capabilities							

A.16	自給自足(天數) Self-sufficiency(number of days)	水 water _____ 天 days	A.17	食物 Food _____ 天 days	
A.18	預計到達日期【DD-MMM】 Expected arrival date	DD	MMM	備註：	
A.19	預計到達時間【hh：mm】 Expected arrival time	hh	mm	備註：	
A.20	到達地點 Point of arrival		A.21	搭乘民航機 By civil air craft	Airline & Flight Ex：China airline CI0101
				搭乘專機 By designated plane	Plane Model Ex：C130
				使用自有車輛 Vehicles	Type Ex：VAN ---------- / Numbers 2 ----------

支援需求 Support Requirements			
運輸 Transport for			
B.1	人數 Persons (number) _____	B.2	犬數 Dogs (number) _____
B.3	所帶設備重 Equipment (ton) _____ *註:請提供裝備器材清冊。* *p.s.Provide equipment list.* _	B.4	所帶設備體積 Equipment (cubic metres) _____
供給 Supplies			
B.5	汽油(公升/天) Gasoline (litres per day) _____	B.7	氣體(瓶)Cutting Gas (cylinders)
B.6	柴油(公升/天) Diesel(litres per day) _____		類型 Type / 數量 Number / 體積 Size: 氧氣 / 丙烷 / 乙炔
B.8	醫療用氧氣(瓶) Medical Oxygen 數量 _____ 體積 _____	B.9	BoO 用地需求(平方公尺) BoO Space Requirement (m²) _____
B.10	其他後勤需求 Any other logistical needs：		

聯繫方式 Contacts					
C.1	聯繫人 1 Contact1 Name		C.5	聯繫人 2 Contact1 Name	
C.2	手機 Mobile phone		C.6	手機 Mobile phone	
C.3	衛星電話 Sat phone		C.7	衛星電話 Sat phone	
C.4	電子信箱 E-mail		C.8	電子信箱 E-mail	
C.9	行動基地地址 Base of Operations Address				
C.10	無線電頻率(BoO) Radio Frequency (BoO)				赫茲
C.11	BoO GPS 座標	GPS 座標(度) decimal format	±dd.dddd	±ddd.dddd	
		GPS 座標(其他格式) other format			

填表人 Form completed by:		姓名 Name	
日期 Date		職稱/職位 Title/Position	

國際救援隊基本資料表 填表說明 TEAM FACT SHEET Form filling instructions	
A.隊伍訊息	
A.0	第一格填寫三個字母代表的奧林匹克國家代碼，後一格填寫國家隊伍編號；1,2,3 等為已分級隊伍；10,11,12 等為未分級隊伍 The national team number; 1,2, 3 for classified teams, 10, 11, 12 etc for unclassified teams
A.1	國際救援隊國際或國內使用的名稱 Team name as known internationally or domestically
A.2	國際救援隊所屬國名稱 Team's country of origin.
A.3	國際救援隊出動總人數 Total number of persons deployed.
A.4	國際救援隊出動的搜救犬總數 Total of number of dogs deployed.
A.5	根據 INSARAG 指南，隊伍的應變類型 Type of team responding according to INSARAG guidelines
A.6	國際救援隊官方 IEC 分級類別，中型或重型(如已分級) The official INSARAG External classification (IEC) level of the team, medium or heavy (if held)
A.7	國際救援隊是否具備技術搜索能力? Has the responding team deployed with technical search capability?
A.8	國際救援隊是否具備搜救犬搜索能力? Has the responding team deployed with canine search capability?
A.9	國際救援隊是否具備救援能力? Has the responding team deployed with rescue capability?
A.10	國際救援隊是否具備醫療能力? Has the responding team deployed with medical capability?
A.11	國際救援隊是否具備危險品偵檢能力? Has the responding team deployed with hazmat detection capability?
A.12	國際救援隊是否配備建築工程師?如有，填寫工程師數量 Has the responding team deployed with structural engineers? Give the number of engineers
A.13	國際救援隊是否有能力建立臨時現場救災協調指揮中心/接待及撤離中心? Has the responding team got the capacity for establishing a provisional OSOCC/ RDC?
A.14	國際救援隊是否有能力支援搜救協調中心? Has the responding team got the capacity for supporting a UC?
A.15	其它能力，例如：自行安排交通運輸，乘船展開水中救援等。 Detail any other capabilities e.g. own tranpsortation, water rescue capability with boats etc
A.16	自備水源可持續天數 Number of days with self-sufficiency of water supply
A.17	自備食物可持續天數。 Number of days with self-sufficiency of food supply
A.18	預計到達受災地區的日期，如 13APR Estimated arrival date to affected region - day as a number, month as 3 letters e.g. 13 APR
A.19	預計到達受災地區的時間，用當地時間 24 小時制書寫 Estimated arrival time to affected region - 24hr clock using local time
A.20	到達受災區的地點(機場、城市、港口等) Point of arrival to affected region (airport, city, port, etc)
A.21	飛機類型(型號、大小)，搭乘專機抵達自有車輛種類數量 Type of aircraft (model, size),Type of vehicle & numbers

B.支援需求	
B.1	需要運輸人員總數 Total number of people to be transported
B.2	需要運輸搜救犬總數 Total number of dogs to be transported
B.3	運輸設備總重量，單位：公噸 Total weight of equipment expressed in ton to be trasnsported
B.4	需要運輸設備總體積，單位：立方公尺 Total volume of equipment expressed in cubic metres to be transported
B.5	每日所需汽油量，單位：公升 Gasoline requirement expressed in litres to be supplied daily expressed in litres
B.6	每日所需柴油量，以公升為單位 Diesel fuel requirement expressed in litres to be supplied daily expressed in litres
B.7	每日所需氣體量，單位：公升 Cutting gas cylinders to be filled daily
B.8	每日所需醫療用氧氣量，單位：瓶 Medical oxygen cylinders to be filled daily
B.9	搭建行動基地所需面積，單位：平方公尺 Space requirement expressed in square meters for the location of the Base of Operations
B.10	其他後勤需求 Other logistical requirements
C.聯繫方式	
C.1	第一聯繫人的姓名和職稱 Name or title of Contact 1
C.2	第一聯繫人的手機號碼 Mobile phone number of Contact 1
C.3	第一聯繫人的衛星電話 Satellite phone number of Contact 1
C.4	第一聯繫人的電子信箱 E-Mail address of Contact 1
C.5	第二聯繫人的姓名和職稱 Name or title of Contact 2
C.6	第二聯繫人的手機號碼 Mobile phone number of Contact 2
C.7	第二聯繫人的衛星電話 Satelite phone number of Contact 2
C.8	第二聯繫人的電子信箱 E-Mail address of Contact 2.
C.9	行動基地的位置或地址，如知道需填寫 Location or address of Base of operations - if known
C.10	BoO 的無線電頻率，以赫茲為單位 Radio Frequency (BoO) in MHZ
C.11	工作場地使用 GPS 座標，作為現場的標記方式 標準 GPS 格式是地圖數據 WGS84 如可能盡量使用十進位 GPS 座標，例如 Lat±dd.dddd° Long±ddd.dddd° 如使用其他格式，請在下側表格(其他格式處)填寫，並註明使用的格式\ GPS coordinates of the Worksite, taken at the Worksite marking: Standard GPS format is: Map datum WGS84 If possible use decimal coordinates e.g. Lat ±dd.dddd° Long ±ddd.dddd° If another format is used then use the lower boxes and state the format used.

搜救犬輸入檢疫同意文件申請書

（僅適用因應國內發生災害之防救工作，經我國災害防救機關同意輸入之搜救犬）

Application Form of Import Permit for Search and Rescue Dogs

(Only for search and rescue dogs imported upon the consent of Taiwanese disaster prevention and protection agency for rescue tasks in response to disasters in Taiwan)

申請人姓名 Name of applicant：					
地址 Address：					
電話 Telephone：		E-mail：			
臺灣聯絡人姓名 Name of contact person in Taiwan：					
地址 Address：					
電話 Telephone：					
犬隻 Dog：		隻 Quantity			
1. 年齡 Age:		性別 Sex:		品種 Breed:	
晶片號碼 Microchip number：					
2. 年齡 Age:		性別 Sex:		品種 Breed:	
晶片號碼 Microchip number：					
3. 年齡 Age:		性別 Sex:		品種 Breed:	
晶片號碼 Microchip number：					
4. 年齡 Age:		性別 Sex:		品種 Breed:	
晶片號碼 Microchip number：					
犬隻輸出國 Exporting country：					
預定輸入日期 Scheduled date of import：					
預定抵達機場 Entry port：	☐松山(TSA) ☐桃園(TPE) ☐臺中(RMQ) ☐高雄(KHH)				
	☐其他(Other)：				
收取進口同意文件方式 By what means would you like to receive the import permit？					
☐郵寄地址(限我國)Post mail address(Taiwan only):					
☐電子郵件 E-mail:		☐傳真(限我國)FAX(Taiwan only):			

檢附下列文件影本 Enclosed with photocopies of the following documents：

☐輸出國獸醫師簽發狂犬病預防注射證明書 Rabies vaccination certificate issued by an veterinarian of the exporting country.

☐災害防救機關之同意文件（可由我國災害防救機關直接提供）Disaster prevention and protection agency's written consent (may be provided directly to BAPHIQ by the Taiwanese disaster prevention and protection agency)

☐狂犬病抗體力價檢測報告(若符合原輸出國之犬隻返國規定為非必須) Report of rabies neutralization antibody titration test (If available. It might be required by the original exporting country when the dogs return)

如何申請?How to file an application?

1. 線上申請(建議使用) Online application (Recommended) **https://pet-epermit.baphiq.gov.tw**

2. 郵寄、傳真或電子信件向犬貓預定輸入機場/港口之動物檢疫單位申請:

I. 自臺北松山機場輸入者 To import via Taipei Songshan Airport:

I. 臺北松山機場檢疫站 Taipei Songshan Airport Inspection Station,

II. 地址:臺北市松山區敦化北路340-9號 Address: No.340-9, Dunhua North Road, Songshan Dist., Taipei City 10548

III. 電話 Tel No.: 886-2-87701535

IV. 傳真 Fax No.: 886-2-25462802

V. 電子信箱 E-mail: arrival@mail.klbaphiq.gov.tw

II. 自桃園國際機場輸入者 To import via Taiwan Taoyuan（CKS）Airport:

I. 本局新竹分局 Hsinchu Branch, Bureau of Animal and Plant Health Inspection and Quarantine

II. 地址:桃園縣大園鄉航勤北路25號 Address: No.25, Hangqin North Road, Dayuan Township, Taoyuan County 33758

III. 電話 Tel No.: 886-3-3982431

IV. 傳真 Fax No.: 886-3-3982310

V. 電子信箱/ E-mail: hc04@mail.hcbaphiq.gov.tw

III. 自臺中國際機場輸入者 To import via Taichung Airport:

I. 臺中機場檢疫站 Taichung Airport Inspection Station

II. 地址:臺中市沙鹿區中航路一段168號國際航廈4樓404室 Address: RM.404,4F., International Terminal No.168, Sec 1, Zhonghang Road, Shalu Dist., Taichung City 433

III. 電話 Tel No.: 886-4-26155003

IV. 傳真 Fax No.: 886-4-26151796

V. 電子信箱 E-mail: tcairport@mail.tcbaphiq.gov.tw

IV. 自高雄國際機場輸入者 To import via Kaohsiung Airport:

I. 高雄機場檢疫站 Kaohsiung Airport Inspection Station

II. 地址:高雄市小港區飛機路630號高雄國際機場貨運站3樓 Address: 3F No.630, Feiji Road, Xiaogang Dist., Kaohsiung City 81252

III. 電話 Tel No.: 886-7-8057790

IV. 傳真 Fax No.: 886-7-8068427

V. 電子信箱 E-mail: kh0701@mail.khbaphiq.gov.tw

V. 自花蓮航空站、花蓮港輸入者 To import via Hualien Airport or Hualien Port

I. 花蓮檢疫站 Hualien Inspection Station

II. 地址: 花蓮市中華路512號 Address: No.512, Jhonghua Road, Hualien City, Hualien County 970

III. 電話 Tel No.: 886-3-8533613

IV. 傳真 Fax No.: 886-3-8514713

申請人簽名 Signature：

國際救援隊伍裝備及物資清單 Equipment list

A.電信管制射頻器材 CTRFD(Controlled Telecommunications Radio-Frequency Devices)

項次 No.	名稱 Device name	廠牌 Brand	型號 Type	工作頻率 Working frequency	輸出功率 Output power	數量 Qty	備註 Remarks
EX: 1	Radio station	KENWOOD	TM-V71A	118~1200Mhz	VHF 50W /UHF 50W	1	

B.一般(Normal)

箱號 CT. NO.	裝備名稱 Eqip Name	內部組件 Inner Components		總量 Total	總重（公斤）Gross weight (KG)	長(公分) Length (m)	寬(公分) Width (m)	高(公分) Height (m)	體積（立方公分）volume (m^3)	備註 Remarks
		名稱	數量 Qty							
EX: A1	LED Illuminations	Milwaukee LED	2	6	46.02	94	52	42	0.205m3	
		LED Remote	3							
		Remote stand light	1							

國際救援隊撤離情況表 Demobilisation form			
A0.隊伍代碼 Team Id.			
A1.隊伍名稱 Team Name			
A.撤離訊息 Departure information			
A22.日期【日-月】Date	DD	MMM	
A23.時間【時：分】Time	hh	mm	
A24.撤離地點 Point of departure			
A25.交通/航班訊息 Transport/Flight information			
B.隊伍訊息 Team information			
B11.隊伍人數 Number of persons		B12.犬隻數量 Number of dogs	
B13.裝備、器材(公噸) Equipment (Ton)		B14. 裝備、器材(平方米) Equipment (m^3)	
C.特別需求 Special requests			
C12.地面運輸需求? Need for ground transportation?			
C13.裝/卸貨需求? Need of loading/unloading assistance?			
C14.撤離地點住宿需求? Need for accomodation at point of departure?			
D.其他訊息 Other imformation			
填表人 Form completed by:		姓名 Name	
日期 Date		職稱/職位 Title/Position	

List of Airline Passenger and Cargo Carriers

Location	Supporting Airline Companies	Available Airport Equipment
Taipei International Airport	EVA AirlinesTaiwan Airlines Company	Escalator Car Rolling Cart Luggage Trolley Belly hold loading and unloading truck Shuttle Bus
Taoyuan International Airport	Taoyuan Airlines Co., Ltd.EVA Airlines	Escalator Car Rolling Cart Luggage TrolleyBelly hold loading and unloading truck Main cabin loading and unloading truck Shuttle Bus
Taichung Airport	EVA AirlinesTaiwan Airlines Company	Escalator CarRolling Cart Luggage Trolley Shuttle Bus
Kaohsiung Airport	EVA AirlinesTaiwan Airlines Company	Escalator Car Rolling Cart Belly hold loading and unloading truck Shuttle Bus
Hualien Airport	Taiwan Airlines Company	Escalator Car Rolling Cart Luggage Trolley

Reception and DepartureCenter (RDC) Procedures

Designated Arrival Routes at Select Airports and Seaports

The RDC is located in the Remote Waiting Lounge (8R) of Terminal 1 at Taipei International Airport. Gate 13 will be used for follow-on movement to the disaster area.

The RDC is located in the Remote Waiting Lounge (C5R) of Terminal 2 at Taoyuan International Airport. Passengers then enter through the North Gate to travel to the disaster area.

The RDC is located at Taichung Airport (Fire Department), and passengers enter the disaster area through the Cargo Terminal Gate.

The RDC is located at Kaohsiung Airport (Fire Department), and passengers enter the disaster area through the 2nd checkpoint.

The RDC is located at Hualien Airport (Fire Department), and passengers enter through Gate 1 to reach the disaster area.

The RDC is at Pier 23 – Passenger Clearance Service Station. Pier 17 is for vehicle landing.

7. Logistics support
   In principle, the equipment and shift manpower required for the various divisions of work in the RDC are planned and prepared by each stationed unit. As for the operation venue, meal ordering, water and electricity operation equipment, consumables and other general logistics matters, Taoyuan International Airport Co., Ltd., The airports afiliated with the Civil Aviation Administration of the Ministry of Transportation and the Taiwan Port Corporation provide support and assistance, and the food expenses are provided by the Fire Department of the Ministry of the Interior.

8. Division of Work Among Units in the RDC
   (1) Fire Department of the Ministry of Interior:
      1. Handle related coordination and notification matters before establishing the RDC.
      2. Bring relevant emergency equipment and information to the RDC.
      3. Accept the registration of international rescue teams and obtain information about the actual international rescue teams arriving in Taiwan.
      4. Fill in the international rescue team's basic information summary table (such as Appendix 9) with the information of the international rescue team arriving in Taiwan, and send it back to the Central Disaster Response Center.
      5. Fill in the RDC briefing summary form (pages 102-103) and provide it to the international rescue team.
      6. Responsible for contacting the search and rescue team of the Central Disaster Response Center, and being ordered to assign the disaster-stricken counties and cities supported by the international rescue teams and reporting locations.
      7. Cooperate with dispatching a person to accompany the international rescue team throughout the entire process to handle the coordination of search and rescue operations
      8. Contact transportation vehicle support matters.

(2) Immigration Department of the Ministry of the Interior:
Simplify customs clearance operations such as certificate inspection of international rescue team personnel.

(3) Police Department of the Ministry of the Interior:
1. Assist in the inspection of luggage carried by the international rescue team and related entry and exit control operations.
2. Assist personnel from all responsible units and the international rescue team to pass in and out of the airport control area.
3. Bring relevant emergency equipment and information to the RDC.

(4) Ministry of Foreign Afairs:
1. Responsible for contacting relevant matters before the international rescue team comes to Taiwan, and receiving and collecting information about the international rescue team coming to Taiwan.
2. Provide in advance the basic information form of the international rescue team coming to Taiwan, the application form for the quarantine consent document for the importation of search and rescue dogs, the equipment and supplies list of the international rescue team, and the evacuation status form of the international rescue team and other registration and entry and exit forms are for the international rescue team to fill out.
3. Assist in handling entry visa and registration related matters for the international rescue team.
4. Cooperate to dispatch an interpreter to accompany the international rescue team throughout the process to assist in communication and coordination.
5. Responsible for contacting the overseas rescue team of the Central Disaster Response Center.

(5) Animal and Plant Inspection and Quarantine Bureau of the Ministry of Agriculture:
1. Bring relevant emergency equipment and information to the RDC.
2. Assist in expediting the import quarantine of search and rescue dogs of the International Rescue Team and the quarantine of animals, plants and agricultural products in rescue supplies.

(6) Customs Administration of the Ministry of Finance:
1. The luggage carried by the international rescue team will be inspected and cleared through customs.
2. Simplified customs clearance operations such as declaration of equipment and materials, entry and exit customs clearance, and contraband inspection.

(7) Ministry of Transport:
1. The international rescue team arrives by flight and coordinates the release and shutdown of aircraft at each airport. The same applies when diverting to other civilian or military-civilian airports.
2. The international rescue team arrived by ship and coordinated with the Taiwan Port Authority to guide the ship to the designated dock for berthing.

3. When necessary, coordinate with airlines, high-speed rail, Taiwan Railways, and private passenger transport operators to provide land and air transportation vehicles to carry international rescue team personnel, equipment, and other supplies to the disaster-stricken counties and cities; when there is a need to transport equipment, equipment, supplies, and other goods , land transportation vehicles are given priority with cargo loading and unloading lifting platforms.
4. Coordinate the team's return flight based on the departure requirements raised by the International Rescue Team, and the costs will be borne by the International Rescue Team themselves.
5. Supervise airlines, flight services companies, port companies and other units in each airport (port) to assist in the construction and logistics operations of RDCs.
6. If the international search and rescue team arriving in Taiwan on a chartered flight needs to use its own vehicles to perform disaster relief work, we will assist in applying for temporary licenses or permitting passage.

(8) Airports afiliated to the Civil Aviation Administration of the Ministry of Transportation, Taoyuan International Airport Co., Ltd., and Taiwan Ports Co., Ltd.:

1. When the International Rescue Team flight arrives, it will assist in guiding it to the planned apron of each airport.
2. When the international rescue team arrives, it will help guide them to the planned pier.
3. Assist and support the construction of relevant logistics facilities, equipment and operating supplies for the RDC.
4. Send personnel and bring relevant response equipment and information to the RDC.
5. Assist in ordering meals for stationed personnel (the funds will be verified by the Fire Department of the Ministry of Interior).

(9) Taoyuan Airlines Co., Ltd., Taiwan Airlines Co., Ltd. and Evergreen Airlines Co., Ltd.:
Assist in the loading, unloading, transportation and connection of international rescue team personnel, equipment and equipment.

(10) Ministry of National Defense (notify and dispatch personnel as necessary):
When necessary, support land and air transportation vehicles such as military trucks, buses, and transport aircraft; when there is a need to carry equipment, materials, and other cargo, priority will be given to land transportation vehicles with cargo loading and unloading lifting platforms.

(11) Ministry of Health and Welfare (notify and dispatch personnel as necessary):
If necessary, relevant airport personnel will be dispatched to the RDC to handle quarantine operations for search and rescue personnel.

9. RDC Closure
When the RDC has assisted all international rescue teams to leave the country, or there is no need for operation, it may report to the commander of the Central Disaster Response Center to evacuate the RDC and the relevant stationed personnel will return to the establishment.

接待及撤離中心簡報摘要表(將重要資訊提供給抵達的隊伍)

RDC_Briefing_Handout

A.情況報告 Situation report		
A.1	日期 Date 〔DD-MMM]	
A.2	時間 〔hh:mm〕	
A.3	災情概述 Overview of situation in affected areas	
A.4	災害應變情形 Response	
A.5	現有協調應變機制 Coordination mechanisms	
A.6	安全問題 Safety issues	
A.7	維安問題 Security issues	
A.8	GPS 系統(一般使用 WGS84) GPS Datum (WGS84 normally)	
B	**作業基地位置 BoO location**	
B.1	城市 City	
B.2	行政區 Sector	
B.3	地址 Address	
B.4	地名 Place name	
B.5	GPS - 座標 [Lat/Lon Hddd.Dddd°] GPS – Coordinates	*Lat* *Lon*
C	**現場行動協調中心詳細資訊 OSOCC Details**	
C.1	城市 City	
C.2	行政區 Sector	
C.3	地址 Address	
C.4	地名 Place name	

C.5	GPS - 座標 [Lat/Lon Hddd.Dddd°] GPS - Coordinates	*Lat*												
		Lon												
C.6	路線資訊(例：需繞道、塞車等) Route information (e.g.detours, blockages)													
C.7	電話號碼 Telephone number	市內電話 Office： 衛星電話 Satellite： 手機 Mobile：												
C.8	無線電頻率 Radio frequency													
C.9	Email 地址 Email address													
C.10	下次 OSOCC 會議 (工作會報日期與時間) Next OSOCC meeting													
D	**支援隊伍需求 Team requirements**													
D.1	運輸 Transport													
D.2	支援 Supplies													
E	**其他資訊 Other Information**													

接待及撤離中心簡報摘要表

填表說明 RDC_Briefing_Handout Form filling instructions

A.情況報告 Situation report	
A.1	日期格式應以數字表示日期，三個英文字母表示月份，如：13 APR （4 月 13 日）。 Date of issue of situation report day shown as a number, month shown as three letters e.g. 13 APR
A.2	時間格式應使用當地時間（24 小時制）。 Time of issue of situation report; 24hr clock, local time
A.3	災情概述。 Overview of situation in affected areas
A.4	災害應變情形（如：USAR 隊伍數量） Scale of response (e.g. Number of USAR Teams deployed)
A.5	現有協調應變機制。 Coordination structure in place for the response
A.6	國家或受災區域的安全問題。 General safety issues in country or affected region
A.7	國家或受災區域的維安問題。 General security issues in country or affected region
A.8	使用的 GPS 系統；主要以 WGS84 十進位制座標為主，如：N/S ±12.3456° E/W ±123.4567°。 GPS Datum to be used as defined by LEMA or OSOCC; default is WGS84 using decimal coordinates e.g. N/S ±12.3456° E/W ±123.4567°。
B.行動基地（前進指揮所）位置 BoO location	
B.1	災區/行動基地（前進指揮所)所在縣市。 City where BoO is located
B.2	災區/行動基地（前進指揮所)所在行政區。 Sector where BoO is located if known
B.3	行動基地（前進指揮所）所在地址。 Address where BoO is located
B.4	行動基地（前進指揮所）所在地名。 Place name where BoO is located
B.5	應使用 WGS84 十進位制之 GPS 座標，如：N/S ±12.3456° E/W ±123.4567°。 GPS - Coordinates of the BoO using WGS84 using decimal coordinates e.g. N/S ±12.3456° E/W ± 123.4567°
C.現場行動協調中心詳細資訊 OSOCC Details	
C.1	現場行動協調中心所在縣市。 City where OSOCC is located
C.2	現場行動協調中心所在行政區。 Sector where OSOCC is located

C.3	現場行動協調中心所在地址。 Address where OSOCC is located
C.4	現場行動協調中心所在地名。 Place name where OSOCC is located
C.5	應使用 WGS84 十進位制之 GPS 座標，如：N/S ±12.3456° E/W ±123.4567°。 GPS - Coordinates of the OSOCC using WGS84 using decimal coordinates e.g. N/S ±12.3456° E/W ±123.4567°
C.6	救災路線的道路現況資訊（例如道路受阻、塞車等） Route information to access OSOCC (e.g. detours, blockages)
C.7	現場協調中心的聯繫電話。 Telephone number of OSOCC if known
C.8	現場行動協調中心使用之無線電頻率。 Radio frequency
C.9	現場行動協調中心使用之電子郵件信箱。 Email address
C.10	現場行動協調中心下次會議(工作會報)之時間與地點。 Specify time and date of next OSOCC meeting
D.支援隊伍需求 Team requirements	
D.1	隊伍運輸能力及需求。 Transport availability and request procedure
D.2	隊五後勤能力及需求。 Supplies availability and request procedure

Taiwan's Disaster Prevention and Protection Act (DPPA)

As last amended on 28 May 2025 (Originally enacted 19 July 2000)
Source: https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=D0120014

Chapter One: General Principles

Article 1
For making a sound disaster prevention and protection system, enhancing its functions, and increasing the public's disaster prevention awareness and response capabilities, in order to protect the safety of people's lives, bodies, properties and conserve the homeland, the Act was enacted especially.

Article 2
The terms of the Act are defined as follows:

1. Disaster: hazards caused by any of the following disasters:
   (1) Natural disasters including windstorm, flooding, earthquake (including soil liquefaction), drought, frost, debris flow and large-scale landslide disaster, and volcanic disaster; and
   (2) Fire, explosion, public gas, fuel pipeline and power transmission line failure, mining disaster, air crash, shipwreck, land traffic accidents, forest fire, toxic and concerned chemical substances disaster, biological disaster, animal and plant diseases, radiation disaster, industrial pipeline disaster, and suspended particulate disaster.
2. Disaster Prevention and Protection: Refers to measures including mitigation and preparedness before disaster, response actions during disaster, and recovery after disaster.
3. Plans of Disaster Prevention and Protection: including the Basic Plan, operation plan and regional plan of disaster prevention and protection.
4. Basic Plan of Disaster Prevention and Protection: refers to the nationwide disaster prevention and protection plan authorized by the Central Disasters Prevention and Protection Council.
5. Operation Plan of Disaster Prevention and Protection: refers to the Disaster Prevention and Protection plan prepared by the central regulating authorities of disaster prevention and protection business or the public enterprises for their respective business or administrative functions.
6. Regional Plan of Disaster Prevention and Protection: refers to the municipal government, county (city), township (city) and mountain indigenous districts of special municipalities (hereinafter referred to as indigenous district) disaster prevention and protection plan respectively authorized by the municipal government, county(city), or township(city) and indigenous districts Disaster Prevention and Protection Council.

Article 3
Prevention, response and recovery for all types of the disasters, the following agencies shall be the central regulating authorities for the disaster prevention and protection:

1. Windstorm, earthquake (including soil liquefaction), fire, explosion, and volcanic disaster: Ministry of the Interior;
2. Flooding, draught, mining disasters, industrial pipeline disaster, public gas, fuel pipeline and power transmission line failure: Ministry of Economic Affairs;

3. Frost, debris flow and large-scale landslide disaster: Ministry of Agriculture;
4. Air crash, shipwreck and land traffic accidents: Ministry of Transportation and Communications;
5. Toxic and concerned chemical substances and suspended particulate disaster: Ministry of Environment;
6. Biological disaster: Ministry of Health and Welfare
7. Radiation disaster: Nuclear Safety Commission;
8. Other disasters: the central regulating authorities of Disaster Prevention and Protection business designated by Central Disasters Prevention and Protection Council.

The preceding paragraph prescribing the central regulating authorities for the disaster prevention and protection, shall be in charge of disaster prevention and protection business in following missions:

1. Command, supervision, and coordination of the central regulating authorities and municipal government, county (city) government for disaster prevention and protection.
2. Draft and implementation of amended disaster prevention and protection operation plan.
3. Support and deal with disaster prevention and protection works.
4. Deal with command or coordination of the affairs of disaster prevention and protection, and noncompliance of Act in non-local administrative areas.
5. Where the disaster region involves the sea area and crosses over two municipal governments or county (city) governments, or where the disaster situation is significant and the municipal government or the county (city) government is unable to coordinate and process in due time.
6. Manage disaster resources, organize information, perform disaster prevention and rescue tasks, and cooperate with Ministry of Education and relevant agencies to conduct disaster prevention and protection education for all citizens.

Article 4
(Regulating Authorities)

The regulating authorities of the Act, at the central level shall be Ministry of the Interior; municipality, the municipal government; and county (city), the county (city) government.

The municipal or county (city) government and township (city) and indigenous districts offices handle the affairs of disaster prevention and protection according to Article 18, paragraph 11, subparagraph 2, and Article 19, paragraph 11, subparagraph 2, Article 20, paragraph 7, subparagraph 1, and Article 83-3, paragraph 7, subparagraph 1 as prescribed in the Local Government Act and the Act accordingly.

The affairs concerning disaster prevention and protection works conducted by offices subordinated to special municipality and city governments shall be determined by special municipality and city governments in accordance with the rules governing the township (city) offices based on the Act.

Article 5
(Essential Measures & Report)

The central regulating authorities of disaster prevention and protection may take essential measures of law, administration and finance for the purpose of Disaster Prevention and Protection, and shall report such actions to Legislative Yuan.

Chapter Two: Disaster Organization

Article 6
(Missions of Central Disaster Prevention and Protection Council)

The Executive Yuan established the Central Disaster Prevention and Protection Council in charge of the following missions:

1. To define the basic disaster prevention and protection guidelines;
2. To authorize Disaster Prevention and Protection Basic Plan and the disaster prevention and protection operation plans of the central regulating authorities;
3. To authorize important disaster prevention and protection policies and countermeasures;
4. To authorize emergency response and countermeasures in case of nationwide disaster;
5. To supervise, evaluate the performance of disaster prevention and protection of the central administration, municipal, and county (city) governments;
6. To supervise, promote post-disaster restoration and reconstruction measures;
7. Designate other disaster prevention and protection agencies that are not specified in the Act or other regulations; and the central regulating authorities thereof.
8. To carry out any other items as regulated by the law or regulations.

Article 7
There shall be one each of a convener and a deputy convener to be respectively chaired by the Premier and the Vice Premier of the Executive Yuan; and the secretary general and several commissioners to be assigned or employed on part-time basis from the incumbent ministers without portfolio, governors of related agencies, disaster prevention and protection experts and scholars by the Premier of the Executive Yuan for the Central Disaster Prevention and Protection Council.

To carry out the disaster prevention and protection policy authorized by the Central Disaster Prevention and Protection Council and to promote major disaster prevention and protection duties and actions, the Vice Premier of the Executive Yuan shall also chair the Central Disaster Prevention and Protection Commission, and the Executive Yuan established the office of disaster management, allocated with full-time staffs organized in different divisions to deal with related business.

The Disaster Prevention and Protection Expert Consultation Committee and National Science and Technology Center shall provide the Central Disaster Prevention and Protection Council and the Central Disaster Prevention and Protection Commission for disaster prevention and protection works of disaster prevention and protection consultation, facilitate research, development and implementation of disaster prevention and protection technology, and fortifying disaster prevention and protection policies and measurements.

To integrate and facilitate implementation of disaster prevention and protection, the Central Disaster Prevention and Protection Commission shall establish the National Rescue Command Center to command, supervise and coordinate personnel of functional authorities among related government agencies to carry out disaster rescue missions.

Article 8
(Missions of Municipal, County (City) Disaster Prevention and Protection Council)

The municipal, county (city) governments establish the municipal, and county (city) disaster prevention and protection councils in charge of the following missions:

1. To authorize the regional disaster prevention and protection plan of the municipality, or county (city);
2. To authorize essential disaster prevention and protection policy and countermeasures;
3. To authorize emergency response and countermeasures in case of disaster within its jurisdiction;
4. To supervise and evaluate related items of disaster prevention and protection within its jurisdiction;
5. Promote post-disaster restoration and reconstruction measures; and
6. To carry out any other items as regulated by the law or regulations.

Article 9
(Organization of the Municipal, and County (City) Disaster Prevention and Protection Councils)

There shall be one convener and one or two deputy conveners to be respectively chaired by the administrator and deputy administrator of municipal, county (city) government; and several commissioners to be assigned or employed on part-time basis from the military representatives, governors of related agencies and divisions, disaster prevention and protection experts and scholars by the municipal, county(city) mayor for the municipal, or county (city) disaster prevention and protection council.

The municipal, or county (city) office of disaster management shall deal with the affairs of the municipal, or county (city) disaster prevention and protection council.

The disaster prevention and protection expert consultation committee of the municipal, or county (city) government shall provide consultation for disaster prevention and protection works.

Article 10
(Missions of Township (City) Disaster Prevention and Protection Council)

The township (city) and indigenous districts offices establish the township (city) and indigenous districts disaster prevention and protection councils in charge of the following missions:

1. To authorize the regional disaster prevention and protection plan developed for the township (city) and indigenous districts;
2. To authorize essential disaster prevention and protection policy and countermeasures;
3. To promote and command refugee accommodation and settlement, organizing, reporting and evaluation of disaster situations, post-disaster restoration and reconstruction, execution of

emergency response measures, removal of barriers in the site of disaster, and implementation of disaster rescue countermeasures;

4. To promote community and tribal disaster prevention and protection affairs; and
5. To carry out any other items as regulated by the law or regulations.

Article 11
(Organization of Township (City) Disaster Prevention and Protection Councils)

There shall be one each of a convener and a deputy convener for the township (city) and indigenous districts disaster prevention and protection council. The chief of the township (city) and indigenous districts shall be the convener; the chief secretary or secretary of the township (city) and indigenous districts offices shall be the deputy convener; and several representatives from divisions designated in the regional disaster prevention and protection plan shall be assigned or employed as the commissioners on part-time basis.

The township (city) and indigenous districts offices of disaster management shall deal with the affairs of the township (city) and indigenous districts disaster prevention and protection council.

Article 12
(Establishment of Local Disaster Response Center)

In case of disaster takes place or the risk of a disaster presents, the municipal and county(city) government, or chief of township (city) and indigenous districts office shall establish and direct a disaster response center; and, depending on the severity of the disaster, establish a forward command post to handle disaster protection and administrative support affairs nearby.

The establishment timing, procedure and grouping of above-mentioned disaster response center or forward command post shall be enacted by the municipal, county (city) governments or township (city) and indigenous districts offices.

Article 13
(Establishment of Central Disaster Response Center)

In case of a major disaster or risk of such major disaster presents, the minister of the central regulating authorities of disaster prevention and

protection shall decide to establish Central Emergency Operation Center based on the severity, nature, conditions and influential factors, shall immediately report to the convener of Central Disasters Prevention and Protection Council and shall have the convener appoint a Central commander.

The aforesaid Central Emergency Operation Center may, based on the severity or the need to contact, establish the disaster response center or forward command post in an appropriate place to integrate disaster protection resources and assist local governments to implement disaster protection related affairs.

Article 14
(Establishment of Emergency Response Teams)

To handle disaster prevention and protection affairs or coordinate with the disaster response center of each tier in executing disaster response countermeasures in case of a disaster or risk of disaster presents, any agency, division or public enterprises designated in the disaster prevention and protection operation plan and regional disaster prevention and protection plan shall establish emergency response teams to execute all the response measures.

Article 15
(Joint Operation of Disaster Prevention and Protection Councils & Civil Defense Mobilization and Preparation System)

Governments at all tiers shall join the civil defense and all-out defense mobilization readiness system and related public and private schools, hospitals designated to take charge of emergency medical treatment, groups, enterprises, businesses and limited partnerships in implementing affairs related to disaster prevention and protection. The implementation rules thereof shall be formulated by the Ministry of the Interior together with related government agencies.

Article 16
(Establishment of Search & Rescue Organization)

Special search and rescue teams and the training centers of National Fire Agency, Ministry of the Interior; and search and rescue teams and training centers of municipal or county (city) government shall handle major disaster rescue, response and other related training affairs.

Chapter Three: Plan of Disaster Prevention and Protection

Article 17
(Draw-up & Review of Disaster Prevention and Protection Basic Plan)

The Disaster Prevention and Protection Basic Plan shall be drawn up by the Central Disaster Prevention and Protection Commission, through the authorization of Central Disaster Prevention and Protection Council, and then been informed in written by the Executive Yuan to all central regulating authorities of disaster prevention and protection business, and municipal, county (city) governments to handle disaster prevention and protection affairs accordingly.

The Disaster Prevention and Protection Basic Plan referred in the first paragraph herein shall be periodically reviewed, and from time to time if required.

The Executive Yuan shall submit the white paper of Disaster Prevention and Protection Basic Plan to the Legislation Yuan once annually for review and approval.

Article 18
(Contents of Disaster Prevention and Protection Basic Plan)

The Disaster Prevention and Protection Basic Plan shall include:

1. Overall long-term disaster prevention and protection plan;
2. Essential items of disaster prevention and protection operation plan and regional disaster prevention and protection plan; and
3. Any other items deemed necessary by the Central Disaster Prevention and Protection Council.

The Disaster Prevention and Protection Basic Plan, disaster prevention and protection operation plan and the regional disaster prevention and protection plan referred to in the first paragraph shall include following contents:

1. Related affairs of Disaster prevention;
2. Related affairs of Disaster emergency response and countermeasures;
3. Related affairs of recovery and reconstruction after disaster; and
4. Any other items deemed as necessary by the other administrative agencies, public enterprises, and municipal, county (city), township (city)and indigenous districts councils.

Article 19
(Draw-up and Report for Approval Procedure of Disaster Prevention and Protection Operation Plan of Public Enterprises)

Public Enterprises shall draw up the disaster prevention and protection operation plan according to the Disaster Prevention and Protection Basic Plan, and seek the authorization from the central regulating authorities of object enterprises.

The central regulating authorities of disaster prevention and protection business shall, within their jurisdiction, draw up the disaster prevention and protection operation plan according to the Disaster Prevention and Protection Basic Plan, seek the authorization from Central Disaster Prevention and Protection Council for implementation.

Article 20
(Draw-up & Report for Approval Procedure of Regional Disaster Prevention and Protection Plan)

The municipal or county(city) government shall draw up regional prevention and protection plan according to the Disaster Prevention and Protection Basic Plan, related disaster prevention and protection operation plans and potential characteristics of regional disasters, seek the authorization from respective disaster prevention and protection councils for implementation and report to the Central Disaster Prevention and Protection Council for reference.

Any regional disaster prevention and protection plan as set forth in the first paragraph herein shall never contradict to the Disaster Prevention and Protection Basic Plan and related disaster prevention and protection operation plans.

Special municipal or county (city) government shall adjust land use plan in compliance with regional disaster prevention and protection plans.

Township (City) and indigenous districts offices shall draw up regional disaster prevention and protection plan according to the disaster prevention and protection plan drawn by its superior organization and potential characteristics of regional disasters, seek the authorization from respective disaster prevention and protection councils for implementation and report to the superior disaster prevention and protection council for reference.

Any regional disaster prevention and protection plan as set forth in the preceding paragraph shall never contradict to the superior disaster prevention and protection plan.

Article 21
(Conflict solution)
Any pending conflict between disaster prevention and protection operation plans or regional disaster prevention and protection plans shall be reported to the Central Disaster Prevention commission of the Executive Yuan for settlement.

Chapter Four: Disaster Prevention

Article 22
To reduce the occurrence or prevent further expansion of disaster, various tiers of governments depending on its functional authorities shall implement following mitigation affairs; and encourage public and private schools, hospitals designated to take charge of emergency medical treatment, groups, enterprises, businesses and limited partnerships to actively organize or assist to organize it:

1. Draft, budget preparation, execution and review of the disaster prevention and protection plans;
2. Education, training, awareness-raising and professional knowledge development of disaster prevention and protection;
3. Research and development or application of results of disaster prevention and protection technology;
4. Mountain treatment, flood control and other conservation of homeland;
5. Inspection, reinforcement and maintenance of old buildings, important public building and disaster prevention and protection facilities and equipment, and improvement of urban disaster prevention and protection mechanism;
6. Observation, collection, analysis and establishment of essential meteorological, geological, hydraulic and other related information required for disaster prevention and protection;
7. Investigation of disaster potentials, hazardous degree, situation simulation and risk analysis, and publication of results as applicable;
8. Signature of mutual support agreement related to disaster prevention and protection among local governments and public enterprises;
9. Promotion, guidance, assistance, and encouragement to prevention and protection group and community voluntary organization of disaster prevention and protection;
10. Plan and promotion of disaster insurance;
11. Disaster prevention and protection supports for the disadvantaged minority;
12. Disaster prevention and protection works in indigenous districts after an incident.

13. Establishment, exchange and international cooperation of disaster prevention and protection information network;
14. Use various public places to promote disaster prevention and protection education for all citizens.
15. Promote community-based disaster prevention and protection works by training local residents or establishing a local volunteer organization.
16. Plan and promote to enhance enterprises' operating and disaster prevention and protection capacities.
17. Any other affairs related to disaster prevention.
18. Various tiers of governments shall include the mitigation affairs under the preceding paragraph to each prevention and protection plan.
19. Public enterprises shall depend on their disaster prevention and protection operation plan to implement mitigation affairs.
20. Pursuant to Item 7 of Para. 1 document to be published, regions, operational procedure and other related items of the disaster potentials, shall be reimbursed with the procedure to be enacted by the central disaster prevention and protection operation regulating authorities and the municipal government, or county (city) governments.

Article 23
(Preparation of Emergency Response Measures)

To effectively execute emergency response measures, various tiers of governments and related public enterprises depending on their functional authorities shall implement the following preparedness affairs:

1. Preparedness of disaster prevention and protection organizations;
2. Training and drill of disaster prevention and protection;
3. Disaster monitoring, forecast, warning announcement and facility reinforcement;
4. Collection, notification of Disaster situation and establishment, maintenance and reinforcement of communication facilities for commanding;
5. Storage and inspection of supplies and facilities for disaster prevention and protection;
6. Preparedness and inspection of facilities and equipment for disaster prevention and protection;
7. Improvement, reinforcement or detachment of barriers to disaster response countermeasures;
8. Coordination in international disaster rescue supports; and
9. Regular investigation, preparedness of public/private disaster protection machines and professional manpower, and establishment of a database. All information shall be provided to the central disaster prevention and protection operation regulating authorities for summarizing.
10. Provide priority to the use of communication media and communication equipment to disseminate emergency-related information.
11. Any other preparation affairs required for emergency response.

Various tiers of governments shall depending on their functional authorities to include the preparedness affairs under the preceding provision to each prevention and protection plan.

Public enterprises shall depend on their disaster prevention and protection operation plan to implement preparedness affairs.

To ensure the stream transmission of microwave communication for succeeding the responsive measures of disaster rescue, an efficient wireless transmission distance range shall be enacted and publicized duly by the Ministry of the Interior.

Before the enactment of Enforcement Rules for the Regional Plan Act, if the builder has had new construction or extension construction, a construction shall be obtained from the municipal, or county (city) government, provided one of the following requirements is met:

1. An improvement program has been approved by the Ministry of the Interior.
2. The builder has agreed to allow the Ministry of the Interior to adopt a revised minimum information transmission loss method in which a microwave radio or a satellite digital broadcast transmission is installed on the said building top to achieve stream communication.

The Ministry of the Interior shall compensate the builder a liquidated damages incurred from the improvement program adopted by or the microwave radio or satellite digital broadcast transmission installed on the said building top.

The builder shall obtain the nominal execution for reimbursing the liquidated damages provided an agreement of such liquidated damage is entered into between the two parties. The procedures, requirements, application deadline and the amount of liquidated damage and other relevant settlement affairs shall be reviewed and approved by the Ministry of the Interior.

Article 24
(Measures of Emergency Refuge)

In a case of a disaster or where there is a concern of a disaster, the municipal government, county (city) governments, or the township (city)and indigenous districts offices shall advise or force people to evacuate and provide proper settlement to protect the safety of people's lives and properties or prevent further expansion of disaster.

In the scope of necessary response to the disaster, the municipal government, or county (city) governments, township (city) and indigenous districts offices shall advise or force the owner of objects or items that may expand the disaster or interrupt the rescue to except the object or item, and to take applicable actions.

Article 25
(Training and Drill of Disaster Prevention and Protection)

Agencies of governments at all tiers, public enterprises, public and private schools, hospitals designated to take charge of emergency medical treatment, groups, enterprises, businesses, limited partnerships shall implement training and drills of disaster prevention and protection.

Governments at all tiers shall hold disaster prevention and protection education and propagation, whereas public enterprises, public and private schools, hospital designated to take charge of emergency medical treatment, groups and broadcasting media shall assist in promoting the implementation related events and designate personnel to participate in the activity together.

Governments at all tiers shall produce disaster protection educational video, propaganda, technical guidelines or other related diverse propagation and teaching materials; and shall broadcast or publish or promote or post them in public places.

To implement such training and drill of disaster prevention and protection as specified in Paragraph 1, relevant government agencies, public enterprises and other public and private schools, groups, enterprises, hospitals designated to take charge of emergency medical treatment, groups, enterprises, businesses and limited partnerships selected by governments at all tires are obligatory to participate or provide assistance.

Anyone who participates or assists in the training and drill as specified in Paragraph 1 shall be granted with an official leave by the government agency, public or private school, hospital designated to take charge of emergency medical treatment, group, enterprise, business and limited partnership thereof.

Article 26
(Assignment of Full-time or Part-time Disaster Prevention and Protection Staff)

Various tiers of governments and public enterprises shall assign full-time staffto execute disaster prevention works; while township (city) and indigenous districts offices could assign part-time staff before assigning full-time staff to execute disaster prevention and protection works.

Chapter Five: Disaster Response Countermeasures

Article 27
(Work Items of Imposing Emergency response countermeasures)

To execute emergency response measures, various tiers of governments shall depend on its functional authorities implementing the following subparagraphs:

1. Disaster alarm announcement and delivery, response and alert, people evacuation, rescue and refuge advise, information collection of disaster situation, survey report of loss, and provide priority to the use of communication media and communication equipment to disseminate emergency-related information;
2. Delimitation of precaution zones, traffic control, order maintenance and crime prevention;
3. Firefighting, flooding prevention and other response measures;
4. Providing temporary accommodation, social rescue and special protection measures for the disadvantaged minority;
5. Emergency cares for the children, youths and students suffered from the disaster;
6. Emergency handling of hazardous materials, facilities and equipment;
7. Infectious disease prevention and control, reject processing, environmental disinfection, inspection of food sanitation and any other public health affairs;
8. Search and rescue, emergency medical service and transportation of the injured;
9. Assist inspection and disposal of the bodies of victims and their belongings;
10. Supply and allotment of livelihood products and potable water;
11. Disaster prevention and emergency repair of water conservancy and agriculture;
12. Emergency repair of public facilities including railway, highway, bridge, mass transportation,

rapid transit system, airport, seaport, public gas and fuel pipeline, power transmission line, telecommunication, tap water, and agricultural fishery.

13. Emergency evaluation of hazardous buildings;
14. Preservation and disposal of drift, sunk objects and other objects from the salvation;
15. Complete documentation of the disaster response course; and
16. Any other affairs taken in response to disaster and prevention from its expansion.

Various tiers of governments shall include the response affairs under the preceding paragraph to each prevention and protection plan.

Public enterprises shall depend on their disaster prevention and protection operation plan to implement response affairs.

Pursuant to Item 13 of Para. 1, applicable disaster types, timing of implementation, operating personnel, procedure, posting of danger signs in case of emergency evaluation of hazardous building shall be enacted by Ministry of the Interior.

Article 28
(Commanding Authority & Operation Venue of Disaster Response Center)

Upon creating the disaster response center at each tier, the governor of every grouping organization shall either in person or designatepersonnel of functional authority to station in the center and execute the disaster response works. Then the response center commander shallbe in charge of commanding, coordination and integration.Each tier of disaster response center shall maintain a permanent venue for its operation, keep sufficient equipment of disaster prevention andprotection, and hold periodical drills.To prevent Central Disaster Prevention and Protection Center from failing to cope with the disaster or to implement responsive measures inthe case of cross-municipality or cross-county (city) disaster, Remote Disaster Backup and Recovery Center shall be established.

Article 29
(Responsibility to Notify Disaster Situation and Take Essential Measures)

Anyone shall take initiative to report any disaster or the risk of a disaster to the fire or police department, the village master or secretary.

Upon receiving the report, the department or the personnel as set forth in the preceding paragraph shall promptly take essential measures.

Upon discovering, being notified of a disaster situation or the risk of a disaster, the government at each tier and the public enterprises should take the initiative to collect and communicate related information on the disaster situation and promptly make necessary disposal.

Article 30
(Items of Disposal or Injunction made subject to the extent for disaster response)

After establishment of disaster response centers, the commander of the disaster response center may, subject to the extent necessary for disaster response, make the following affairs under the name of the agency designated by the commander:

1. Announcement and execution of emergency response measures.
2. Delimit a precaution zone to limit or forbid people to enter or order to leave by issuing temporary pass.
3. Specify some interval within a road, water area, and/or an air altitude to limit or forbid passages of vehicles, sea vessels and aircraft;
4. Requisition related professionals, technicians and operating personnel for purchased resources for their assistance in rescue;
5. Requisition and purchase of private searching dog, salvation tools, vehicles, sea vessels, or aircraft, land, water rights, buildings and work objects;
6. Command, supervise and coordinate among national army, fire department, police department, coast guard, related government agencies, public enterprises, organization of reserve force, civil defense organization, community disaster prevention and protection groups and civil voluntary organizations of disaster prevention and protection in carrying out disaster rescue works.
7. Demolish of hazardous building, work object, and removal of barriers in the site of disaster;
8. Having the top priority to use the media and communication equipment to collect and broadcast the disaster situation and related information of emergency response;
9. Application and reception of overseas disaster protection organizations combing to Taiwan for disaster protection operations; disaster-affected areas in charged thereby; and related coordination and contact.
10. Organize, calculate, report and evaluate disaster situation.
11. Any other required response disposal.

Where the commander of the disaster response center designates an agency to take a disciplinary action other than issuing a temporary pass as prescribed in Paragraphs 2 and 3 of the preceding articles shall make a public announcement and publish it on a government notice, newspaper, by SMS, or by other means that are sufficient for the purpose of disclosure; and the same shall apply to the revocation, annulment and modification thereof.

In the event that any one in distress by violating the requirements set forth in Paragraph 1, Subparagraphs 2 and 3 has been rescued by the disaster response center, the disaster response center may send a written request for the reimbursement of salvation expenses from the one so rescued or the responsible enterprise; executive agency, timing and procedure to make the reimbursement request and other related affairs shall be enacted by Ministry of the Interior.

Pursuant to Item 6 of Paragraph 1, grouping, training, assisting disaster relief and other related affairs of the civil defense organization, community disaster prevention and protection groups and civil voluntary organizations of disaster prevention and protection shall be enacted by Ministry of the Interior.

No one shall evade, hinder or reject any disciplinary actions taken by the agency in accordance with Paragraphs 4, 5, 7 and 8 of Paragraph 1.

Article 31
(Injunction Taken to the Essential Supplies Dealer for the Implementation of Disaster Response Countermeasures)

For the purpose of implement those countermeasures set forth in Article 26.1 and 27.1, government at each tier may issue injunctive order todealers who manufacture, transport, vend and are in custody

of those supplies needed for the implementation, to have those supplies undercustody or requisition. To execute the penalty under the preceding paragraph, the government may dispatch personnel with ID to enter the business place of any ofthose businesses or the place where the materials are stored for inspection.No one shall evade, hinder or reject disciplinary actions taken by governments at all tiers in accordance with Paragraph 1 and any checkconducted thereby in accordance with the preceding paragraph.

Article 32

Governments at all tiers may purchase insurance for personnel carrying out disaster prevention and protection works in accordance with theAct; dispatched professionals and technicians; and operating personnel of the requisitioned materials

Article 33

(Reimbursement Regulations for Carrying out Requisition)Any requisition, purchase or priority use made under the Act shall be reimbursed or compensated with the operating procedures,compensation standards, payment methods and other related matters to be enacted by Ministry of the Interior.

Article 34

(The Range, Method and Duration for Civilian to Claim for Damage Amends)

Any civilian sustaining loss to his/her properties as a result of the disposal, injunctive action or order made pursuant to Article 24.2, Article30.1.1 to Article 30.1.3, Article 30.1.7 and Article 30.1.11 of the Act and penalty of custody pursuant to Article 31.1 of the Act may claim for damage amends unless such loss is attributable to the civilian.

Pursuant to the preceding paragraph, the damage amends shall be paid in money and at a sum not greater than the loss as incurred.

Article 35

(The Item and Procedure of Request Superior Organization to Support in Disaster Disposal)
If the township (city) or indigenous districts office fails to cope with a disaster, the special municipal or county government shall take theinitiative to send its employees to provide the support, or assign coordinators to provide support and assistance as requested by the township(city) or indigenous districts office.If the municipal, or county (city) government fails to cope with a disaster, the central disaster prevention and protection operation regulatingauthorities shall take the initiative to send its employees to provide the support, or assign coordinators to provide support and assistance asrequested by the special municipal, or county (city) government.Items and procedure of support referred in the first two paragraphs herein shall be separately enacted by the central disaster prevention andprotection operation regulating authorities and the municipal or county government. If the municipal, or county (city) government, or the central disaster prevention and protection operation regulating authorities fails to copewith the disaster, it may request supports from the national army. However, the national army shall actively support responsive measures ofmajor disaster rescue.The Ministry of National Defense shall mobilize reserved servicemen’s organizations to support responsive measures of major disaster rescueas provided in the preceding paragraph.

The procedures for requesting rescue support or active support for responsive measures of disaster rescue from national army, arrangementand dispatch of national defense force, commanding and coordination, negotiation and communication, education and training of disasterrescue affairs, the schedule of duty operation and other relevant operation regulations as prescribed in the fourth paragraph therein shall beduly enacted jointly by the Ministry of National Defense and the Ministry of the Interior.

Article 36
(Classification, Content and Announcement of Alarm Signal Required in Emergency response)
Unless otherwise provided by other laws, the classification, content, method and announcement timing of alarm signals needed during theemergency response, shall be drawn up by each central disaster prevention and protection operation regulating authorities to seek theapproval from the Executive Yuan for publication.Alarm signals referred in the first paragraph and any similar signals shall not be used unless otherwise permitted.

Chapter Six: Recovery & Reconstruction after Disaster

Article 37
(Implementation of Recovery & Reconstruction after Disaster)

Various tiers of governments and related public enterprises shall implement recovery and reconstruction after a disaster according toapplicable laws and disaster prevention and protection plan while encouraging public and private schools, hospitals designated to take chargeof emergency medical treatment, groups, enterprises, businesses and limited partnerships to actively provide supports.1. Investigate, study, evaluate and analyze disaster situations and needs of victims in disaster-affected areas.2. Authorize and implement program and proposals for recovery and reconstruction after a disaster.3. Record and allot volunteers.4. Distribute and handle donated resources and money and allocate relief.5. Attend to casualties, settle people from disaster-affected areas and maintain order in disaster-affected areas.6. Medical care, epidemic prevention and psychological counseling.7. Rebuild school dormitories and its supplementary public facilities.8. Schooling and boarding of affected students.9. Approve or assist the drafting of urgent repair and recovery of heritage, historical sites and memorial and settlement buildings.10. Emergency responses, including investigation of damage of heritage, historical sites and memorial and group buildings, urgency repairand reinforcement.11. Safety evaluation and handling of damaged structures.12. Recovery of houses, public buildings, urban renewal and handling of land ownership.13. Repair utilities including water conservancy, soil and water conservation, environmental protection, tele-communications, electricity,water, oil and gas, and regulate resource supplies.14. Repair tracks, roads, bridges, mass transportation, airports, ports and agriculture and fisheries.15. Environment disinfection and reject processing.16. Employment services for people and reconstruction of industry.17. Investigation on the cause of disaster or accident.18. Other issues related to recovery and reconstruction.Various tiers of governments shall include the mitigation affairs under the preceding paragraph to each prevention and protection plan.Public enterprises shall depend on its functional authorities depend on its disaster prevention and protection operation plan to implementmitigation affairs.

Article 38
(Creation & Dismissal of Reconstruction Promotion Commission)

To execute recovery and reconstruction after a disaster, government at each tier may create a tasking commission to promote thereconstruction with members assigned from all agencies concerned. The reconstruction promotion commission may only be dismissed upon the completion of the recovery and reconstruction after a disaster.When the reconstruction promotion commission dissolves, governments at all levels shall, according to the nature of the post-disasterrestoration and reconstruction plan, designate regulating authorities to review and revise the following plan.

Article 39
In case of traffic interruption or where damage of public utilities concerns safety of people due to occurrence of disaster, various tiers ofgovernment shall simplify administrative procedures and shall not be subject to Regional Planning Act, Urban Planning Law, Water and SoilConservation Law, Slopland Conservation and Utilization Act, Forest Law, Water Act, National Park Law and other restrictions from relatedlaws or acts in order to make urgency repairs or reconstruction.Measures governing matters related to the simplified administrative procedures that are not subject to related laws or acts under thepreceding paragraph shall be defined by the central disaster prevention and protection operation regulating authorities.

Article 40
Where normal living conditions in disaster-affected areas are affected due to occurrence of disaster, various tiers of government shall, interms of delimiting, acquiring, altering, evaluating, managing, protecting land and building, simplify administrative procedures and shall notbe subject to Regional Planning Act, Urban Planning Law, Construction Law, Urban Renewal Regulation, Environmental Impact Assessment

Law, Water and Soil Conservation Law, and other restrictions from related laws or acts in order to provide proper settlement fordisadvantaged minority or to adopt reconstruction works in disaster-affected areas.Measures governing matters related to the simplified administrative procedures that are not subject to related laws or acts under thepreceding paragraph shall be defined by the central disaster prevention and protection operation regulating authorities.

Article 41
Central Disaster Prevention and Protection Commission shall cause the financial institutions to provide loans at lower interest rate to meet thefunds required for reconstruction or repair by the people from the disaster-affected areas.Central Disaster Prevention and Protection Council shall approve the ceiling amount of the loans, interest subsides, and loan operationprocedure for the purpose of the first paragraph herein. The ceiling amount for interest subsides shall be paid from the budget prepared by thegovernment of each tier. In deciding the range of interest subsides, the extent of damage the people suffered from the disaster and theircapability of independent reconstruction shall be taken into consideration.

Article 42
Self-use residence purchased by people from disaster affected areas with a mortgage may have the house and land offset against the loan uponthe consent of original loan financial institution if governments at all levels have determined that the residence is severely damaged during thedisaster and can no longer be used. The interest of the leftover loan for the remaining years shall be

subsidized by the Ministry of the Interior.The scope, method, procedures and rate of subsidized interest mentioned in previous Paragraph, the determination of a self-use residencethat is severely damaged during the disaster and can longer be used, and other related matters to follow shall be defined by the Ministry of theInterior with relevant agencies.Financial institution that bear or dispose the house or land mentioned in Paragraph 1 shall not be bound by Article 75 and 76 of The BankingAct and Article 146-2 of Insurance Act.

Article 43

Regarding all types of loans and credit card debt applied by people in disaster affected areas before the disaster, financial institution shallextend the repayment schedule of the principal and accounts payable. The interest during the extension shall not be charged to the victim andsubsidized by the central government accordingly. The subsidy scope, extension period, operating procedures and other related matters tofollow shall be defined by Financial Supervisory Commission with relevant agencies.If the term of loan exceeds thirty years due to the extension of capital payment as stated in the preceding paragraph, it shall not be bounded byArticle 38 of The Banking Act.

Article 44

All types of relief assistances, monetary condolences or pays for temporary jobs are exempted from tax.Profit-seeking enterprises that donate relief and reconstruction assistances to people from disaster affected areas through organizations orinstitutions stated in Paragraph 4 of Article 11 of Income Tax Act shall list the said assistances as the annual expense or loss while filingincome tax return. The said assistance shall not be limited by the total amount and is not applicable to Paragraph 2 of Article 36 of IncomeTax Act.Lands and buildings in disaster affected areas that have reached certain qualifications may be exempted from land and house taxes.The certain qualifications mentioned in the preceding paragraph and the time limit and scope of reduction shall be defined by municipalityand county (city) governments in disaster affected areas according to autonomy regulations and shall be reported to the Ministry of FinancialAffairs for reference.The relief assistances, monetary condolences or pays for temporary jobs mentioned in Paragraph 1 shall not be used for seizure, offsetting, guarantee or enforcement.

Article 45

For National Health Insurance beneficiaries in disaster affected areas, their national health insurance fees, part of disaster-related medicalexpenses, and general food expenses during the hospitalization within a certain period of time after the disaster shall be supported by thecentral government and private donations. This applies to those who come from disaster-affected area and who are not covered by theNational Health Insurance, where the disaster-related medical expenses and general food expenses during the hospitalization will be coveredaccordingly.Before disaster affected areas are announced, in the event of a large number of disaster-affected patients requiring treatment, the Ministry ofHealth and Welfare may designate a large-scale disaster-affected patient area. The disaster-affected people in this area seek medical treatmentapproved the provision in the preceding paragraph concerning the medical expenses and general food expenses during the hospitalization isapplicable mutatis mutandis to disaster-affected patients.The qualification, conditions,duration of the applicable target as prescribed in Paragraph 1 and the delineation procedure of the area of largenumber of disaster-affected patients and other related matters shall be defined by the Ministry of Health and Welfare.

Article 46
For insured people in disaster affected areas, their farmer health insurance, national pension insurance, labor insurance and employmentinsurance within a certain period of time after the disaster shall be paid by the central government.The insured of labor insurance who are suffered from injury or disease due to natural disaster may apply for injury or sickness benefits. Thecentral government shall support required budget accordingly.

The qualification of the insured, claiming terms, payment amount, period and other related matters to follow shall be defined by the Ministryof the Interior, Ministry of Health and Welfare and Ministry of Labor.

Article 47
Whereas low income households in disaster affected areas that fail to apply for preferential financing or other subsidies offered by thegovernment have received venture financing loans from financial institutions, the Ministry of Health and Welfare shall subsidize loanfinancial institution the interest and the loan amount shall not exceed NT$1.500,000The amount of subsidized interest, application procedures and other related matters shall be defined by the Ministry of Health and Welfarewith relevant agencies.

Article 48
Whereas farms, fish farms and other agricultural facilities that are used as collaterals for the loans are totally damaged or lost, the financialinstitution shall bear it according to the leftover amount of loan.Financial institution that bears such loss as stated in the preceding paragraph may be subsidized by the government, where the subsidy canreach 80% of the amount covered by the financial institution at maximum. The subsidy scope, method, procedure and other related matters tofollow shall be defined by Ministry of Agriculture with Financial Supervisory Commission.

Article 49
Whereas Enterprises in disaster affected areas suffer from operational difficulty due to the disaster, the central industry competent authoritymay provide assistance.The determination of operational difficulty stated in the preceding paragraph, assistance measures and standards, and other related mattersto follow shall be defined by the central industry competent authority and approved by Executive Yuan.Where enterprises in disaster affected areas suffered from operational difficulty due to the disaster have applied loans before the disaster, thedeadline of their repayment of principal and interest may be extended or the interest derived therefrom may be reduced or exempted.Regarding the extension stated in the preceding paragraph, circulating fund may be extended for one year at maximum, whereas capitalfinancing may be extended for 3 years at maximum.Regarding the loss of interest during the agreed extension or interest reduction/exemption period stated in Paragraph 3, a financialinstitution will be subsidized by the central industry competent authority.Where disaster impacted enterprises have applied for loans from financial institution as the working capital in their operation recovery plan,they may have their loan interest subsidized if the loan was applied for circulating fund (one year at maximum) or capital financing (threeyears at maximum).When the loan stated in the preceding paragraph deemed necessary, relevant credit guarantee fund may provide credit guarantee percentageshall be 90%. During the insurance application, guarantee transaction fees shall not be charged to disaster impacted enterprises.The scope and operating procedures of subsidy and other related matters as stated in the preceding two Paragraphs shall be defined by thecentral industry competent authority.

Article 50
People in disaster affected areas who file civil litigation against the persons liable for their damages are free from court costs and executionfees provisionally when they appeal to the courts for compulsory enforcement.Where disaster victims apply for provisional attachment or provisional injunction to ensure compulsory enforcement as stated in thepreceding paragraph, the amount of money that the court requires as a guarantee in accordance with The Code of Civil Procedure shall be nomore than one-tenth of the price or value of the claim.The guarantee stated in the preceding paragraph may be provided in the form of a executive guarantees issued by the competent authority. Where people in disaster affected areas won the appeal according to the final judgment, the Court shall on its own initiative declare aprovisional execution. The guarantees provided by the court for the declaration of provisional execution are applicable to rules stated in thepreceding two paragraphs.

Article 51
Disaster affected areas stated from Article 42 to the preceding article refers to severe casualties or destruction or damage of the buildings. Itsrange shall be announced by Executive Yuan and be published in Government Notices.

Article 52
With respect to the land use rights offered by a public land management agency or public enterprise without charges, if the government or aprivate unit certified by the government constructs buildings and transfer them to people from disaster-affected areas, the said areas shall notbe the subject of compulsory enforcement.

Chapter Seven: Penal Provisions

Article 53
Punishment for anyone taking advantage of disasters to commit theft, fraud, offenses of kidnapping for ransom, plunder and robbery shall beincreased up to one and a half in accordance with Criminal Law.Informants who report untrue information about disasters despite the fact that they perfectly know the information is untrue as specified inParagraph 1 of Article 29 shall be fined from NT$300,000 to NT$500,000.Anyone who spreads rumors or untrue information about disasters and thus causes damage to the public or other people shall be subject toimprisonment for not more than three years, detention or a fine not more than NT$1,000,000.

If the commission of an offense specified in the preceding paragraph results in the death of others, the offender shall be sentenced to lifeimprisonment or imprisonment for not less than seven years; if it results in serious physical injury, the offender shall be sentenced toimprisonment for not less than three years but not more than ten years.

Article 54
(Penalty on Violation of Requisition, Priority Use or Custody)

Any of the following offenses shall be subject to a penal sum not less than NT$100,000 and not greater than NT$500,000:1. Violate Paragraph 5 of Article 30. That is, evade, hinder or reject agencies' request of making any requisition, purchase or priority use asprescribed in Subparagraph 4, 5 or 8 of Paragraph 1 of the same article.2. Violate Paragraph 3 of Article 31. That is, evade, hinder

or reject the requisition, purchase or custody request made by government at alltiers in accordance with Paragraph 1 of the same article.

Article 55
(Penalty on Violation of Delimitation, Mandatory Demolishment & Abuse of Alarm Signals)

Any of the following offenses shall be subject to a penal sum not less than NT$50,000 and not greater than NT$250,000:1. Violate enforcement measures or appropriate handling as described in Paragraph 2 of Article 24.2. Accessing the precaution zone delimited by an agency as described in Subparagraph 2 of Paragraph 1 of Article 30 without a temporary passor refusing to follow the order to leave the said precaution zone.3. Violate Subparagraph 3 of Paragraph 1 of Article 30. That is, access the road, water area or an air altitude designated by the agencyaccording to provisions of the same subparagraph.4. Violate Paragraph 5 of Article 30. That is, evade, hinder or reject the demolishment or removal conducted by the agency in accordance withSubparagraph 7 of Paragraph 1 of the same article.5. Violate Paragraph 2 of Article 36. That is, use alarm signals needed during the emergency response without a permission.Paragraph 1 of Article 39(delete)

Article 56
(Penalty on Violation of Emergency Response Measures and Inspection)

Any of the following offenses shall be subject to a penal sum not less than NT$30,000 and not greater than NT$150,000:1. Violate Paragraph 3 of Article 31. Avoidance, interference or refusal with the inspection conducted by governments at all levels as prescribedin Para. 2 of the same articles.2. A major damage caused by public enterprises' Violation Paragraph 3 of Article 22, Paragraph 3 of Art. 23, Paragraph 3 of Article 27,Paragraph 3 of Article 37. That is, failing to implement disaster reduction, preparedness or response or post-disaster restoration orreconstruction works according to Plans of Disaster Prevention and Protection.3. A major damage caused by public enterprises' Violation of Paragraph 3 of Article 29. That is, failing to collect and communicate relatedinformation on the disaster situation and promptly making necessary disposal.4. A major damage caused by public enterprises' Violation of Subparagraph 6 of Paragraph 1 of Article 30. That is, failing to exercisecommand, supervision and coordination.

Chapter Eight: Supplementary Provisions

Article 57
(Adjustment & Application of Disaster Prevention and Protection Expenditures)

Expenditures needed to implement disaster prevention and protection under the Act shall be duly prepared with the budgets by thegovernment at each tier according to those affairs to be undertaken as set forth in the Act.Receipts and expenditures of the current fiscal year may be adjusted as applicable without being subject to Articles 62 and 63 of Budget Actwhen such adjustment is required in the event that the budget prepared for the expenditures of disaster prevention and protection isinsufficient to pay the costs of the response measures during the disaster, and the recovery and reconstruction after the disaster.Where the situation described in the preceding Paragraph has been approved by Executive Yuan, it shall not be bounded by restrictions setforth in Article 23 of the Budget Act.

Article 58
Where a township (city) or indigenous districts office is unable to afford post-disaster restoration and reconstruction costs derived from amajor natural disaster, the case may be reported to the county or special municipal government subordinated thereto for a subsidy.Where the municipal or county (city) government is unable to cover the said expenditure, it shall request subsidy from Central Government.Pursuant to the preceding two paragraphs, timing of the application for the subsidy, qualifications, guidelines, and request procedure shall bereimbursed with the procedure to be enacted by the respective county or special municipal government and Executive Yuan.

Article 59
(Application of Civil Donation for Disaster Relief)

Where the disaster relief funds donated or gifted by the private sector is organized or handled by the government for disaster response,restoration and reconstruction, the said conducts shall be in compliance with Charity Donations Destined for Social Welfare FundsImplementation Regulations.

Article 60
(Commendation of Disaster Prevention Merits)

Any agency, prevention and protection group, prevention and protection voluntary organization or individual that or who has given extraordinary contributions to the following national disaster prevention and protection education shall be duly commended by thegovernment of each tier:1 Private sector set up disaster prevention and protection education facilities and venues in public and private idle spaces or buildings.2. Citizens serve as volunteers in disaster prevention and protection education.3. Private enterprises provide funds, facilities or other resources to promote national disaster prevention and protection education.Regulations governing the qualifications, conditions, scope of application, review procedures, review standards, methods of commendationand other related matters of the recipient referred to in the preceding paragraph shall be defined by the central disaster prevention andprotection operation regulating authorities.

Article 61
(Compensation for the Wounded and Dead Suffered from Carrying out Disaster Prevention and Protection Action)

Any one carrying out disaster prevention and protection could get allowence, and who becomes injured, ill, disabled, or dead in the course ofcarrying out disaster prevention and protection action under the Act, payment(s) shall be paid according to the following requirements:1. Injury or ill: a certificate for such injury or ill issued by the government shall be produced to a public hospital or a contracted hospital toreceive medical care: Provided, however, that medical care may be sought from any hospital in case of emergency.2. Disabled: the disabled payment shall be paid in a lump sum depending on the gravity of the injury as follows:(1) Extremely severe and severe degree: 36 cardinals;(2) Intermediate degree: 18 cardinals; or(3) Mild degree: 8 cardinals.3. Death in the event: 90 cardinals of pension is payable in a lump sum4. Disabled and then dead within one year after the event: payment in a lump sum to make up the deficiency as provided in the precedingsubparagraph. For the purpose of this Article, the amount of one cardinal shall not be less than that of a monthly remuneration of an annual remunerationpayable to a civil servant of the fifth post rank. The authentication of the disabled degree set forth in the second paragraph shall be determined pursuant to “People with Disabilities RightsProtection Act” and related regulations.All expenses required for

the allowance as described in Paragraph 1 shall be approved by governments at all levels and public enterprises.All expenses derived from the payments as described in Paragraph 1 shall be budgeted and approved by governments at all levels.

Article 62
Where a person is missing due to disaster, the court shall confirm his or her death and time of death according to application of stakeholder orprosecutor even though the body has not been found yet. The application in the foregoing paragraph shall be made within one year after the disaster.The missing person in the first paragraph is presumed to be dead at the time confirmed by the court's final judgment.Regarding the final judgment on the death and time of death and revocation or amendment to the said judgment, matters concerning thedeclaration of death by the court stated in Family Act shall be applicable if no regulation has been made in the Act.A public summon shall be made for court permitted applicant stated in Paragraph 1. Besides, Paragraph 3 and 4 of Article 130, and Paragraph2 of Article 156 of Family Act are applicable in the case. The filing period shall be three weeks to two months, from the date of publication

Article 63
(The Enactment of Disaster Prevention and Protection Category and Standard)

Categories, types, standards and related matters for the purpose of supports to be provided for the disaster shall be unified and specifiedjointly by the central disaster prevention and protection operation regulating authorities and the municipal, or county (city) governments.

Article 64
(Certification of Civil Voluntary Organization of Disaster Prevention and Protection)

Registration and work permit for prevention and protection group of the emergency response measures or prevention and protectionvoluntary organization shall make recordation with the municipal government, county (city) government; filing requirements of recordation,expiry date, abandonment, guidance and other related matters shall be prepared by Ministry of the Interior. The government shall insure against accident insurance and help provide salvation equipment for prevention and protection group orprevention and protection voluntary organization in record under the preceding provision.

Article 65
(Enforcement Rules)

The Enforcement Rules of the Act shall be enacted by Ministry of the Interior.

Article 66
The Act shall become effective on the date of promulgation.

Risk Index

Many global reports and indices exclude Taiwan, and this exclusion extends to natural disaster and humanitarian crisis indices. Since 1971, Taiwan has not been recognized as a member-state of the UN, making its inclusion difficult in any index sponsored by a UN entity. Additionally, if an index uses data from sources that differ in their treatment or categorization of Taiwan data (e.g., as its own entity versus grouped together with PRC), Taiwan's data is often excluded to maintain methodological consistency in the presentation of data across all countries.

Taiwan is not in the INFORM Risk Index, which measures the risk of disasters and humanitarian crises in 191 countries. INFORM is a collaboration of the UN's Inter-Agency Standing Committee Reference Group on Risk, Early Warning, and Preparedness with the European Commission.[506]

Taiwan does not have its own entry in the WorldRiskReport by Bündnis Entwicklung Hilft, which assesses the risk that a country will experience disasters. The report covers 193 countries, with the 2025 edition stating, "Only countries that are United Nations member states are considered." The 2022-2024 editions of the report state, "Due to differences in the treatment of the territories of Kosovo, Palestine, and Taiwan, they were allocated to the territories of Serbia, Israel, and China for methodological reasons…[which] does not reflect political positions or the acceptance of legal or political claims."[507]

While Taiwan does get mentioned in some indices focused on the risk of conflict-related crises that cite the potential for conflict with PRC,[508] Taiwan is excluded from many global indices focused on natural disaster risk. Taiwan is included in the EM-DAT by Belgium's Centre for Research on the Epidemiology of Disasters, albeit as "Taiwan (Province of China)." EM-DAT is a database of raw data on natural disaster occurrences, not an analysis-based index or report. EM-DAT informs the Climate Risk Index, which is at least one disaster-related index that includes Taiwan, albeit as "Chinese Taipei."

Climate Risk Index

The Climate Risk Index (CRI) by Germanwatch analyzes how climate-related extreme weather events affected countries in past years in absolute and relative terms. Note, CRI only covers the following hydrometeorological and climatological hazards:

- Flood (e.g., general, flash flood, riverine flood)
- Mass movement, wet (e.g., mudslides, landslides, avalanches)
- Storm (e.g., tropical cyclone, tornado, and other wind, rain, or snow storms)
- Extreme temperature (e.g., heat wave, severe cold)
- Wildfire
- Drought
- Glacial lake outburst

The CRI does not include earthquakes, which pose a high risk to Taiwan, or volcanic eruptions. Additionally, CRI does not include slow-onset climatological processes such as rising average temperatures and sea levels.

The 2026 CRI ranks 174 countries by their economic and human impacts (fatalities and affected, injured, and homeless people), with 1 indicating the most affected country. For recent single years, it ranked Taiwan (listed as "Chinese Taipei") at 48 for 2024 and 58 for 2023. It also looked at impacts over the preceding 30-year periods and ranked Taiwan at 70 for the 1995-2024 period, and at 67 for the 1994-2023 period. A ranking closer to 1 than 174 indicates either frequent smaller-scale events or rare massive events. Taiwan's average of 3-5 annual typhoons, which also lead to flooding and mass movement, are frequent events that contribute to the rankings reflecting Taiwan as relatively more affected by extreme weather disasters.[509]

Additional Resources

This appendix provides additional references, with links, to enable readers to find relevant and contextual information.

International and U.S. Government Sources
Circular Taiwan Network https://circular-taiwan.org/en/learn/sdgs/ **United Nations Sustainable Development Goals** https://sdgs.un.org/goals *Through Circular Taiwan Network, Taiwan strives to meet and tracks its own progress toward the UN Sustainable Development Goals (SDGs), despite the UN not recognizing Taiwan as a member state. The 17 SDGs are a result of the 2030 Agenda for Sustainable Development, which was adopted by UN Member States in 2015. The SDGs are a call for action for all countries to work towards ending poverty, reducing inequality, and improving health and education, among other development goals.*
American Institute in Taiwan (AIT) https://www.ait.org.tw/
Travelers' Health U.S. Centers for Disease Control and Prevention https://wwwnc.cdc.gov/travel/destinations/traveler/none/taiwan

CFE-DM (Taiwan-specific)
A Rapid Assessment of Humanitarian NGOs in Taiwan (August 2024) by O. Parker, CFE-DM (Academic Partnership Program) & University of Maryland https://www.cfe-dmha.org/LinkClick.aspx?fileticket=LHH0cuiBMAA%3d&portalid=0
The Resilience of Taiwan's Energy and Food Systems to Blockade (August 2023) by J. Rice, CFE-DM (Academic Partnership Program) & University of California San Diego https://www.cfe-dmha.org/LinkClick.aspx?fileticket=sJ7hhDPJFl8%3d&portalid=0
Taiwan's HADR Posture: Context, Capacity and GPC Implications (2021) by C. Johnson in The Liaison, Vol. 13, Issue 1, 2021, p. 12-23 https://www.cfe-dmha.org/LinkClick.aspx?fileticket=ZY0LUUs74Uo%3d&portalid=0
Every Citizen a Guardian: Building Taiwan's Complex Emergency Resilience from the Bottom-up with Community-based Disaster Risk Management (December 2022) by R. Fine, CFE-DM (Academic Partnership Program) & University of Hawai'i at Mānoa https://www.cfe-dmha.org/LinkClick.aspx?fileticket=IRUH6W0-MJ0%3d&portalid=0
Disasters in Taiwan: The Imperative of a National Standardized Approach (September 2021) by A. Rainey, CFE-DM (Academic Partnership Program) & U.S. Army (SFL-TAP Program) https://www.cfe-dmha.org/LinkClick.aspx?fileticket=TIC_5O_llGI%3d&portalid=0
An Introduction to Humanitarian Assistance and Disaster Relief (HADR) and Search and Rescue (SAR) Organizations in Taiwan (2021) https://www.cfe-dmha.org/LinkClick.aspx?fileticket=LnhWX9fBboY%3d&portalid=0
Conclusion – Looking to Taiwan, of "Navigating Green Corridors in Ukraine" (2024) by R. Gillah in The Liaison, Vol.16, Issue1, 2024, p. 84-85 https://www.cfe-dmha.org/LinkClick.aspx?fileticket=j7fmXK2uwhs%3d&portalid=0

Taiwan (English language)
Basic Plan of Disaster Prevention and Protection: 2024-2028 (December 2023) Central Disaster Prevention and Protection Commission https://www.ey.gov.tw/File/78B824DE23BBBA99
In Case of Crisis: Taiwan's National Public Safety Guide (21 September 2025) All-out Defense Mobilization Agency, Ministry of National Defense https://adma.mnd.gov.tw/files/web/191/file_up/100004/66/InCaseofCrisisTaiwanPublicSafetyGuide.pdf *Taiwan's civil defense guide, also known as the little orange book, addresses natural disasters and potential conflict. Printed copies were distributed to Taiwan households in late 2025.*

Regional/International: Coordination, Historical overview
Asia-Pacific Regional Guidelines for the Use of Foreign Military Assets in Natural Disaster Response Operations ("APC-MADRO Guidelines") The Asia-Pacific Conferences on Military Assistance to Disaster Relief Operations (APC-MADRO) & OCHA, 2014. https://www.unocha.org/publications/report/world/asia-pacific-regional-guidelines-use-foreign-military-assets-natural-disaster-response *Reference guide for states planning and executing foreign military support for regional disaster response. The APC-MADRO reflects international guidelines although Taiwan was not a participant in its formulation.*
Multinational Force Standing Operating Procedures (MNF SOP) – Annex C: Humanitarian Assistance/ Disaster Relief Multinational Planning Augmentation Team (MPAT), U.S. Indo-Pacific Command https://community.apan.org/wg/mnfsop/m/documents/307456 (D1 C1/ PDF pg. 869) *Annex on international humanitarian assistance; part of broad standing procedures for regional multinational force operations other than war.*
USINDOPACOM Foreign Disaster Response in the Indo-Asia-Pacific April 1991 – January 2024 CFE-DM, U.S. Indo-Pacific Command. https://www.cfe-dmha.org/Publications/New-Releases *Contemporary historical synopsis of foreign disasters that U.S. armed forces responded to in the Indo-Pacific.*

U.S. DOW Training
Humanitarian Assistance Response Training – Disasters (HART-D) Course. CFE-DM, U.S. Indo-Pacific Command. https://www.cfe-dmha.org/hart-d *Target Audience: O3-O6, E6-E9, and DOW civilians who may plan for or execute a Foreign Disaster Relief mission or participate in disaster response activities in exercises or security cooperation engagements.*

Acronyms and Abbreviations

°C / °F	Degrees Celsius / Fahrenheit
ADMA	All-out Defense Mobilization Agency
AI	Artificial Intelligence
AIT	American Institute in Taiwan
AMDA	Association of Medical Doctors of Asia
AO	Australian Office in Taipei
APEC	Asia-Pacific Economic Cooperation
ARDSWC	Agency of Rural Development and Soil and Water (MOA)
ASC	Auxiliary Service Corps
BOP	Basic Operating Plan
BOT	British Office Taipei
CAP	Common Alerting Protocol
CBS	Cell Broadcast Service
CCP	Chinese Communist Party (China's ruling party and sole political party)
CCRA	Chinese Christian Relief Association
CDC	Centers for Disease Control (Taiwan)
CDO	Civil Defense Office, NPA
CDRC	Central Disaster Response Center
CECC	Central Epidemic Command Center
CEOC	Central Emergency Operations Center
CFE-DM	Center for Excellence in Disaster Management & Humanitarian Assistance
COM	Chief of Mission (U.S.)
COVID-19	Coronavirus Disease 2019
CPR 11	Commander, Amphibious Squadron 11 (U.S.)
CRED	Centre for Research on the Epidemiology of Disasters
CRI	Climate Risk Index
CTF 76	Combined Task Force 76 (U.S.)
CTOT	Canadian Trade Office in Taipei
CWA	Central Weather Administration, also Central Weather Bureau
CWASN	Central Weather Administration Seismographic Network
CWB	Central Weather Bureau, also Central Weather Administration
DHN	Declaration of Humanitarian Need (U.S.)
DHR	U.S. State Department's Bureau of Disaster and Humanitarian Response, replaces USAID/BHA
DM	disaster management
DoD	Department of Defense (U.S., also Department of War from September 2025)
DoW	Department of War (U.S., also Department of Defense)
DPPA	Disaster Prevention and Protection Act, also Disaster Prevention and Relief Act

DRR	Disaster Risk Reduction
DRV	Disaster Response Volunteer program
ECFA	Economic Cooperation Framework Agreement
EEWS	earthquake early warning system
EM-DAT	Emergency Events Database, by the Centre for Research on the Epidemiology of Disasters
EMT	Emergency Medical Technician
EPWG	Emergency Preparedness Working Group (APEC)
ESF	Emergency Support Functions
EU	European Union
EWS	early warning system
GCTF	Global Cooperation and Training Framework
GDP	gross domestic product
GMISS	Global Medical Instruments Support & Service Program
HB	Highway Bureau (MOTC)
HSR	High-speed rail
ICRC	International Committee of the Red Cross
IFRC	International Federation of Red Cross and Red Crescent Societies
JMA	Japan Meteorological Agency
JTEA	Japan-Taiwan Exchange Association
km / km^2	kilometer(s) / square kilometers
KMT	Kuomintang (Nationalist Party, Taiwan's opposition party)
kph	kilometers per hour
LCI	Lions Clubs International
LNG	liquefied natural gas
LPG	liquefied petroleum gas
LSU	Louisiana State University
m / m^2 / m^3	meter(s) / square meter(s) / cubic meter(s)
MEMS	micro-electro-mechanical system
mm	millimeter(s)
MND	Ministry of National Defense
MOA	Ministry of Agriculture
MODA	Ministry of Digital Affairs
MOEA	Ministry of Economic Affairs
MOENV	Ministry of Environment
MOFA	Ministry of Foreign Affairs
MoHW	Ministry of Health and Welfare
MOI	Ministry of Interior
MOTC	Ministry of Transportation and Communications

mph	miles per hour
MRT	Mass Rapid Transit (metro/subway)
Mw	Moment Magnitude Scale
NASC	National Airborne Service Corps
NCC	National Communications Commission
NCDR	National Science and Technology Center for Disaster Reduction
NCHC	National Center for High-Performance Computing
NCREE	National Center for Research on Earthquake Engineering
NFA	National Fire Agency
NGO	non-governmental organization
NHCC	National Health Command Center
NHI	National Health Insurance
NHIA	National Health Insurance Administration (MoHW)
NPA	National Police Agency
NRCC	National Rescue Command Center
NSC	Nuclear Safety Commission
NT$	New Taiwan Dollar
NTU	National Taiwan University
OCHA	Office for the Coordination of Humanitarian Affairs (UN)
ODA	official development assistance
ODM	Office of Disaster Management
PCT	Presbyterian Church of Taiwan
PDC	Pacific Disaster Center
PHIVOLCS-DOST	Philippine Institute of Volcanology and Seismology, Department of Science and Technology
PRC	People's Republic of China (China)
PTT	a popular bulletin board system
PTWC	Pacific Tsunami Warning Center (U.S.)
RDC	Reception and Departure Center
ROC	Republic of China (Taiwan)
SAR	search and rescue
SARS	severe acute respiratory syndrome
SDG	Sustainable Development Goals (UN)
Taipower	Taiwan Power Company
Taiwan AID	Taiwan Alliance in International Development
TaiwanICDF	Taiwan International Cooperation and Development Fund
TaiwanIHA	Taiwan International Health Action
TBS	Taiwan Broadcasting System
T-CERT	Taiwan Community Emergency Response Team program

TIHTC	Taiwan International Healthcare Training Center
TRA	Taiwan Relations Act
TRC	Taiwan Red Cross
TRMPC	Taiwan Root Medical Peace Corps, or Taiwan Root
TSMC	Taiwan Semiconductor Manufacturing Company
TSMIP	Taiwan Strong Motion Instrumentation Program
TWDMTDA	Taiwan Development Association for Disaster Medical Teams
U.S.	United States
UAV	Unmanned Aerial Vehicles / drones
UN	United Nations
UNDAC	UN Disaster Assessment and Coordination mission/team
UNGA	United Nations General Assembly
UNICEF	UN Children's Fund
US$	U.S. Dollar
USAID/BHA	U.S. Agency for International Development / Bureau for Humanitarian Assistance
USAR	urban search and rescue
USGS	United States Geological Survey
USINDOPACOM	United States Indo-Pacific Command
USPACOM	U.S. Pacific Command (now U.S. Indo-Pacific Command)
WHA	World Health Assembly (decision-making body of UN WHO)
WHO	World Health Organization (UN)
WPS	Women, Peace and Security
WRA	Water Resources Agency, under MOEA
WV	World Vision

Endnotes

1 Dilley, Maxx; Chen, Robert S.; Deichmann, Uwe; Lerner-Lam, Arthur L.; Arnold, Margaret. Natural Disaster Hotspots: A Global Risk Analysis, World Bank, 2005, http://hdl.handle.net/10986/7376

2 Academia Sinica. The Earth Shook at Dawn, The Archives of Institute of Taiwan History, https://archives.ith.sinica.edu.tw/collections_con2_en.php?no=396

3 Encyclopedia Britannica. Taiwan earthquake of 1999, Updated 14 September 2025, https://www.britannica.com/event/Taiwan-earthquake-of-1999

4 Hale, Erin. Taiwan Marks Deadly but Seminal 1999 Earthquake, Voice of America, 21 September 2022. https://www.voanews.com/a/taiwan-marks-deadly-but-seminal-1999-earthquake-/6756663.html

5 Taiwan Fire Agency celebrates 30 years with new training center, Taiwan News, 20 June 2025, https://www.taiwannews.com.tw/news/6139081

6 Office of the President, Republic of China (Taiwan). Whole-of-Society Defense Resilience Committee – About the Committee, accessed 11 December 2025, https://english.president.gov.tw/Page/670

7 Central Disaster Prevention and Response Council. Summary Report of the 2024 Disaster Prevention and Relief Exercise (113年災害防救演習總結報告), 13 February 2025, https://cdprc.ey.gov.tw/Page/B0F2C258719C7FA4/8d-3f359e-f4ba-4727-952c-9b70ec0145cb

8 Murphy, Janesta. Taiwan: Looking back at the 1999 Chi-Chi earthquake, PreventionWeb, 3 October 2024. https://www.preventionweb.net/news/twenty-five-years-building-resilience-taiwan-looking-back-1999-chi-chi-earthquake

9 "Taiwan." CIA World Factbook. https://www.cia.gov/the-world-factbook/countries/taiwan/

10 "Taiwan." 2024. Funk & Wagnalls New World Encyclopedia. https://research-ebsco-com.ezproxy.librarieshawaii.org/linkprocessor/plink?id=df7f814d-5d97-3075-8cb1-78c001bbf24e.

11 CFE-DM, Taiwan Physical Map, GeoAtlas, 2006.

12 Reinbold, Rebecca and Mitchell, Martin. The Physical Geography of Eastern Taiwan as a Baseline for Tourism and Earthquake Hazards. https://doi.org/10.5539/jgg.v16n1p31

13 Ziqing Chen. How many typhoons will make landfall on Taiwan Island this year? https://www.preventionweb.net/news/how-many-typhoons-will-make-landfall-taiwan-island-year

14 "Taiwan." 2024. Funk & Wagnalls New World Encyclopedia. https://research-ebsco-com.ezproxy.librarieshawaii.org/linkprocessor/plink?id=df7f814d-5d97-3075-8cb1-78c001bbf24e.

15 Ziqing Chen. How many typhoons will make landfall on Taiwan Island this year? https://www.preventionweb.net/news/how-many-typhoons-will-make-landfall-taiwan-island-year

16 Taiwan Physical Map (modified), GeoAtlas, 2006, CFE-DM purchased copyright.

17 Copper, J.C. "Taiwan." Encyclopedia Britannica. https://www.britannica.com/place/Taiwan. Accessed 20 November 2025.

18 Photo by Nao Xotl on Unsplash, 28 June 2021, https://unsplash.com/photos/aerial-view-of-city-buildings-during-daytime-QkG2wjU0xfw

19 "People." Government Portal of the Republic of China (Taiwan) accessed 19 Nov 2025. https://www.taiwan.gov.tw/content_2.php

20 I-Chen Chen. "Taiwanese Mountains and Plains Indigenous Peoples: Facing Different Trials, yet the same Fate." Taiwan Insight. https://taiwaninsight.org/2022/10/17/taiwanese-mountains-and-plains-indigenous-peoples-facing-different-trials-yet-the-same-fate/

21 Cheng, Carissa. Saving Tâi-gí: Taiwan's Largest Heritage Language, Global Taiwan Institute, 15 October 2025, https://globaltaiwan.org/2025/10/saving-tai-gi/

22 Wu, Po-hsuan and Jake Chung. Ministry aims to change Hoklo test's name to 'Taiyu', Taipei Times, 21 July 2024, https://www.taipeitimes.com/News/front/archives/2024/07/21/2003821096

23 Ministry of Justice. Indigenous Languages Development Act, Laws and Regulations Database of the Republic of China (Taiwan), https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=D0130037

24 Languages Spoken in Taiwan, National Chi Nan University, accessed 9 January 2026, https://cmn-hant.overseas.ncnu.edu.tw/further-study-area/summary-of-indonesia/languages-spoken-in-taiwan/

25 R. Scott Wilson (2009) Making Hakka Spaces: Resisting Multicultural Nationalism in Taiwan, Identities: Global Studies in Culture and Power, 16:4, 414-437, DOI: 10.1080/10702890903020919, p417

26 R. Scott Wilson (2009) Making Hakka Spaces: Resisting Multicultural Nationalism in Taiwan, Identities: Global Studies in Culture and Power, 16:4, 414-437, DOI: 10.1080/10702890903020919, p417

27 2023 Report on International Religions Freedom: Taiwan. U.S. Department of State. https://www.state.gov/reports/2023-report-on-international-religious-freedom/taiwan/

28 Yang, Y Tony. Fewer cradles, more canes: East Asia's demographic reckoning, Asia Times, 11 August 2025, https://asiatimes.com/2025/08/fewer-cradles-more-canes-east-asias-demographic-reckoning/

29 Hsueh, James C.T. "Taiwan heading into its super-aged era." East Asia Forum, 4 March 2023. https://eastasiaforum.org/2023/03/04/taiwan-heading-into-its-super-aged-era/; What are the economic consequences of rapidly ageing populations? World Economic Forum, 27 August 2015, https://www.weforum.org/stories/2015/08/what-are-the-economic-consequences-of-rapidly-ageing-populations/

30 Friedman, Sara L. 2014. Marital Borders: Gender, Population, and Sovereignty Across the Taiwan Strait. In Deborah S. Davis and Sara L. Friedman, eds., Wives, Husbands, and Lovers (Stanford: Stanford University Press), pp. 285. https://faculty.washington.edu/stevehar/Friedman%20Marital%20Borders.pdf

31 Liao, Kai-Min, and Yih-Jin Hu. 2025. "Factors Influencing Disaster Preparedness Behaviors of Older Adults." PLoS ONE 20 (2): 1–12. https://doi-org.ezproxy.librarieshawaii.org/10.1371/journal.pone.0315617

32 Liao, Yen-Hsiung, Deaths and Hospital Injuries Due to the 1999 Taiwan Earthquake, Open Journal of Safety Science and Technology, Vol.2 No.4, 2012, pp.147-158, doi: 10.4236/ojsst.2012.24019, https://pdfs.semanticscholar.org/32ce/f0dcd7090d0e553da6d382caef1c95a7d1b1.pdf

33 Liao, Kai-Min, and Yih-Jin Hu. 2025. "Factors Influencing Disaster Preparedness Behaviors of Older Adults." PLoS ONE 20 (2): 1–12. https://doi-org.ezproxy.librarieshawaii.org/10.1371/journal.pone.0315617

34 Liao, Kai-Min, and Yih-Jin Hu. 2025. "Factors Influencing Disaster Preparedness Behaviors of Older Adults." PLoS ONE 20 (2): 1–12. https://doi-org.ezproxy.librarieshawaii.org/10.1371/journal.pone.0315617

35 Newland, Sara A., and John Chung En Liu. 2021. "Ethnic Identity and Local Government Responsiveness in Taiwan." Governance 34 (3): 875–92. https://doi-org.ezproxy.librarieshawaii.org/10.1111/gove.12546

36 Wang, Jiun-Hao and Wang, Szu-Yung. 2019. Indigenous Social Policy and Social Inclusion in Taiwan.

37 Berkes, F.; Tsai, H.-M.; Bayrak, M.M.; Lin, Y.-R. Indigenous Resilience to Disasters in Taiwan and Beyond. Sustainability 2021, 13, 2435. https://doi.org/10.3390/su13052435 p8

38 Berkes, F.; Tsai, H.-M.; Bayrak, M.M.; Lin, Y.-R. Indigenous Resilience to Disasters in Taiwan and Beyond. Sustainability 2021, 13, 2435. https://doi.org/10.3390/su13052435 p8

39 Berkes, F.; Tsai, H.-M.; Bayrak, M.M.; Lin, Y.-R. Indigenous Resilience to Disasters in Taiwan and Beyond. Sustainability 2021, 13, 2435. https://doi.org/10.3390/su13052435 p9

40 2024 Taiwan Health and Welfare Report. Ministry of Health and Welfare, 2 Oct 2025. https://service.mohw.gov.tw/ebook/dopl/113/02/index.html p 26

41 Effendi, Tonny Dian. 2025. "Taiwan's Regional Identity under the New Southbound Policy: Integrating Personal and Role Identities and Domestic and Regional Dimensions." International Journal of Taiwan Studies 8 (1): 149–84. doi:10.1163/24688800-20241329 ; 2023 Report on International Religions Freedom: Taiwan. U.S. Department of State. https://www.state.gov/reports/2023-report-on-international-religious-freedom/taiwan/

42 Li, Sammi. "Migration to Taiwan: Improving Rights for Migrant Workers." The Borgen Project. https://borgenproject.org/migration-to-taiwan/

43 Freedom in the World 2025: Taiwan. Freedom House accessed 29 Oct 2025. https://freedomhouse.org/country/taiwan/freedom-world/2025

44 Dali, Simran. "Lost in Translation: How Language Barriers Shape the Integration of Southeast Asian Marriage Migrant Women in Taiwan." Global Taiwan Institute, 18 June 2025. https://globaltaiwan.org/2025/06/lost-in-translation/

45 LaMattina, Lily. "Taiwan to recruit 25,000 foreign students annually to work after study." Taiwan News, 12 Sep 2024. https://www.taiwannews.com.tw/news/5934887

46 2024 Taiwan Health and Welfare Report. Ministry of Health and Welfare, 2 Oct 2025. https://service.mohw.gov.tw/ebook/dopl/113/02/index.html p 24

47 Walker, Nivea. "People with Disabilities in Taiwan." The Borgen Project, accessed 19 November 2025. https://borgenproject.org/disabilities-in-taiwan/

48 2024 Taiwan Health and Welfare Report. Ministry of Health and Welfare, 2 Oct 2025. https://service.mohw.gov.tw/ebook/dopl/113/02/index.html

49 Kepe, Marta and Scott W. Harold, Building Taiwan's Resilience: Insights into Taiwan's Civilian Resilience Against Acts of War. Santa Monica, CA: RAND Corporation, 2025. https://www.rand.org/pubs/research_reports/RRA3388-1.html. p15

50 Newland, Sara A., and John Chung En Liu. 2021. "Ethnic Identity and Local Government Responsiveness in Taiwan." Governance 34 (3): 875–92. doi:10.1111/gove.12546.

51 Duan, Brian. "Taiwan's Constitutional Battle: The Case for the Republic of China (ROC) Constitution. Johns Hopkins Undergraduate Law Review, 12 June 2024. https://jhulr.org/2024/06/12/taiwans-constitutional-battle-the-case-for-the-republic-of-china-roc-constitution/

52 Freedom in the World 2025: Taiwan/ Freedom House, accessed 21 Nov 2025. https://freedomhouse.org/country/taiwan/freedom-world/2025

53 "Executive Yuan." PreventionWeb Organization directory, accessed 3 Dec 2025. https://www.preventionweb.net/organization/executive-yuan

54 "Political System." Government Portal of the Republic of China (Taiwan), accessed 20 Nov 2025. https://www.taiwan.gov.tw/content_4.php

55 Freedom in the World 2025: Taiwan/ Freedom House, accessed 21 Nov 2025. https://freedomhouse.org/country/taiwan/freedom-world/2025

56 https://taiwantoday.tw/AMP/politics/taiwan-review/5509/mandated-precision

57 "Political System." Government Portal of the Republic of China (Taiwan), accessed 20 Nov 2025. https://www.taiwan.gov.tw/content_4.php

58 "Political System." Government Portal of the Republic of China (Taiwan), accessed 20 Nov 2025. https://www.taiwan.gov.tw/content_4.php

59 "Political System." Government Portal of the Republic of China (Taiwan), accessed 20 Nov 2025. https://www.taiwan.gov.tw/content_4.php

60 Shair-Rosenfield, Sarah. "Taiwan." https://garymarks.web.unc.edu/wp-content/uploads/sites/13018/2021/03/Taiwan_combined.pdf

61 "Political System." Government Portal of the Republic of China (Taiwan) accessed 9 January 2025. https://www.taiwan.gov.tw/content_4.php

62 Newland, Sara A., and John Chung En Liu. 2021. "Ethnic Identity and Local Government Responsiveness in Taiwan." Governance 34 (3): 875–92. https://doi-org.ezproxy.librarieshawaii.org/10.1111/gove.12546

63 Newland, Sara A., and John Chung En Liu. 2021. "Ethnic Identity and Local Government Responsiveness in Taiwan." Governance 34 (3): 875–92. https://doi-org.ezproxy.librarieshawaii.org/10.1111/gove.12546

64 Loduhova, Alzbeta, and Kristina Kironska. 2023. "How Did Taiwan Go from 'Most Affected' during SARS to 'Least Affected' during COVID-19?: A Comparative Study of Taiwan's Emergency Responses." International Journal of Taiwan Studies 6 (2): 291–316. https://doi-org.ezproxy.librarieshawaii.org/10.1163/24688800-20221249

65 Roy, Denny. Taiwan is under a triple security threat. Pacific Forum PacNet #20, 27 March 2025. https://pacforum.org/publications/pacnet-20-taiwan-is-under-a-triple-security-threat/

66 Maizland, Lindsay and Fong, Clara. "Why China-Taiwan Relations are so Tense." Council on Foreign Relations, 19 Mar 2025. https://www.cfr.org/backgrounder/china-taiwan-relations-tension-us-policy-trump

67 Lawrence, Susan. "Taiwan and the International Community." Congressional Research Service, 25 Aug 2025. https://www.congress.gov/crs-product/IF12646

68 Lawrence, Susan. "Taiwan and the International Community." Congressional Research Service, 25 Aug 2025. https://www.congress.gov/crs-product/IF12646

69 Fan, Hsuan-Wen. "Geopolitical and local obstacles of the "921" earthquake rescue in Taiwan." Health Emergency and Disaster Nursing (2018), 8 Feb 2018. https://www.jstage.jst.go.jp/article/hedn/5/1/5_2017-0012/_pdf

70 Chen, Lauren. "World leaders express their condolences." 22 Sep 1999. https://www.taipeitimes.com/News/react/archives/1999/09/22/3512

71 Fan, Hsuan-Wen. "Geopolitical and local obstacles of the "921" earthquake rescue in Taiwan." Health Emergency and Disaster Nursing (2018), 8 Feb 2018. https://www.jstage.jst.go.jp/article/hedn/5/1/5_2017-0012/_pdf

72 Lin, Christina. "Food security – a soft spot in Taiwan's silicon shield?" Nato Defense College Foundation, 15 Nov 2023. https://www.natofoundation.org/food/food-security-a-soft-spot-in-taiwans-silicon-shield/

73 "International Support: Taiwan, China." Credit Agricole Group, accessed 10 Nov 2025. https://international.groupecreditagricole.com/en/international-support/taiwan/economic-overview

74 Liu, John. "The global AI race is supercharging Taiwan's economy. But many don't feel better off." CNN, 27 Nov 2025. https://www.cnn.com/2025/11/28/economy/taiwan-ai-economy-intl-hnk

75 Funaiole, Matthew P.; Hart, Brian; Peng, David; Lin, Bonny; and Verschuur, Jasper. "Disruptions to Trade in the Taiwan Strait Would Severely Impact China's Economy." Center for Strategic & International Studies, 17 June 2025. https://www.csis.org/analysis/disruptions-trade-taiwan-strait-would-severely-impact-chinas-economy

76 Ueda, Haruka. "Backgrounds and challenges of food education policy in Taiwan: risk or chance in the reflexive food modernity?" Asia Pacific journal of clinical nutrition vol. 32,3 (2023): 339-347. https://pmc.ncbi.nlm.nih.gov/articles/PMC11090383/

77 Barthwal, Aarushi Shekhar. "Has the Shield Become a Snare? Taiwan's Semiconductor Supremacy and the Challenge of Economic Sovereignty." Australian Institute of International Affairs, 11 Feb 2025. https://www.internationalaffairs.org.au/australianoutlook/has-the-shield-become-a-snare-taiwans-semiconductor-supremacy-and-the-challenge-of-economic-sovereignty/

78 Barthwal, Aarushi Shekhar. "Has the Shield Become a Snare? Taiwan's Semiconductor Supremacy and the Challenge of Economic Sovereignty." Australian Institute of International Affairs, 11 Feb 2025. https://www.internationalaffairs.org.au/australianoutlook/has-the-shield-become-a-snare-taiwans-semiconductor-supremacy-and-the-challenge-of-economic-sovereignty/

79 Murphy, Janesta. "Twenty-five years of building resilience in Taiwan: Looking back at the 1999 Chi-Chi earthquake." Moody's, 27 September 2024. https://www.moodys.com/web/en/us/insights/insurance/twenty-five-years-of-building-resilience-in-taiwan-looking-back-at-the-1999-chi-chi-earthquake.html

80 Murphy, Janesta. "Twenty-five years of building resilience in Taiwan: Looking back at the 1999 Chi-Chi earthquake." Moody's, 27 September 2024. https://www.moodys.com/web/en/us/insights/insurance/twenty-five-years-of-building-resilience-in-taiwan-looking-back-at-the-1999-chi-chi-earthquake.html

81 Hazarika, Rohan. "BriefCASE: Taiwan earthquake puts the spotlight back on chip supply chain diversification." S&P Global, accessed 20 Nov 2025. https://www.spglobal.com/automotive-insights/en/blogs/2024/4/briefcase-taiwan-earthquake-puts-spotlight-back-on-chip-supply

82 Barthwal, Aarushi Shekhar. "Has the Shield Become a Snare? Taiwan's Semiconductor Supremacy and the Challenge of Economic Sovereignty." Australian Institute of International Affairs, 11 Feb 2025. https://www.internationalaffairs.org.au/australianoutlook/has-the-shield-become-a-snare-taiwans-semiconductor-supremacy-and-the-challenge-of-economic-sovereignty/

83 Armstrong, Neil. Inside Taiwan's Disaster Preparedness Playbook. 24 March 2025. Taiwan Business Topics. https://topics.amcham.com.tw/2025/03/inside-taiwans-disaster-preparedness-playbook/

84 Kuo, Mei. April 2023. Hard-earned knowledge: Taiwan's Typhoon and Earthquake Response Experience. Taiwan Panorama. https://www.taiwan-panorama.com/en/Articles/Details?Guid=24581e99-0b27-4bca-9137-77332d6f126a&CatId=7&postname=Hard-Earned%20Knowledge%3A-Taiwan%E2%80%99s%20Typhoon%20and%20Earthquake%20Response%20Experience&srsltid=AfmBOoocpktotcke0d-0j8I-EyXEyAssPay6q6H80mw2Qy6A5ZDNyQtAj

85 Wang, Hsiao-Wen et al. Managing residual flood risk: Lessons learned from experiences in Taiwan. Progress in Disaster Science, Vol. 23, October 2024. https://www.sciencedirect.com/science/article/pii/S2590061724000279#:~:text=Taiwan%20is%20often%20exposed%20to,been%20recorded%20at%202500%20mm.

86 Taiwan Panorama. Hard-Earned Knowledge: Taiwan's Typhoon and Earthquake Response Experience. 24 April 2023. https://nspp.mofa.gov.tw/nsppe/news.php?post=235468#:~:text=Figures%20from%20the%20Central%20Weather%20Bureau%20(CWB),typhoons%20making%20landfall%20on%20Taiwan%20every%20year.

87 Narvaez, Liliana, et. al. Taiwan drought. 2021/2022. https://www.researchgate.net/publication/375610382_Technical_Report_Taiwan_drought

88 EM-DAT: The international disaster database, Taiwan 2000-2025, Centre for Research on the Epidemiology of Disasters, accessed 29 January 2026, https://www.emdat.be/

89 World Data.info. Typhoons in Taiwan. https://www.worlddata.info/asia/taiwan/typhoons.php

90 Center for Disaster Philanthropy. 2024 Taiwan (Hualien) Earthquake. 31 October 2024. https://disasterphilanthropy.org/disasters/2024-taiwan-earthquake/

91 Source: Mittal, H., Yang, B.M. & Wu, YM. Progress on the

earthquake early warning and shakemaps system using low-cost sensors in Taiwan. Geosci. Lett. 9, 42 (2022). https://doi.org/10.1186/s40562-022-00251-w.

92 Center for Disaster Philanthropy. 2024 Taiwan (Hualien) Earthquake. 31 October 2024. https://disasterphilanthropy.org/disasters/2024-taiwan-earthquake/

93 Kuo, Mei. Hard-earned knowledge: Taiwan's Typhoon and Earthquake Response Experience. April 2023. https://www.taiwan-panorama.com/en/Articles/Details?Guid=24581e99-0b27-4bca-9137-77332d6f126a&CatId=7&postname=Hard-Earned%20Knowledge%3A-Taiwan%E2%80%99s%20Typhoon%20and%20Earthquake%20Response%20Experience&srsltid=AfmBOoocpktotcke0d-0j8I-EyXEyAssPay6q6H80mw2Qy6A5ZDNyQtAj

94 Mistreanu, Simina, Associated Press. Why is Taiwan so exposed to earthquakes but so prepared to withstand the massive tremors? 3 April 2024. PBS News. https://www.pbs.org/newshour/world/why-is-taiwan-so-exposed-to-earthquakes-but-so-prepared-to-withstand-the-massive-tremors

95 ECHO. Taiwan - Earthquake - ECHO Daily Map | 08/02/2016. https://reliefweb.int/map/china-taiwan-province/taiwan-earthquake-echo-daily-map-08022016; Center for Disaster Philanthropy. 2024 Taiwan (Hualien) Earthquake. 31 October 2024. https://disasterphilanthropy.org/disasters/2024-taiwan-earthquake/

96 Mittal, H., Yang, B.M. & Wu, YM. Progress on the earthquake early warning and shakemaps system using low-cost sensors in Taiwan. Geosci. Lett. 9, 42 (2022). https://doi.org/10.1186/s40562-022-00251-w

97 Wingfield-Hayes, Rupert. Taiwan earthquake: How the island's two-decade preparation saved it. BBC. https://www.bbc.com/news/world-asia-68738694

98 Hawkins, Amy and Lin Chi-hui. As well prepared as they could be': how Taiwan kept death toll low in massive earthquake. 7 April 2024. https://www.theguardian.com/world/2024/apr/07/as-well-prepared-as-they-could-be-how-taiwan-kept-death-toll-low-in-massive-earthquake

99 CFE-DM. USINDOPACOM Foreign Disaster Response in the Indo-Pacific: April 1991 – 2024. 2024. https://www.cfe-dmha.org/LinkClick.aspx?fileticket=MNZLDbxZaic%3d&portalid=0

100 CFE-DM. USINDOPACOM Foreign Disaster Response in the Indo-Pacific: April 1991 – 2024. 2024. https://www.cfe-dmha.org/LinkClick.aspx?fileticket=MNZLDbxZaic%3d&portalid=0

101 CFE-DM. USINDOPACOM Foreign Disaster Response in the Indo-Pacific: April 1991 – 2024. 2024. https://www.cfe-dmha.org/LinkClick.aspx?fileticket=MNZLDbxZaic%3d&portalid=0

102 CFE-DM. Northeast Asia Disaster Management Handbook. 2022. https://www.cfe-dmha.org/LinkClick.aspx?fileticket=Xp8bGQ1y9KI%3d&portalid=0

103 Thinkhazard.org. Taiwan. Accessed 8 December 2025. https://thinkhazard.org/en/report/147296-taiwan

104 Rinaldi, Tim. Exclusive: Scientists urge clearer protocol for Taiwan's barrier lakes. 26 November 2025. Taiwan News. https://www.taiwannews.com.tw/news/6252870

105 Chiang, Ting, et al. 'No warning' – residents reel from deadly flood after typhoon bursts Taiwan lake. 24 September 2025. https://www.bbc.com/news/articles/c2ejpwmen7jo

106 Wang, Hsiao-Wen et al. Managing residual flood risk: Lessons learned from experiences in Taiwan. Progress in Disaster Science, Vol. 23, October 2024. https://www.sciencedirect.com/science/article/pii/S2590061724000279#:~:text=Taiwan%20is%20often%20exposed%20to,been%20recorded%20at%202500%20mm.

107 Armstrong, Neil. Inside Taiwan's Disaster Preparedness Playbook. 24 March 2025. Taiwan Business Topics. https://topics.amcham.com.tw/2025/03/inside-taiwans-disaster-preparedness-playbook/

108 Le, Truong Vinh and Nguyen, Kieu Anh. Landslide responses to typhoon events in Taiwan during 2019 and 2023. 29 October 2025. Sustainability 2025. 17(21), 9673. https://www.mdpi.com/2071-1050/17/21/9673

109 Mistreanu, Simina, Associated Press. Why is Taiwan so exposed to earthquakes but so prepared to withstand the massive tremors? 3 April 2024. PBS News. https://www.pbs.org/newshour/world/why-is-taiwan-so-exposed-to-earthquakes-but-so-prepared-to-withstand-the-massive-tremors

110 Le, Truong Vinh and Nguyen, Kieu Anh. Landslide responses to typhoon events in Taiwan during 2019 and 2023. 29 October 2025. Sustainability 2025. 17(21), 9673. https://www.mdpi.com/2071-1050/17/21/9673

111 Wu, Chunhung. Using the Spatiotemporal Hot Spot Analysis and Multi-Annual Landslide Inventories to Analyze the Evolution and Characteristic of Rainfall-Induced Landslide at the Subwatershed Scale in Taiwan. 31 March 2023. Water, 2023. 15(7), 1355. https://www.mdpi.com/2073-4441/15/7/1355

112 Wang, Hsiao-Wen et al. Managing residual flood risk: Lessons learned from experiences in Taiwan. Progress in Disaster Science, Vol. 23, October 2024. https://www.sciencedirect.com/science/article/pii/S2590061724000279

113 Taiwan Panorama. Hard-Earned Knowledge: Taiwan's Typhoon and Earthquake Response Experience. 24 April 2023. https://nspp.mofa.gov.tw/nsppe/news.php?post=235468

114 Agency of Rural Development and Soil and Water Conservation, MOA. Promoting Taiwan-Philippines Bilateral Exchange on Slope Disasters and Soil and Water Conservation. 16 December 2024. Accessed 18 November 2025. https://www.ardswc.gov.tw/Home/eng/News/news_more?id=a54d26f7517d42efad44e04ebb3e0109

115 Agency of Rural Development and Soil and Water Conservation, MOA. 2024 Taiwan-Japan Joint Forum on Sediment-related Disaster Prevention (in Taiwan). 9 September 2024. Accessed 18 November 2025. https://www.ardswc.gov.tw/Home/eng/News/news_more?id=6bf96871852c-4769b3aaf19b32da0ae6

116 Agency of Rural Development and Soil and Water Conservation, MOA. 2022 Taiwan-US Slope Disaster Prevention Technology Workshop. 5 December 2022. Accessed 18 December 2025. https://www.ardswc.gov.tw/Home/eng/News/news_more?id=9db5a7d1549347eba0da0d62a00d4ab2

117 Narvaez, Liliana, et. al. Taiwan drought. 2021/2022. https://www.researchgate.net/publication/375610382_Technical_Report_Taiwan_drought

118 Crook, Steven. Environmental Impact Assessment: Are Taiwan's forests in danger of burning? 10 August 2022. Taipei Times. https://www.taipeitimes.com/News/feat/archives/2022/08/10/2003783271

119 Narvaez, Liliana, et. al. Taiwan drought. 2021/2022. https://www.researchgate.net/publication/375610382_Technical_Report_Taiwan_drought

120 Yang, Yuan-ting and Garcia, Sam. Low rainfall heightens forest fire risk over Tomb Sweeping. 24 March 2025. Taipei Times. https://www.taipeitimes.com/News/taiwan/archives/2025/03/24/2003833980

121 Lin, Chao-Yuan, et al. Environmental indicators combined with risk analysis to evaluate potential wildfire incidence on the Dadu Plateau in Taiwan. Natural Hazards. Volume 113, pgs. 287-313 (2022). 19 March 2022. https://link.springer.com/article/10.1007/s11069-022-05300-3

122 Tung, Yu-Jen and Tsai, Christina. Spatiotemporal Analysis of the Influential Factors and Potential Harms of Wildfire in Taiwan. GU Fall Meeting 2022, held in Chicago, IL, 12-16 December 2022, https://ui.adsabs.harvard.edu/abs/2022AGUFMNH45F0507T/abstract

123 Yang, Yuan-ting and Garcia, Sam. Low rainfall heightens forest fire risk over Tomb Sweeping. 24 March 2025. Taipei Times. https://www.taipeitimes.com/News/taiwan/archives/2025/03/24/2003833980#:~:text=Forest%20fires%20are%20most%20frequent%20from%20October,use%20fire%20to%20clear%20weeds%2C%20it%20said.

124 Chang, Ya-chun. Taiwans Jade Mountain fire extinguished after 12-day battle. 27 May 2021. Taiwan News. https://www.taiwannews.com.tw/news/4211428

125 Crook, Steven. Environmental Impact Assessment: Are Taiwan's forests in danger of burning? 10 August 2022. Taipei Times. https://www.taipeitimes.com/News/feat/archives/2022/08/10/2003783271

126 Tsai, Shu-yuan and Chung, Jake. Risk of Taiwan wildfires increasing: study. 26 February 2024. Taipei Times. https://www.taipeitimes.com/News/taiwan/archives/2024/02/26/2003814097#:~:text=A%20map%20of%20Taiwan%20shows%20areas%20where,strategies%20amid%20a%20changing%20climate%2C%20it%20said.

127 Think Hazard. Taiwan. Tsunami. Accessed 5 November 2025. https://www.thinkhazard.org/en/report/147296-taiwan/TS

128 Asia Insurance Review. Asia: Highest tsunami risk in Taiwan from major EQ in Manila Trench. April 2015. https://www.asiainsurancereview.com/Magazine/ReadMagazineArticle?aid=36275

129 Lin, Simon C. et al. Development of a tsunami early warning system for the South China Sea. Ocean Engineering, Vol. 100, pgs. 1-18. May 2015. https://ui.adsabs.harvard.edu/abs/2015OcEng.100....1L/abstract

130 PBS News. A strong earthquake shakes Taiwan, damaging buildings and causing a tsunami. 2 April 2024. https://www.pbs.org/newshour/world/a-strong-earthquake-shakes-taiwan-damaging-buildings-and-causing-a-tsunami

131 Yu, Neng-Ti, et al. Recent Progress in tsunami deposit investigations in Taiwan. Terrestrial, Atmospheric and Oceanic Sciences. Volume 36, article number 1, (2025). 13 January 2025. https://doi.org/10.1007/s44195-024-00084-4

132 Kuo, Meiyu. Hard-earned knowledge: Taiwan's typhoon and earthquake response experience, Taiwan Panorama, April 2023, https://www.taiwan-panorama.com/en/Articles/Details?Guid=24581e99-0b27-4bca-9137-77332d6f126a

133 EM-DAT: The international disaster database, Taiwan 2000-2025, Centre for Research on the Epidemiology of Disasters, accessed 29 January 2026, https://www.emdat.be/

134 World Bank Group. Timeseries of Natural Disasters Statistics: Taiwan, China | 1980-2024 | Total Disasters (#) | (EM-DAT data), Climate Change Knowledge Portal, https://climateknowledgeportal.worldbank.org/country/taiwan-china/natural-disasters-historical

135 Sust Global. Taiwan's Increasing Threat of Cyclones: A Look at Frequency and Return Periods, 2025, https://www.sustglobal.com/insights/taiwans-increasing-threat-of-cyclones-a-look-at-frequency-and-return-periods

136 Changi RHCC. Changi RHCC's Weekly Report 46/25 (CAA: 13 Nov 2025, 2359 HRS). 13 November 2025.

137 Davies, Alys. Typhoon Ragasa makes landfall in China after 17 killed in Taiwan. BBC News. 24 September 2025. https://www.bbc.com/news/articles/clyd580lx3mo; Arranz, Adolfo et al. How heavy rainfall led to a lake bursting in Taiwan. Reuters. https://www.reuters.com/graphics/ASIA-WEATHER/TAIWAN/znvnngwlmvl/

138 Wang, Akio and Cheng, I-Hwa. AFP (Space Daily.com) 13 August 2025. Typhoon Podul pummels Taiwan. https://www.spacedaily.com/reports/Typhoon_Podul_pummels_Taiwan_999.html

139 ECHO. 4 August 2025. Taiwan - Severe weather and floods (media, CWA, NOAA-CPC) (ECHO Daily Flash of 4 August 2025). https://reliefweb.int/report/china-taiwan-province/taiwan-severe-weather-and-floods-media-cwa-noaa-cpc-echo-daily-flash-4-august-2025; Wang, Akio and Cheng, I-Hwa. AFP (Space Daily.com) 13 August 2025. Typhoon Podul pummels Taiwan. https://www.spacedaily.com/reports/Typhoon_Podul_pummels_Taiwan_999.html

140 Wang, Akio and Cheng, I-Hwa. AFP (Space Daily.com) 13 August 2025. Typhoon Podul pummels Taiwan. https://www.spacedaily.com/reports/Typhoon_Podul_pummels_Taiwan_999.html; Lee, Yimou. Typhoon Danas lashes southern Taiwan with record winds, injuring hundreds. 7 July 2025. Reuters. https://www.reuters.com/business/environment/typhoon-danas-lashes-southern-taiwan-with-record-winds-injuring-hundreds-2025-07-07/

141 ECHO. Taiwan - Earthquake (GDACS, USGS, media, CatNat) (ECHO Daily Flash of 21 January 2025). 21 January 2025. https://reliefweb.int/report/china-taiwan-province/taiwan-earthquake-gdacs-usgs-media-catnat-echo-daily-flash-21-january-2025

142 ECHO. Taiwan - Tropical cyclone KONG-REY, update (GDACS, CWA, media) (ECHO Daily Flash of 04 November 2024). 4 November 2024. https://reliefweb.int/report/china-taiwan-province/taiwan-tropical-cyclone-kong-rey-update-gdacs-cwa-media-echo-daily-flash-04-november-2024

143 Davidson, Helen. Typhoon Krathon hits Taiwan, killing two people and wreaking destruction 3 October 2024. The Guardian. https://www.theguardian.com/world/2024/oct/03/typhoon-krathon-makes-landfall-in-taiwan

144 Davidson, Helen. Typhoon Krathon hits Taiwan, killing two people and wreaking destruction 3 October 2024. The Guardian. https://www.theguardian.com/world/2024/oct/03/typhoon-krathon-makes-landfall-in-taiwan; Regan, Helen, et al. Powerful Typhoon Gaemi hits Taiwan, expected to drench an already soaked China. 24 July 2024. CNN. https://www.cnn.com/2024/07/24/asia/typhoon-gaemi-taiwan-china-intl-hnk;

145 ECHO. Taiwan - Earthquakes (GDACS, USGS, media) (ECHO Daily Flash of 23 April 2024). 23 April 2024.

https://reliefweb.int/report/china-taiwan-province/taiwan-earthquakes-gdacs-usgs-media-echo-daily-flash-23-april-2024; Center for Disaster Philanthropy. 2024 Taiwan (Hualien) Earthquake. 31 October 2024. https://disasterphilanthropy.org/disasters/2024-taiwan-earthquake/

146 U.S. Geological Survey. Strong Quake and Aftershocks Rattle Eastern Taiwan, 3 April 2024, https://www.usgs.gov/news/featured-story/strong-quake-and-aftershocks-rattle-eastern-taiwan

147 ECHO. Taiwan - Earthquakes (GDACS, USGS, media) (ECHO Daily Flash of 23 April 2024). 23 April 2024. https://reliefweb.int/report/china-taiwan-province/taiwan-earthquakes-gdacs-usgs-media-echo-daily-flash-23-april-2024; Center for Disaster Philanthropy. 2024 Taiwan (Hualien) Earthquake. 31 October 2024. https://disasterphilanthropy.org/disasters/2024-taiwan-earthquake/; Lee, Yimou and Teo, Angie. Stay alert: Quake warning app demand surges in earthquake-rattled Taiwan3 May 2024. Reuters. https://www.reuters.com/business/environment/stay-alert-quake-warning-app-demand-surges-earthquake-rattled-taiwan-2024-05-03/

148 ECHO. Taiwan, China - Tropical cyclone HAIKUI, update (GDACS, JTWC, CMA, media) (ECHO Daily Flash of 05 September 2023). % September 2023. https://reliefweb.int/report/china-taiwan-province/taiwan-china-tropical-cyclone-haikui-update-gdacs-jtwc-cma-media-echo-daily-flash-05-september-2023; ECHO. Taiwan, China - Tropical cyclone HAIKUI (GDACS, JTWC, Taiwan CWB, NOAA-CPC, media) (ECHO Daily Flash of 04 September 2023). 4 September 2024. https://reliefweb.int/report/china-taiwan-province/taiwan-china-tropical-cyclone-haikui-gdacs-jtwc-taiwan-cwb-noaa-cpc-media-echo-daily-flash-04-september-2023

149 ECHO. Taiwan - Earthquakes (GDACS, USGS, media) (ECHO Daily Flash of 19 September 2022). 19 September 2022. https://reliefweb.int/report/china-taiwan-province/taiwan-earthquakes-gdacs-usgs-media-echo-daily-flash-19-september-2022

150 ECHO. Taiwan - Earthquake (GDACS, USGS, media) (ECHO Daily Flash of 23 March 2022). 23 March 2022. https://reliefweb.int/report/china-taiwan-province/taiwan-earthquake-gdacs-usgs-media-echo-daily-flash-23-march-2022

151 Narvaez, Liliana, et. al. Taiwan drought. 2021/2022. https://www.researchgate.net/publication/375610382_Technical_Report_Taiwan_drought

152 ECHO. China - Severe weather (Taiwan CWB, CatNat, media) (ECHO Daily Flash of 12 January 2021). 12 January 2021. https://reliefweb.int/report/china-taiwan-province/china-severe-weather-taiwan-cwb-catnat-media-echo-daily-flash-12

153 Johns Hopkins University. Bloomberg School of Public Health. COVID-19 events: Inside Taiwan's Response to COVID-19. https://publichealth.jhu.edu/events/covid-19-events-and-briefings/inside-taiwans-response-to-covid-19

154 Wu, YH., Nordling, T.E.M. Taiwan ended third COVID-19 community outbreak as forecasted. Sci Rep 14, 6596 (2024). https://www.nature.com/articles/s41598-024-56692-0

155 ECHO. East Asia - Tropical Cyclone MITAG update (GDACS, DG ECHO, JTWC, CMA, KMA, media) (ECHO Daily Flash of 1 October 2019). 1 October 2019. https://reliefweb.int/report/china-taiwan-province/east-asia-tropical-cyclone-mitag-update-gdacs-dg-echo-jtwc-cma-kma; The Weather Channel. Typhoon Mitag Impacted Taiwan, Japan's Southernmost Ryukyu Islands with Wind and Rain, Then Brushed by Eastern China. 1 October 2019. https://weather.com/storms/hurricane/news/2019-09-27-tropical-storm-typhoon-mitag-forecast-japan-south-korea-taiwan

156 ECHO. Taiwan - Earthquake (GDACS, USGS, CWB, media) (ECHO Daily Flash of 8 August 2019). 8 August 2019. https://reliefweb.int/report/china-taiwan-province/taiwan-earthquake-gdacs-usgs-cwb-media-echo-daily-flash-8-august-2019

157 ECHO. Taiwan - Tornado (CWB, media) (ECHO Daily Flash of 2 July 2019). 2 July 2019. https://reliefweb.int/report/china-taiwan-province/taiwan-tornado-cwb-media-echo-daily-flash-2-july-2019

158 Xinhua. Taiwan earthquake claims 17 lives. 11 February 2018. https://reliefweb.int/report/china-taiwan-province/taiwan-earthquake-claims-17-lives; Jennings, Ralph. Many of Taiwan's Earthquake Survivors Were on Upper Floors of Collapsed Buildings. VOA. 9 February 2018. https://reliefweb.int/report/china-taiwan-province/many-taiwan-s-earthquake-survivors-were-upper-floors-collapsed

159 ECHO. China - Tropical Cyclones Nesat and Haitang – DG ECHO Daily map | 31/07/2017. 31 July 2017. https://reliefweb.int/map/china-taiwan-province/china-tropical-cyclones-nesat-and-haitang-dg-echo-daily-map-31072017; Reuters. One missing after second typhoon batters Taiwan. 31 July 2017. https://news.trust.org/item/20170731101550-vx8d8

160 ECHO. China, Philippines, Japan – Tropical Cyclone MEGI - ECHO Daily Map | 27/09/2016. 27 September 2016. https://reliefweb.int/map/china-taiwan-province/china-philippines-japan-tropical-cyclone-megi-echo-daily-map-27092016

161 ECHO. Taiwan, Japan, Philippines - Tropical Cyclone MALAKAS - ECHO Daily Map | 16/09/2016. 16 September 2016. https://reliefweb.int/map/china-taiwan-province/taiwan-japan-philippines-tropical-cyclone-malakas-echo-daily-map-16092016

162 IFRC. Taiwan: Typhoon Nepartak - Information Bulletin n° 1. 9 July 2016. https://reliefweb.int/report/china-taiwan-province/taiwan-typhoon-nepartak-information-bulletin-n-1; ECHO. Taiwan, China - Tropical Cyclone Nepartak - ECHO Daily Map | 08/07/2016. 8 July 2016. https://reliefweb.int/map/china-taiwan-province/taiwan-china-tropical-cyclone-nepartak-echo-daily-map-08072016

163 ECHO. Taiwan - Earthquake - ECHO Daily Map | 08/02/2016. 8 February 2016. https://reliefweb.int/map/china-taiwan-province/taiwan-earthquake-echo-daily-map-08022016

164 BBC News. East Asia cold snap 'kills 85 in Taiwan'. 25 January 2016. https://www.bbc.com/news/world-asia-35397763

165 Taiwan MOJ. Disaster Prevention and Protection Act - Article Content, Laws and Regulations Database of The Republic of China (Taiwan), Amended Date 28 May 2025. https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=D0120014

166 IFRC. Taiwan: Disaster Prevention and Protection Act 2000, Disaster Law, November 2021. https://disasterlaw.ifrc.org/dmi/dmi_country/58

167 Hale, Erin. Taiwan Marks Deadly but Seminal 1999 Earthquake, Voice of America, 21 September 2022. https://www.voanews.com/a/taiwan-marks-deadly-but-seminal-

1999-earthquake-/6756663.html

168 Bosner, Leo and Chang, I-wei Jennifer. Taiwan's Disaster Preparedness and Response: Strengths, Shortfalls, and Paths to Improvement. Global Taiwan Institute, 2020. https://globaltaiwan.org/wp-content/uploads/2022/08/GTI-Taiwans-Disaster-Preparedness-and-Response-Oct-2020-final-1.pdf

169 Ministry of Justice. Disaster Prevention and Protection Act - Legislative History, Laws and Regulations Database of The Republic of China (Taiwan), as of 28 November 2025. https://law.moj.gov.tw/ENG/LawClass/LawHistory.aspx?pcode=D0120014

170 Bosner, Leo and Chang, I-wei Jennifer. Taiwan's Disaster Preparedness and Response: Strengths, Shortfalls, and Paths to Improvement. Global Taiwan Institute, 2020.

https://globaltaiwan.org/wp-content/uploads/2022/08/GTI-Taiwans-Disaster-Preparedness-and-Response-Oct-2020-final.pdf

171 Image source: https://cdprc.ey.gov.tw/File/798F42B7DFC4FC77?S=L. Disaster Prevention and Relief Office, The organizational structure of the central disaster prevention and rescue system, Central Disaster Prevention and Response Council, 8 December 2023, https://cdprc.ey.gov.tw/Page/A80816CB7B6965EB

172 Armstrong, Neil. Inside Taiwan's Disaster Preparedness Playbook, Taiwan Business TOPICS, American Chamber of Commerce in Taiwan, 24 March 2025. https://topics.amcham.com.tw/2025/03/inside-taiwans-disaster-preparedness-playbook/

173 Bosner, Leo and Chang, I-wei Jennifer. Taiwan's Disaster Preparedness and Response: Strengths, Shortfalls, and Paths to Improvement. Global Taiwan Institute, 2020. https://globaltaiwan.org/wp-content/uploads/2022/08/GTI-Taiwans-Disaster-Preparedness-and-Response-Oct-2020-final-1.pdf

174 Central Disaster Prevention and Protection Commission. Basic Plan of Disaster Prevention and Protection (2024-2028), Executive Yuan, December 2023, https://www.ey.gov.tw/File/78B824DE23BBBA99

175 Emergency Response + Crisis Preparedness Interview with the Central Emergency Operations Centre. Trade Office of Swiss Industries. https://www.eda.admin.ch/content/dam/countries/countries-content/taiwan-taipei/en/2024-07-Interview_CEOC.pdf; Pei-Hsuan Chiang, Ariel. "Taiwan's Natural Disaster Response and Military-Civilan Partnerships." Global Taiwan Institute, 16 May 2018. https://globaltaiwan.org/2018/05/taiwans-natural-disaster-response-and-military-civilian-partnerships/

176 Su YF, Wu CH, Lee TF. Public Health Emergency Response in Taiwan. Health Secur. 2017 Mar/Apr;15(2):137-143. doi: 10.1089/hs.2016.0108. PMID: 28418737; PMCID: PMC5404248

177 Chang, Ray Hsienho. Challenges in Preparing for and Responding to Disasters in Taiwan and The U.S.: Reflections from Practice and Academia – Current and Emerging Trends in the Management of International Disasters, Current and Emerging Trends in the Management of International Disasters, 2024, https://uta.pressbooks.pub/trendsininternationaldisastermanagement/chapter/challenges-in-preparing-for-and-responding-to-disasters-in-taiwan-and-the-u-s-reflections-from-practice-and-academia/

178 Kai, Krakias. Advanced Warnings, Taiwan Today, 1 October 2025, https://taiwantoday.tw/Society/Taiwan-Review/276067/Advanced-Warnings ; https://www.europeanbusinessreview.eu/page.asp?pid=7847

179 Taiwan National Fire Agency. https://www.nfa.gov.tw

180 DeAeth, Duncan. Taiwan Fire Agency celebrates 30 years with new training center, Taiwan News, 20 June 2025, https://www.taiwannews.com.tw/news/6139081

181 Everington, Keoni. Taiwan halts relief mission to Myanmar over junta's continued warfare amid disaster, Taiwan News, 31 March 2025, https://www.taiwannews.com.tw/news/6073045

182 Photo by CFE-DM personnel.

183 Tsai, Chih-Hung. Taiwan Puts Elite Rescue Team on Standby Following Devastating Myanmar Earthquake, 28 March 2025, https://insighttaiwan.com/taiwan-rescue-team-myanmar-earthquake-2025/

184 CFE-DM. An Introduction to Humanitarian Assistance and Disaster Relief (HADR) and Search and Rescue (SAR) Organizations in Taiwan, 2021. https://www.cfe-dmha.org/LinkClick.aspx?fileticket=LnhWX9fBboY%3d&portalid=0

185 Taipei City Fire Department. Taipei City Urban Search and Rescue Team International Humanitarian Aid Mobilization Drill Heavy Urban Search and Rescue Team Capacity Drill Preparing for Domestic and International Disasters, 4 July 2024, https://english.119.gov.taipei/News_Content.aspx?n=5A5095A76D29FF0B&sms=DFFA119D1FD5602C&s=1F018C0D4F5F44C6

186 Lin, Leo SF. Taiwan needs to strengthen its civil defence, East Asia Forum, 9 November 2024, https://eastasiaforum.org/2024/11/09/taiwan-needs-to-strengthen-its-civil-defence/

187 NPA email, 23 January 2026.

188 Chen, Yu-fu and Jake Chung. Cabinet says protection of key facilities progressing, Taipei Times, 14 August 2024, https://www.taipeitimes.com/News/taiwan/archives/2024/08/14/2003822219

189 Liu, Tingting and Yu Han Lei, Taiwan police train for attacks on submarine cable station, TVBS, 25 November 2025, https://news.tvbs.com.tw/english/3054430

190 NPA communication, 15 December 2025.

191 Disaster Preparedness, Taiwan's New Southbound policy, 2019, https://www.ey.gov.tw/File/78B824DE23BBBA99

192 Office of the President, Republic of China (Taiwan). Whole-of-Society Defense Resilience Committee – About the Committee, accessed 11 December 2025, https://english.president.gov.tw/Page/670

193 Office of the President, Republic of China (Taiwan). Whole-of-Society Defense Resilience Committee – About the Committee, accessed 11 December 2025, https://english.president.gov.tw/Page/670

194 Chan, Eric. "Taiwan's Path to Whole of Society Resilience." Global Taiwan Institute, 27 Aug 2025. https://globaltaiwan.org/2025/08/taiwans-path-to-whole-of-society-resilience/

195 Office of the President, President Lai presides over sixth meeting of Whole-of-Society Defense Resilience Committee, 23 December 2025, https://english.president.gov.tw/News/7063

196 Office of the President. President Lai observes 2025 Whole-of-Society Defense Resilience field exercises, 27 March 2025, https://english.president.gov.tw/NEWS/6933

197 Central Disaster Prevention and Response Council. Summary Report of the 2024 Disaster Prevention and Relief Exercise (113年災害防救演習總結報告), 13 February 2025, https://cdprc.ey.gov.tw/Page/B0F2C258719C7FA4/8d3f359e-f4ba-4727-952c-9b70ec0145cb

198 National Fire Agency. https://rtp.nfa.gov.tw/page/bousai_eng

199 Spirit of America. Taiwan update: Helping Taiwanese citizens stand up for their security and democracy, accessed 11 December 2025. https://spiritofamerica.org/helping-taiwanese-citizens-stand-up-for-their-democracy

200 Ministry of Transportation and Communications, ROC (Taiwan). Self-Help, Mutual Security: Enhanced T-CERT Program Further Boosts Disaster Response Capabilities and Operational Resilience at Port of Hualien, 29 October 2025. https://www.motc.gov.tw/en/app/data/view?module=news&id=158&serno=85702e2a-6ece-4c1c-9508-3c4942fb5ba8

201 Wang, Jieh-Jiuh. Zoom In Zoom Out (interview), Taiwan Plus News, 26 May 2025, https://www.taiwanplus.com/news/news-shows/zoom-in-zoom-out/250527001/how-taiwan-trains-community-emergency-response-teams ; https://www.youtube.com/watch?v=Q4nv_bren-I

202 MOI. Ministry of the Interior Improves Alternative Service Training Instructors to Enhance Disaster Prevention and Relief Capabilities (內政部精進替代役訓練師資 提升防救災量能), 6 November 2025, https://www.moi.gov.tw/News_Content.aspx?n=4&s=333159

203 Focus Taiwan. Taiwan's updated civil defense guide focuses on wartime scenarios, CNA English News, 16 September 2025, https://focustaiwan.tw/politics/202509160018 ; MND. In Case of Crisis: Taiwan's National Public Safety Guide, 19 November 2025, https://prepare.mnd.gov.tw/assets/pdf/manual-en.pdf

204 Taiwan Hot News. Facing the challenge of new compound disasters, the Ministry of the Interior proposes to amend the 'Disaster Prevention and Relief Law', Yahoo News, 23 October 2025, (Original: 面對新型複合災害挑戰 內政部提案修正《災害防救法》translated via MS Edge on 19 November 2025), https://tw.news.yahoo.com/%E9%9D%A2%E5%B0%8D%E6%96%B0%E5%9E%8B%E8%A4%87%E5%90%88%E7%81%BD%E5%AE%B3%E6%8C%91%E6%88%B0-%E5%85%A7%E6%94%BF%E9%83%A8%E6%8F%90%E6%A1%88%E4%BF%AE%E6%AD%A3-%E7%81%BD%E5%AE%B3%E9%98%B2%E6%95%91%E6%B3%95-140000633.html

205 Communication from Taiwan's National Fire Agency, 26 January 2026.

206 Enokida, Ryuta & Fukushima, Yo & Tang, Chi-Hsien & Pan, Tsung-Yi & Kuo, Chun-Lin & Ikago, Kohju & Izumi, Takako & Kuriyama, Shinichi. (2025). Earthquake disaster resilience in Taiwan observed from the April 2024 ML 7.1 Hualien earthquake. Frontiers in Built Environment. 11. 10.3389/fbuil.2025.1593942.

207 Su YF, Wu CH, Lee TF. Public Health Emergency Response in Taiwan. Health Secur. 2017 Mar/Apr;15(2):137-143. doi: 10.1089/hs.2016.0108. PMID: 28418737; PMCID: PMC5404248

208 Kai, Krakias. Advanced Warnings, Taiwan Today, 1 October 2025, https://taiwantoday.tw/Society/Taiwan-Review/276067/Advanced-Warnings

209 Su YF, Wu CH, Lee TF. Public Health Emergency Response in Taiwan. Health Secur. 2017 Mar/Apr;15(2):137-143. doi: 10.1089/hs.2016.0108. PMID: 28418737; PMCID: PMC5404248, https://pmc.ncbi.nlm.nih.gov/articles/PMC5404248/

210 Lin, Che-yuan and Jason Pan, Agency earmarks US$3.79m budget for civilian defense, Taipei Times, 15 November 2024, https://www.taipeitimes.com/News/taiwan/archives/2024/11/15/2003826949

211 Laws & Regulations Database of The Republic of China (Taiwan), Civil Defense Act, Amended Date 20 January 2021, https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=D0080118

212 Taiwan NFA. Disaster Management White Paper (災害防救白皮書), 17 December 2024, pg. 42. https://cdprc.ey.gov.tw/File/D16E859ED74F7D37?A=C

213 NFA. T-CERT Mid-Term Program Plan, (建置臺灣民間自主緊急應變隊中程計畫(核定版)), June 2023. https://www.nfa.gov.tw/pro/index.php?code=list&flag=detail&ids=1345&article_id=14096

214 Wang, Jieh-Jiuh. Zoom In Zoom Out (interview), Taiwan Plus News, 26 May 2025. https://www.taiwanplus.com/news/news-shows/zoom-in-zoom-out/250527001/how-taiwan-trains-community-emergency-response-teams ; NFA input 26 January 2026.

215 Taiwan International Ports Corporation, Ltd. Self-Help, Mutual Security: Enhanced T-CERT Program Further Boosts Disaster Response Capabilities and Operational Resilience at Port of Hualien, 29 October 2025, https://www.twport.com.tw/en/news/News?A=29&Id=10453&P=1

216 Zhu, Naiying. Everyone has the ability to defend their homeland! Seventy percent of the members of the first batch of "Taiwan Community Emergency Response Team T-CERT" are women. (每一個人都有能力守衛家園！首批「台灣社區緊急應變隊T-CERT」成員七成是女性), Watchout, 18 September 2023. https://watchout.tw/reports/ZjsFCsdIwVY-dGklSzTYd

217 Fu, Hiro. Taiwan Races to Scale Up Revamped Conscription Program Before 2027, The Diplomat, 11 April 2025, https://thediplomat.com/2025/04/taiwan-races-to-scale-up-revamped-conscription-program-before-2027/

218 MOI. 99.65% Pass Rate! 1,150 Substitute Service Draftees from the 258th Class Obtain EMT-1 Certification, Strengthening the Social Safety Net as Mobile First Responders, 25 September 2024, https://www.moi.gov.tw/English/News_Content.aspx?n=7627&sms=9125&s=321252

219 Lee, Wen-hsin and Lery Hiciano. Ministry to amend alternative service, Taipei Times, 31 May 2025, https://www.taipeitimes.com/News/taiwan/archives/2025/05/31/2003837814

220 MOI. 99.65% Pass Rate! 1,150 Substitute Service Draftees from the 258th Class Obtain EMT-1 Certification, Strengthening the Social Safety Net as Mobile First Responders, 25 September 2024, https://www.moi.gov.tw/English/News_Content.aspx?n=7627&sms=9125&s=321252

221 Myslinski, Alex. Community Defense: Taiwan's Path to Civil Resilience - Taiwan Business TOPICS, American Chamber of Commerce in Taiwan, 17 March 2025, https://topics.amcham.com.tw/2025/03/community-defense-taiwans-path-to-civil-resilience/

222 NFA. Taiwan Disaster Relief Volunteer Corps combine the conceptual structure from both Japan Bousaisi Organi-

zation and Japan Care-fit Organization, https://rtp.nfa.gov.tw/page/bousai_eng

223 NFA, MOI. Brief Introduction to Taiwan Disaster Relief Volunteer Corps, Updated 12 December 2025, https://rtp.nfa.gov.tw/page/bousai_eng

224 NFA input 26 January 2026; Resilient Taiwan Large-scale wind disaster and earthquake preparation and cooperation: Project Information Network, NFA, Updated 12 December 2025, https://rtp.nfa.gov.tw

225 Taipei Times. Ministry touts disaster training, 31 December 2025, https://www.taipeitimes.com/News/taiwan/archives/2025/12/31/2003849802

226 Parker, Olivia. A Rapid Assessment of Humanitarian Non-Governmental Organizations in Taiwan, CFE-DM and University of Maryland, August 2024. https://www.cfe-dmha.org/LinkClick.aspx?fileticket=LHH0cuiBMAA%3d&portalid=0

227 Armstrong, Neil. Inside Taiwan's Disaster Preparedness Playbook, Taiwan Business TOPICS, American Chamber of Commerce in Taiwan, 24 March 2025, https://topics.amcham.com.tw/2025/03/inside-taiwans-disaster-preparedness-playbook/ ; Billions allocated for reconstruction in wake of typhoon Morakot, P.I.M.E. Asia News, 20 August 2009, https://www.asianews.it/index.php?l=en&art=16097&size=A ; Yang, Hui-Hsuan, Su-Ying Chen, Sung-Ying Chien, and Wei-Sen Li. Forensic Investigation of Typhoon Morakot Disaster: Nansalu and Daniao Village Case Study, NCDR & IRDR ICoE, May 2014, https://docslib.org/doc/1326692/forensic-investigation-of-typhoon-morakot-disaster-nansalu-and-daniao-village-case-study.

228 MND. ROC National Defense Report 2025 (English version), USNI News, 25 November 2025, pg 105. https://news.usni.org/2025/11/25/taiwans-2025-national-defense-report

229 MND. ROC National Defense Report 2025 (English version), USNI News, 25 November 2025, pgs. 7, 51, 53. https://news.usni.org/2025/11/25/taiwans-2025-national-defense-report

230 IFRC. Disaster Prevention and Protection Act, Taiwan, 2000. https://disasterlaw.ifrc.org/media/3382?language_content_entity=en

231 All Out Defense Mobilization Agency. About Us – Functions, MND, https://adma.mnd.gov.tw/uniten/10000/7263

232 Lee, Hsien-feng and Evelyn Kao. Recovered body in Hualien confirmed as missing farm worker, Focus Taiwan, 29 September 2025. https://focustaiwan.tw/society/202509290013

233 TVBS. Taiwan deploys more soldiers for Hualien flood relief, 1 October 2025. https://news.tvbs.com.tw/english/3003621

234 Arranz, Adolfo, A. Aluckal, H. Huang, and V.M. Kawoosa. Typhoon Ragasa: How heavy rainfall led to a lake bursting in Taiwan, Reuters, 25 September 2025. https://www.reuters.com/graphics/ASIA-WEATHER/TAIWAN/znvnngwlmvl/

235 Meng Kit Tang. When the Waters Rose, So Did Taiwan's People – Taiwan Insight, 7 October 2025. https://taiwan-insight.org/2025/10/07/when-the-waters-rose-so-did-taiwans-people/

236 NFA input 26 January 2026; Armstrong, Neil. Inside Taiwan's Disaster Preparedness Playbook, Taiwan Business TOPICS, American Chamber of Commerce in Taiwan, 24 March 2025, https://topics.amcham.com.tw/2025/03/inside-taiwans-disaster-preparedness-playbook/

237 MND. ROC National Defense Report 2025 (English version), USNI News, 25 November 2025. https://news.usni.org/2025/11/25/taiwans-2025-national-defense-report

238 Tsai, Chih-Hung. Taiwan Launches Urban Resilience Exercises to Enhance Civil–Military Defense Against Emergencies, Insight Taiwan, 26 June 2025. https://insighttaiwan.com/taiwan-urban-resilience-exercises-2025-civil-military-defense/

239 Circular Taiwan Network. Towards Sustainable Development 2030—A Report on Taiwan's Current Sustainability Progress, https://circular-taiwan.org/en/learn/sdgs/

240 APEC. Mission Statement, October 2023, https://www.apec.org/about-us/about-apec/mission-statement

241 Sando, Benjamin, and Owen Maireni Daniel Sanchez. Don't Overlook APEC's Usefulness to Taiwan, Global Taiwan Institute, 8 January 2025, https://globaltaiwan.org/2025/01/dont-overlook-apecs-usefulness-to-taiwan/

242 NCDR. The 21st APEC Emergency Preparedness Working Group Meeting and the 18th APEC Senior Disasters Management Officials Forum (SDMOF18), 31 July 2025, https://ncdr.nat.gov.tw/Message/MessageView?itemid=6097&mid=93 ;

The APEC Emergency Preparedness Working Group (EPWG) meeting in Thailand, 18 August 2022, https://ncdr.nat.gov.tw/Message/MessageView?itemid=4825&mid=12

243 APEC. Improving Natural Disaster Resilience in the Asia-Pacific, Jakarta, 21 March 2013, https://www.apec.org/press/videos/2013/2013_0321_resilience ; Introduction of APEC Emergency Preparedness Working Group (EPWG), Wei-Sen Li, Secretary General, NCDR, Taipei, Co-Chair APEC EPWG, APEC Workshop on Scientific Decision Supports for Emergency Preparedness of Natural Hazards, 2015, https://www.bing.com/ck/a?!&&p=3aa24d188beab41332c37e853295cbb93d04a57ed4d1a04ce007721 8b64c1d3fJmltdHM9MTc2NTQ5NzYwMA&ptn=3&ver=2&hsh=4&fclid=1a5f8f8c-3075-6cbb-3555-9a0831396d3b&psq=Introduction+of+APEC+Emergency+Preparedness+Working+Group+(EPWG)+Wei-Sen+Li+Secretary+General%2c+NCDR%2c+Taipei&u=a1aHR0cHM6Ly9uY2RyLm5hdC5nb3YudHcvbWVzc2FnZS9GaWxlTXVsdGlEb3duTG9hZC83OTQ4

244 APEC. Emergency Preparedness, October 2025, https://www.apec.org/Groups/SOM-Steering-Committee-on-Economic-and-Technical-Cooperation/Working-Groups/Emergency-Preparedness

245 Georgetown Institute for Women, Peace and Security, and PRIO Centre on Gender, Peace and Security. Women, Peace and Security Index 2025/26, https://giwps.georgetown.edu/the-index/

246 U.S. Department of State, Women, Peace and Security Centers of Excellence, 20 January 2025, https://www.state.gov/office-of-global-women-s-issues/releases/2025/01/women-peace-and-security-centers-of-excellence

247 Yu, Han Lei. Taiwan launches first female-focused disaster prep course, TVBS World Taiwan, 5 September 2025, https://t.media/2980729

248 IFRC. https://www.ifrc.org/national-societies-directory

249 UNHCR. Cluster Approach, 22 August 2025, https://emergency.unhcr.org/coordination-and-communication/

cluster-system/cluster-approach

250 Taiwan International Cooperation and Development Fund. About Us. https://www.icdf.org.tw

251 Lions Club International. Taipei Shang Bin Lions Club, https://e-clubhouse.org/sites/shangbin/

252 Lions Club International. Taipei Jenai Lions Club, https://e-clubhouse.org/sites/taipeijenai/

253 Chen, Kelvin. Taiwan president praises humanitarian work by Lions Clubs International, Taiwan News, 16 November 2022, https://www.taiwannews.com.tw/news/4720078

254 Taiwan Rotary Association, https://www.taiwan-rotary.org/ ; TECO Toronto, More than 1000 Taiwanese Rotary Club members attend Rotary International Convention 2018 in Toronto and set up the Taiwan booth at House of Friendships at Metro Toronto Convention Centre, 10 July 2018, https://www.roc-taiwan.org/cayyz_en/post/6101.html

255 Taiwanese districts respond after deadly typhoon, ReliefWeb, 18 August 2009, https://reliefweb.int/report/china-taiwan-province/taiwanese-districts-respond-after-deadly-typhoon

256 Rotary Club of Taipei, https://www.rctaipei.org.tw/page/international-service-projects

257 Kiwanis. Asia-Pacific Region – Taiwan. https://kiwanisaspac.org/districts/taiwan/

258 Kiwanis - Taiwan. http://www.kiwanis.org.tw ; https://www.kiwanis.org.tw/club/index.html?ID=tkcf

259 International Monetary Fund. World Economic Outlook Database - Groups and Aggregates, https://www.imf.org/en/publications/weo/weo-database/2023/april/groups-and-aggregates

260 Robertson, Stella. How Taiwan Gives Humanitarian Aid as a Rich but Politically Isolated Country, Domino Theory, 21 April 2025, https://dominotheory.com/how-taiwan-gives-humanitarian-aid-as-a-rich-but-politically-isolated-country/

261 Taiwan AID. About Us, accessed 12 December 2025, https://www.taiwanaid.org/en

262 Wang, Robert. Building a Regional NGO Hub in Taiwan, Global Taiwan Institute, 8 January 2025, https://globaltaiwan.org/2025/01/building-a-regional-ngo-hub-in-taiwan/

263 Chinese Christian Relief Association, http://www.ccra.org.tw/; Olivia Parker, A Rapid Assessment of Humanitarian Non-Governmental Organizations in Taiwan, CFE-DM, August 2024, https://www.cfe-dmha.org/LinkClick.aspx?fileticket=LHH0cuiBMAA%3d&portalid=0

264 CCRA, https://www.ccra.org.tw/SviAriticlePage.aspx?SVSID=2; CFE-DM, An Introduction to Humanitarian Assistance and Disaster Relief (HADR) and Search and Rescue (SAR) Organizations in Taiwan, 2021, https://www.cfe-dmha.org/LinkClick.aspx?fileticket=LnhWX9fBboY%3d&portalid=0

265 International Headquarters S.A.R., Taiwan. http://www.rescue.org.tw/

266 Taiwan AID. International Headquarters S.A.R. Taiwan Rescue Team in Turkey, 3 March 2023, https://www.taiwanaid.org/en/news/533

267 Taiwan Today. Dashing to the Rescue, 1 July 2007. https://taiwantoday.tw/Society/Taiwan-Review/22164/Dashing-to-the-Rescue

268 International Headquarters, S.A.R., Taiwan. World - The earthquake in Nepal, https://www.rescue.org.tw/international%20reports/Internal_international%20%20rescue001.html

269 Mustard Seed Mission. https://www.mustard.org.tw/English/Default.aspx

270 Presbyterian Church of Taiwan, https://english.pct.org.tw

271 Taiwan Disaster Relief Foundation, https://www.tf4dr.org/about

272 Taiwan Fund for Children and Families. https://international.ccf.org.tw/

273 Taiwan Red Cross, http://www.redcross.org.tw/english/index.jsp; IFRC https://www.ifrc.org/Docs/ExcelExport/NS_Directory.pdf

274 Taiwan Red Cross. http://www.redcross.org.tw/english/home.jsp?pageno=201403060010

275 Taiwan Red Cross. Disaster Preparedness Center. https://www.redcross.org.tw/english/home.jsp?serno=202209160029

276 CFE-DM. An Introduction to Humanitarian Assistance and Disaster Relief (HADR) and Search and Rescue (SAR) Organizations in Taiwan, 2021. https://www.cfe-dmha.org/LinkClick.aspx?fileticket=LnhWX9fBboY%3d&portalid=0

277 Taiwan Red Cross. Taiwan Red Cross Strengthens Community Resilience Through Advanced Urban Rescue Training, 20 October 2025, https://www.redcross.org.tw/english/home.jsp?serno=202209160002&acttype=view&dataserno=202510200002

278 The Red Cross Society of The Republic of China (Taiwan). History of the Red Cross Act, https://www.redcross.org.tw/english/home.jsp?serno=202209160013

279 Lee, Hsin-fang, Yen-ling Chiu and Jake Chung. Negotiations end in decision to abolish Red Cross Act, Taipei Times, 25 May 2016, https://www.taipeitimes.com/News/front/archives/2016/05/25/2003647057

280 IFRC. About National Societies. https://www.ifrc.org/who-we-are/international-red-cross-and-red-crescent-movement/about-national-societies

281 Peace Winds America. http://peacewindsamerica.org/typhoon-morakot/

282 Taiwan Root Medical Peace Corps, http://www.taiwanroot.org/?l=en

283 Tzu Chi Foundation. https:// global.tzuchi.org/

284 Tzu Chi Foundation. Jing Si Partition Tents: Prioritizing Privacy and Peace of Mind, 6 April 2024, https://global.tzuchi.org/jing-si-partition-tents-prioritizing-privacy-and-peace-of-mind

285 Forward Alliance. https://www.forward.org.tw/

286 Photo by CFE-DM personnel.

287 Robertson, Stella. Religious Groups Are the Quiet Leaders of Taiwan's Resilience, Domino Theory, 6 January 2025, https://dominotheory.com/religious-groups-are-the-quiet-leaders-of-taiwans-resilience/

288 Kuma Academy. https://kuma-academy.org/about?lang=en

289 Tan, Huileng. China's Military Threats Grow. so Does Taiwan's Civilian Training, Business Insider, 14 September 2025, https://www.businessinsider.com/taiwan-civilian-defense-kuma-training-china-invasion-risk-preparation-2025-9

290 Hsu, Shih-kai. 'We have to be ready ourselves before we can help anyone else', Radio Free Asia, 30 January 2024, https://www.rfa.org/english/news/china/taiwan-civil-defense-01302024103109.html

291 Roberston, Stella. Women Are the Backbone of Civil Defense in Taiwan, Domino Theory, 9 December 2024. https://dominotheory.com/women-are-the-backbone-of-civil-defense-in-taiwan/

292 Photo by NFA/MOI.

293 Taiwan Executive Yuan. Disaster Preparedness, Taiwan's New Southbound policy, 2019, https://www.ey.gov.tw/File/78B824DE23BBBA99

294 Taiwan-Asia Exchange Foundation, "The 2024 Taiwan and Philippines Training Program for Special Rescue Team" Opening Ceremony: Taiwan and the Philippines Join Hands to Deepen Firefighting Cooperation and Build Regional Resilience in Asia, 10 September 2024, https://www.taef.org/event/1301

295 Photos 9-13 by CFE-DM personnel.

296 NFA, White Paper on Disaster Prevention and Relief, Chapter 3, 2024. https://cdprc.ey.gov.tw/File/D16E859ED74F7D37?A=C

297 Miolene, Elissa. State Department refugee office assumes USAID's disaster response role, Devex, 22 May 2025, https://www. devex.com/news/state-department-refugee-office-assumes-usaid-s-disaster-response-role-110139

298 Congressional Research Service. Taiwan: Background and U.S. Relations, 15 August 2025, https://www.congress.gov/crs_external_products/IF/PDF/IF10275/IF10275.85.pdf

299 AIT. Taiwan Relations Act – January 1, 1979, https://www.ait.org.tw/policy-history/taiwan-relations-act/

300 AIT. Three Communiqués Archives. https://www.ait.org.tw/tag/three-communiques/

301 CRS. The U.S. "One-China" Policy and Taiwan, Congressional Research Service, 18 August 2025, https://www.congress.gov/crs_external_products/IF/PDF/IF12503/IF12503.6.pdf

302 AIT. U.S.-PRC Joint Communique (1972), https://www.ait.org.tw/u-s-prc-joint-communique-1972/

303 AIT. U.S.-PRC Joint Communique (1979), https://www.ait.org.tw/u-s-prc-joint-communique-1979/

304 AIT. U.S.-PRC Joint Communique (1982), https://www.ait.org.tw/u-s-prc-joint-communique-1982/

305 CRS. President Reagan's Six Assurances to Taiwan, 18 February 2025, https://www.congress.gov/crs_external_products/IF/PDF/IF11665/IF11665.9.pdf

306 Global Cooperation and Training Framework (GCTF), About GCTF, accessed 18 December 2025, https://www.gctf.tw/en/Countries.htm

307 Global Cooperation and Training Framework (GCTF), Workshop fields – Humanitarian Assistance and Disaster Relief, accessed 18 December 2025, https://www.gctf.tw/en/issues7_0.htm

308 AIT, GCTF International Workshop Stresses Public-Private Cooperation in Humanitarian Assistance and Disaster Response (HA/DR), 23 June 2025, https://www.ait.org.tw/gctf-international-workshop-stresses-public-private-cooperation-in-humanitarian-assistance-and-disaster-response-hadr/

309 AIT, GCTF Workshop Strengthens International Collaboration on Whole-of-Society Resilience, 4 March 2025, https://www.ait.org.tw/gctf-workshop-strengthens-international-collaboration-on-whole-of-society-resilience/

310 AIT, 2024 GCTF International Workshop on Impacts of Climate Change on the Ocean, 3 October 2024, https://www.ait.org.tw/2024-gctf-international-workshop-on-impacts-of-climate-change-on-the-ocean/

311 AIT, Building the Resilience of Nations and Communities to Disasters, 4 May 2022, https://www.ait.org.tw/building-the-resilience-of-nations-and-communities-to-disasters/

312 AIT, Building Disaster Resilience at Global and National Levels (24 September, 2021), https://www.ait.org.tw/building-disaster-resilience-at-global-and-national-levels-24-september-2021/ ; Remarks by AIT Director Sandra Oudkirk at 2021 GCTF Virtual Conference on Building Disaster Resilience at Global and National Levels, 24 September 2021, https://www.ait.org.tw/remarks-by-ait-dir-oudkirk-2021-vgctf-building-disaster-resilience-at-global-and-national-levels/

313 AIT. Remarks by AIT Director W. Brent Christensen at Virtual GCTF Workshop on COVID-19: Preparing for the Next Wave, 24 June 2020, https://www.ait.org.tw/remarks-by-ait-director-christensen-at-vgctf-on-covid-19/

314 AIT. United States, Taiwan, and Japan Conclude the first Virtual GCTF Workshop on Combatting COVID-19 Disinformation, 30 April 2020, https://www.ait.org.tw/us-taiwan-japan-the-first-vgctf-on-combatting-covid-19-disinfo/

315 AIT. Remarks by AIT Director Raymond F. Greene at Forward Alliance's Cross-Sector Emergency Preparedness Exercise, 14 September 2024. https://www.ait.org.tw/remarks-by-ait-dir-greene-at-forward-alliances-cross-sector-emergency-preparedness-exercise/?_ga=2.206708371.1017926163.1767669055-1220334149.1764613696

316 Spirit of America. Taiwan citizens showcase their disaster response skills at Spirit of America-sponsored event, https://spiritofamerica.org/taiwan-citizens-showcase-their-disaster-response-skills

317 AIT-Supported Training in New Taipei City Enhances Local-Level First Responder Skills November 23rd-24th, 2024, AIT, 25 November 2024, https://www.ait.org.tw/ait-supported-training-in-new-taipei-city-enhances-local-level-first-responder-skills-november-23rd-24th-2024/?_ga=2.12328884.1017926163.1767669055-1220334149.1764613696

318 AIT. 921 Earthquake Commemoration: Disaster Prevention and Relief Cooperation between the U.S., Japan, and Taiwan, 21 September 2024, https://www.ait.org.tw/921-earthquake-commemoration-disaster-prevention-and-relief-cooperation-between-the-u-s-japan-and-taiwan/?_ga=2.180491815.1017926163.1767669055-1220334149.1764613696

319 Photos 12-14 by CFE-DM personnel.

320 Taiwan National Fire Agency. Disaster Management White Paper, 2024 (ROC Year 113), Chapter 3, page 137, https://cdprc.ey.gov.tw/File/D16E859ED74F7D37?A=C

321 Armstrong, Neil. Inside Taiwan's Disaster Preparedness Playbook, Taiwan Business TOPICS, American Chamber of Commerce in Taiwan, 24 March 2025, https://topics.amcham.com.tw/2025/03/inside-taiwans-disaster-prepared-

ness-playbook/

322 Seacon Logistics. Transport Taiwan with Seacon Logistics. https://www.seaconlogistics.com/en/transport-taiwan

323 National Development Council. Forward-looking Infrastructure Development Program. https://www.ndc.gov.tw/en/Content_List.aspx?n=BCDB1EECF95E18E2

324 Invest Taiwan.gov. Infrastructure. https://investtaiwan.nat.gov.tw/showPageeng414?lang=eng&search=414&menuNum=2

325 Invest Taipei. https://invest.taipei/pages/E_Infrastructure.html

326 Taiwan National Fire Agency.

327 World Factbook. Transportation. Accessed 18 November 2025. https://www.cia.gov/the-world-factbook/countries/taiwan/#transportation

328 Taiwan Waves of Wonder. International Airlines. https://eng.taiwan.net.tw/m1.aspx?sNo=0024017#:~:text=There%20are%20four%20international%20airports%20in%20Taiwan:,visit%20the%20websites%20of%20the%20domestic%20airports.

329 World Data.info. The 15 largest airports and airlines in Taiwan. Accessed 25 November 2025. https://www.worlddata.info/asia/taiwan/airports.php

330 Invest Taipei. https://invest.taipei/pages/E_Infrastructure.html; Hotels.com. Taipei Songshan Airport. https://www.hotels.com/go/taiwan/taipei-airport

331 Vietjetair.com. Taiwan Taoyuan International Airport, Taiwan: Address, Images, and Notes, https://www.vietjetair.com/en/pages/taiwan-taoyuan-international-airport-taiwan-address-images-and-notes-1715227053831 ; Formosa Guide. Airports in Taiwan, https://www.formosaguide.com/search?q=airports+in+taiwan

332 Formosa Guide. Airports in Taiwan. Accessed 12 December 2025. https://www.formosaguide.com/2014/11/airports-in-taiwan.html#:~:text=Taichung%20Airport%20(RMQ)%20It%27s%20about%20an%20hour,the%20mainland.%20Flights%20also%20depart%20for%20Kinmen.

333 Vietnam Airlines. Kaohsiung International Airport: Flight schedule and transportation guide 2025. Accessed 12 December 2025. https://www.vietnamairlines.com/in/en/useful-information/travel-guide/san-bay-quoc-te-cao-hung

334 Invest Taipei. https://invest.taipei/pages/E_Infrastructure.html; Hotels.com. Taipei Songshan Airport. https://www.hotels.com/go/taiwan/taipei-airport

335 Bubble Tea Island. Taiwan International Airports/What are they? https://bubbleteaisland.com/2023/12/14/taiwan-international-airports-what-are-they/

336 Vietnam Airlines. Kaohsiung International Airport: Flight schedule and transportation guide 2025. Accessed 12 December 2025. https://www.vietnamairlines.com/in/en/useful-information/travel-guide/san-bay-quoc-te-cao-hung

337 Bubble Tea Island. Taiwan International Airports/What are they? https://bubbleteaisland.com/2023/12/14/taiwan-international-airports-what-are-they/

338 Vietjetair.com Taichung Airport, Taiwan: Address, Images, and Tips. Accessed 12 December 2025. https://www.vietjetair.com/en/news/travel-guides-1665635013747/taichung-airport-taiwan-address-images-and-tips-1712130753349

339 Airports Worldwide, Hualien Airport, https://www.airports-worldwide.com/taiwan/hualien_taiwan.php

340 Association of Pacific Ports. About Maritime and Port Bureau, Taiwan. Accessed 24 November 2025. https://pacificports.org/directory/maritime-and-port-bureau-taiwan/

341 International Association of Ports and Harbors (IAPH). Port of Kaohsiung. https://www.iaphworldports.org/memberports/port-of-kaohsiung/

342 Lena, Christina. 25 of the World's Largest Shipping Ports. 19 July 2024. SCF Containers. https://scf.com.au/news-articles/largest-shipping-ports/?srsltid=AfmBOorLyA-VDVOApvXLG7PtjSjgdY6ErdsTJB1RpancsFfdv-Ep8rxg3

343 Association of Pacific Ports. About Port of Kaohsiung, Taiwan International Ports Corporation, Ltd. Accessed 24 November 2025. https://pacificports.org/directory/port-of-kaohsiung-taiwan-international-ports-corporation-ltd/

344 Association of Pacific Ports. About Port of Hualien, Taiwan International Ports Corporation, Ltd. Accessed 24 November 2025. https://pacificports.org/directory/port-of-kaohsiung-taiwan-international-ports-corporation-ltd/

345 Association of Pacific Ports. About Port of Keelung, Taiwan International Ports Corporation, Ltd. Accessed on 24 November 2025. https://pacificports.org/directory/port-of-keelung-taiwan-international-ports-corporation-ltd/

346 Association of Pacific Ports. About Port of Taichung, Taiwan International Ports Corporation, Ltd. Accessed 24 November 2025. https://pacificports.org/directory/port-of-taichung-taiwan-international-ports-corporation-ltd/

347 Brittanica. Su-ao. https://www.britannica.com/place/I-lan-Taiwan

348 Marine Insight.com. 8 Major Ports of Taiwan. Accessed 25 November 2025. https://www.marineinsight.com/know-more/8-major-ports-of-taiwan/

349 Marine Insight.com. 8 Major Ports of Taiwan. Accessed 25 November 2025. https://www.marineinsight.com/know-more/8-major-ports-of-taiwan/

350 Marine Insight.com. 8 Major Ports of Taiwan. Accessed 25 November 2025. https://www.marineinsight.com/know-more/8-major-ports-of-taiwan/

351 Highway Bureau, MOTC. Highway History. Accessed 26 November 2025. https://www.thb.gov.tw/en/cp.aspx?n=723

352 Worlddata.info. Infrastructure and transportation in Taiwan. https://www.worlddata.info/asia/taiwan/transport.php#:~:text=Road%20traffic,(50%20km/h).

353 Plonkit.net. Taiwan. https://www.plonkit.net/taiwan

354 Chung, Oscar. Open Road. 2 June 2025. Taiwan Today. https://www.taiwantoday.tw/Environment/Taiwan-Review/270332/Open-Road

355 Chang, Wayne. One of Taiwan's most beautiful roads ahs reopened. 6 May 2022. CNN. https://www.cnn.com/travel/article/taiwan-southern-cross-island-highway-reopens-intl-hnk

356 Invest Taipei. https://invest.taipei/pages/E_Infrastructure.html

357 Invest Taipei. https://invest.taipei/pages/E_Infrastructure.html

358 Invest Taipei. https://invest.taipei/pages/E_Infrastructure.html

359 World Factbook. Transportation. Accessed 18 November 2025. https://www.cia.gov/the-world-factbook/countries/taiwan/#transportation

360 Chun-fang, Chen, et. al. Waterfront Poetics: Aquatic Environments in Taiwan. May 2025. Taiwan Panaroma. https://www.taiwan-panorama.com/en/Articles/Details?Guid=958beed6-f070-4224-a66a-e5b46fe0f152&CatId=10&postname=Waterfront%20Poetics%3A-Aquatic%20Environments%20in%20Taiwan-&srsltid=AfmBOoqboUo0XiE1PjjhWsk5Cl44B_u3s7oCfKtFyae1XrdCON1eYs2C

361 World Atlas. Longest rivers in Taiwan. Accessed 26 November 2025. https://www.worldatlas.com/articles/longest-rivers-in-taiwan.html

362 World Atlas. Longest rivers in Taiwan. Accessed 26 November 2025. https://www.worldatlas.com/articles/longest-rivers-in-taiwan.html

363 World Atlas. Longest rivers in Taiwan. Accessed 26 November 2025. https://www.worldatlas.com/articles/longest-rivers-in-taiwan.html

364 World Atlas. Longest rivers in Taiwan. Accessed 26 November 2025. https://www.worldatlas.com/articles/longest-rivers-in-taiwan.html

365 Kai, Krakias. Advanced Warnings. 1 October 2025. Taiwan Today. https://www.taiwantoday.tw/Society/Taiwan-Review/276067/Advanced-Warnings#:~:text=The%20NCDR%20also%20manages%20the,landslide%20warnings%20and%20evacuation%20statuses.

366 Armstrong, Neil. Inside Taiwan's Disaster Preparedness Playbook. 24 March 2025. Taiwan Business Topics. https://topics.amcham.com.tw/2025/03/inside-taiwans-disaster-preparedness-playbook/

367 National Communications Commission. Public warning service and testing. 9 October 2018. Accessed 18 November 2025. https://www.ncc.gov.tw/english/news_detail.aspx?site_content_sn=603&is_history=0&pages=0&sn_f=3551#:~:text=Most%20importantly%2C%20users%20can%20trust%20the%20message,the%20Office%20of%20Disaster%20Management%2C%20Executive%20Yuan.

368 National Science and Technology Center for Disaster Reduction. About NCDR – Primary Missions. https://www.ncdr.nat.gov.tw/Page?itemid=61&mid=75 Image: https://www.ncdr.nat.gov.tw/UploadFile/PageItem/e0d3b6062e4d-4d4785e89123f786eb7f.jpg

369 Bush, Evan. Earthquake showed Taiwan was well prepared for a big one — more so than parts of U.S. NBC News. 3 April 2024. https://www.nbcnews.com/science/science-news/taiwan-earthquake-well-prepared-rcna146243

370 Bush, Evan. Earthquake showed Taiwan was well prepared for a big one — more so than parts of U.S. NBC News. 3 April 2024. https://www.nbcnews.com/science/science-news/taiwan-earthquake-well-prepared-rcna146243

371 Wingfield-Hayes. Taiwan earthquake: How the island's two-decade preparation saved it. BBC News. https://www.bbc.com/news/world-asia-68738694

372 Wu, Y.M., et al. Earthquake Early Warning Systems in Taiwan: Current Status. December 2021Journal of the Geological Society of India 97(12):1525-1532. https://www.researchgate.net/publication/357171531_Earthquake_Early_Warning_Systems_in_Taiwan_Current_Status#:~:text=Currently%2C%20the%20nationwide%20regional%20EEW,future%20systems%20for%20real%20operation; Mittal, H., Yang, B.M. & Wu, YM. Progress on the earthquake early warning and shakemaps system using low-cost sensors in Taiwan. Geosci. Lett. 9, 42 (2022). https://geoscienceletters.springeropen.com/articles/10.1186/s40562-022-00251-w/figures/1

373 Mittal, H., Yang, B.M. & Wu, YM. Progress on the earthquake early warning and shakemaps system using low-cost sensors in Taiwan. Geosci. Lett. 9, 42 (2022). https://geoscienceletters.springeropen.com/articles/10.1186/s40562-022-00251-w

374 Wu, Yih-Min and Mittal, Himanshu. A Review on the Development of Earthquake Warning System Using Low-Cost Sensors in Taiwan. Sensors (Basel). 2021 Nov 18;21(22):7649. doi: 10.3390/s21227649. https://pmc.ncbi.nlm.nih.gov/articles/PMC8622038/#:~:text=Seismic%20instrumentation%20for%20earthquake%20early,in%20the%20risk%20mitigation%20process.

375 Kai, Krakias. Advanced Warnings. 1 October 2025. Taiwan Today. https://www.taiwantoday.tw/Society/Taiwan-Review/276067/Advanced-Warnings#:~:text=The%20NCDR%20also%20manages%20the,landslide%20warnings%20and%20evacuation%20statuses.

376 Agency of Rural Development and Soil and Water Conservation, MOA. What are a debris flow disaster prevention commissioner's primary duties? January 12, 2022. Accessed 18 November 2025.

377 Agency of Rural Development and Soil and Water Conservation, MOA. How is a debris flow alert issued? How many types of alerts are there? Accessed 18 November 2025. https://www.ardswc.gov.tw/Home/eng/Service/show_detail?id=c3b83f58bf984ea0ae1f387b75894880

378 Agency of Rural Development and Soil and Water Conservation, MOA. Mind Red and Yellow Alerts for Preventive Evacuation. Accessed 18 November 2025. https://www.ardswc.gov.tw/Home/eng/News/news_more?id=63cafb998a6c-498b9799676cf73cec20&AspxAutoDetectCookieSupport=1

379 Agency of Rural Development and Soil and Water Conservation, MOA. Emergency Mobilization. Accessed 18 December 2025. https://246.ardswc.gov.tw/DisasterApplication/Disasterdeal

380 Image from ARDSWC, https://246.ardswc.gov.tw/images/en/Disasterdeal_img1.svg

381 Agency of Rural Development and Soil and Water Conservation, MOA. Are forecasts issued for debris flows? Accessed 18 November 2025. https://www.ardswc.gov.tw/Home/eng/Service/show_detail?id=7221c4ebbac-74baf80ebdabfb66567d1

382 Agency of Rural Development and Soil and Water Conservation, MOA. Debris-flow disaster prevention & response. Accessed 18 November 2025. https://www.ardswc.gov.tw/Home/eng/Policy/show_detail?id=ff358e48727f4c-c6805902e14e8314b2

383 Agency of Rural Development and Soil and Water Conservation, MOA. Debris-flow disaster prevention & response. Accessed 18 November 2025. https://www.ardswc.gov.tw/Home/eng/Policy/show_detail?id=ff358e48727f4c-c6805902e14e8314b2

384 Petley, Dave. Early Warning and rockfalls in the 3 April 2024 Mw=7.4 Hualien earthquake. Eos. 10 April 2024.

https://eos.org/thelandslideblog/hualien-earthquake-early-warning

385 CNA. Earthquake, tsunami detection system launched; southward expansion mulled. Taipei Times. https://www.taipeitimes.com/News/taiwan/archives/2021/01/03/2003749863; NEC Corporation. NEC delivers submarine cable seismic and tsunami observation system to Taiwan's Central Weather Bureau. 26 January 2021. https://www.nec.com/en/press/202101/global_20210126_01.html

386 CNA. Taiwan activates emergency center for first time over tsunami threat. 30 July 2025. Focus Taiwan; Shan, Shelley. Emergency center opened for tsunami. Taipei Times. 31 July 2025. https://www.taipeitimes.com/News/taiwan/archives/2025/07/31/2003841227

387 Taoyuan Disaster Education Center. Tsunami Evacuation Precautions. 12 July 2020. https://tydec.tyfd.gov.tw/EN/Subject/Info/en32

388 Kuo, Mei. Hard-earned knowledge: Taiwan's Typhoon and Earthquake Response Experience. April 2023. https://www.taiwan-panorama.com/en/Articles/Details?Guid=24581e99-0b27-4bca-9137-77332d6f126a&CatId=7&postname=Hard-Earned%20Knowledge%3A-Taiwan%E2%80%99s%20Typhoon%20and%20Earthquake%20Response%20Experience&srsltid=AfmBOoocpktotcke0d-0j8I-EyXEyAssPay6q6H80mw2Qy6A5ZDNyQtAj

389 Armstrong, Neil. Inside Taiwan's Disaster Preparedness Playbook. 24 March 2025. Taiwan Business Topics. https://topics.amcham.com.tw/2025/03/inside-taiwans-disaster-preparedness-playbook/

390 Taipei Times. Device to boost Mataian barrier lake monitoring. 8 December 2025. https://www.taipeitimes.com/News/taiwan/archives/2025/12/08/2003848513

391 Ready TW. Easy to Know Disaster Website. 2023-08-21. https://www.tfdp.com.tw/en/index.php?code=list&flag=detail&ids=181&article_id=1223#:~:text=During%20disasters%20like%20earthquakes%20or,safe%20escape%20from%20the%20disaster.

392 Rti News. Stephens, Amanda, Editor. Taipei disaster prevention app adds more language options. 23 June 2025. https://www.rti.org.tw/en/news?uid=3&pid=148520

393 CWA. Taiwan Weather App. https://www.cwa.gov.tw/V8/E/S/eservice/app/app_w.html

394 CWA. Earthquake App. https://www.cwa.gov.tw/V8/E/S/eservice/app/app_e.html

395 Lee, Yimou and Teo, Angie. Stay alert: Quake warning app demand surges in earthquake-rattled Taiwan3 May 2024. Reuters. https://www.reuters.com/business/environment/stay-alert-quake-warning-app-demand-surges-earthquake-rattled-taiwan-2024-05-03/

396 CNA. Taiwan to hold nationwide disaster alert drill on Friday. Focus Taiwan. 17 September 2025. https://focustaiwan.tw/society/202509170007; Kai, Krakias. Advanced Warnings. 1 October 2025. Taiwan Today. https://www.taiwantoday.tw/Society/Taiwan-Review/276067/Advanced-Warnings#:~:text=The%20NCDR%20also%20manages%20the,landslide%20warnings%20and%20evacuation%20statuses.

397 Armstrong, Neil. Inside Taiwan's Disaster Preparedness Playbook. 24 March 2025. Taiwan Business Topics. https://topics.amcham.com.tw/2025/03/inside-taiwans-disaster-preparedness-playbook/

398 Chang, Kaiju. Exploring collaborative platforms for disaster risk reduction in Taiwan: Strategies and challenges for effective management. DGO 2024: 25th Annual International Conference on Digital Government Research, Taipei, Taiwan, June 2024https://dl.acm.org/doi/fullHtml/10.1145/3657054.3657094

399 Kai, Krakias. Advanced Warnings. 1 October 2025. Taiwan Today. https://www.taiwantoday.tw/Society/Taiwan-Review/276067/Advanced-Warnings#:~:text=The%20NCDR%20also%20manages%20the,landslide%20warnings%20and%20evacuation%20statuses.

400 Kai, Krakias. Advanced Warnings. 1 October 2025. Taiwan Today. https://www.taiwantoday.tw/Society/Taiwan-Review/276067/Advanced-Warnings#:~:text=The%20NCDR%20also%20manages%20the,landslide%20warnings%20and%20evacuation%20statuses.

401 Ready TW. Easy to Know Disaster Website. https://www.tfdp.com.tw/en/index.php?code=list&flag=detail&ids=181&article_id=1223; NFA. Personalized Disaster Prevention Information Website. https://bear.emic.gov.tw/MY2/home.

402 ITU DataHub Taiwan. https://datahub.itu.int/data/?e=TWN

403 Copper, J.C. "Taiwan." Encyclopedia Britannica. https://www.britannica.com/place/Taiwan. Accessed 20 November 2025.

404 ITU DataHub Taiwan. https://datahub.itu.int/data/?e=TWN

405 "2020 Taiwan Internet Report." Taiwan Network Information Center, 2020. https://report.twnic.tw/2020/en/report_en.pdf, p7

406 "Freedom of the Net 2024: Taiwan." Freedom House. https://freedomhouse.org/country/taiwan/freedom-net/2024

407 Hinrix, Fern. "Building Resilience in Taiwan's Internet Infrastructure from Geopolitical Threats." The Henry M. Jackson School of International Studies, University of Washington, 21 May 2024. https://jsis.washington.edu/news/building-resilience-in-taiwans-internet-infrastructure-from-geopolitical-threats.

408 Tam. Sean. The unseen hand of the shadow fleet in critical undersea infrastructure security. Pacific Forum PacNet #64, 15 August 2025. https://pacforum.org/publications/pacnet-64-the-unseen-hand-of-the-shadow-fleet-in-critical-undersea-infrastructure-security/

409 Tam. Sean. The unseen hand of the shadow fleet in critical undersea infrastructure security. Pacific Forum PacNet #64, 15 August 2025. https://pacforum.org/publications/pacnet-64-the-unseen-hand-of-the-shadow-fleet-in-critical-undersea-infrastructure-security/

410 Cannon, Brendon J. Securing digital lifelines: Resilience for India and others in the age of cable sabotage. Pacific Forum PacNet #83, 14 October 2025. https://pacforum.org/publications/pacnet-83-securing-digital-lifelines-resilience-for-india-and-others-in-the-age-of-cable-sabotage/

411 Strengthening Taiwan's Sea Cable Security. https://hcss.nl/wp-content/uploads/2025/03/Strengthening-Taiwans-Sea-Cable-Security-HCSS-2025.pdf p6

412 Cheng-Min Huang, Edward Chan, and Adnan A. Hyder. 2010. "Web 2.0 and Internet Social Networking: A New Tool for Disaster Management? – Lessons from Taiwan." BMC

Medical Informatics & Decision Making 10 (1): 57-61.

413 "The Ministry of Digital Affairs Continues to Strengthen Digital Resilience and Innovation, Establishing a Trusted Digital Economy Highway Network." Ministry of Digital Affairs, 10 Feb 2025. https://moda.gov.tw/en/press/press-releases/15160

414 "Ministry of Digital Affairs Supported the Establishment of the First Emergency Network Mobile Vehicle, Which Has Already Arrived in Hualien for Disaster Relief Dispatch." Ministry of Digital Affairs, 3 April 2025. https://moda.gov.tw/en/press/press-releases/11992

415 Mok, Charles and Huang, Kenny. "Strengthening Taiwan's Critical Digital Lifeline: An Analysis of Taiwan's Undersea Cable Network Resilience." Stanford Global Digital Policy Incubator Cyber Policy Center, 29 July 2024. https://fsi9-prod.s3.us-west-1.amazonaws.com/s3fs-public/2024-08/undersea-cables-mok_huang-v4.pdf, p16

416 "Ministry of Digital Affairs and TTC Transported Low-Earth Orbit Satellite Equipment to Tianxiang to Assist in Establishing a Disaster Relief Communication network." Ministry of Digital Affairs, 6 April 2025. https://moda.gov.tw/en/press/press-releases/12020

417 Image from MODA: The emergency network mobile vehicle arrives in Hualien for disaster relief. https://moda.gov.tw/en/press/press-releases/11992

418 Molock, Diarra. "A Plan B for PRC Cable-Cutting: Taiwan's Satellite Communications." Global Taiwan Institute, 2 July 2025. https://globaltaiwan.org/2025/07/a-plan-b-for-prc-cable-cutting/

419 Liao, Chi-Horng. 2023. "Exploring the Influence of Public Perception of Mass Media Usage and Attitudes towards Mass Media News on Altruistic Behavior." Behavioral Sciences (2076-328X) 13 (8): 621. doi:10.3390/bs13080621

420 Molock, Diarra. "The Politics of Broadcast Media in Taiwan: The Problem of the National Communications Commission." Global Taiwan Institute, 21 May 2025. https://globaltaiwan.org/2025/05/politics-of-broadcast-media-in-taiwan/

421 Copper, J.C. "Taiwan." Encyclopedia Britannica. https://www.britannica.com/place/Taiwan. Accessed 20 November 2025.

422 2022 Country Reports on Human Rights Practices: Taiwan. US Department of State. https://www.state.gov/reports/2022-country-reports-on-human-rights-practices/taiwan/

423 Kepe, Marta and Scott W. Harold, Building Taiwan's Resilience: Insights into Taiwan's Civilian Resilience Against Acts of War. Santa Monica, CA: RAND Corporation, 2025. https://www.rand.org/pubs/research_reports/RRA3388-1.html, p12

424 Kepe, Marta and Scott W. Harold, Building Taiwan's Resilience: Insights into Taiwan's Civilian Resilience Against Acts of War. Santa Monica, CA: RAND Corporation, 2025. https://www.rand.org/pubs/research_reports/RRA3388-1.html, p12

425 "Freedom of the Net 2024: Taiwan." Freedom House, 2024. https://freedomhouse.org/country/taiwan/freedom-net/2024

426 "'Stories' most popular social media." Taipei Times, 9 Nov 2024. https://www.taipeitimes.com/News/taiwan/archives/2024/11/09/2003826623

427 Cheng-Min Huang, Edward Chan, and Adnan A. Hyder. 2010. "Web 2.0 and Internet Social Networking: A New Tool for Disaster Management? -- Lessons from Taiwan." BMC Medical Informatics & Decision Making 10 (1): 57–61. doi:10.1186/1472-6947-10-57

428 Yue-Fu Tsai, Jih-Liang Hsieh, Wei-Guang Teng, Ting-Wei Hou, Chih-Pin Freg, and Yu-Chung Tsao. 2018. "Discovering Disaster Events from Social Media Streams." International Journal of Industrial Engineering 25 (5): 685–701. https://research-ebsco-com.ezproxy.librarieshawaii.org/linkprocessor/plink?id=b90ec0b3-8472-34e3-8df9-fe2375155e45

429 "Taiwan: Building whole-of-society resilience in face of crisis." Article 19, 9 April 2025. https://www.article19.org/resources/taiwan-building-whole-of-society-resilience-in-face-of-crisis/

430 "TRC takes 30,000 people to aid in flood relief." Taipei Times, 29 September 2025. https://www.taipeitimes.com/News/taiwan/archives/2025/09/29/2003844606

431 Bonsaver, Laura. "Building Digital Resilience: Taiwan's Urgent Need for Robust Social Media Literacy Education." Global Taiwan Institute, 16 July 2025. https://globaltaiwan.org/2025/07/building-digital-resilience/

432 Zaremba, Haley. "Why Taiwan's Power Grid Is a Major National Security Risk. OilPrice.com, 7 Aug 2025. https://oilprice.com/Energy/Energy-General/Why-Taiwans-Power-Grid-Is-a-Major-National-Security-Risk.html

433 Zaremba, Haley. "Why Taiwan's Power Grid Is a Major National Security Risk. OilPrice.com, 7 Aug 2025. https://oilprice.com/Energy/Energy-General/Why-Taiwans-Power-Grid-Is-a-Major-National-Security-Risk.html

434 Su, Yu-Wen. 2020. "Residential Electricity Demand in Taiwan: The Effects of Urbanization and Energy Poverty." Journal of the Asia Pacific Economy 25 (4): 733–56. doi:10.1080/13547860.2019.1706870.

435 2024 Sustainability Report. Taipower, 2024. https://www.taipower.com.tw/mag/Sustainability_en/2024Sustainability.pdf, p25.

436 2024 Sustainability Report. Taipower, 2024. https://www.taipower.com.tw/mag/Sustainability_en/2024Sustainability.pdf, p25.

437 Kramer, Franklin D.; Yu, Philip; Webster, Joseph; and Sizeland, Elizabeth. "Toward resilience: An action plan for Taiwan in the face of PRC aggression." Atlantic Council, Scowcroft Center for Strategy and Security, July 2024. https://www.atlanticcouncil.org/wp-content/uploads/2024/07/Toward-resilience-An-action-plan-for-Taiwan-in-the-face-of-PRC-aggression.pdf

438 Kramer, Franklin D.; Yu, Philip; Webster, Joseph; and Sizeland, Elizabeth. "Toward resilience: An action plan for Taiwan in the face of PRC aggression." Atlantic Council, Scowcroft Center for Strategy and Security, July 2024. https://www.atlanticcouncil.org/wp-content/uploads/2024/07/Toward-resilience-An-action-plan-for-Taiwan-in-the-face-of-PRC-aggression.pdf, p13

439 Kepe, Marta and Scott W. Harold, Building Taiwan's Resilience: Insights into Taiwan's Civilian Resilience Against Acts of War. Santa Monica, CA: RAND Corporation, 2025. https://www.rand.org/pubs/research_reports/RRA3388-1.html.

440 Lin, Miaojung. 2024. "Taiwan's Tech, Building Upgrades Help Blunt Damage From Quake." Bloomberg.Com, April, N.PAG. https://research-ebsco-com.ezproxy.librarieshawaii.

org/linkprocessor/plink?id=7793f8b3-9f96-350f-9686-35df8b281c8e

441 2024 Sustainability Report. Taipower, 2024. https://www.taipower.com.tw/mag/Sustainability_en/2024Sustainability.pdf, p 22

442 "Typhoon Megi: Tsai calls for thorough check-up of power supply system." Taipei Times, 29 Sep 2016. https://www.taipeitimes.com/News/front/archives/2016/09/29/2003656150

443 "Typhoon Megi: Tsai calls for thorough check-up of power supply system." Taipei Times, 29 Sep 2016. https://www.taipeitimes.com/News/front/archives/2016/09/29/2003656150

444 "Typhoon Danas disrupts power, causes crop losses." Euro View, Chamber of Commerce Taiwan, 8 July 2025. https://euroview.ecct.com.tw/category-inside.php?id=2491

445 2024 Sustainability Report. Taipower, 2024. https://www.taipower.com.tw/mag/Sustainability_en/2024Sustainability.pdf, p 4

446 2024 Sustainability Report. Taipower, 2024. https://www.taipower.com.tw/mag/Sustainability_en/2024Sustainability.pdf, p 23

447 https://www.taipower.com.tw/mag/Sustainability_en/2024Sustainability.pdf, p22

448 2024 Sustainability Report. Taipower, 2024. https://www.taipower.com.tw/mag/Sustainability_en/2024Sustainability.pdf, p 57

449 Peterson, Nils. "Learning from Tsai: Energy Policy Lessons for the Lai Administration." Global Taiwan Institute, 17 September 2025. https://globaltaiwan.org/2025/09/learning-from-tsai/

450 https://www.water.gov.tw/en/Subject/Detail/109870?nodeId=4685

451 https://www.wra.gov.tw/en/cp.aspx?n=5184

452 Building Resilient Water Environments: An Introduction to the Water Resources Agency. Taiwan Water Resources Agency, MOEA. P8

453 Building Resilient Water Environments: An Introduction to the Water Resources Agency. Taiwan Water Resources Agency, MOEA. P14

454 Building Resilient Water Environments: An Introduction to the Water Resources Agency. Taiwan Water Resources Agency, MOEA. P14

455 Sui, Cindy. Why the world should pay attention to Taiwan's drought. BBC News, 19 April 2021. https://www.bbc.com/news/world-asia-56798308

456 Lin, Christina. "Food security — a soft spot in Taiwan's silicon shield?" NATO Defense College Foundation, 15 Nov 2023. https://www.natofoundation.org/food/food-security-a-soft-spot-in-taiwans-silicon-shield/

457 Sui, Cindy. Why the world should pay attention to Taiwan's drought. BBC News, 19 April 2021. https://www.bbc.com/news/world-asia-56798308

458 Crook, Steven. "Environmental Impact Assessment: Dead in the water: Taiwan's long-suffering rivers." Taipei Times, 9 March 2022. https://www.taipeitimes.com/News/feat/archives/2022/03/09/2003774445

459 Crook, Steven. "Environmental Impact Assessment: Dead in the water: Taiwan's long-suffering rivers." Taipei Times, 9 March 2022. https://www.taipeitimes.com/News/feat/archives/2022/03/09/2003774445

460 Su YF, Wu CH, Lee TF. Public Health Emergency Response in Taiwan. Health Secur. 2017 Mar/Apr;15(2):137-143. doi: 10.1089/hs.2016.0108. PMID: 28418737; PMCID: PMC5404248.

461 Hui-chin, Lin and Yeh, Esme. "CDC warns of diseases following typhoon." Taipei Times, 8 Jul 2025. https://www.taipeitimes.com/News/taiwan/archives/2025/07/08/2003839933

462 "All-Out Defense Handbook" All-Out Defense Mobilization Agency, Ministry of National Defense, April 2022. https://adma.mnd.gov.tw/files/web/191/file_up/100004/1393/All-Out%20Defense%20Handbook(Template).pdf

463 "All-Out Defense Handbook" All-Out Defense Mobilization Agency, Ministry of National Defense, April 2022. https://adma.mnd.gov.tw/files/web/191/file_up/100004/1393/All-Out%20Defense%20Handbook(Template).pdf

464 Building Resilient Water Environments: An Introduction to the Water Resources Agency. Taiwan Water Resources Agency, MOEA. P18

465 InvesTaiwan. Living Style. Accessed 3 December 2025. https://investtaiwan.nat.gov.tw/showPageeng415?lang=eng&search=415&menuNum=2

466 Ministry of Health and Welfare. 2024 Taiwan Health and Welfare Report. https://service.mohw.gov.tw/ebook/dopl/113/02/index.html

467 Tai-yuan, Chiu. Taiwan's health sector is a success story the world can learn from. 28 April 2025. https://thediplomat.com/2025/04/taiwans-health-sector-is-a-success-story-the-world-can-learn-from/

468 U.S. International Trade Administration. Healthcare technologies Resource Guide: Taiwan. Accessed 2 December 2025. https://www.trade.gov/healthcare-resource-guide-taiwan

469 Tikkanen, Roosa, et al. International Health Care System Profiles: Taiwan. The Commonwealth Fund. 5 June 2020. https://www.commonwealthfund.org/international-health-policy-center/countries/taiwan

470 Ministry of Health and Welfare. 2024 Taiwan Health and Welfare Report. https://service.mohw.gov.tw/ebook/dopl/113/02/index.html

471 Government of Taiwan. Communicable Disease Control Act. 2023-06-28. https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=L0050001

472 Ministry of Health and Welfare. 2024 Taiwan Health and Welfare Report. https://service.mohw.gov.tw/ebook/dopl/113/02/index.html

473 Chung-Hsun Lee, Shih-Hao Lin, Chia-Lung Kao, Ming-Yuan Hong, Po-Chang Huang, Chung-Liang Shih, Chia-Chang Chuang. Impact of climate change on disaster events in metropolitan cities -trend of disasters reported by Taiwan national medical response and preparedness system, Environmental Research, Volume 183, 2020, 109186, https://doi.org/10.1016/j.envres.2020.109186

474 Ministry of Health and Welfare. 2024 Taiwan Health and Welfare Report. https://service.mohw.gov.tw/ebook/dopl/113/02/index.html

475 Ministry of Health and Welfare. 2024 Taiwan Health and Welfare Report. https://service.mohw.gov.tw/ebook/

dopl/113/02/index.html

476 Ministry of Health and Welfare. 2024 Taiwan Health and Welfare Report. https://service.mohw.gov.tw/ebook/dopl/113/02/index.html

477 Ministry of Health and Welfare. 2024 Taiwan Health and Welfare Report. https://service.mohw.gov.tw/ebook/dopl/113/02/index.html

478 Copper, J.C. "Taiwan." Encyclopedia Britannica. https://www.britannica.com/place/Taiwan. Accessed 20 November 2025.

479 "Updated Seismic Safety Regulations for Buildings Go into Effect." National Institutes of Applied Research, 15 Nov 2022. https://www.niar.org.tw/en/xmdoc/cont?xsmsid=0I160457997407279810&sid=0M336426037165353286&sq=ROV

480 2024 Taiwan Health and Welfare Report. Ministry of Health and Welfare, 2 Oct 2025. https://service.mohw.gov.tw/ebook/dopl/113/02/index.html p 130

481 2024 Taiwan Health and Welfare Report. Ministry of Health and Welfare, 2 Oct 2025. https://service.mohw.gov.tw/ebook/dopl/113/02/index.html p 130

482 "Ministry highlights tsunami shelter locations." Taipei Times, 15 Aug 2025. https://www.taipeitimes.com/News/taiwan/archives/2025/08/15/2003842104

483 Lee, Yimou; Hamacher, Fabian; and Wang, Ann. "From subway stations to shopping malls, Taiwan prepares its air raid shelters." Reuters, 2 August 2022. https://www.reuters.com/world/asia-pacific/subway-stations-shopping-malls-taiwan-prepares-its-air-raid-shelters-2022-08-02/

484 Wang, Audrey. "Reconstruction continues a year after Morakot." Taiwan Today, 9 July 2010. https://taiwantoday.tw/AMP/Society/Top-News/16847/Reconstruction-continues-a-year-after-Morakot

485 2024 Taiwan Health and Welfare Report, p 131

486 Ho, Ching-Hsien, Huu-Sheng Lur, Ming-Hwi Yao, Fang-Ching Liao, Ying-Ting Lin, Nobuyuki Yagi, and Hsueh-Jung Lu. 2018. "The Impact on Food Security and Future Adaptation under Climate Variation: A Case Study of Taiwan's Agriculture and Fisheries." Mitigation & Adaptation Strategies for Global Change 23 (3): 311–47. doi:10.1007/s11027-017-9742-3.

487 https://www.ebsco.com/research-starters/geography-and-cartography/taiwan

488 Lin, Oscar. Taiwan Food Security Situation Overview. 19 June 2024. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Taiwan%20Food%20Security%20Situation%20Overview_Taipei_Taiwan_TW2024-0030.pdf

489 Liu, Wan-Yu. "Strategies for Ensuring Food Security in Taiwan Amid Climate Change Challenges." 26 March 2025. https://ap.fftc.org.tw/article/3730

490 Rickards, Jane. Domestic rice supply key as Taiwan negotiates US trade deal. ASPI The Strategist, 22 October 2025. https://www.aspistrategist.org.au/domestic-rice-production-key-as-taiwan-negotiates-us-trade-deal.

491 Lin, Oscar. Taiwan Food Security Situation Overview. 19 June 2024. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Taiwan%20Food%20Security%20Situation%20Overview_Taipei_Taiwan_TW2024-0030.pdf

492 Rickards, Jane. Domestic rice supply key as Taiwan negotiates US trade deal. ASPI The Strategist, 22 October 2025. https://www.aspistrategist.org.au/domestic-rice-production-key-as-taiwan-negotiates-us-trade-deal/

493 Yeh, Teela. Food Processing Ingredients Annual. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Food%20Processing%20Ingredients%20Annual_Taipei%20ATO_Taiwan_TW2025-0010.pdf

494 "Emergency food supplies 'fully planned,' MOA says." Taipei Times, 28 Mar 2028. https://www.taipeitimes.com/News/taiwan/archives/2025/03/28/2003834213

495 Rickards, Jane. Domestic rice supply key as Taiwan negotiates US trade deal. ASPI The Strategist, 22 October 2025. https://www.aspistrategist.org.au/domestic-rice-production-key-as-taiwan-negotiates-us-trade-deal.

496 Lin, Oscar. "Typhoon Gaemi's Impact on Taiwan Agriculture." United States Department of Agriculture Foreign Agricultural Service, 7 Aug 2024. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=%20Typhoon%20Gaemi%27s%20Impact%20on%20Taiwan%20Agriculture_Taipei_Taiwan_TW2024-0035.pdf

497 "Power grid disrupted, offshore turbines undamaged by Typhoon Danas." Taipei Times, 8 July 2025. https://www.taipeitimes.com/News/taiwan/archives/2025/07/08/2003839950

498 Taiwan: Drought Impacts Rice and Other Crops. USDA Foreign Agricultural Service. 10 June 2021. https://www.fas.usda.gov/data/taiwan-taiwan-drought-results-rice-area-reduction-and-crop-loss

499 AFP News. "More birds culled as Taiwan battles worst avian flu in 10 years." 14 Jan 2015. https://sg.news.yahoo.com/more-birds-culled-taiwan-battles-worst-avian-flu-143911035.html

500 "Comprehensive ASF containment plan to safeguard Taiwan's pork industry." Executive Yuan. https://english.ey.gov.tw/Page/61BF20C3E89B856/aaab9837-47bb-42f1-a138-bead80e723fc

501 Su, Yi-Feng et al. "Public Health Emergency Response in Taiwan." Health security vol. 15,2 (2017): 137-143.

502 Yao, Ming-Hwi, Yung-Heng Hsu, Ting-Yi Li, Yung-Ming Chen, Chun-Tang Lu, Chi-Ling Chen, and Pei-Yu Shih. 2024. "Agricultural Disaster Prevention System: Insights from Taiwan's Adaptation Strategies" Atmosphere 15, no. 5: 526. https://doi.org/10.3390/atmos15050526

503 Andoko, Effendi; Liu, Wan-Yu; Zeng, Hua-Jing; and Sjoblom, Agnes. "Review of Taiwan's Food Security Strategy." Food and Fertilizer Technology Center for the Asian and Pacific Region. https://ap.fftc.org.tw/article/2570

504 "Emergency food supplies 'fully planned,' MOA says." Taipei Times, 28 Mar 2025. https://www.taipeitimes.com/News/taiwan/archives/2025/03/28/2003834213

505 Lin, Oscar. Taiwan Food Security Situation Overview. 19 June 2024. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Taiwan%20Food%20Security%20Situation%20Overview_Taipei_Taiwan_TW2024-0030.pdf

506 European Commission. Disaster Risk Management Knowledge Centre (DRMKC). INFORM. https://drmkc.jrc.ec.europa.eu/inform-index

507 Bündnis Entwicklung Hilft. World Risk Report 2025, page 57. World Risk Report 2022-2024 under Downloads and Topic Overview. https://weltrisikobericht.de/worldriskreport/

508 Two examples: Global Crises Index, https://www.crisisindex.info/uploads/files/reports/2024-GCI-Global-CrisisIndex-Report.pdf ; Global Catastrophic Risk Index: Navigating Risk in an Uncertain Future, 2025/2026, https://globalgovernanceforum.org/wp-content/uploads/2025/04/V6-GCRI-2025_2026.pdf

509 GermanWatch. Climate Risk Index 2026, https://www.germanwatch.org/en/cri

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