# CYPRUS

## Management of Earthquake Risk

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**Disclaimer**

## ACRONYMS

| | |
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| **ASP** | Adaptive Social Protection |
| **BBB** | Building Back Better |
| **CCD** | Cyprus Civil Defence[a] |
| **CEA** | California Earthquake Authority |
| **CGSD** | Cyprus Geological Survey Department |
| **CSR** | Corporate Social Responsibility |
| **DG ECHO** | Directorate-General for European Civil Protection and Humanitarian Aid Operations |
| **DRF** | Disaster Risk Financing |
| **DRM** | Disaster Risk Management |
| **DRR** | Disaster Risk Reduction |
| **EEW** | Earthquake Early Warning |
| **EU** | European Union |
| **EWS** | Early Warning System |
| **GDNDR** | General Directorate of Natural Disasters Recovery |
| **GDP** | Gross Domestic Product |
| **GoC** | Government of the Republic of Cyprus |
| **JRCC** | Joint Rescue Coordination Center |
| **MMI** | Modified Mercalli Intensity |
| **NGO** | Nongovernmental organization |
| **NRA** | National Risk Assessment |
| **PGA** | Peak Ground Acceleration |
| **PPP** | Public-Private Partnership |
| **PWD** | Public Works Department |
| **RVS** | Rapid Visual Screening |
| **SMEs** | Small and Medium Enterprises |
| **UCPM** | Union Civil Protection Mechanism |
| **UNESCO** | United Nations Educational, Scientific, and Cultural Organization |
| **UNFICYP** | United Nations Peacekeeping Force in Cyprus |

Notes: a. Name as of April 2025.

## KEY TERMS

**Earthquake risk** is the combination of seismic hazard (for example, the frequency of earthquake occurrence, the strength of ground shaking given an earthquake), exposure (for example, the number of people exposed, the value of assets exposed), and vulnerability (for example, the susceptibility of assets to damage, the ability of populations to cope with earthquake effects).

**Hazard:** A potentially destructive physical phenomenon, such as a natural hazard (for example, earthquake, wildfire).

**Exposure:** The situation of people, infrastructure, housing, production capacities, and other tangible human assets located in hazard-prone areas.

**Vulnerability:** The conditions determined by physical, social, economic, and environmental factors or processes which increase the susceptibility of an individual, a community, assets, or systems to the impacts of hazards.

**Earthquake magnitude** is a quantitative measure of the size or energy released by an earthquake at its source. It is determined using seismic data and reflects the amplitude of seismic waves recorded by seismographs. The most common magnitude scale used today is the moment magnitude scale (Mw), which largely replaced older scales such as the Richter scale. Unlike intensity, which measures the observed effects of an earthquake at specific locations, magnitude provides a standardized measure of an earthquake's overall strength, regardless of where it is measured.

**Earthquake shaking intensity** measures the strength of ground shaking at a specific location and its effects, such as damage or human perception. Intensity varies with distance from the epicenter and local site conditions. In Europe, a commonly used intensity scale is the European Macroseismic Scale (EMS-98), which ranges from I (not felt) to XII (completely devastating) and is based on observed effects on people, buildings, and infrastructure. Another widely used intensity scale is the Modified Mercalli Intensity (MMI) scale, which is used in the United States and other regions. Quantitative measures like Peak Ground Acceleration (PGA) and similar parameters are also used in engineering design and seismic assessment and are based on ground motion recorded by instruments.

**Secondary perils**, also known as earthquake-triggered perils, are hazards triggered by the primary earthquake event. These include landslides, soil liquefaction, tsunamis, and fire following, which can significantly increase the overall damage, losses, and disruption.

**Earthquake risk assessment** is a process that combines hazard, exposure, and vulnerability information to assess expected infrastructure and human losses after an earthquake. Typically, this involves probabilistic calculations considering a range of hypothetical earthquake scenarios.

**Microzonation:** Microzonation studies involve geological and geotechnical surveys and analysis, which are used to create detailed maps of seismic hazards in an area. This information can be incorporated into building codes, inform territory and land use management, and guide post-earthquake reconstruction.

**Building code:** A set of ordinances or regulations and associated standards intended to regulate aspects of the design, construction, materials, alteration, and occupancy of structures necessary to ensure human safety and welfare, including resistance to collapse and damage.

**Early warning systems (EWSs)** are integrated systems that disseminate timely and meaningful information to users threatened by a hazard. These systems enable protective actions to reduce harm posed by the hazard. Examples of EWSs include sirens, text messages/SMS, and TV or radio broadcasts. Different hazard types may require different technical capabilities and infrastructure. For earthquakes, EWSs typically provide post-event information such as earthquake details, impact estimations, public advisories, and aftershock potential. EWSs can also include earthquake early warnings (EEWs) which are alerts that give imminent notice before shaking begins, but these are not widely implemented.

**Earthquake early warning (EEW)** involves detecting initial ground shaking and rapidly notifying end users before imminent, stronger ground shaking. The lead time between notification and stronger ground shaking varies by location, depending on factors such as the density of seismic stations in the area, the distance from the epicenter, and the performance of data telemetry/EEW algorithms. While EEWs can be a part of the EWS, they are highly specialized and location specific and are not widely available.

**Coping capacity:** The ability of people, organizations, and systems to manage adverse conditions, risks, or disasters using available skills and resources.[1]

**Resilience:** The ability of a system and its components to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner, including ensuring the preservation, restoration, or improvement of its essential basic structures and functions.[2]

**'Build back better' (BBB) principle:** The use of the recovery, rehabilitation, and reconstruction phases after a disaster to increase the resilience of nations and communities by integrating disaster risk reduction measures into the restoration of physical infrastructure and societal[3] systems and into the revitalization of livelihoods, economies, and the environment.

**Damage:** Total or partial destruction of physical assets existing in the affected area. Damage occurs during and after the disasters and is measured in physical units (that is, square meters of housing, kilometres of roads, and so on).[3]

**Losses** refer to indirectly quantifiable losses (declines in output or revenue, impact on well-being, disruptions to flow of goods and services in an economy), or additional operational costs associated with response and initial repairs.

**Reconstruction:** The medium- and long-term rebuilding and sustainable restoration of resilient critical infrastructures, services, housing, facilities, and livelihoods required for the full functioning of a community or society affected by a disaster, aligning with the principles of sustainable development and BBB to avoid or reduce future disaster risk.

**Rehabilitation:** The restoration of basic services and facilities for the functioning of a community or society affected by a disaster.

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[1] Mysiak, J., V. Casartelli, and S. Torresan. 2021. *Union Civil Protection Mechanism - Peer Review Programme for Disaster Risk Management: Assessment Framework*. Euro-Mediterranean Center on Climate Change. Link.

[2] World Bank and European Commission. 2021. *Investing in Disaster Risk Management in Europe Makes Economic Sense, Background Report. Economics for Disaster Prevention and Preparedness*. Link.

[3] World Bank and European Commission. 2021.

# EXECUTIVE SUMMARY

**The Republic of Cyprus (hereafter referred to as 'Cyprus') faces various natural hazards, including earthquakes.** According to the National Risk Assessment (NRA) for the Republic of Cyprus, earthquakes pose the second greatest risk of high impact, following wildfires.[4] Based on national and European-wide seismic hazard assessments, Cyprus is classified as a high-hazard seismic area, with the highest risk concentrated in the southern part of the island. Since it has been many decades since the last deadly large earthquake (the 1953 $M_w$6.3 Paphos earthquake[5]), public awareness of the earthquake risk and its consequences is relatively limited. Thus, risk reduction, prevention, and preparedness efforts are essential to mitigating the impacts of future earthquakes.

**This report summarizes the results of a rapid review of earthquake risk and management capacity in Cyprus, highlighting potential risk management actions and investment opportunities to inform policy dialogue and future research.** The review considers capacity across multiple dimensions, including governance, understanding earthquake risk, risk reduction and mitigation, early warning and public awareness, preparedness and emergency response, recovery and post-disaster financing, and cross-cutting topics such as social resilience and the role of the private sector. Drawing on available information, each chapter reviews the general context, current arrangements, and key challenges and opportunities to enhance earthquake resilience in Cyprus.

[4] Cyprus Civil Defence. 2018. *National Risk Assessment for the Republic of Cyprus*. Link.
[5] Magnitude M6.3 - 9 km WSW of Paphos, Cyprus. Link.

## KEY MESSAGES

***The following key messages can be highlighted based on the review of earthquake risks and risk management capacity:***

**1.** **The earthquake hazard level is high for Cyprus, with the potential for significant impacts.** The highest risk is concentrated in the southern part of the island, where the tourism industry is primarily located, with Limassol and Paphos projected to suffer the most damage.

**2.** **Cyprus has recently developed a National Disaster Risk Reduction (DRR) Strategy, addressing a long-standing gap in national disaster governance, as it previously lacked both a comprehensive strategy and a legally mandated authority to coordinate disaster risk management (DRM) across all levels of government and sectors.** Previous lack of a central coordinating agency, has hindered the systematic integration of seismic resilience into national policies and the effective mobilization of resources for long-term seismic risk reduction and preparedness, resulting in fragmented responsibilities and potential overlaps among agencies. In response to these gaps, the Cyprus Civil Defence (CCD) is developing a new legislative framework to establish a central coordinating authority and operationalize the DRR strategy.

**3.** **The use of risk information in spatial planning and risk reduction efforts is limited.** Modern technology and tools could facilitate risk-informed decision-making. Risk assessment insights could be used by regional and local authorities in land use planning and risk reduction strategies and programs to better coordinate risk reduction activities. Improving disaster loss data management systems and disaster loss tracking tools is also important for evidence-based risk management.

**4.** **Although there have been several earthquake risk reduction efforts in Cyprus, they are not integrated into a broader national earthquake risk reduction program, where knowledge sharing across departments and sectors is limited.** The national school retrofit program and the efforts by the Public Works Department (PWD) are examples of comprehensive earthquake risk reduction initiatives in Cyprus; however, there is currently no inter-ministerial coordination mechanism for effective collaboration and cross-sector knowledge sharing among relevant departments. This lack of coordination results in a limited exchange of information and lessons learned related to assessment methods, prioritization frameworks, funding opportunities, and other key aspects necessary for efficiently scaling earthquake DRR efforts.

**5.** **While many buildings in Cyprus have already undergone or are currently undergoing energy efficiency upgrades supported by European Union (EU) funds, dedicated financing for seismic strengthening or retrofitting is limited.** Conducting energy efficiency upgrades and seismic retrofits separately is a missed opportunity and might result in higher overall costs. A joint program for earthquake safety improvements along with energy efficiency improvements for public and private buildings could accelerate earthquake resilience in a cost-efficient manner and leverage diverse funding sources.

**6. While Cyprus is taking steps to improve its early warning systems (EWSs), a comprehensive EWS is currently unavailable, and there is a need for inter-agency collaboration in effectively planning and implementing public awareness campaigns.** Cyprus currently relies on a siren network as its main tool under EWS, with key upgrades being developed, including a 112-emergency management system, an SMS-based alert system, and the replacement of outdated sirens. Among government institutions, there is no strategy related to raising public awareness about earthquakes, which is critical for improving public preparedness due to the infrequency of earthquake events. Integration of the tourism sector in awareness and preparedness campaigns is limited but is critical due to its contribution to the Cyprus economy.

**7. Recognizing that its response capacity could be overwhelmed by a major earthquake, Cyprus is actively taking steps to enhance its preparedness.** This risk is heightened by Cyprus being an island and the farthest Member State from the EU mainland, which presents logistical challenges for response efforts and Union Civil Protection Mechanism (UCPM) support. To address these challenges, the CCD organizes earthquake-specific training exercises, such as DEMONAX, aimed at improving disaster preparedness and facilitating the transfer of knowledge from other EU countries. The CCD also developed educational tools such as the "FEMA building codes" booklet and the "My Safe Yard" campaign to promote public understanding, especially among children, of hazard-specific risk reduction, illustrating effective approaches that could be adapted for earthquake preparedness. Preparedness and response plans, known as ZENON plans, provide a capacity and preparedness building framework in Cyprus; however, in practice, regular and systematic exercises for each plan are not conducted. While Cyprus has an overarching methodology for post-disaster damage assessments, there may be insufficient human resources, particularly trained engineers for on-site post-disaster tasks, as was the case in recent EU earthquakes. Volunteer organizations play a key role in awareness-raising and are well-integrated into emergency response efforts through the CCD. These efforts largely focus on institutional responses and lack broader engagement with the private sector, civil society, and the general public. Expanding participation in earthquake training and drills could significantly strengthen Cyprus's overall preparedness.

**8. Cyprus currently does not have a National Disaster Recovery Framework with 'build back better' (BBB) principles.** Previous recovery efforts have been ad hoc by various ministries and departments, with the government issuing ordinances specific to the disaster. While this can work for smaller disasters, following large damaging events, such as a major earthquake, a systematic, coordinated, and pre-established post-disaster recovery mechanism is needed to ensure efficient recovery. Increasing household earthquake insurance penetration would help ensure the availability of prearranged funding to cover immediate liquidity needs following an earthquake. In addition, establishing dedicated psychological support mechanisms in the aftermath of an earthquake, which are currently limited, represents a critical opportunity to enhance the psychological recovery of first responders, affected communities, and vulnerable groups.

**9.** **The current social protection system does not explicitly consider disasters.** While Cyprus has Social Welfare Services, the current framework does not explicitly use these channels for post-disaster support for the vulnerable population. Since 2016, the CCD has adopted the "TRIPOS" Plan to support people with disabilities or other functional needs during disasters, providing a framework for targeted assistance through a national registry and reinforcing inclusivity in line with UCPM principles. However, the plan has not yet been fully operationalized or integrated into the National DRR Strategy or the broader DRM framework. Migrants and refugee communities who are not familiar with Cyprus's disaster risk context and available resources could also face challenges in a large earthquake.

**10.** **Small and medium enterprises (SMEs) could face challenges in business continuity in case of a major earthquake.** There is no legal framework requiring private companies to develop business continuity plans, leaving businesses, especially SMEs, vulnerable to disruptions from natural hazards, including earthquakes. While some excellent examples exist, such as the SupportCY volunteer network of the Bank of Cyprus, which has various activities on preparedness, response, and raising awareness against disasters including earthquakes, private sector involvement in preparedness efforts is limited.


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## PRIORITIES GOING FORWARD

***Cyprus should prioritize actions and investments to manage earthquake risk across various dimensions.*** *These may include the areas summarized below.*

**1. Review and consider strengthening the governance for earthquake risk management by developing a National Earthquake Risk Reduction Program or adopting a Roadmap for earthquake risk management**. Developing frameworks to assess and mitigate earthquake risk that align national efforts with EU and international standards and formalizing mechanisms for continuous improvement and accountability would enhance effectiveness in earthquake risk management. Designating a central DRM coordinating authority to clarify roles and responsibilities, streamline cross-sector coordination, promote collaboration between different stakeholders, and foster a whole-of-government approach would improve coordination among stakeholders and operationalization. The National Earthquake Risk Reduction Program could aim to standardize programs, share knowledge, unlock different streams of funding (for example, by coupling seismic resilience with energy efficiency measures), and employ a comprehensive prioritization framework that accounts for seismic risk, energy upgrade needs, infrastructure criticality, functional upgrades, and accessibility, ensuring cost-effective, high-impact investments across government institutions.

**2. Expand seismic risk assessment to more sectors and integrate risk information into planning and government continuity and response plans**. Strengthening seismic risk assessment studies to comprehensively cover all sectors, including critical entities and infrastructure, distributed systems, heritage structures, and cascading effects, is essential. This also includes incorporating recent advances in hazard modeling, secondary perils, detailed data on the built environment, and social vulnerability to ensure that risk assessments effectively support comprehensive risk reduction strategies. Earthquake and secondary perils risk assessments could be used by regional and local authorities in land use planning and risk reduction strategies and programs to better coordinate DRR activities. The risk assessments should also consider vulnerable populations and the seismic vulnerability and safety of their housing.

**3. Adapt best practice tools and integrate modern technologies for data collection, management, and risk information sharing to improve and streamline planning, knowledge exchange, earthquake risk awareness, and the use of risk information across various applications.** Standardizing and disseminating risk information through web-based tools with GIS capabilities could enhance the usability of seismic risk assessment results and increase awareness of earthquake risks. Improving disaster loss data management systems and disaster loss tracking tools is also important for evidence-based risk management.

**4. Promote and accelerate seismic retrofit programs targeting critical entities, infrastructure, and housing.** This can be supported by providing guidance on tiered seismic safety assessments for different infrastructure types and their application in investment planning. In addition, training engineers and maintaining a national registry for pre- and post-earthquake rapid visual screening (RVS) would help prioritize buildings for assessment and retrofit interventions. For public infrastructure, knowledge sharing and lessons learned from previous retrofit program implementations could help accelerate action across sectors. For private housing, incentives for seismic upgrades could include measures such as tax credits, insurance premium reductions, and grants, supported by simplified screening tools and clear guidance for property owners.

**5.** **Promote an integrated seismic retrofit, energy upgrade, and functionality improvement program for the existing private and public building stock**. Given that existing buildings are key drivers of earthquake risk in Cyprus and significantly contribute to long-term energy demand and greenhouse gas emissions, implementing retrofitting programs that enhance both seismic resistance and energy efficiency could yield substantial benefits. Integrating upgrades for earthquake resilience with energy improvements, functional upgrades, and accessibility enhancements aligns with European and international goals to reduce greenhouse gas emissions while optimizing investments by providing co-benefits, extending the lifespan of buildings, enhancing safety, and lowering life-cycle costs. Novel incentives such as tax reliefs may be required to increase the uptake of retrofitting private buildings.

**6.** **Expand educational campaigns on earthquake risk awareness and enhance the EWS**. Increasing community preparedness and awareness of earthquake risk through educational campaigns, inclusive training programs, life-saving tools such as first aid and earthquake preparedness kits, and modernized digital resource platforms would enhance understanding of earthquake safety and ways to reduce risk. These campaigns should be designed with accessibility in mind, ensuring that vulnerable groups are effectively reached and supported, and that visitors, tourists, and newcomers, who may be unfamiliar with local risks and safety protocols, are also considered. Enhancing EWSs and investigating the feasibility of an earthquake early warning (EEW) system could potentially lead to implementation of critical safety measures to mitigate losses before the earthquake ground shaking starts.

**7.** **Strengthen public administration capacity for emergency response and civil society engagement.** Consolidating the 26 ZENON response plans and establishing a formal mechanism for their regular updates and the incorporation of lessons learned would enhance their relevance and improve coordination during disasters. Integration of the "TRIPOS" Plan into Cyprus's National DRR Strategy and operational emergency plans would also ensure that the needs of persons with disabilities are addressed consistently across all disaster scenarios, including earthquakes. Improving private sector and public participation in drills and emergency response exercises would also enhance broader preparedness in case of an earthquake. Given its geographical location in the eastern Mediterranean, Cyprus is well positioned to become a hub for UCPM in the southeastern Mediterranean and make bilateral agreements with neighboring countries in the Middle East, which would improve Cyprus's DRM capacity and regional cooperation.

**8.** **Update recovery legislation and improve capacity.** Creating a multi-hazard recovery framework with BBB principles for resilient reconstruction, designating coordinating authorities, and streamlining administrative processes would help recovery after disruptive events, including earthquakes. In addition, strengthening cooperation among various stakeholders, including government bodies, academic institutions, professional societies, and volunteer organizations, can streamline earthquake response and recovery efforts.

**9. Establish a disaster risk financing (DRF) and insurance strategy and introduce an adaptive social protection (ASP) system**. Post-disaster financing at all levels (government, businesses, individuals), considering diverse needs and social vulnerability, is critical to an equitable and efficient recovery. Developing a multi-hazard disaster financing strategy for Cyprus, contingent financing solutions, and increasing earthquake insurance uptake becomes paramount to avoid overreliance on external funding. This includes integrating social protection with DRM and climate adaptation to provide flexible, scalable support for vulnerable households. Introducing an ASP system that builds on the existing social protection system could enhance inclusion and improve support for vulnerable populations after an earthquake.

**10. Foster public-private partnerships (PPPs), business continuity planning, and incentive programs**. Strengthen alliances between public authorities, private entities—including insurers—and civil society to foster innovative financing, risk-sharing mechanisms, and comprehensive earthquake preparedness and risk reduction. This includes supporting small businesses through business continuity planning, such as toolkits for scenario-based planning, while engaging larger corporations via their corporate social responsibility initiatives and investments into business continuity and enhanced resilience. Given that tourism is a critical industry for Cyprus and is concentrated along the earthquake-prone southern coast, involving the Ministry of Tourism and hotel associations in civil protection planning is essential. Developing preparedness plans for tourism-dependent SMEs and establishing systems to keep tourists informed in case of an earthquake or other disaster events could help reduce disaster risk in the sector.

# INTRODUCTION

**This report is part of a series aimed at improving the understanding of the needs and priorities for disaster resilience investments in relation to two disaster risks: wildfires and earthquakes.** The broader objective is to provide actionable insights and recommendations to help the European Union (EU) and its Member States make informed, strategic investments to enhance resilience against wildfires and earthquakes.

**This report focuses on earthquakes and describes current risk trends, risk management capacity, investment needs**, **and recommended approaches for Cyprus.** To provide further perspectives, this note is complemented by two other country-specific case studies for Croatia and Romania as well as an EU-wide policy note on earthquake risk management overview based on existing information and data gathered across EU Member States.[6]

**This report provides a rapid, high-level overview based on existing information and data**. Consultations with key national and EU organizations as well as researchers have been conducted to improve understanding of key areas listed above. The note can serve to inform policy dialogue and future research.

**The analysis is structured following the Union Civil Protection Mechanism (UCPM) Peer Review Assessment Framework.**[7] The approach considers six key disaster risk management (DRM) elements, with a targeted focus on earthquake risk:

[6] Overseas Countries and Territories are not considered.

[7] Mysiak, Casartelli, Torresan. 2021.

1. **Governance of risk management** considers the overall governance framework for earthquake risk management, including dedicated strategies, institutional frameworks, coordination mechanisms, and financing strategies.

2. **Understanding risk** examines the identification, analysis, evaluation, communication, and capacities associated with assessing earthquake risks.

3. **Risk prevention, reduction, and mitigation** explores legislative reforms, development and enforcement of building codes, and integration of hazard considerations into land planning documents, as well as retrofitting efforts and administrative capacities related to risk prevention.

4. **Early warning and public awareness** examines the processes and early warning systems (EWSs), including the potential for earthquake early warning (EEW), as well as public awareness campaigns that enable protective actions to be taken from such systems.

5. **Earthquake preparedness and emergency response** focuses on actions taken in the immediate aftermath to days or weeks after an event, as well as activities that bolster that capacity.

6. **Recovery, reconstruction, and post-disaster financing** covers the processes and actions taken after a disaster event, including damage assessment, restoration efforts, and recovery planning.

7. **Cross-cutting topics:** social resilience and inclusion explores approaches to address the disproportionate impact of disasters on vulnerable populations, with special focus on people with disabilities. Meanwhile, private sector covers relevant stakeholders' involvement in the context of earthquake risk management, including building owners and property managers, insurance companies, business owners, utility providers, construction and engineering firms, but also civil society organizations, and so on.

# EARTHQUAKE RISK OVERVIEW

*This chapter provides a brief overview of earthquake risk trends in Cyprus. It draws on available data and information and focuses on the tectonic regime and hazard, drivers of risk, and exposure across sectors while also highlighting locations with high concentrations of risk. It offers a comparison of seismic risk to other EU countries and provides insights into and estimates of expected future risk trends.*

## EARTHQUAKE HAZARDS AND SECONDARY PERILS

**Cyprus is a seismically active country, with a history of destructive earthquakes and potential for significant events in the future.** It is situated at the boundary between the Eurasian, Arabian, and African tectonic plates, within a complex tectonic setting. The Anatolian subplate, which includes Cyprus, is being pushed westward due to the north-northeastward movement of the African plate relative to the Eurasian plate, and the faster northward movement of the Arabian plate.[8] The Cyprus Arc, which forms the boundary accommodating movement between the African and Anatolian subplates, is relatively less active than neighboring fault systems such as the Hellenic Arc, Dead Sea Fault, and East Anatolian Fault, though it is still the source of shallow earthquakes.

**Based on national and European-wide seismic hazard assessments, Cyprus is classified as a high-hazard seismic area, with the highest risk concentrated in the southern part of the island**. In 2018, as part of the National Risk Assessment (NRA) of the Republic of Cyprus, a probabilistic seismic hazard assessment, the modern standard for evaluating earthquake hazards, was conducted using the 2013 Euro-Mediterranean Seismic Hazard Model (ESHM13), using the OpenQuake engine, an open-source tool developed by the Global Earthquake Model (GEM) Figure 1. In 2020, the European Seismic Hazard Model (ESHM20) was updated, providing an up-to-date seismic hazard assessment for the Euro-Mediterranean region, including Cyprus. Both hazard assessments confirm that southern Cyprus experiences high seismic hazard, comparable to the levels found in Greece and Italy.

**Seismic risk across Cyprus's four major cities varies, driven by factors such as building stock vulnerability and seismic activity.** Limassol, the second largest city by population, faces the highest seismic risk on the island, primarily due to its location near active seismic zones. The city's high concentration of buildings, especially older reinforced concrete (RC) structures without seismic design, makes it particularly vulnerable. Limassol has the highest expected monetary loss in the event of a seismic disaster, with losses concentrated in areas densely populated with vulnerable building types. An evaluation of a 475-year[9] magnitude $M_w$7.7 scenario triggered by the activation of a fault in the vicinity of Limassol estimates €1.6 billion in monetary losses, 310–700 casualties,[10] and around 12,000 potentially long-term displaced residents in Limassol city and its surroundings.[11]

**Paphos, the fourth most populous city, is highly vulnerable to earthquake risk because it is located close to several active seismogenic faults, notably the Paphos fault.** Historical records highlight significant earthquakes affecting the city, such as the 1996 $M_w$6.8 earthquake. The risk of structural damage in Paphos is considerable, especially in older buildings constructed without seismic

[8] Papazachos B.C. and Papaioannou C.A. 1999. 'Lithospheric boundaries and plate motions in the Cyprus area.' *Tectonophysics*, 308:193–204. Link

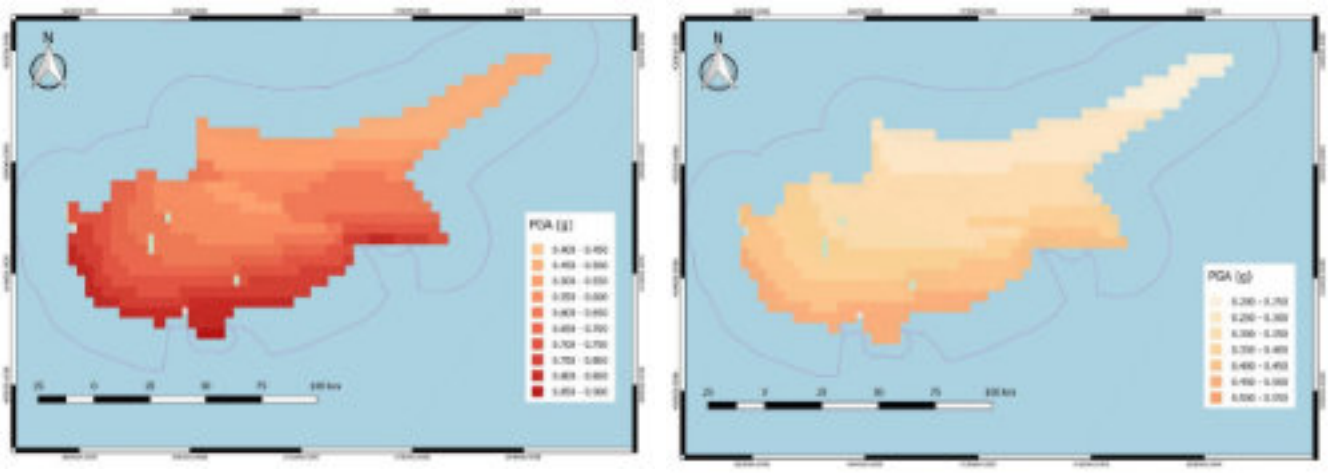
[9] A 475-year return period corresponds to an earthquake that has about a 10 percent chance to occur over a 50-year span—roughly a standard building lifetime. In earthquake risk analysis, it represents a key design-level event that guides building codes and resilience planning.

[10] Kazantzidou-Firtinidou, D., N. Kyriakides, R. Votsis, and C. Z. Chrysostomou. 2022. 'Seismic Risk Assessment as Part of the National Risk Assessment for the Republic of Cyprus: From Probabilistic to Scenario-Based Approach.' Natural Hazards 112 (1): 665–695. Link.

[11] Cyprus Civil Defence 2018.

**Figure 1. PGA distribution for Cyprus (left 475-year and right 2,500-year event)**

*Source:* Kazantzidou-Firtinidou, D., N. Kyriakides, R. Votsis, and C. Z. Chrysostomou. 2022. "Seismic Risk Assessment as Part of the National Risk Assessment for the Republic of Cyprus: From Probabilistic to Scenario-Based Approach." *Natural Hazards* 112 (1): 665–695. *Note*: PGA distribution for left: T = 475y and right: T = 2500y according to the Probabilistic Seismic Hazard Assessment.



considerations. Under a high-magnitude scenario occurring near Paphos (return period of 2,500 years), the city could experience significant destruction, both in terms of infrastructure (€645 million in losses) and hundreds of human casualties.[12]

**Nicosia, the capital and most populous city, is less exposed to seismic hazards compared to other major cities like Limassol and Paphos due to its distance from seismic sources.** However, the city still faces moderate seismic risk, primarily because of its high population density and the large number of older masonry and RC buildings constructed without modern seismic design standards. In the event of a significant earthquake, these older structures are particularly vulnerable to damage. While the overall expected economic losses are lower than those in Limassol, Nicosia's vulnerability lies in its dense urban population, which could lead to high human impact during seismic events, including injuries and displacement.

**Larnaca, the third largest city by population, faces moderate seismic risk, with its location along the southern coast contributing to its exposure to seismic activity.** While the risk is not as pronounced as in Limassol or Paphos, Larnaca still has a substantial number of vulnerable older buildings, particularly in its urban center.

**Earthquakes result in ground shaking that can damage buildings and infrastructure but may also trigger secondary perils such as tsunamis, landslides, and liquefaction, which often exacerbate damage and loss.**

**The tsunami risk in Cyprus stems from its proximity to significant seismic zones in the Mediterranean, specifically near the Hellenic and Cyprus arcs.** These zones are capable of producing earthquake-induced tsunamis that can affect the island. The overall tsunami potential in Cyprus and the surrounding region is considered low compared to other Mediterranean areas, but the destructiveness of historical tsunamis indicates that hazard assessments should not be ignored.[13] A notable historic event was the 1222 Paphos earthquake on the Cyprus Arc that generated a tsunami causing flooding of the coastal areas in Paphos and Limassol. A recent model of the 1222 tsunami scenario showed maximum wave heights of 4.02 m in Kouklia, 2.85 m in Paphos, 2.58 m in Episkopi, and 2.06 m in Peyia, indicating that southern coastal areas of Cyprus are particularly vulnerable to tsunami impacts.[14] Considering a 2,475-year return period event, with a 2 percent probability of exceedance in 50 years, some areas in Cyprus can see a mean inundation height above 5 m, comparable to other areas in the Mediterranean, such as the coasts of Libya, Egypt, and Greece.[15]

**Landslides and other slope instabilities in Cyprus occur primarily in hilly and mountainous areas, where steep topography and weak geological conditions often trigger hazardous events.** The most significant landslides affecting the built environment are concentrated in the mountainous and hilly regions of Paphos and Limassol. In some cases—such as Choletria, Ayios Photios, Statos, Fasoula, Phinikas, Korfi, Kivides, and Pentalia—the landslides led to the abandonment and relocation of entire villages under the guidance of the Cyprus Geological Survey Department (CGSD).[16] To monitor and assess these risks, the CGSD has developed a geographic information system (GIS)-based landslide database for Paphos, which includes detailed landslide mapping, terrain classification, susceptibility assessments, and indicative 'risk' maps.

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[12] Kazantzidou-Firtinidou et al. 2022.

[13] Fokaefs, A., and G. A. Papadopoulos. 2007. "Tsunami Hazard in the Eastern Mediterranean: Strong Earthquakes and Tsunamis in Cyprus and the Levantine Sea." *Natural Hazards* 40: 503–526. Link.

[14] Ulutaş E. 2020. "The May 11 Paphos, Cyprus, earthquake: implications for stress regime and tsunami modelling for the Eastern Mediterranean shorelines." *Arab Journal of Geosciences* 13:970. Link.

[15] Basili, Roberto, et al. 2021. "The Making of the NEAM Tsunami Hazard Model 2018 (NEAMTHM18)." *Frontiers in Earth Science* 8: 616594. Link.

[16] Ministry of Agriculture, Natural Resources and Environment, Cyprus. n.d. Developments in Cyprus and their Consequences on the Built Environment. Link.

## IMPACTS FROM PAST EARTHQUAKES

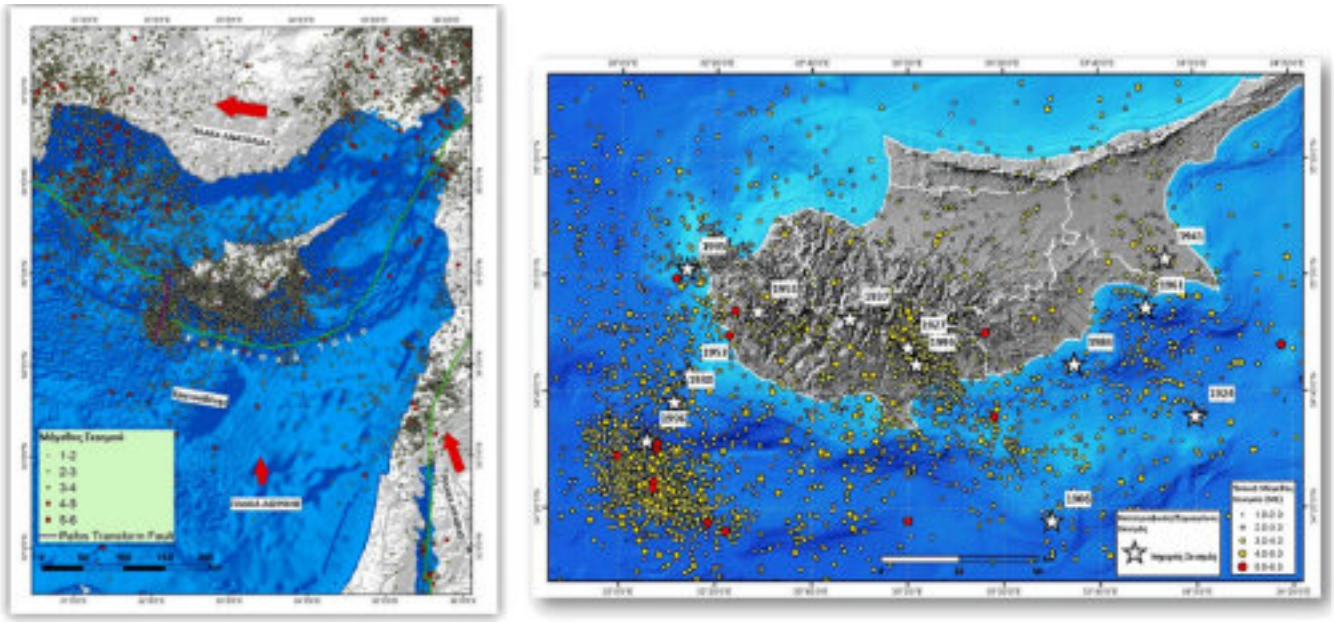
**Historical records in Cyprus show that the island has experienced at least 16 significant destructive earthquakes in the past 200 years,** with most large events occurring in the southern part of the island (see Figure 2), affecting areas like Paphos, Limassol, and Famagusta. Major earthquakes include events in 342 ($M_w$7.4), 1785 ($M_w$7.1), and the deadly 1953 earthquake ($M_w$6.3), which caused significant damage across 158 villages, 165 injuries and 40 fatalities.

**In the recent past, there were three notable earthquake events in Cyprus in 1996, 1999, and 2015.** In 1996, an earthquake with a magnitude of $M_w$6.8 occurred offshore to the southwest of the island, causing violent shaking that was felt across Cyprus, leading to 20 injuries and two fatalities, while regarding buildings damages, 1060 buildings were heavily damaged (500 in Paphos district, 500 in Limassol district, 10 in Larnaka district and 50 in Nicosia district), 3141 buildings were moderately damaged (1300 in Paphos district, 1500 in Limassol district, 90 in Larnaka district, 250 in Nicosia district and 1 n Famagussta district), and 5400 buildings were lightly damaged, including 1300 in Paphos district, 1500 in Limassol district, 30 in Larnaka district and 400 in Nicosia district.[17] In 1999, another earthquake with a magnitude of $M_w$5.6 struck near Limassol, resulting in 40 injuries. More recently, in 2015, an $M_w$5.8 earthquake significantly affected the districts of Paphos and Limassol, causing substantial content damage and shaking the area violently.

[17] Solomi K, Stavrakakis G, Kalogeras I. 1999. "The October 9, 1996 earthquake in Cyprus: seismological, macroseismic and strong motion data." *Annals of Geophysics*, 42(1). Link.

**Figure 2. Seismic activity in Cyprus between 1896 and 2018**

*Source:* Kazantzidou-Firtinidou et al. 2022. Based on CGSD 2017.



## FUTURE EARTHQUAKE RISK AND RISK DRIVERS

**Cyprus has the highest seismic risk among all EU Member States in terms of loss relative to its building stock asset value.**[18] The percent of building stock value at risk on an annual basis (or average annual loss ratio[19]) is 0.126 percent, comparable to Albania, Romania, and Greece (0.126, 0.119, and 0.0971 percent, respectively). This concentration of risk results from a combination of Cyprus's limited geographical area, high seismic activity, and a large portion of the building stock built before earthquake standards. A 1-in-100-year earthquake loss could result in 7 percent gross domestic product (GDP) decrease and cause 7–18 percent of the GDP in government liabilities.[20]

**The expected M6.9 earthquake scenario (a 475-year return period event scenario) in the vicinity of Limassol is projected to result in an estimated €7.7 billion in losses, equating to about 31.2 percent of the island's GDP.**[21] This scenario is expected to cause significant structural damage to 25 percent of the total building stock, with roughly 83,000 buildings reaching the 'complete' damage state. The human toll in this scenario includes approximately 730 to 1,500 injuries, with an estimated 100,000 people displaced.

**One of the key drivers of seismic vulnerability in Cyprus is the relatively old building stock, which was not designed to withstand earthquake forces due to the lack of an enforced seismic code before 1994.** The seismic code in Cyprus evolved after the 1978 Thessaloniki earthquake, leading to the creation of the first guidelines for building design. In 1992, the first Cypriot Seismic design code was drafted and became mandatory in 1994. In 2012, Eurocode 8, along with its national annexes, was adopted as the standard for seismic design, replacing earlier codes. In Northern Cyprus, the Turkish Earthquake Code was enforced in 1999, with an update in 2007.

**In Cyprus, the vulnerability of buildings to seismic activity is closely linked to their construction types and the era in which they were built.** The predominant building typology in the country is low- to mid-rise RC buildings without seismic design (pre-1992), which constitute 57 percent of the building stock and house over half of the population (54 percent).[22] These buildings are highly vulnerable, particularly in urban centers where seismic hazards are elevated. Another significant portion of the building stock, around 17 percent, is made of masonry, mostly found in the northern part of the island. These masonry structures, many of which were built before 1975, are the most vulnerable to seismic events. Mudbrick and stone masonry, prevalent in rural areas, further add to the vulnerability of the country's building stock. In contrast, RC buildings constructed after the introduction of seismic design regulations in 1992 are more resilient, though they represent a smaller percentage of the building inventory (26 percent). It should be noted that these percentages are based on the 2011 census for the Republic of Cyprus and the 2006 census for Northern Cyprus, and that modern infrastructure and buildings developed since then would have affected the current distribution.

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[18] Crowley, H., J. Dabbeek, V. Despotaki, D. Rodrigues, L. Martins, V. Silva, X. Romão, N. Pereira, G. Weatherill, and L. Danciu. 2021. *European Seismic Risk Model (ESRM20)*. Eucentre. Link; World Bank and European Commission. 2024a. *Valuing Climate Adaptation Helps Us Orient Our Compass Toward Effective and Resilient Pathways: Climate Adaptation Costing in a Changing World*. *Economics for Disaster Prevention and Preparedness*. Link.

[19] Average annual loss ratio is expected yearly loss expressed as a fraction or percentage of the total value at risk. For low-frequency, high-impact hazards like earthquakes, the this ratio often misrepresents the consequences, as the rare but severe consequences get 'averaged out'.

[20] This estimate is combined with floods that make a negligible contribution from floods.

[21] Cyprus Civil Defence 2018.

[22] Cyprus Civil Defence 2018; Kazantzidou-Firtinidou et al. 2022.


VOLVO

# EARTHQUAKE RISK MANAGEMENT CAPACITY

*The following chapters provide an overview of key gaps and vulnerabilities in existing risk management systems relevant to Cyprus, along with examples of successful strategies, investments, and approaches. It draws on publicly available information (such as NRAs, government reports, and studies) as well as information gathered during consultations.*

**Cyprus is exposed to several natural hazards, including earthquakes, tsunamis, floods, fires in forests and rural areas, water scarcity, large-scale technological accidents, sea level rise, coastal erosion, and marine pollution.** According to the National Risk Assessment,[23] the greatest impact is caused by wildfires followed by earthquakes, with earthquakes posing the greater risk of a high-impact/lower-probability event. Considerable impacts are also caused by floods and water scarcity. As an island located away from the EU mainland, Cyprus faces additional challenges in coordinating and accessing rapid response and support mechanisms from the UCPM, which can further complicate disaster preparedness and recovery efforts.

**The island's separation of the Turkish Cypriot and Greek Cypriot communities poses a challenge for a unified DRM system.** After Cyprus gained independence in 1960 from the United Kingdom, due to the tensions between the Turkish Cypriot and Greek Cypriot communities, the United Nations Peacekeeping Force in Cyprus (UNFICYP) has operated on the island since 1964. The UNFICYP oversees a buffer zone that separates the internationally recognized government of Cyprus from a de facto administration in the northern third of the island, which has been under de facto division since 1974 and is recognized only by Türkiye. This creates an additional challenge for DRM as policies and interventions for cross-buffer natural hazard risks are fragmented.

**In 2018, the UCPM conducted a peer review of Cyprus's DRM system to evaluate its effectiveness in managing and reducing disaster risks.** The review involved international experts who assessed Cyprus's policies, legal frameworks, risk assessment processes, and inter-agency coordination. The report provided a series of recommendations to strengthen Cyprus's DRM approach, focusing on areas such as establishing a central coordinating agency, improving risk data sharing and integration, and developing a holistic, legally mandated disaster risk reduction (DRR) strategy.

[23] Cyprus Civil Defence. 2018..

## GOVERNANCE OF EARTHQUAKE RISK MANAGEMENT

*This chapter focuses on seismic risk governance, emphasizing the legislative, institutional, strategic, and planning framework. The framework describes mandates, roles, and responsibilities as well as coordination arrangements among the different stakeholders, their policies, instruments, and investments.*

## GENERAL CONTEXT

**Regarding Cyprus's general DRM framework, the Minister of Interior, on behalf of the Council of Ministers, is responsible for implementing the Civil Defence Law of 1996[24] and related regulations and holds the overall authority and oversight of the civil defence system.** The Cyprus Civil Defence (CCD) operates under the Ministry of Interior and plays a key role in DRM and response coordination within Cyprus. It is responsible for assessing risks, managing disaster response together with the Fire Brigade and Forestry Department, and maintaining preparedness plans for various hazards. Its activities are governed by the Civil Defence Law of 1996 and its amendment in 1998[25] and the Civil Defence (General) Regulations of 1997[26] and its amendments through 2017.[27] The CCD is staffed by permanent personnel, volunteers, and conscripts obligated to serve in the Cyprus Civil Defence Force. Currently, there are over 400 volunteers serving in the CCD.[28] All DRM activities are concentrated at the central level as there are no regional governments. The CCD, however, has five district administration offices across the country under the General Civil Defence Administration (GEDPA)—Nicosia, Limassol, Larnaca, Paphos, and Famagusta—that handle local-level implementation (see Figure 3). Other emergency services are distributed across ministries: Police and Fire Services under the Ministry of Justice and Public Order, and Medical Services under the Ministry of Health. These services are independently active across Cyprus's five districts but collaborate under the CCD's leadership during significant crises.

**If a major incident occurs, a Ministerial Committee, led by the Minister of Interior and supported by the CCD, coordinates the national response.** Depending on the nature of the incident, other ministers may be assigned to lead the Ministerial Committee. During the recovery phase, various departments may take responsibility for managing resources and budgets. For example, the Technical Services of the Interior Ministry, assisted by the Public Works Department (PWD), the Cyprus Scientific and Technical Chamber, and District Offices, handles recovery for buildings and infrastructure. For forest-related recovery, the Forest Department works alongside the Commissioner for the Environment.

[24] Law 117(I)/96 - The Civil Defence Law of 1996.

[25] N. 42(I)/98] - The Civil Defence (Amendment) Law of 1998.

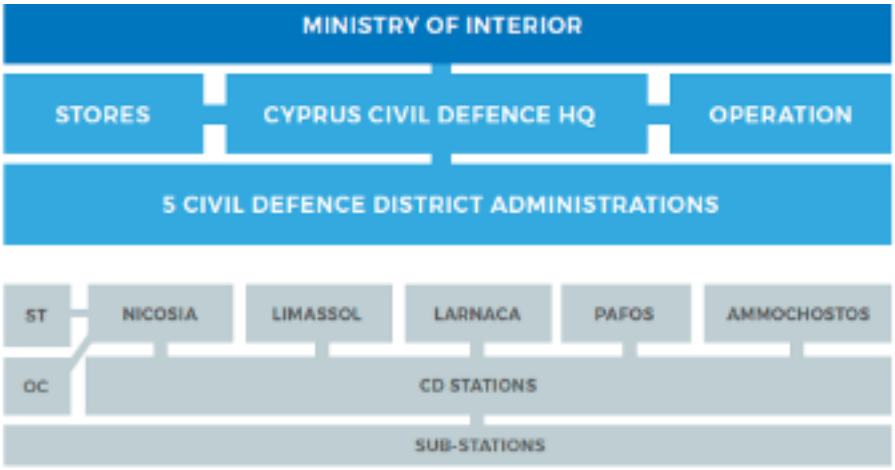
[26] P.I. 221/97 - The Civil Defence (General) Regulations of 1997.

[27] P.I. 509/2004 - The Civil Defence (General) (Amendment) Regulations of 2004, P.I. 97/2006 - The Civil Defence (General) (Amendment) Regulations of 2006, and P.I. 61/2017 - The Civil Defence (General) (Amendment) Regulations of 2017.

[28] Government of the Republic of Cyprus (GoC), Ministry of Interior. Volunteerism - General info - Application form. Link.

**Figure 3. Structure of the Cyprus Civil Defence**

*Source*: UCPM Peer review; based on the CCD.



**Cyprus's national DRM framework is structured around the main national plan ZENON, which is composed of 26 special national thematic plans.**[29] The ZENON master plan, addressing natural and man-made disasters, is approved by the Council of Ministers, with thematic plans endorsed by the relevant ministries. These plans cover preparedness, response, and, to some extent, recovery, involving both governmental and non-governmental public organizations. The CCD plays a central role in risk assessments, response planning, and coordination across departments. Each ministry and agency prepare internal plans aligned with the national framework, while district offices and local authorities develop operational procedures to fulfill their responsibilities during emergencies or support other districts. Departmental responsibilities are guided by laws, secondary legislation, and budgets aligned with their strategic goals. A full list of ZENON plans is available in **Annex 2**.

**Cyprus has developed the National Disaster Risk Reduction (DRR) Strategy of Cyprus (2023–2030)**[30] **that provides a unified framework to coordinate disaster risk management across all sectors and levels of government.** Aligned with the Sendai Framework for Disaster Risk Reduction and UCPM provisions, it covers a wide range of hazards, including earthquake, climate, and technological risks. The strategy sets out quantitative criteria for risk-based classification of critical infrastructure, which include the number of affected people, the total area of influence, duration of service outage, number of fatalities, and property damage. It also outlines nine priority measures: updated national risk assessments; revision of the "ZENON" emergency plan; creation of a national disaster loss database; strengthening of public–private cooperation; protection and resilience of critical infrastructure; capacity-building in disaster risk management; modernization of early warning systems; creation of a national DRR coordination platform; and integration of DRR with climate change adaptation policies.

## CURRENT ARRANGEMENTS

**Earthquake risk in Cyprus is managed under a broader DRM framework and is a shared responsibility.** Within this framework, the CCD coordinates closely with other government departments and international partners to ensure readiness, conduct training exercises, and manage communication with the public during crises. The organization also aids in national planning efforts under the ZENON master plan, ensuring a unified response to emergencies across different government sectors. It serves as the national contact for the UCPM, facilitating international cooperation during emergencies.

**The CCD is responsible for preparing the NRA for the Republic of Cyprus, which includes earthquake risk, and the National DRR Strategy, both requiring approval by the Council of Ministers.** The NRA, including exposure and vulnerability analysis, along with capacity assessment studies, is conducted every three years. Additionally, risk assessments for climate-related risks, focusing on the time frames of 2050 and 2080, are carried out by the Department of Environment in collaboration with the CCD. The responsibilities for earthquake risk management are not prescribed by a single piece of legislation, with Table 1 showing responsibilities based on available information.

**The most comprehensive of the 26 ZENON plans is ENGELADOS, which focuses on managing the response to a major earthquake**. The implementation of this plan involves extensive cooperation across 50 governmental departments, public law organizations, and non-governmental organizations (NGOs), such as the Red Cross and the Association of Civil Engineers. These entities are kept informed about national risk assessments and are directly or indirectly engaged in planning processes. Departments involved must develop internal operating procedures to ensure readiness when a plan is activated. Regular capability assessments and updates ensure that the plans remain effective and responsive to evolving risks. Plans under the jurisdiction of the CCD are tested by exercises at the national and district levels, alternating between field and tabletop exercises.[31] The CCD has recently initiated a process to evaluate all volunteer organizations operating under the umbrella of the Pancyprian Volunteer Organisations,[32] with the aim of formally registering them and establishing cooperation where relevant.

[29] GoC, Ministry of Interior. 2020. *Report on Disaster Risk Management in the Republic of Cyprus*. Link.
[30] Government of the Republic of Cyprus. 2023. *National Strategy for Disaster Risk Reduction 2023-2030*.
[31] Office of the Citizen Commissioner. Link.
[32] Pan Cyprian Volunteerism Coordinative Council. *Members*. Link.

**Table 1. Key stakeholders and their responsibilities for earthquake risk**

Source: Based on information collected from multiple sources.

| Agency | Risk assessment | Risk prevention | Risk preparedness | Emergency response | Recovery | Funding |
|---|---|---|---|---|---|---|
| CCD | X | | X | X | X | |
| CGSD | X | X | | | | |
| Joint Rescue Coordination Center (JRCC) | | | | X | | |
| Police and Fire Service | | | | X | | |
| District Administrations | | | | | X | |
| Directorate of Technical Services of the Ministry of Interior[33] | | | | | X | |
| Displaced People Care and Rehabilitation Service of the Ministry of Interior | | | X | X | | |
| PWD | | X | | | | |
| Health Ministry Services | | | X | X | | |
| Cyprus Scientific and Technical Chamber (ETEK) | | X | X | X | X | |
| Cyprus University of Technology | X | | | | | |
| National Centre for Scientific Research Demokritos | X | | | | | |
| Oceanography Centre | X | | | | | |
| CERIDES: Centre for Risk and Decision Sciences, European University of Cyprus | X | | | | | |
| Cyprus Red Cross Society | | | X | X | | |
| Support CY network | | | X | X | | |
| Other Volunteer Organizations[34] | | | X | X | | |

[33] Ministry of Interior, Cyprus. Directorate of Technical Services Link.
[34] Pan Cyprian Volunteerism Coordinative Council. *Pancyprian Voluntary Organizations/NGOs* Link.

**The first Cyprus building code for seismic resistance of buildings was introduced in 1992,**[35] **and since 2012, Cyprus has adopted Eurocode 8 as the required standard for all structural and seismic design, creating a uniform approach to earthquake-resistant construction**.[36] The first local Seismic Zone Map was issued in 1986, while in 1992, the Cypriot Seismic Code was introduced, initially as an option, before it became mandatory in 1994.[37] The model seismic zonation map, developed by the CGSD and last updated in 2004, is part of the National Annex of Eurocode 8 and guides the seismic design requirements for buildings in Cyprus.

**The ongoing project 'Reforming, developing and enhancing the civil protection system in Cyprus', funded by the Technical Support Instrument of the European Commission, coordinated by the Directorate-General for Structural Reform Support (DG REFORM), and implemented by Expertise France,**[38] **will introduce substantial changes to Cyprus's DRM system.** This is a two-year project, set to end in 2026. It aims to support the transition of CCD into a modern Civil Protection Authority capable of addressing both current and future challenges. The project includes a wide range of activities: the formation of a new civil protection structure to be adopted by law, along with the organization of simulation exercises to test this structure; the identification of good practices across key aspects of DRR and DRM; and the facilitation of bilateral cooperation with donor countries, France and Greece, which are implementing similar projects. Gap and needs analyses as well as the identification of critical entities in accordance with Directive 2022/2557 and recent clarifications and recommendations from the European Commission are also included. The project supports the main pillars needed for a strong and effective civil protection system in Cyprus and complements other initiatives such as the acquisition of modern equipment and the creation of a new training center. To date, a set of recommendations covering various thematic areas has been provided to the CCD, along with a comprehensive collection of international good practices addressing key priorities of civil protection—from collaboration with volunteer organizations to sheltering partnerships with the private sector. In addition, interviews have been conducted with senior civil protection officials from Israel, France, and Italy, and a study visit to France has taken place.

## KEY CHALLENGES

**Despite the comprehensive scope of the National DRR Strategy, it is at an early stage of implementation, and many provisions are not yet operational.** Gaps remain in the establishment of a legally mandated central DRM authority, the roll-out of a fully integrated multi-hazard early warning system, the development of a standardized disaster loss database, and the completion of comprehensive vulnerability assessments of the building stock. Implementation of the strategy's key priorities requires further planning, including designation of responsible authorities and institutions.

**There is a lack of legally mandated authority responsible for coordinating DRM across all levels of government and sectors**. Currently, no single agency is legally mandated to oversee and harmonize DRM efforts, resulting in fragmented responsibilities and potential overlaps among agencies. Furthermore, clear legislative mandates are lacking, making it difficult to assign DRM roles and responsibilities across agencies systematically, thereby hindering the country's capacity to conduct comprehensive DRM. These challenges are being addressed by CCD through work with Expertise France on introducing a new legislative framework and a single overarching authority.

## KEY OPPORTUNITIES

**Updating and refining Cyprus's DRM legislative system provides an opportunity to establish a robust legal foundation that supports proactive approaches to DRM.** The current legislative framework would benefit from an analysis to identify areas where it could better support risk reduction, preparedness, and resilience efforts. This analysis should address existing gaps, overlaps, or ambigui-

[35] Cyprus Civil Engineers and Architects Association. 1992. *Seismic Code for Reinforced Concrete Structures in Cyprus*. Committee for Earthquake Engineering Cyprus Civil Engineers and Architects Association.

[36] Kazantzidou-Firtinidou et al. 2022.

[37] Georgiou, A., Georgiou, M., Ioannou, I. 2022. "Seismic assessment of historic concrete structures: The case of Pedieos Post Office in Nicosia, Cyprus." *Developments in the Built Environment, 10:100071.* Link.

[38] European Commission. n.d. *Reform Support: Cyprus Technical Support Instrument- Country Factsheet*. Link.

ties in responsibilities among agencies involved in disaster management. Enhanced legislative clarity would also improve resource allocation, establish performance monitoring, and ensure that laws governing disaster management are adaptable to evolving risks and challenges.

**The designation of a central DRM coordinating authority would allow for a more integrated and streamlined approach to DRM in Cyprus.** Such an authority would oversee DRM activities; coordinate among government agencies; and foster partnerships with the private sector, NGOs, and communities. This entity would enable a systematic, whole-of-government approach to DRR, with clearly defined roles and responsibilities to prevent overlaps and gaps. Centralized leadership would enhance accountability, improve response coordination, and support a coherent national approach to disaster resilience.

**The National DRR Strategy offers an opportunity to systematically embed risk reduction into national policies and to strengthen coordination, interoperability, and resource mobilization.** Accelerating the implementation of its nine priority measures would enhance Cyprus's resilience to earthquakes and other hazards. The creation of a national DRR coordination platform could improve multi-sectoral engagement, while the integration of DRR into climate adaptation strategies can ensure long-term, risk-informed development. Accompanying the strategy with specific implementation and investment plans would facilitate long-term financing, ensuring resources are dedicated to seismic risk mitigation, infrastructure reinforcement, and public education.

# UNDERSTANDING EARTHQUAKE RISK AND USE OF RISK DATA

*This chapter focuses on the current understanding of earthquake risks in Cyprus, informed by various sources of data and analysis, research and innovation, NRAs, and other risk evaluations. Earthquake risk is the combination of seismic hazard (for example, the frequency of earthquake occurrence, the strength of ground shaking given an earthquake), exposure (for example, the number of people exposed, the value of assets exposed), and vulnerability (for example, the susceptibility of assets to damage, the ability of populations to cope with earthquake effects).*

## GENERAL CONTEXT

**The NRA of the Republic of Cyprus is carried out and coordinated by the CCD every three years in compliance with Decision No. 1313/2013/EU and is included in the CCD's budget.** As of 2024, there are three publicly available reports on the CCD's website[39] for 2016, 2018, and 2020, with the 2018 report being the most comprehensive risk assessment. In 2018, the risk assessment methodology was applied to nine hazards: earthquakes, tsunamis, floods, fires in forests and rural areas, water scarcity, large-scale technological accidents, sea level rise, coastal erosion, and marine pollution. The main conclusion regarding hazard impacts is that wildfires cause the greatest impact, followed by earthquakes, while floods and water scarcity also lead to considerable impacts. During the process of NRA development, the CCD contracted a consortium led by the Cyprus University of Technology to study natural and anthropogenic risks, with the Department of Environment providing relevant information. The results are expected to aid decision-making and climate change adaptation.

## CURRENT ARRANGEMENTS

**The NRA includes earthquakes and tsunamis as two of the nine analyzed risks.** The NRA earthquake risk assessment for Cyprus incorporated probabilistic and scenario-based analyses using the OpenQuake software, focusing on potential structural and economic losses. The assessment developed loss exceedance curves for various return periods and calculated annualized losses for the country and its main cities, incorporating data on the exposure and vulnerability of building typologies. Additionally, casualty and displacement models were applied to estimate the human impact of earthquake scenarios, which can be used to inform planning for evacuation routes, emergency shelters, and resource allocation. According to the NRA, the risk of earthquakes is high for Cyprus, with hazard levels comparable to those found in Greece and Italy. The areas projected to suffer the most damage are Paphos and Limassol.

**Cyprus generally has a lower tsunami hazard potential compared to other Mediterranean regions**. The main tsunamigenic sources that could affect Cyprus include the Cyprus Arc, the eastern Hellenic Arc, and the Dead Sea Fault System. According to the NRA, tsunamis in Cyprus may be triggered by strong, shallow local earthquakes along the Cyprus Arc, particularly near Paphos, where seismic activity is higher; submarine landslides near the Levantine coast, likely caused by earthquakes along the Dead Sea Fault System; and regional strong earthquakes originating in the eastern Hellenic Arc. Historical records, such as the 1222 local event and remote events from the Hellenic Arc like those in 1303 and 1481, along with geomorphological evidence of past tsunami activity, underscore the need for thorough risk assessment. Thus, there is a need to further investigate tsunami risk to enhance preparedness across Cyprus.

**The CGSD is a government agency responsible for all geo-related matters, including monitoring seismicity in Cyprus**, **and is the state adviser on this matter.** Specifically, it is the competent state agency for conducting surveys and studies, as well as providing advice on geological, hydrogeological, geotechnical, mineralogical, geophysical, seismological, and geo-environmental issues. The CGSD is governed

[39] GoC, Ministry of Interior. Reports. Link.

by the Law for Geological Surveys of 2013,[40] which outlines the competences of the CGSD and governs issues related to the conduct of geological surveys and the use of government drillings. The CGSD maintains a network of seismic monitoring, including a network of accelerometers and related facilities at two independent Seismological Centers. The CGSD is also responsible for the maintenance and archiving of seismic and macroseismic data from historical earthquakes. In the event of an earthquake, the CGSD informs the public with announcements and updates on the Department's website. The CGSD also issues information leaflets, reports, studies, and articles on the seismic activity of Cyprus and the wider Eastern Mediterranean region. The CGSD has also carried out seismic microzonation studies to determine the local soil effects on earthquake risk.

**Cyprus has strong knowledge and capacity to implement earthquake risk assessments within its research institutions**, **which have produced multiple studies on earthquake risk in the country.** The 2018 NRA employs a probabilistic seismic risk assessment methodology to quantify the risk in buildings, in line with global best practices. Cyprus University of Technology, the Center for Risk and Decision Sciences of European University of Cyprus (CERIDES), and the National Centre for Scientific Research Demokritos are among the research institutions involved in the NRA.

**There have been considerable advancements in local tsunami risk understanding and awareness.** In 2016, the CGSD established the Cyprus National Committee of the Tsunami Early Warning System in the Mediterranean and North Atlantic to help coordinate tsunami early warning alerts to be delivered to the Civil Defence Department.[41] In addition, as part of the CoastWAVE project, Larnaca City is aiming to achieve the United Nations Educational, Scientific, and Cultural Organization (UNESCO)'s Tsunami Ready recognition through participatory planning. The initiative includes developing inundation maps, evacuation plans, and public awareness programs, with key workshops and international expertise guiding local stakeholders in defining risk areas and evacuation strategies, making Larnaca a regional leader in tsunami preparedness.

**Regarding landslide risk, the CGSD, in collaboration with foreign agencies, has developed preliminary hazard zonation maps focusing on landslides.** These maps cover many mountainous and hilly villages in the Paphos district and parts of the Limassol district**.** Additionally, a GIS-based landslide database for the Paphos district has been created as part of the CGSD's research and studies. These maps are used by state departments and local authorities as a tool for planning, building permits, and more appropriate urban design. The landslide database resulted from a comprehensive study conducted in the Paphos district, which included identifying and mapping various types of landslides, compiling a map of the geographical distribution of landslides, and preparing maps of terrain classification, landslide susceptibility, and indicative landslide risk.

**The seismic safety of older construction in Cyprus is a concern, as a large part of the building stock was constructed before modern seismic design standards.** A seismic rapid visual screening (RVS) assessment conducted in public buildings showed that many buildings need further investigation and possible upgrading (see Risk Prevention chapter). Moreover, many buildings, including residential and business structures, are potentially vulnerable, as the majority of the buildings in Cyprus were rapidly constructed after 1974 and are of low-quality construction and design.[42]

## KEY CHALLENGES

**Although the CCD coordinated the NRA process and the CGSD was involved, neither agency is legally mandated to oversee this crucial function**. Without a central authority or a defined legal framework to lead and manage the NRA, coordination among departments remains informal and inconsistent. This lack of formal authority hinders the establishment of a standardized risk assessment methodology and limits the capacity for integrating comprehensive DRR strategies across agencies, potentially weakening Cyprus's resilience planning efforts.

**Cyprus has developed robust technical expertise and capacity for seismic risk assessment, but there are notable gaps in how assessment results are communicated and shared across institutions.** The absence of a centralized platform or mechanism for effective dissemination limits the integration of these insights into broader planning and DRR strategies. Consequently, key findings from seismic risk assessments are not consistently factored into urban planning, infrastructure resilience, or community preparedness measures, reducing the overall impact of Cyprus's risk assessment efforts.

[40] Law N. 140(1)/2013. Link.
[41] Philenews. November 5, 2022. "World Tsunami Awareness Day: Risk of one occurring in Cyprus is real". Link.
[42] Kazantzidou-Firtinidou et al. 2022.

**While the 2018 NRA used state-of-the-art methodology, there is an opportunity to update and improve it with recent hazard and exposure data.** The earthquake risk assessment is based on the 2013 European Seismic Hazard Model and could be updated with the recent ESHM20, which incorporates refined earthquake catalogues, harmonized tectonic zonation, and updated active fault datasets, providing a more accurate and comprehensive understanding of seismic risks in Europe. The risk assessment also used building stock data and population information from the 2011 Population Census of Cyprus and a GIS-based building database provided by the Department of Lands and Surveys. Data were structured in a 1×1 km grid across the island, detailing building types and population distribution per grid cell, with building classifications based on the European Building Taxonomy from the RiskUE project. However, the study lacks specific detail on masonry types, which are vulnerable to earthquakes, and does not thoroughly analyze mid-rise buildings due to limited data.

**The NRA does not include an earthquake risk assessment of critical entities, distributed networks, or cascading effects, and it is unclear whether such assessments have been conducted.** This is especially relevant for infrastructure essential for post-disaster emergency response, including healthcare systems, emergency response buildings, shelters, and other vital facilities. An example is the aging existing dams, for which seismic risk has not been assessed, and whose failure following a major earthquake could result in devastating consequences. Additionally, there is no assessment of key distributed networks, such as road infrastructure and gas pipeline systems, or assessment of cascading effects and failures, which is critical due to the geographical isolation of Cyprus.

**There is limited risk information and understanding of earthquake-triggered secondary perils in Cyprus, including landslides, liquefaction, and tsunami risk modeling.** While work has been done in the Paphos district and parts of the Limassol district, there is a need for landslide hazard maps and a database for the other districts of Cyprus to be used for proper urban planning and building design. Additionally, liquefaction and tsunami risk assessments need to be conducted for Cyprus. Although there has been no recent seismic activity causing liquefaction phenomena on the island, historical records show that most parts of Cyprus are vulnerable to liquefaction.[43]

**Currently, Cyprus lacks an interactive GIS web platform for publicly accessible hazard and risk information.** The results of the NRA are available only in PDF report format on the CCD website, limiting accessibility and usability. Additionally, there is no comprehensive, centralized database on building information that could facilitate seismic risk assessment.

## KEY OPPORTUNITIES

**A legal framework for the risk assessment process could be a significant step in institutionalizing the process and ensuring implementation of the outcomes.** This would ensure that earthquake NRA results are incorporated into urban planning and government continuity plans. It could also facilitate the sharing of earthquake risk assessment results across agencies and improve the capacity for developing risk reduction programs and prioritization.

**Establishing a disaster damage and loss assessment methodology and data collection system.** Creating a legal framework and a centralized database for disaster data collection presents an opportunity to strengthen inter-ministerial collaboration and consistency across data. By aligning all relevant stakeholders—including Civil Defence, the Statistical Service, and other public authorities—under a single methodology, Cyprus can achieve more accurate, timely insights for evidence-based decision-making and resilience planning.

**Strengthening the NRA with the latest hazard modeling, refined infrastructure data, and social vulnerability indicators can support multiple earthquake preparedness efforts.** Integrating recent hazard models (for example, ESHM20), refined building and infrastructure data, and social demographics and vulnerability into the NRA is a key opportunity. This would allow for a more accurate, holistic evaluation of earthquake risk, extending analyses to critical entities and distributed systems for comprehensive coverage.

[43] Selcukhan, O., and A. Ekinci. 2023. "Assessment of Liquefaction Hazard and Mapping Based on Standard Penetration Tests in the Long Beach and Tuzla Regions of Cyprus." *Infrastructures* 8: 99. Link.

## UNDERSTANDING EARTHQUAKE RISK AND USE OF RISK DATA

**Understanding the resilience of critical entities and their interdependencies would enhance effective disaster preparedness and response**. A study of the cascading effects that could occur if a series of critical entities were to partially or completely lose functionality during a strong earthquake could help fill the current gap. The insular nature of Cyprus, combined with the interdependencies among critical entities, a vulnerable supply chain, and a complex geopolitical environment, highlights the urgency of such an analysis. Understanding these interdependencies should be prioritized to invest strategically in enhancing system-wide stability and ensuring the continuity of essential services in the event of a major seismic event.

**An interactive web platform with GIS capabilities could make risk assessment results more accessible across institutions and to the public.** Establishing a publicly accessible platform for risk data with GIS capabilities would enhance transparency and collaboration across institutions and the public. This platform could consolidate risk data from various agencies and the NRA, promoting more efficient planning, resource allocation, and community awareness of earthquake hazards.

**Expanding studies for tsunami hazard and risk can support evacuation planning, preparedness, and awareness efforts.** Building on existing historical analyses and aligning with advanced tsunami modeling such as the Global Tsunami Model would yield more extensive risk assessments and inform evacuation and preparedness plans. By enhancing local and national preparedness measures, Cyprus could strengthen coastal communities' resilience and better integrate tsunami readiness into broader disaster planning.

**Expanding landslide and other secondary earthquake-induced hazard risk assessments for all districts of Cyprus would support proper urban planning and building design.** Conducting landslide susceptibility assessments for all districts and systematically examining liquefaction risks would facilitate safer urban planning and building design. This focus on secondary hazards, supported by microzonation studies, would enable proactive mitigation strategies and reduce long-term disaster impacts.

# EARTHQUAKE RISK PREVENTION, REDUCTION, AND MITIGATION

*This chapter focuses on earthquake risk prevention, reduction, and mitigation, outlining opportunities for legislative reforms, the development and enforcement of building codes, and enhancing current retrofitting programs for public and residential buildings. It also addresses the integration of hazard considerations into planning documents and sectoral strategies as well as the scaling up of retrofitting efforts in critical sectors. The chapter recognizes that the concept of risk prevention varies greatly across Cyprus's strategic documents and would benefit from a unified understanding and definition.*

## GENERAL CONTEXT

**For climate-change-related risk reduction and adaptation measures, various governmental departments participate in the Monitoring Committee, created in line with the United Nations Sendai Framework for Disaster Risk Reduction requirements, coordinated by the CCD.** The Department of Environment[44] collaborates with the CCD on disaster risk assessment and reduction, including measures to anticipate and adapt to climate change. In the Ministry of Justice and Public Order's Annual Action Plan 2025, under 'State Security and Crisis Management', several interventions aim to strengthen policies and infrastructure for disaster prevention and management. These include enhanced surveillance for wildfire detection, the use of modern technologies for disaster prevention and suppression, improved operational readiness and fire response times, and better security of critical entities.

## CURRENT ARRANGEMENTS

**In Cyprus, new buildings are designed and constructed with earthquake safety in mind by adhering to established seismic codes and regulations.** In 2012, Eurocode 8, along with its national annexes, was adopted as the standard for seismic design across various regions, replacing earlier codes to ensure improved structural resilience. Eurocode 8 is currently undergoing a major update that is expected to be released in September 2027, which will include the introduction of unified European seismic hazard maps from ESHM20,[45] a deliverable of the SERA[46] project. In Northern Cyprus, the Turkish Earthquake Code has been in effect since 1999, with a significant update introduced in 2007 to enhance earthquake preparedness and building safety.

**To assess and address the seismic vulnerability of existing buildings, ETEK has developed a standardized tiered approach to seismic safety assessment, which is essential for prioritizing risk reduction in a large building portfolio.** The approach for the multi-tier assessment of existing buildings includes three tiers, each requiring a different level of effort and expertise ranging from a few hours to multiple days per building (see Box 1). The guidelines for the first tier have been published by ETEK, while the implementation of the second tier has not yet been completed. For the third tier, since 2012, Eurocode 8-Part 3[47] has been enforced for the detailed assessment and retrofit design of existing buildings.

**Over the last two decades, Cyprus has implemented a large national program for the seismic retrofit of school buildings.[48]** The school retrofit program was initiated after a series of significant earthquakes in Cyprus and the surrounding areas in the 1990s, focusing on improving the seismic resilience of school buildings to 'Life Safety'

[44] GoC, Department of Environment. Link.

[45] Danciu, L., S. Nandan, C. Reyes, R. Basili, G. Weatherill, C. Beauval, A. Rovida, S. Vilanova, K. Sesetyan, P. Y. Bard, F. Cotton, S. Wiemer, and D. Giardini. 2021. "The 2020 Update of the European Seismic Hazard Model: Model Overview." *EFEHR Technical Report 001*, Link.

[46] Seismology and Earthquake Engineering Research Infrastructure Alliance for Europe (SERA). Link.

[47] CEN. 2004. *Eurocode 8: Design of Structures for Earthquake Resistance Part 3: Assessment and Retrofitting of Buildings*. Link.

[48] Chrysostomou, C. Z., N. Kyriakides, A. J. Kappos, E. Georgiou, O. Vasiliou, and M. Milis. 2012. "Seismic Retrofitting of School Buildings of Cyprus." Earthquake Engineering. 15th World Conference. (15WCEE) (38 Vols). Link.

performance standards.[49] Given the country's high seismicity, many schools were found vulnerable due to their design before modern seismic codes. The program involved assessing the structural integrity of schools, then retrofitting, refurbishing, or demolishing where necessary, and incorporating modern seismic design principles. As of 2012, about 90 percent of the school buildings in Cyprus were considered seismic resistant.

**In 2023, another large program on seismic assessment of public buildings was initiated by the PWD in the Ministry of Transport, Communication, and Works.** Within a year, they conducted an RVS assessment of over 150 priority buildings. The department identified all public buildings managed by the Ministry of Transport, Communication, and Works and completed an RVS of the priority buildings, which included buildings older than 1994, high-rises, and buildings of particular importance in emergency response, such as police stations and fire stations. As a result, buildings were prioritized, with some needing immediate repair and others requiring the next tier seismic assessment step. Three actions are currently undertaken by the PWD: (1) retrofitting buildings that need immediate attention due to existing damage or serious deficiencies, (2) continuing the RVS for the rest of the buildings under their responsibility, and (3) prioritizing buildings that require more in-depth investigation (that is, secondary and tertiary seismic assessment levels).

**The local architectural heritage in Cyprus is protected by legislation implemented by the Department of Urban Planning and Housing.** However, there are currently no dedicated seismic risk assessments, risk reduction, or public awareness campaigns in place. Many cultural heritage monuments are under the stewardship of the Church of Cyprus, which plays a significant role in religious tourism and attracts visitors year-round. Therefore, collaboration with the Church of Cyprus is needed in any initiative aimed at safeguarding these sites. Additionally, re-engaging with the PROCULTHER-NET network—funded by DG ECHO and focused on protecting cultural heritage in emergencies—may offer valuable opportunities for capacity building and knowledge exchange.

**Over the last two decades, the CGSD has undertaken several microzonation studies to be used in planning.** The first microzonation study in Cyprus took place from 1995 to 1997 and covered the greater Larnaca urban planning area, followed by similar studies in Limassol, Nicosia, and Paphos. These microzonation studies are crucial for updating and improving local seismic codes, helping engineers design and strengthen buildings to better resist earthquakes, and guiding state authorities in strategic urban planning. Within its mandate, the CGSD prepares maps that delineate geological suitability zones, identifying geohazards that threaten the built environment. Updated versions of these maps are shared with key government entities—such as the Departments of Town Planning and Housing, Lands and Surveys, and Public Works—along with professional bodies (for example, ETEK and the Association of Municipalities). This distribution ensures that both citizens and decision-makers are informed about seismic risks and can incorporate this knowledge into future development plans.[50]

**Funds for preventive actions are included in the yearly budget of different government departments, depending on their mandate.** For example, anti-seismic strengthening of schools is included in the budget of the Technical Services of the Ministry of Education, Sport, and Youth. As another example, anti-flooding works, such as retaining dams at the upstream side of cities, are included in the budget of the PWD (75 percent of the cost) and the budget of the involved municipality (25 percent of the cost). Preparedness actions are included in the budget of the relevant departments. For example, the budgets of the Fire Service, the Forest Department, and CCD include provisions for equipment, training, exercises, and training fields. Likewise, provisions for the cost of interventions are included in the yearly budgets. Starting in 2022, budgets for preventive actions must solely stem from the strategic plans of the different departments and become an independent fund.

**The 'Static Adequacy Inspection Certificate' is an earthquake safety assessment tool resulting from inspection of a building by a professional civil engineer following guidelines from ETEK.** Its purpose is to detect and document possible structural deficiencies in both public and private buildings, informing owners of needed interventions. Buildings must undergo a visual inspection for certification before transfer, rental, sale, or lease, and the certificate must be renewed at least every five years. This standardized methodology addresses two main challenges: many older buildings lack modern seismic design and mandatory supervision from the time of construction, and there are often no systematic maintenance and preventive measures. Inspections may also cover non-load-bearing elements (for example, cladding) and functional systems (for example, fire safety equipment), making this process essential for public safety.

[49] Focus is to ensure the safety of occupants, meaning that the building may be damaged in both structural and non-structural elements and be nonfunctional after an earthquake.

[50] GoC, Ministry of Agriculture, Rural Development and Environment. 2021. *Geological Suitability Zones*. Link.

**Recently, the Municipality of Nicosia launched a significant initiative to enhance its resilience against natural disasters, including earthquakes.** As the first city in Cyprus to join the global Making Cities Resilient 2030 (MCR2030) network—led by the United Nations Office for Disaster Risk Reduction (UNDRR)—Nicosia has committed to developing a comprehensive resilience strategy encompassing the prevention, response, and recovery phases of DRM. This long-term project, supported by local stakeholders such as SupportCY, aims to build capacity through training, knowledge exchange, and collaboration with international experts. Nicosia's participation in MCR2030 underscores its dedication to strengthening disaster resilience and sustainable urban development, setting an exemplary model for local-level risk reduction initiatives.

## KEY CHALLENGES

**There is limited use of NRA results in earthquake risk reduction planning and programs.** Despite detailed assessments of earthquake risks, these insights are not systematically integrated into DRR strategies or land use planning and development policies. Dissemination of NRA results and the capacity of different government agencies to use the results in risk reduction planning are limited, which hampers the effective application of risk findings across relevant sectors.

**The national school retrofit program and the efforts by the PWD are examples of comprehensive retrofit initiatives in Cyprus; however, they are not integrated into a broader national earthquake risk reduction program that addresses all critical sectors**. Earthquake risk reduction should encompass healthcare facilities, emergency response buildings, cultural heritage sites, residential buildings, and other essential infrastructure that play a crucial role in ensuring community resilience in an earthquake event. Furthermore, the absence of an inter-ministerial coordination mechanism hinders effective collaboration and knowledge sharing among relevant departments. This lack of coordination results in a lack of exchange of critical information related to assessment methods, prioritization frameworks, funding opportunities, and other key aspects necessary for efficiently scaling earthquake risk reduction efforts.

**While many buildings in Cyprus have already undergone or are currently undergoing energy efficiency upgrades supported by EU funds, there is limited dedicated financing for seismic strengthening or retrofitting.** Each year, the Ministry of Energy, Trade, and Industry announces programs for residential energy upgrades, including the 2024–2025 'Save–Upgrade at Homes' Grant Scheme[51] funded through the Recovery and Resilience Plan. This scheme supports interventions such as thermal insulation, window replacement, shading systems, photovoltaic installations (net-billing), energy storage batteries, and high-efficiency heating/cooling systems. Enhanced funding is available for vulnerable consumers, mountainous areas, and refugee housing, with a total budget of €30 million. Additionally, the 'Save–Upgrade at Small and Medium-Sized Enterprises (SMEs) and Non-Profit Organizations' Grant Scheme[52] allocates €24 million to achieve at least 35 percent energy savings in buildings owned or used by SMEs and nonprofits, under the EU's Recovery and Resilience Facility. Given the level of funding for energy upgrades, a joint program for earthquake safety improvements could be an opportunity to accelerate earthquake resilience in a cost-efficient manner.

## KEY OPPORTUNITIES

**Cyprus could accelerate its earthquake resilience through a multi-sectoral National Earthquake Risk Reduction Program that aligns with the National DRR Strategy.** The program should lay out a roadmap of actions with roles assigned to relevant ministries and departments, be developed based on risk assessments and systematic prioritization, and be supported by the necessary legislation and guidelines to streamline implementation. By aligning these efforts with the National DRR Strategy, Cyprus can ensure that each sector achieves the broader risk reduction goals and allocates resources efficiently, creating a unified approach that strengthens resilience against multiple risks. The program should consider integrated solutions addressing energy efficiency, functionality, and accessibility to maximize the benefits of the investment.

**The establishment of a cross-institutional coordination mechanism for sharing experiences and adopting a common approach to designing, prioritizing, and implementing scalable risk**

[51] Department of Industry and Technology, Department of Energy Trade and Industry. 2004. *Upgrade to Homes (2024) - Open Call for Applications*. Link.

[52] Department of Industry and Technology, Department of Energy Trade and Industry. 2024. *Second Announcement of Grant Scheme "Upgrade to Small and Medium Enterprises and Non-Profit Organizations"*. Link.

**reduction investments would enhance earthquake resilience.** This could facilitate scaling up risk reduction investments across different administrative levels and sectors, with immediate focus on priority sectors—emergency management, health, education, and transport. Investments that consider an integrated approach could be promoted, such as combining seismic retrofit with improvements to energy efficiency, accessibility, and building functionality, to yield multiple co-benefits.

**Ongoing seismic safety assessment and improvement initiatives, such as the PWD program, would greatly benefit from an investment plan and prioritization framework that goes beyond seismic safety to consider the criticality of infrastructure and the potential for co-benefits.** These co-benefits could include enhancements in energy efficiency, accessibility, fire safety, and other functional improvements. Adopting such a comprehensive approach could help leverage different funding sources, such as the European Green Deal's Renovation Wave.

**Cyprus has an opportunity to implement an integrated seismic retrofit and energy upgrade program for its building stock, addressing both structural resilience and energy efficiency.** In light of the grant programs and a national effort to achieve nearly zero-energy buildings,[53] Cyprus can implement an integrated seismic retrofit and energy upgrade program for both structural resilience and energy efficiency. The residential sector in Cyprus accounts for a growing portion of national energy consumption, rising from 12 percent in 1990 to 21 percent by 2018, yet energy upgrade policies have predominantly focused on new constructions, leaving a gap in existing buildings.[54] Given that existing structures contribute significantly to long-term energy demand and greenhouse gas emissions, retrofitting programs that enhance both seismic resistance and energy efficiency could yield substantial benefits. Integrating upgrades for earthquake resilience with energy improvements aligns with European and international goals to reduce greenhouse gas emissions while extending the lifespan of buildings, enhancing safety, and lowering life-cycle costs.

**Quantifying the benefits of earthquake risk reduction in Cyprus could greatly enhance advocacy efforts by demonstrating the tangible value of resilience investments to stakeholders and the public.** By systematically calculating the avoided losses, cost savings, and social benefits associated with DRR measures, Cyprus can present a compelling case for sustained funding and policy support. An example of a DRR benefit-cost analysis is the triple dividend framework, where the benefit-cost ratio of seismic risk.[55] The Triple Dividend of Resilience approach expands the traditional benefit-cost analysis approach and considers three types of benefits: avoided losses when disasters strike, stimulated economic activities and innovation arising from reduced risks, and generated socioeconomic and environmental co-benefits. The study also showed that earthquake prevention measures accompanied by investments in energy efficiency and building modernization provide the greatest benefit-cost ratios and offer immediate benefits to beneficiaries even if a disaster does not occur.

**The seismic zonation map included in the National Annex of Eurocode 8 would benefit from an update according to the new seismic hazard models developed for the European Seismic Hazard Model ESHM20.**[56] This could be done and reviewed to be ready for the update of Eurocode 8 in 2027. In that way, efficient seismic design of buildings would be achieved. In addition, seminars could be organized to notify and train engineers on these updates of Eurocode 8.

**The prompt establishment of the second tier of the seismic assessment framework, related dissemination, and training efforts will support ongoing and future risk reduction programs.** The responsible government authorities and departments, as well as building owners, can use the results from this assessment for prioritizing the buildings that need intervention and for applications for financing to EU or national funding mechanisms, such as the Cyprus National Strategic Reference Framework. Such assessments are usually necessary when applying for external funding to strengthen identified vulnerable buildings. However, the guidelines for this assessment have not been published by ETEK.

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[53] Cyprus has implemented legislation mandating that all new and renovated buildings achieve nearly zero-energy status by December 31, 2020, as stipulated in Article 5A of Law No. 142(I) 2006.

[54] Pamboris, G., C. Z. Chrysostomou, S. A. Kalogirou, and P. Christodoulides. 2024. "Integrated Approach of Retrofitting an Existing Residential Building to a Nearly Zero Energy Building with Simultaneous Seismic Upgrading." *The Open* Construction *& Building Technology Journal* 18 (1). Link.

[55] World Bank and European Commission. 2024b. *Tools for Making Smart Investments in Prevention and Preparedness in Europe: From Data to Decisions*. *Economics for Disaster Prevention and Preparedness*. Link.

[56] Danciu et al. 2021.

**Box 1. The multi-tiered approach to seismic safety assessment of existing buildings in Cyprus**

***The Cyprus Scientific and Technical Chamber (ETEK) is developing a standardized approach to tiered seismic safety screening and assessment of existing buildings.***

The approach includes three tiers, where the methodology for the first and the third tiers has already been completed, and the methodology for the second tier is under development:

1. **The first assessment level**, known as 'Rapid Visual Screening of Buildings for Potential Seismic Hazard', is a simplified method designed to evaluate a large number of buildings quickly. Two engineers conduct the inspection using two forms: (i) the Visual Inspection Form, which records general building information, visible damage, roof structure details, photos, and repair recommendations, and (ii) the Rapid Visual Screening (RVSB) Form, which includes structural details, seismological and geotechnical data, and seismic vulnerability factors like short columns or soft stories. The RVSB. Form also provides suggestions for retrofitting to improve seismic resilience. These are preliminary recommendations only, based on visual inspection and the criteria set in the forms, and are not equivalent to assessing the load-bearing capacity and/or structural capacity of the building, which, if required, should be carried out in accordance with the requirements of Eurocode 8, Part 3 (CYS EN 1998-3:2005).

2. **The second assessment tier** is called 'Preliminary Assessment of Seismic Vulnerability of Buildings', for which the guidelines are being prepared and have not yet been published. This level may include (i) preliminary laboratory tests (such as tests for verifying the strength of materials and chemical analyses), (ii) geotechnical investigation, (iii) assessment of the foundation, (iv) preliminary calculations for assessing the degree of risk posed by the load-bearing structure to its users and the public, (v) establishment of the cause of structural failures, and (vi) repair of faults (if any).

3. **The third assessment level**, called 'Assessment and Retrofitting of Buildings', is in accordance with Eurocode 8, Part 3. This level includes (i) thorough laboratory investigation, (ii) structural assessment of the load-bearing capacity of the building according to the provisions of CYS EN 1998-3:2005, (iii) design for structural upgrading (preliminary design) according to CYS EN 1998-3:2005, (iv) preliminary assessment of the cost of the structural upgrading to decide whether it is advantageous to proceed with a structural/seismic upgrade of the building, and (v) complete structural analysis and design of the structural upgrade, including dimensioning and preparation of drawings if a decision to proceed with a structural upgrade is taken.

# EARTHQUAKE EARLY WARNING AND PUBLIC AWARENESS

*This chapter focuses on early warning and awareness. It examines preparedness activities, awareness campaigns, EWSs, other alerting systems (for example, sirens), training and exercises, and the overall development of civilians' response capacities.*

## CURRENT ARRANGEMENTS

### EWSs

**The current EWS in Cyprus is the siren network**. However, the Ministry of Interior's Annual Action Plan 2025 for 'Civil Protection' outlines three ongoing initiatives related to EWS: (1) developing a management system for the Pan-European emergency number (112), (2) installing an SMS-based EWS for catastrophic events, and (3) replacing the outdated siren system. The following sections on current arrangements, key challenges, and opportunities focus on earthquake risk.

**Although Cyprus is taking steps toward improving its EWS, a comprehensive and inclusive EWS is currently unavailable.** In addition, the majority of the population is not signed up for alerts and warnings from emergency services (96 percent).[57]

**There is currently no dedicated EEW system in Cyprus, which can alert about an earthquake shaking several seconds to minutes before it happens.** The effectiveness and application of EEW systems depend on the available lead time; for instance, longer lead times may allow for public alerts and infrastructure shutdowns, while shorter lead times might be suitable for automated responses in critical facilities. In Cyprus, a feasibility study needs to be conducted to determine whether an EEW system would be effective and to evaluate the costs and benefits of an investment in the seismic monitoring network needed to make EEW possible. In case of a tsunami danger, Cyprus receives alerts from the Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean, and Connected Seas through the CCD, which is then responsible for disseminating information.

**The locations of shelters in case of an emergency are not published online in a GIS system but are provided to the public when required via phone call to the CCD.** Members of the public can share their address and postcode to be informed of the closest shelter. They should make their way to a shelter if they hear sirens. Shelters in Cyprus are designed for dual use, including potential use during armed conflict, which is why their locations are not publicly disclosed. The CCD has expressed interest in learning from international practices—particularly from countries like Israel—on how the private sector can be incentivized to build shelters and how the public is informed about their purpose and use without compromising security.

**The CGSD has initiated tsunami readiness efforts, starting with the Larnaca 'Tsunami Ready' program as part of the UNESCO CoastWAVE initiative.** Larnaca is the first coastal city in Cyprus to undertake such measures, with completion targeted for 2026, as Larnaca's low elevation and flat terrain make it a priority for developing evacuation plans using high-resolution local simulations. Key actions include installing an EWS, evacuation signage, and sirens and revising the national disaster plan to include tsunamis. Extensive public awareness campaigns and educational programs aim to ensure the city's readiness, with the goal of earning the 'Tsunami Ready' designation by 2026.

[57] European Commission. 2024. *Special Eurobarometer 547: Disaster Risk Awareness and Preparedness of the EU Population - Cyprus Factsheet*. Link.

## Public awareness

**The engagement of volunteers in Cyprus's awareness-raising efforts is notably effective and well-integrated into the national DRR framework.**[58] Volunteers, particularly through the CCD, actively participate in initiatives like distributing informational materials such as flyers and leaflets. Volunteers foster a community-based approach to readiness, helping bridge the gap between governmental actions and community resilience.

**According to a survey conducted by Eurobarometer on disaster risk awareness and readiness, only 14 percent of the respondents in Cyprus feel exposed to earthquake risk, and 75 percent say they need more information to prepare for disasters or emergencies.**[59] The survey also indicates a high reliance on emergency services (77 percent of respondents) and high trust in authorities (83 percent of respondents), meaning that following a disaster, the population will likely look to authorities for more information.

**The main channels of CCD communication with the public are its website and TV broadcasts.** Dissemination of NRA results is done through the CCD website[60] by making the non-confidential parts of the risk assessment reports available to the public. This is the main avenue for the CCD to raise citizen awareness and preparedness. In addition, following every significant earthquake, authorities issue public announcements with self-protection advice, and informational segments are regularly aired on television. In March 2025, during the Month of Civil Defence and Civil Protection, a major awareness campaign was launched across traditional media, social media, and through live interviews.

**According to the Eurobarometer survey, 42 percent of the respondents use social media networks to learn about risks, followed by national media (39 percent) and family and friends (39 percent).** Only 19 percent of the population find information through emergency management services, signaling that NRA dissemination and risk awareness might not be sufficient.

**The CCD has adopted two educational initiatives aimed at strengthening public awareness on disaster risk reduction.** The FEMA Building Codes Activity Booklet, originally developed by FEMA and adapted for Cyprus, uses interactive activities to teach children and families how building codes help protect communities from natural hazards such as earthquakes, storms, floods, and fires. The My Safe Yard campaign provides illustrated, child-friendly guidance on how to secure or remove loose objects and address potential hazards in residential yards to prevent injury or damage during strong winds or severe weather. Both initiatives are designed to be engaging, accessible, and suitable for use in schools and community activities, fostering a culture of safety from an early age.

**The Ministry of Education, Sport, and Youth, through its Office of Civil Defence, Health, and Safety,[61] holds primary responsibility for establishing, implementing, and continuously improving safety measures in educational facilities to protect students, school staff, and other workers from emergencies such as earthquakes and fires.** This office was created in 1997 on the recommendation of the Ministry of Interior's Civil Defence Administration. Together with school directors and designated Security Officers, the Office of Civil Defence, Health, and Safety ensures each school develops a Civil Defence Action Plan tailored to local needs, conducts training and awareness programs for students and staff, and verifies whether annual emergency drills are carried out. It also checks that each plan is kept up to date: every year, earthquake drills are organized to test procedures, identify gaps, and refine preparedness strategies where needed.

**The SupportCY network of the Bank of Cyprus, as part of its broader activities, also undertakes initiatives related to emergency preparedness and public awareness.**[62] These efforts include training volunteers, maintaining a large stockpile of emergency equipment and humanitarian aid, and organizing public awareness campaigns. For example, in collaboration with the Fire Service, SupportCY conducts fire awareness campaigns ahead of the fire season and runs active social media campaigns (on platforms such as Facebook,

[58] European Commission. 2018. Peer Review Report Cyprus. Link.
[59] European Commission 2024.
[60] Ministry of Interior, Civil Defence, Cyprus. Link.
[61] GoC, Ministry of Education, Sport and Youth. Office of Civil Defence, Health and Safety. Link.
[62] Bank of Cyprus. n.d. *SupportCY Actions*. Link.

Twitter, and Instagram) during the high-risk period from June to October. These campaigns feature videos and photos encouraging the public to act as fire spotters and providing guidance on how to respond if a fire is detected. Additionally, flood awareness campaigns are carried out over a four-month period, offering information on what to do before, during, and after a flood. While fewer in number, some campaigns also focus on earthquake preparedness, primarily offering advice on actions to take after an earthquake.

## KEY CHALLENGES

**Among government institutions, there is a lack of coordination and strategy related to earthquake preparedness and awareness for the general public.** Risk information and planning for earthquakes are mainly housed within government institutions, such as the Ministry of Interior and the Civil Defence. While these institutions operate efficiently, the challenge is the lack of inter-agency collaboration and effective planning and implementation of public preparedness and awareness campaigns.

**Risk information and emergency procedures are not readily accessible to the general public.** Maps and information about various risks, including earthquakes, are not available on government institutions' websites. The Eurobarometer survey[63] showed that only 6 percent of the respondents in Cyprus were informed about the response plan their city, region, or country had for a disaster or emergency. Currently, there is also no publicly available information about emergency shelters; citizens must call a designated number and provide their postal code to obtain the location of the nearest shelter, which is a system that can be easily overwhelmed in case of a large earthquake. As part of the ongoing efforts to establish an effective national civil protection mechanism, by 2025, the Cyprus government plans to launch an electronic application to guide citizens to the nearest shelter during crises.[64]

**There is a lack of public engagement in earthquake drills and preparedness.** According to the 2024 Eurobarometer survey, only 9 percent of respondents learned about disaster risk from work, employers, schools, and educational institutions, and 10 percent participated in training or exercises to learn how to react to an emergency. The public currently does not participate in the drills organized by the CCD. There is also a need to educate both citizens and visitors on the specific meanings of the sounds used in the current siren-based EWS.

## KEY OPPORTUNITIES

**To ensure timely and appropriate life-saving behavior of the population in Cyprus during an earthquake, three key opportunities have been identified:** (1) the development of a coordinated public preparedness and awareness strategy, (2) the establishment of a publicly accessible online platform for risk information and preparedness resources, and (3) the enhancement of the EWS.

### Public preparedness and awareness strategy

**A coordinated public preparedness and awareness strategy for earthquakes can help engage multiple stakeholders, promote earthquake resilience, and ensure coverage across all segments of the population.** Such a strategy should involve key actors both within and outside the government, including the Civil Defence, the education system, media outlets, and community organizations. It should incorporate various forms of communication, recognizing the role of social media and national media as essential information sources used in Cyprus. Additionally, the strategy must address the needs of hard-to-reach groups, such as elderly individuals, people with disabilities, and non-native speakers, ensuring inclusivity in emergency preparedness efforts. Clear goals and key performance indicators should be established, with regular monitoring and evaluation throughout the implementation process.

**Organizing public awareness campaigns on how to respond before, during, and after an earthquake could significantly strengthen civil society's resilience and help reduce injuries caused by panic during such events.** While SupportCY runs large-scale wildfire awareness campaigns each year, reflecting the severity of the issue, similar

[63] European Commission 2024.
[64] FastForward. 2024. "The Nearest Shelter in Cyprus on Your Phone: New Digital Tools for Civil Protection." Link.

efforts for earthquakes remain limited. Expanding earthquake-focused campaigns, including through social media, could play an important role in raising public awareness and preparedness. One example, the FEMA Building Codes booklet and My Safe Yard campaign offer engaging formats that could be adapted to strengthen earthquake preparedness in Cyprus. By expanding their content to address earthquake risk, incorporating them into school curricula or public campaigns, and creating online-friendly content these initiatives could play a greater role in building a culture of preparedness.

**The development of a tsunami risk awareness and preparedness program with a designated coordinating body can enhance public safety and resilience to tsunamis, which have previously received less attention.** This should include public preparedness with considerations for vulnerable populations, including school children, the elderly, and people with disabilities and special medical needs, as well as migrant and refugee communities. Upon completion, the Larnaca Tsunami Ready project can serve as a pilot and be scaled nationwide.

**Incorporating the tourism sector into planning and preparedness efforts is critical, as Cyprus is a major tourist destination.** The involvement of the Association of Hotels and the Ministry of Tourism in civil protection planning is particularly important, especially in the event of a major earthquake during the high season. The south coast of Cyprus, where most of the tourism industry is concentrated, is also the island's most earthquake-prone area. Therefore, a system should be developed to ensure that tourists and visitors are kept informed and aware of what to do in the event of an earthquake. Additionally, the CCD could benefit from a project similar to the DG ECHO-funded initiative in Greece titled 'Strategic Framework for Raising Public Awareness and Training Programmes for Disaster Risk Management in the Tourism Sector' (acronym 'THEMIS'), implemented by the Greek General Secretariat for Civil Protection.[65]

## Publicly accessible information platform

**Establishing a publicly accessible web platform that provides interactive maps with risk and emergency shelters, as well as resources on individual preparedness for various hazards, including earthquakes, can greatly help in raising awareness and empowering individual action.** In addition to relevant information from the NRA, such a platform could offer information related to individual and family preparedness. This could include, for example, information on creating emergency supply kits (water, non-perishable food, a flashlight, first aid kit, batteries, and so on), developing a family response and communication plan, and securing homes against potential earthquake damage. In addition, information on emergency shelters should be readily available in an online map format, so it is easily accessible to the public in an emergency.

## EWSs enhancements

**To improve Cyprus's EWS, efforts should focus on expanding accessibility while addressing key areas for enhancement.** Strengthening governance through regular system testing, staff training, and public awareness campaigns is essential to refine the EWS. Increasing public awareness and conducting educational campaigns on how to interpret and respond to alerts could facilitate the gradual expansion of the system. Enhancing public understanding of seismic risks and preparedness measures will help address these concerns and empower citizens to take timely action. Additionally, modernizing outdated public alert equipment, such as sirens, and allocating more resources to local authorities can further improve the system's overall effectiveness**.** The EWS should be complemented by early action advisories and training to enhance its effectiveness for stakeholders and residents in Cyprus.

**A feasibility study of an EEW system could determine whether such a system could be effective in Cyprus.** The EEW system is a technology that detects seismic waves from an earthquake in progress and provides advance alerts to people and infrastructure, allowing them to take protective actions before strong shaking occurs. This is not to be confused with a general EWS, where notifications are sent out after an earthquake happens. The

[65] European Union. THEMIS. Link.

## EARTHQUAKE EARLY WARNING AND PUBLIC AWARENESS

feasibility of an EEW system hinges on having a dense network of seismic stations to ensure rapid detection and sufficient lead times, as well as effective algorithms that can quickly and accurately estimate earthquake parameters. Depending on the lead time (i.e., the time between the alert and the onset of strong shaking), EEW systems can trigger automated protective actions—such as slowing down high-speed trains, shutting off critical systems (e.g., gas pipelines), stopping traffic, or preventing vehicles from entering vulnerable infrastructures. When combined with public awareness and training, such systems can also enable individuals to take context-appropriate protective actions, such as "drop, cover, and hold on" or moving to a safer location.

# EARTHQUAKE PREPAREDNESS AND EMERGENCY RESPONSE

*This chapter focuses on earthquake preparedness and response. Earthquake preparedness includes emergency plans, evacuation plans, and operational measures to reduce impacts. Emergency response encompasses actions taken immediately after an event and in the following days or weeks.*

## GENERAL CONTEXT

**Regarding Cyprus's preparedness for disasters, Cyprus uses four preparedness levels.** The first level, 'Green' (level 1), represents normal preparedness and is permanently in force under the responsibility of the General Coordinator of each competent ministry. An additional 'Orange' level (1A) applies to smaller, localized incidents. The second level, 'Yellow' (level 2), is for local disasters requiring increased preparedness by other ministries and services. If assessments indicate that a crisis is likely, normal preparedness shifts to increased preparedness, prompting broader mobilization on the recommendation of the General Coordinator and approval by the ministry's General Director. At the third level, 'Red' (level 3), the Main National Plan is activated, involving the Inter-Ministerial Crisis Management Group and all relevant ministries and services in a full response effort. Finally, the 'White' level (4) focuses on recovery and assistance, involving a de-escalation of measures, damage and environmental assessment, support for those affected, and prevention of similar incidents in the future.

**Several organizations are involved in emergency response in Cyprus, coordinated through the Joint Rescue Coordination Center (JRCC)[66], an independent agency under the Ministry of Defence that ensures effective coordination during emergencies at sea and on land, including search and rescue operations.** These include the Navy Command, Air Force Command, Port and Marine Police, and the Police Aviation Unit. Support is also provided by Civil Defence, the Disaster Response Special Unit, and the Ministry of Health's Ambulance Service. The Disaster Response Special Unit, operational since 2002, serves as a specialized national force for advanced search and rescue operations across land and sea, including earthquake response, building collapses, aquatic recovery operations, mountain rescues, and searches for missing persons. Additionally, the Cyprus Maritime Coordination Center, operating under the JRCC, focuses on maritime safety, security, and environmental protection within Cyprus's maritime jurisdiction. The JRCC, in cooperation with all involved departments of the Ministry of Transport, Communication and Works, and the Ministry of Interior, developed a multipurpose ZENON Coordination Center.

**The ZENON Coordination Center in Cyprus is a national crisis management center responsible for coordinating emergency responses and disaster management across the country.** The center operates as a key part of the national crisis management system, managed by the JRCC based in Larnaca. Its primary role is to coordinate responses to various emergency scenarios, including humanitarian crises, natural disasters, and large-scale evacuations. The center supports operations like the National Plans 'ESTIA' for the reception and evacuation of non-combatants and 'TEFKROS' for managing search and rescue incidents in the region. Equipped with advanced surveillance and communication systems, the ZENON Coordination Centre is crucial for coordinating between different governmental agencies during emergencies. It is used for coordination of international operations, such as the AMALTHEIA humanitarian aid mission to provide supplies to Gaza during the ongoing crisis.

**Emergency response in Cyprus is guided by 26 ZENON plans, which represent a comprehensive framework designed to address a range of natural and man-made risks through readiness, response, and limited recovery measures.** Each plan is managed by the respective

[66] Joint Rescue Coordination Center (JRC). *Civil Defence*. Link.

institutions under a unified master plan. Annex 2 provides a list of the plans. Developed by various governmental authorities under the supervision of respective ministries, these plans cover diverse hazards, including earthquakes, extreme weather events, technological accidents, and the evacuation of citizens, among others. While they are primarily focused on response and preparedness, the ZENON plans also emphasize the roles and responsibilities of essential services in managing potential disasters, although they lack extensive prevention strategies. The plans are intended to be regularly tested through exercises, alternating between full-scale field exercises and tabletop simulations to ensure a comprehensive approach to emergency response. However, in practice, it remains unclear how consistently these exercises are conducted.

**The Cyprus Red Cross Society plays a key role in DRM and response by providing humanitarian aid, offering relief services during emergencies, and supporting communities in disaster preparedness and recovery efforts.** It is volunteer based and works closely with local authorities and international partners to deliver aid; conduct training sessions; and mobilize volunteers for rapid response during natural disasters, health crises, and other emergencies. Its activities also include support for vulnerable populations and coordination during evacuation or relief operations.

**The SupportCY network of the Bank of Cyprus is a major volunteer-based organization that supports Cyprus during crises and disasters while also conducting educational and training campaign.**[67] Established in 2020 during the COVID-19 pandemic to assist frontline professionals and ministries such as Health, Education, and Foreign Affairs, it has since evolved into a broader support mechanism for both national and international emergencies, including wildfires, floods, and earthquakes. Through SupportCY, the Bank of Cyprus, in collaboration with over 180 member partners (including companies and organizations), offers support across all pillars of its corporate social responsibility (CSR) strategy: environmental, social, and economic. The network has become a key coordination hub for both NGOs and government services in times of crisis. Central to its operations is the SupportCY Volunteers Corps, a group of 116 volunteers—including 40 trained individuals from the Bank of Cyprus and its partners—who are ready to support frontline professionals during emergencies, including earthquakes. These volunteers receive training from experts from official agencies such as Civil Defence, the Fire Service, the Ambulance Service, and the National Guard to ensure effective coordination during emergency situations. Additionally, SupportCY has established six specialized units to provide targeted support in times of crisis: the Emergency Response Unit, the Missing Person Unit (in cooperation with the Police), the Joint Unit (focusing on scientific and technological tools such as drones), the Emergency Medical Unit (working closely with the Ambulance Service), the Support Unit, and a large-scale Humanitarian Response Unit. The SupportCY Crises & Disasters Centre is the network's operational hub, coordinating emergency response efforts and managing the distribution of essential supplies, including equipment, clothing, food, and other necessities, to individuals in need.

## CURRENT ARRANGEMENTS

**Several organizations play a primary role in emergency response in case of an earthquake in Cyprus**, including the CCD, the JRCC, the Police and Fire Service, the District Administrations, the Technical Services, the Displaced People Care and Rehabilitation Service of the Ministry of Interior, the PWD, and other Health Ministry Services. In an emergency, the CCD can mobilize its human resources, namely its volunteers and conscripts**.** Both categories are trained to respond to key hazards, including earthquakes, tsunamis, extreme weather events, floods, forest and agricultural fires, and major technological accidents, as well as providing horizontal assistance (for example, in emergency logistics), irrespective of the crisis type. In 2022, the CCD became the fourth in the world to earn the INSARAG Light USAR Team certification for assistance to other states after an earthquake.[68] The CCD drone team, developed with support from UCPM funding, is exploring the possibility of obtaining INSARAG certification.

**ENGELADOS is the special national plan for earthquake disaster management with a focus on readiness and response, coordinated by the CCD.** It was initially compiled in 1999, after the strong earthquakes of Paphos $M_w$5.9 (VII) in 1995, Limassol & Paphos $M_w$6.8 (VIII) in 1996, and Limassol $M_w$5.6 (VII) in 1999. It is a multi-operational plan that involves the cooperation of 50 national departments/services and organizations, such as the Red Cross and the Association of Civil Engineers. The role of each institution is defined, and exercises are carried out to practice implementation. Each department, service, and organization prepare its own special plan, which contains Memoranda of Action and Annexes. Box 2 details an example of the ENGELADOS training that took place in 2018.

[67] Bank of Cyprus. n.d. *SupportCY Actions*. Link.

[68] Kathimerini Cyprus. 2022. "Cyprus UN-Certified for Earthquake Assistance to Countries." Link.

**In November 2024, Cyprus received UCPM funding for project DEMONAX, a large-scale earthquake response exercise that focuses on enhancing Cyprus's disaster preparedness and host country capacity in a major earthquake.** The DEMONAX project includes planning and training activities aimed at addressing identified preparedness gaps, facilitating the transfer of knowledge from other European consortium countries, and strengthening scientific cooperation between the Cyprus Geological Survey and the National Observatory of Athens, thereby enhancing scientific support to the CCD. This €1 million project runs until November 2026 and involves multinational partners from Cyprus, Greece, France, Italy, and Montenegro, aiming to test national response plans, cross-border cooperation, and the UCPM's capacity in an island setting. This exercise will operate under a scenario where many critical entities (airports, hospitals, and so on) are overwhelmed, damaged, or destroyed. The full-scale exercise will take place from April 20 to 26, 2026, during Cyprus's Presidency of the Council of the EU. It provides a valuable opportunity to raise awareness about DRM and DRR among the general public and specific target groups such as vulnerable populations, the tourism industry, and owners or managers of cultural heritage sites.

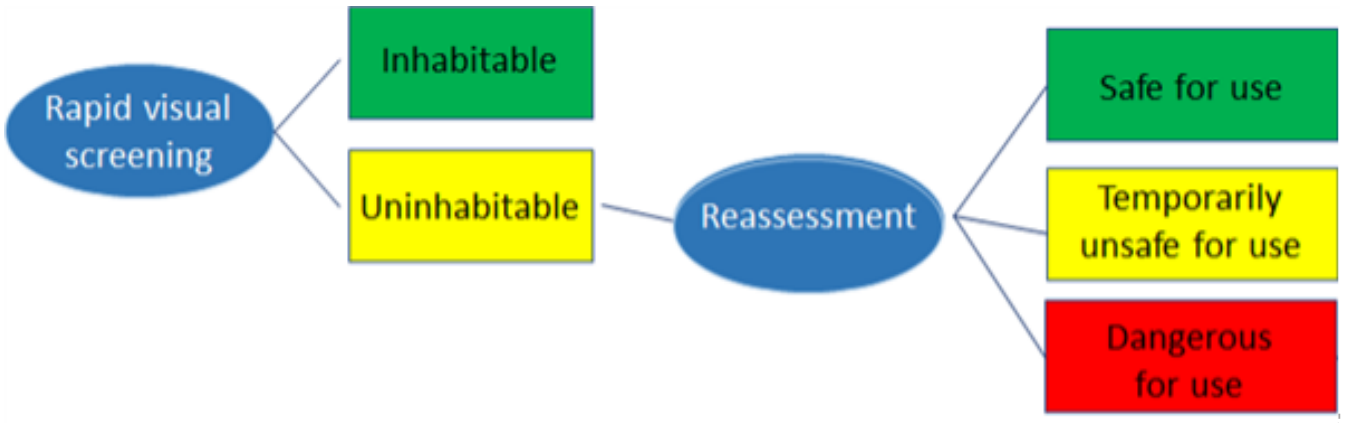
**Almost every year, the Ministry of Interior, the Civil Defence, ETEK, and the Association of Civil Engineers of Cyprus co-organize a one-day conference on the 'ENGELADOS' plan for training engineers in Cyprus on the topic 'Post-earthquake Period: Conducting Post-earthquake Inspections and Eliminating Risk in Buildings'**. This aims at preparing the Civil Engineers of ETEK who will form the teams for inspections in the event of a catastrophic earthquake. The post-seismic inspection procedure and reports (Rapid Autopsy Report and Re-Inspection Report) completed during the primary and secondary post-seismic inspections of earthquake-affected buildings are similar to the procedure established by the General Directorate of Natural Disasters Recovery (GDNDR) in Greece. The procedure is as follows: After a disastrous earthquake event, groups of two engineers perform the first- and second- degree safety assessment of buildings, aiming to warn occupants about unsafe buildings (Figure 4). They inspect both private and public buildings. At a later stage (normally a few weeks), the second-degree damage assessment of buildings is carried out for uninhabitable buildings. They are then categorized as 'safe for use' (marked green), 'temporarily unsafe for use' (yellow), or 'dangerous for use or avoid use' (red).

**The CCD currently provides 2,200 shelters, which can accommodate 30 percent of the population during emergencies, with plans to expand capacity, especially in urban areas.**[69] The shelters, equipped with basic amenities, are designed for short-term protection during crises such as bombings. Citizens can locate shelters via a dedicated hotline, and emergency alerts will be issued through sirens.

[69] Kathimerini Cyprus. 2024. "Cyprus Civil Defence Shelters Ready for 30% of Population." Link.

**Figure 4. Procedure for post-disaster assessment in Cyprus established by the GDNDR**

*Source:* Based on the ETEK seminar's GDNDR procedure information online.



## KEY CHALLENGES

**Cyprus has not experienced a major damaging earthquake in the last decades, and its capacity for response could be overwhelmed.** Although there is an overarching method for post-disaster damage assessments, there are not enough available resources, especially engineers, for post-disaster on-site activities and tasks. Temporary employees are not sufficient to cope with occurring disasters.

**Cyprus faces a unique challenge due to its geographical isolation from the EU mainland, which can delay the arrival of external assistance and specialized equipment, particularly in the aftermath of a major earthquake when airport operations may be disrupted.** The logistical constraints make rapid deployment of international aid (including through UCPM) difficult. In this context, the CCD's decision to establish a National Training Center marks a major step forward, with the potential to significantly strengthen the island's civil protection system. The center would work closely with the Cyprus Centre for Land, Open Seas and Port Security (CYCLOPS) training center[70] whose construction and equipment were funded by the U.S. State Department's Export Control and Related Border Security (EXBS) program. If Cyprus were to become a regional hub for UCPM operations in the southeastern Mediterranean, it could enhance national response capacities while also contributing to improved regional coordination and resilience. The upcoming Presidency of the Council of the EU in the first half of 2026 presents an opportunity to promote DRM both within Cyprus and across the wider region.

**While the ZENON plans provide a framework for disaster preparedness and response, they lack systematic implementation of exercises and a formal mechanism for integrating lessons learned.** Most ZENON plans are either exercised infrequently or lack a consistent schedule. An exception is the DEMONAX exercise, a large-scale multi-stakeholder international earthquake preparedness initiative, though it remains an isolated effort, not integrated into a formalized or recurring process. Moreover, Cyprus does not currently employ a structured exercise and evaluation framework, such as, for example, the U.S. Homeland Security Exercise and Evaluation Program (HSEEP, USA), to guide the planning, execution, and follow-up of preparedness activities. As a result, while exercises do occur, they are not supported by standardized methods for analyzing outcomes and incorporating lessons learned into future preparedness efforts, hindering the full potential of enhancing national response capacities in Cyprus.

**While earthquake-specific training exercises exist, they are primarily focused on institutional response and do not include the private sector, civil society, or the public.** While ZENON plans provide a comprehensive framework for cross-governmental preparedness, they do not involve the private sector or the public, who are critical players in first response.

## KEY OPPORTUNITIES

**Consolidating and regularly updating the ZENON plans could help integrate new knowledge, capacities, and current realities in Cyprus, while reducing their number would clarify responsibilities and streamline drills and preparedness efforts.** The National DRR Strategy notes that the national master plan ZENON, which currently includes more than twenty thematic sub-plans with some overlap, should be consolidated into eight broad categories covering natural and technological hazards, pandemics, geopolitical and socio-economic crises, public safety, critical infrastructure, and complex or coinciding crises. These would be supported by six horizontal plans addressing search and rescue, evacuation, logistics, medical care, management of the deceased, and reception of foreign assistance, ensuring a streamlined structure that reduces duplication, improves applicability, and covers the entire disaster management cycle from prevention and preparedness to response, recovery, and return to normality. To further enhance effectiveness, conducting exercises that involve both the general public and private sector can generate valuable insights and lead to greater preparedness. The exercises should also be accompanied by systematic evaluation processes to ensure that lessons learned are consistently captured and used to inform updates and strengthen future disaster preparedness and response.

[70] Joint Cyprus Centre for Land, Open Seas and Port Security. Link.

**Strengthening civil society, the private sector, and public participation in drills and emergency response exercises is essential for enhancing preparedness and response capabilities in Cyprus.** Coordinated efforts can improve resilience and readiness at all levels. Public engagement in regular drills ensures that citizens, businesses, and institutions are familiar with emergency procedures, evacuation routes, and resource mobilization. For example, in the United States, initiatives like the Great ShakeOut earthquake drills are conducted annually across states such as California, where millions participate in practicing the 'Drop, Cover, and Hold On' technique and reviewing emergency procedures in case of an earthquake.

**The establishment of a registry of trained and certified post-disaster inspector-engineers by the Technical Chamber of Cyprus, along with local government and volunteers, would significantly enhance the efficiency and consistency of damage evaluations.** For example, in Greece, in 2018, the Technical Chamber of Greece launched a call and created a Registry of Volunteer Engineers for Response and Action during emergencies, who will be available to contribute to the post-disaster inspection of dangerous buildings and perform other necessary activities during natural disasters. This registry would facilitate the rapid mobilization of engineering teams, ensuring a coordinated and systematic response to earthquake impacts. Providing specialized training and establishing clear operational guidelines and tools would enable engineers to promptly assess the structural safety of buildings and support decision-making for emergency response and recovery efforts. This registry could also be used to train engineers to conduct pre-earthquake RVS of public and private buildings toward their prioritization for seismic interventions. Additionally, a dedicated course on this topic could be integrated into university programs for civil and structural engineering students to scale up education in the field.

**The planned construction of a National Training Center by the CCD presents a strategic opportunity to enhance the country's civil protection capabilities.** Modeled after similar facilities in other countries, such as the training center in Athens, Greece, the national training center outside Rome in Italy, the center would enable advanced joint training for key stakeholders within Cyprus's Civil Protection System, as well as for specialized teams from the UCPM and neighboring countries such as Jordan and Israel. Leveraging funding opportunities through programs like Interreg Greece–Cyprus could support the realization of this initiative, positioning Cyprus as a regional hub for disaster preparedness and response training. Cyprus's civil protection experts believe that Cyprus has the potential to become a UCPM hub, which is further explored in Box 3.

**The establishment of coordinated emergency procedures and evacuation routes across different levels of stakeholders is crucial to effectively mitigate the impact of a potential tsunami.** Developing a comprehensive plan, such as the ZENON plan, would facilitate timely evacuations, ensure clear communication channels, and enhance public awareness, improving the safety and resilience of coastal communities.

**Box 2. The Pan-Cypriot Exercise 'ENGELADOS 2018'**

***On March 28, 2018, the CCD successfully organized the Pan-Cypriot Exercise 'ENGELADOS 2018',[71] which aimed to test the response capabilities and coordination of the services involved in the 'ENGELADOS' Plan after a catastrophic earthquake.***

The exercise was carried out in two phases, morning and afternoon, as follows:

The morning phase involved all the services, practiced across Cyprus in a paper-based exercise, with the operation of multi-service coordination centers at the offices of the General Administration of Civil Defence in Nicosia and at the offices of the Provincial Directorate of Civil Defence of Larnaca. In Larnaca, exercises were also conducted at the 'Glaukos Cleridis' International Airport and at the petroleum facilities.

During the afternoon phase of the exercise, all the Provincial Directorates of Civil Defence were involved with the practical mobilization of civil defence forces in matters of search and rescue and setting up camps. In Nicosia, in collaboration with the Cyprus Fire Service and Disaster Response Special Unit, a drill took place in a building that was to be demolished, in the government settlement called 'Strovolos II', from 19:00 to 22:00 hours. During the drill, a team of the Disaster Response Special Unit and a volunteer search and rescue team of the Civil Defence of Nicosia worked in parallel to locate and extract people who were trapped in a building after an earthquake. The teams were supported by sniffer dogs and unmanned aerial vehicles.

**Box 3. The potential of Cyprus to become a hub for the UCPM in the southeastern Mediterranean**

***Given its strategic geographical location, Cyprus has the potential to become a hub for the UCPM in the southeastern Mediterranean and to establish bilateral agreements with neighboring countries in the Middle East.***

Cyprus is already a member of the Union for the Mediterranean, a regional cooperation and coordination mechanism. Establishing itself as a UCPM hub would enhance the country's DRM capacity and position its Civil Protection Authority, currently the CCD, as a key player within the EU Civil Protection framework. Furthermore, a regional cluster of civil protection entities could be created, drawing inspiration from similar initiatives in other sectors[72], to promote innovation and collaboration in a sustainable and coordinated manner.

[71] GoC, Ministry of Interior. 2018. *Exercise ENGLADOS 2018*. Link.
[72] Guide to Research and Innovation Strategies for Smart Specialisation. Link.

# EARTHQUAKE RECOVERY, RECONSTRUCTION, AND POST-DISASTER FINANCING

*This chapter covers earthquake recovery, reconstruction, and post-disaster financing. These actions are taken after the response phase when priorities shift toward restoring affected areas, rebuilding buildings and infrastructure, and helping communities return to normal.*

## GENERAL CONTEXT

**Cyprus does not currently have a dedicated post-disaster recovery plan or strategy.** However, after the 2021 Arakapas fire, measures were taken to support residents and victims, including financial assistance for education expenses and damage to homes, businesses, and vehicles. Immediate relief efforts involved providing emergency shelter, restoring electricity, and assessing property damage for submission to the Ministry of Interior.

**Post-disaster financing of recovery is carried out by the relevant ministries and departments out of their budgets, which can apply to the Ministry of Finance to receive further funding.** In a major disaster, the government decides on extra funding and supportive measures. When the relevant department or ministry has exceeded its budget while responding to disasters, it can apply to the Ministry of Finance to receive additional funds, with a provision of €500,000 in the Ministry of Finance budget per year.[73] If necessary, further funds will be re-allocated.

**Catastrophe and earthquake insurance in Cyprus is currently provided only through private insurers, with no national natural hazard insurance pool in place**. Earthquake is the primary risk, but underinsurance (i.e. the insufficient coverage relative to the actual replacement cost) remains a significant issue due to outdated reconstruction cost coverage and lack of mandated automatic indexation (i.e., insured sum adjustment to account for inflation). Although the insurance market functions well for those who choose to insure, there is no compulsory insurance, and risk models have limited calibration and validation due to a lack of historical loss data in Cyprus, leading to large discrepancies in commercially available models.

## CURRENT ARRANGEMENTS

**There is no recent experience of recovery and reconstruction from earthquakes in Cyprus, but examples of recovery efforts and institutional mobilization were seen following the 2021 Arakapas fire.** The wildfire resulted in four fatalities and extensive damage to over 50 residential and commercial buildings, as well as to electricity and water supply networks, livestock, farms, small businesses, and individual suppliers.[74] Immediate relief measures included (1) providing emergency shelter in hotel units, (2) gradually restoring electricity through generators until full service was re-established, (3) completing damage assessments for affected properties within a few days, (4) submitting damage reports to the Ministry of Interior, and (5) implementing financial aid and support measures. These measures primarily consisted of financial assistance for studies and compensation for damaged homes, businesses, and vehicles.

**Post-disaster recovery after events, including earthquakes, is managed by the Directorate of Technical Services of the Ministry of Interior.**[75] During the recovery phase, different departments may also take over and leverage the available budget. For buildings and infrastructure, the Technical Services of the Ministry of Interior are aided by the PWD, the Chamber of Engineers, and the District Offices. In the

[73] GoC, Ministry of Interior. 2020.
[74] National and Kapodistrian University of Athens. 2021. "The Early July 2021 Arakapas (Cyprus) Forest Fire." Link.
[75] GoC, Ministry of Interior. Directorate of Technical Services. Link.

event of a major disaster, a dedicated platform may be established to collect and manage compensation claims. Under normal circumstances, citizens are required to complete forms available on the Ministry of Interior's website, after which relevant committees review the submissions and make decisions. Periodically, the Ministry of Interior and its local branches conduct informational campaigns to raise public awareness about these procedures.

**Homeowners are expected to finance earthquake damage through insurance, where the government only compensates the affected population with certain income criteria.**[76] While it is not obligatory (although mandatory in case of a mortgage loan), homeowner insurance is available through most insurance retailers and is typically sold along with fire and flood insurance. In addition, insurance for earthquakes is provided only for buildings that were built in accordance with seismic regulations, that is, after 1994. In general, the insurance covers damage to the insured building and its contents caused by an earthquake and its following consequences (namely, fire, landslide, and tsunami), except for damage caused due to a construction defect in the building or if the building was not constructed based on the seismic regulation in force during its construction. The earthquake insurance penetration is estimated at 50–75 percent.[77] The private sector, including infrastructure such as airports and ports, is responsible for insuring its own assets or self-funding recovery after an event.[78]

## KEY CHALLENGES

**Cyprus currently does not have disaster recovery legislation or a National Disaster Recovery Framework, including for earthquakes, and it lacks the 'build back better' (BBB) element entirely.** Previous recovery efforts, such as those following the 2021 Arakapas fire, have been ad hoc by various ministries and departments. While this approach can work for smaller disasters, large damaging events, such as an earthquake, require coordinated and pre-established yet flexible recovery mechanisms, including legislation, to ensure efficient recovery.[79]

## KEY OPPORTUNITIES

**Establishing disaster recovery legislation and a disaster recovery framework with room for flexibility could ensure timely and efficient recovery in the event of an earthquake.** A central coordination mechanism should assign clear responsibilities to key stakeholders in the recovery process and promote the 'BBB' approach—integrating social, environmental, and economic considerations while prioritizing risk prevention against natural hazards and climate change. Drawing on the Greek experience, where a single authority, the GDNDR, oversees damage assessments, coordinates recovery operations, and provides technical and financial support, Cyprus could adopt a similar model that mobilizes teams of engineers, coordinates temporary and permanent housing solutions, and issues guidelines for safer reconstruction. By incorporating these elements into a flexible legislative framework, recovery efforts can be streamlined, more comprehensive, and better aligned with modern resilience practices. See Box 4 for an example of the Greek GDNDR's role in recovery after the Samos Island 2020 earthquake.

**Creating a National Disaster Risk Financing (DRF) Strategy could ensure that Cyprus is prepared for financing recovery following a range of disaster events, considering different frequencies, severities, and impacts.** A DRF strategy embraces a variety of instruments aimed at achieving different outcomes through risk layering (see Figure 5 as a schematic illustration), considering events of different severities and frequencies, including large infrequent earthquakes. Such a strategy uses a mix of public and private mechanisms, including budgetary instruments, contingent financing, and market-based instruments. This strategy needs to be based on a comprehensive probabilistic disaster loss analysis, which quantifies the financial impact and government liabilities across all possible events.

[76] Ibid.

[77] European Insurance and Occupational Pensions Authority. Dashboard on insurance protection gap for natural catastrophes. Link.

[78] European Commission. 2018. Peer Review Report Cyprus. Link..

[79] Sigmund, Z., Radujković, M., & Atalić, J. 2022. "The Role of Disaster Risk Governance for Effective Post-Disaster Risk Management—Case of Croatia." *Buildings*, *12*(4), 420. DOI: Link.

**Figure 5. DRF layering approach — no single instrument can address all risks**

*Source:* World Bank.


**Box 4. Greek GDNDR's role in recovery after the Samos Island earthquake**

***An example of a comprehensive post-disaster damage assessment is the 2020 Aegean Sea earthquake assessment conducted in the Samos Island.***

The GDNDR deployed 90 engineers to the island to classify buildings as 'safe' or 'unsafe to use' and to identify those requiring temporary support. The post-earthquake assessments of building damage and usability were performed through visual screening and expert judgment in three phases: Phase A (first order) was rapid visual damage screening, Phase B (second order) was re-screening, and Phase C was a third and final screening by three civil engineers, though only for buildings with extensive damage. These assessments were recorded in official technical documentation, leading to rehabilitation or repair. The purpose of post-earthquake assessments was to inform citizens whether their houses could be used, to identify and register dangerously high-risk buildings for demolition by the authorities, and to assess as soon as possible the number of buildings that were not usable. Another aim was to identify households needing emergency shelter and estimate the cost of repairs to the damaged buildings before taking necessary measures. Compensation was then provided for the losses incurred to rebuild or restore properties. The purpose of the post-disaster analysis and damage assessment was to further assist the government in prioritizing actions for faster recovery, policy making, and disaster preparedness in light of future events.

## CROSS-CUTTING TOPIC: SOCIAL RESILIENCE AND INCLUSION

*This chapter covers social resilience, social protection, and inclusion in the context of earthquakes. Recognizing current operational and legislative gaps, it proposes ways to address the disproportionate impact of disasters on vulnerable populations, including through developing an adaptive social protection system. Special focus is placed on people with disabilities by proposing tailored solutions and adapting general measures to place them at the center of DRM at all stages, emphasizing preparedness and response.*

## CURRENT ARRANGEMENTS

**Based on the Index for Risk Management (INFORM), Cyprus's vulnerability is '4.3/10', which comprises socio-economic vulnerability and vulnerable group metrics, higher than its income group peer bracket (2.5/10).**[80] This is partly driven by the high *uprooted people* score, which considers the number of refugees, returned refugees, and internally displaced persons. In 2023, 10,622 people applied for asylum in Cyprus, 749 received refugee status, and 2,314 received subsidiary protection.[81] According to a European-wide multi-level vulnerability index, in 2023, Cyprus had a vulnerability score of 5.42 out of 10 (similar to Slovakia and France and higher than the European average of 4.84), with the social dimension scoring 2.68 out of 10.[82]

**Cyprus's foreign population is the third largest in the EU in percentage terms, as foreign residents comprise 20.0 percent of its population.** Migrants in Cyprus, while largely integrated into the educational system, face significant challenges in the labor market due to language barriers, certificate recognition issues, and gender inequality, resulting in underemployment and concentration in low-skilled sectors. Recent initiatives aim to improve access, particularly for women.[83] This could increase the vulnerability of the population after an earthquake, as migrants often face heightened vulnerability during disasters due to factors such as language barriers and limited access to resources.

**Cyprus has a range of social protection benefits, including cash benefits, periodic benefits, lump sum benefits, and benefits in kind.** In 2022, social protection expenditure in Cyprus, as a percentage of GDP, reached 21.0 percent.[84] Moreover, most social protection benefits were not explicitly or implicitly conditional on the beneficiary's income and/or wealth falling below a specified level.

**The "TRIPOS" Plan developed by the CCD in 2016 is Cyprus's national framework for managing disaster preparedness and response for persons with disabilities and other functional needs.** It establishes mechanisms to strengthen inter-agency cooperation throughout all phases of the DRM cycle. Key provisions include developing training programs for service personnel to ensure the identification of persons with disabilities, the provision of accurate information, safe transportation, necessary assistance, and psychological support. Annual educational and awareness programs are envisioned for persons with disabilities, aiming to inform them about disaster response procedures and encourage self-preparedness actions. The plan also calls for public awareness campaigns, disaster drills with the participation of persons with disabilities, and the use of complementary communication tools such as sign language interpreters, specialized signage, and dedicated emergency telephone lines compatible with assistive devices.

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[80] Joint Research Centre, Disaster Risk Management Knowledge Centre. INFORM risk: Country risk profile. Link.

[81] European Council on Refugees and Exiles. 2024. "Statistics Cyprus." Link.

[82] SIbilia, A., L. G. Eklund, S. Marzi, I. Valli, C. Bountzouklis, S. Roeslin, D. Rodomonti, S. Salari, T. Antofie, and C. Corbane. 2024. "Developing a Multi-Level European-Wide Composite Indicator to Assess Vulnerability Dynamics Across Time and Space." *International Journal of Disaster Risk Reduction* 113: 104885. Link.

[83] Kalamata, G. 2022. "Cyprus: Migrants' Inclusion in the Labour Market, Education and Society of Cyprus: Current Needs and Perspectives for Change." In *Vocational Guidance in Europe*, edited by C. Enoch, C. Krause, R. Garcia-Murias, and J. Porath. Springer, Cham, Link.

[84] GoC. 2022. *Social Protection Survey: 2022*. Link.

**SupportCY of the Bank of Cyprus has launched several initiatives aimed at raising disaster awareness among vulnerable populations, although earthquake initiatives are limited.** SupportCY volunteers deliver educational sessions to primary and high school students, focusing on wildfire awareness, firefighting equipment, and how to identify fire tracks. They have also developed a theatrical performance that teaches children how to stay safe during an earthquake. For elderly individuals, SupportCY, in collaboration with the Fire Service, provides lectures on the dangers of wildfires and appropriate safety measures. Recently, in response to a request from an NGO supporting people with disabilities, plans are under way to develop a dedicated awareness initiative for this group, although it is still in the early stages.

## KEY CHALLENGES

**The current social protection system does not explicitly consider disasters.** While Social Welfare Services in Cyprus exist,[85] the system does not explicitly use these channels for post-disaster support for vulnerable populations.

**While the "TRIPOS" Plan contains detailed provisions related to persons with disabilities or other functional needs, it has not yet been fully implemented and integrated into a broader DRM approach.** The voluntary nature of its electronic registry maintained by the CCD, which is intended to facilitate targeted assistance and early warning messaging, may have limited reach and its adoption rate is unclear. While it envisions the use of new technologies and the development of dedicated support networks, practical implementation has been limited. Awareness and participation among persons with disabilities remain inconsistent, and the coordination of exercises, communications, and early warning integration is not yet systematic.

**Migrant and refugee communities, who may be unfamiliar with Cyprus's disaster risk context and available resources, could face significant challenges during a major earthquake.** The DG ECHO-funded AMARE project addressed the integration of foreign communities into civil protection systems across four European cities outside of Cyprus, focusing on practical, low-cost solutions to engage and inform residents of diverse backgrounds. Despite its valuable activities and outcomes, the project's results did not reach Cyprus. It is essential for civil protection authorities to recognize and include migrant and refugee communities, both to strengthen local resilience and to draw on the valuable knowledge and skills these communities possess.

**There is currently no formal provision for psychological support for first responders, children, families, and vulnerable groups following an earthquake or another disaster.** This type of support is especially critical for those who are displaced or have experienced significant losses, as it can play a vital role in alleviating emotional distress and helping individuals recover from psychological shock. While volunteer organizations, such as the Red Cross or psychologist associations, may offer assistance on a voluntary basis, as seen in recent years in Greece, there is no structured framework to ensure the consistent delivery of these services from the initial emergency phase in temporary shelters through to long-term recovery. In addition, civil protection personnel acknowledge the need for psychological support for first responders; however, no such system is currently in place.

## KEY OPPORTUNITIES

**Implementation and integration of the "TRIPOS" Plan with the Cyprus's National DRR Strategy and operational emergency plans would ensure that the needs of persons with disabilities are addressed consistently across all disasters, including earthquakes.** Expanding the electronic registry's coverage and linking it directly with multi-channel early warning systems could improve timely, targeted alerts. Enhancing partnerships with disability advocacy groups, ensuring the accessibility of all public awareness campaigns, and increasing the frequency of inclusive drills would also strengthen preparedness. Leveraging modern technologies, from SOS-enabled communication tools to mobile applications designed for accessibility, could further personalize and accelerate emergency assistance for persons with disabilities.

**The Department for Social Inclusion of Persons with Disabilities, with support from non-profit organizations, could act as a coordinating body for preparedness, resources, and post-earthquake**

[85] GoC. *Social Welfare Services.* Link.

**support for persons with disabilities.** The mission of the department includes promoting social protection, social integration, and employment of people with disabilities, while its vision is to improve the quality of life of people with disabilities and create new prospects for their social integration through appropriate planning, coordination, and implementation of reform actions. Preparedness campaigns and actions against earthquakes organized by the department would enhance the seismic resilience of vulnerable populations. An example of such efforts is the UCPM funded SEE ME project (2022–2023)[86] in Croatia aimed to improve emergency safety and inclusion for people with disabilities through awareness campaigns, guidelines, training, and GIS tools for rescue teams. Its follow-up, SEE ME 2 (2024–2025)[87], continues this work by training emergency operators and first responders and expanding the GIS database to enhance response efforts. Another example from Romania is included in Box 5.

**Targeted earthquake awareness, preparedness, and protective action campaigns in different languages can help prepare migrant and refugee populations for a large earthquake event in Cyprus.** It is crucial that the general public, without exceptions, be well prepared in case of an earthquake. In this way, people can help each other and respond better to such emergencies.

**Introducing an adaptive social protection (ASP) system that builds on the existing social protection system could enhance inclusion and improve support for vulnerable populations after an earthquake.** ASP is a post-disaster support approach that integrates social protection programs (for example, safety nets, cash transfers, public works) with DRM and climate change adaptation strategies. This requires comprehensive data on household-level disaster risk, improved interoperability of social protection and DRM data systems, and legal frameworks that enable automatic and scalable ASP interventions. Cyprus can benefit from prioritizing pre-agreed financial mechanisms for disaster response, ensuring timely assistance to vulnerable populations. Additionally, fostering institutional coordination and capacity building among social protection and DRM agencies can strengthen preparedness and ensure adaptive responses to future crises. An investigation into the housing of vulnerable households could also be beneficial, e.g. identifying vulnerable households that live in vulnerable buildings.

[86] European Union. 2022. *Safe and Equal in Emergencies (SEE ME)*. Link.
[87] European Union. 2024. *Safe and Equal in Emergencies 2 (SEE ME2)*. Link.

**Box 5. Romania's inclusive approach for emergency preparedness and response**

**Romania has been strengthening its civil protection system with a clear commitment to make disaster risk preparedness and response more inclusive, including by training its emergency personal, improved disaster preparedness materials, and engagement with civil society organizations**.

As of April 2025, over 600 emergency response personnel (including firefighters, policemen, and paramedics) in 10 high seismic-risk counties, were trained on how to effectively assist people with visual, hearing, intellectual and psychosocial disabilities, during emergency situations. These trainings were co-designed and co-delivered together with representatives from key national organizations of people with disabilities who were among the experts delivering the trainings and shaping the content of the syllabuses and training materials, alongside emergency services authorities.

Other initiatives included the development of a training curricula and practical pocket guides for first responders on how to adapt the emergency response interventions to the needs of persons with disabilities, as well as the launch of a nationwide Train-the-Trainers program. In parallel, efforts were also made to strengthen preparedness at the community level.

Between 2023-2024, nearly 90 students with disabilities and over 200 teaching and non-teaching staff across five schools in Bucharest, participated in earthquake preparedness activities, supported by the World Bank.

To further support the disaster preparedness of the population, the Government of Romania introduced a set of adapted and inclusive multi-hazard guides on the 'Be Prepared' platform[88]. These include a specific guide addressing the needs of persons with disabilities during emergencies, alongside multilingual content and an interactive AI tool, ensuring broader accessibility and alignment with international standards.
There are also ongoing efforts to strengthen collaboration between civil protection agencies and organizations of people with disabilities across Romania, such as the Association for the Blind in Romania (ANR), and the National Association of the Deaf in Romania (ANSR). For example, 18 newly recorded audio guides developed in partnership with ANR, which are available online. Sign language videos are currently in production with support from ANSR.

[88] Be Prepared (Fii Pregătit) is Romania's primary platform for public education on emergencies and disaster risks. Link.

## CROSS-CUTTING TOPIC: PRIVATE SECTOR

*This chapter covers private sector involvement in the context of earthquake risk management. Relevant stakeholders might include building owners and property managers, insurance companies, business owners, utility providers, construction and engineering firms, and so on.*

## CURRENT ARRANGEMENTS

**While examples are limited, there are private enterprises in Cyprus taking active steps to increase their disaster and earthquake resilience.** Cyprus's construction sector is well developed and utilizes advanced seismic resilience measures, including base isolation technology. Property owners are incentivized to improve their earthquake resilience through the 'Static Adequacy Inspection Certificate' and completion of the Visual Inspection Form, which is necessary for all public buildings and for private properties for transfer, rental, sale, or lease. While there are recommendations by the inspector engineer in this form, they are not mandatory. The effectiveness of the certificates is unclear, as there is no public information on seismic upgrades of private buildings.

**Residential property owners have access to earthquake insurance, as most insurance retailers offer earthquake insurance, typically sold along with fire and flood insurance.** Insurance for business interruption is also an option in case of an earthquake. However, the government or insurance center does not provide financial incentives for expanding risk reduction, such as insurance premium reductions or tax subsidies, that could help increase earthquake resilience in the private sector. Greece is a good example, as the government grants tax reliefs for the owners of insured homes.

**The SupportCY network of the Bank of Cyprus is a network of over 180 private companies and organizations working in cooperation with the Bank of Cyprus and is a great example of private sector involvement in DRM.** SupportCY provides products and services to support public authorities and meet the various needs of Cypriot society in times of disaster, as part of the bank's broader CSR strategy. Since its establishment, the total value of contributions made through SupportCY, including monetary donations, in-kind goods, and services, has exceeded €1,000,000.

## KEY CHALLENGES

**Private sector involvement in preparedness efforts remains limited.** While some private companies participate in awareness campaigns organized by the CCD and the Fire Service, their engagement tends to be isolated and not fully integrated into the broader civil protection system. A more coordinated example is the participation of private companies and organizations in the SupportCY network of the Bank of Cyprus, which undertakes various activities related to disaster preparedness and public awareness, including those focused on earthquakes.

**SMEs will likely face challenges in business continuity.** There are currently no laws or mandatory regulations in Cyprus requiring private companies to develop business continuity plans, leaving businesses, especially SMEs, vulnerable to disruptions from natural hazards and other risks. Public-private partnerships (PPPs) are also important to strengthen business resilience in DRM. PPPs should be established to commit all parties and resources to a set of activities, such as informational campaigns, training, expert services, special plans, exercises, and equipment, in a way that will serve long-term sustainable goals in DRM and DRR.

## KEY OPPORTUNITIES

**Strengthening collaboration among public authorities, the private sector (including the insurance industry), and civil society throughout all phases of DRM can significantly enhance earthquake resilience.** Such partnerships can foster innovative financing solutions; promote risk-sharing mechanisms; and ensure comprehensive coverage of prevention, response, and recovery efforts. A dedicated government initiative on private sector involvement in DRM could help explore potential avenues for PPPs and facilitate long-term partnerships.

**Since tourism is one of the leading industries in Cyprus, developing disaster preparedness plans for tourism-dependent SMEs in high-risk areas would significantly enhance their seismic resilience.** Engaging these SMEs in the CCD preparedness efforts would benefit both the public and private sectors by helping to reduce potential losses in the event of a major earthquake.

**Developing a business continuity plan and preparedness toolkit for small businesses can significantly boost their awareness and readiness for earthquake-related disruptions.** Drawing inspiration from California's 'HayWired Scenario', where public agencies, private companies, and utility providers collaborated to assess infrastructure dependencies and create shared recovery plans, a similar multi-stakeholder coalition in Cyprus could adapt these lessons to local seismic risks. Engaging small businesses through workshops, exercises, and scenario-based planning would not only help them develop robust continuity strategies but also foster ongoing partnerships among government agencies, emergency services, and the insurance industry, thereby enhancing overall earthquake resilience in Cyprus.

**Incentive programs that link earthquake risk reduction to financial benefits—such as reduced insurance premiums, tax credits, or subsidies—can motivate private property owners to invest in seismic improvements.** To be effective, these programs should subsidize or simplify initial screening and structural assessments and make the results understandable to non-technical audiences. They can further drive uptake by introducing standardized retrofit procedures, triggering requirements for upgrades (for example, during a change in building use), and integrating complementary goals like energy efficiency or climate resilience. Italy's system of classifying buildings into eight seismic risk categories, for instance, demonstrates how tax incentives can encourage retrofitting, while the U.S. 'Earthquake Brace and Bolt' program similarly provides grants that reduce the financial burden on homeowners (see Box 6). Such initiatives, adapted to Cyprus's context, could significantly enhance private sector resilience and reduce reliance on post-disaster state support.

**Box 6. Example of private housing earthquake retrofit incentive program in California, United States**

***The California Earthquake Authority (CEA) offers financial assistance programs to help homeowners strengthen their older homes against earthquake damage.***

The Earthquake Brace + Bolt program provides grants of up to US$3,000 to eligible homeowners in select high-risk ZIP Codes. Additionally, the CEA Brace + Bolt program offers similar grants exclusively to CEA insurance policyholders who meet specific criteria. Both programs aim to reduce potential earthquake damage by funding code-compliant seismic retrofits. Completing a retrofit through these programs may also qualify homeowners for up to a 25 percent discount on their CEA earthquake insurance premium.

# INVESTMENT NEEDS AND RECOMMENDATIONS

*This chapter proposes key priorities for reforms and investment areas, which may be considered as part of technical assistance, policies, or instruments. It is informed by desk research and consultations.*

**Cyprus is well positioned to enhance its earthquake resilience through strategic investments that not only reduce earthquake risk but also unlock co-benefits across sectors.** With growing momentum to strengthen national disaster risk management systems, the country is well positioned to establish a forward-looking framework that integrates seismic resilience into broader development and climate adaptation goals. This section outlines investment recommendations that can accelerate progress toward a safer, more prepared, and resilient Cyprus.

**From enhancing legal and institutional coordination to leveraging EU funding for integrated seismic and energy upgrades, Cyprus can embrace multi-sectoral strategies to achieve widespread results.** Investment opportunities span from expanding risk assessments and improving data platforms to empowering communities through inclusive preparedness programs and advancing early warning systems. Public administration capacity, disaster financing mechanisms, and partnerships with the private sector offer additional pathways for strengthening national preparedness.

**A list of investment recommendations is provided in Table 2 with further details provided below the table:**

**Table 2. Key investment recommendations for Cyprus in earthquake risk management across sectors**

| | |
|---|---|
| **Governance** | • Update Cyprus's DRM legislative system to provide a strong legal foundation for proactive risk reduction, clarify roles and responsibilities, and enhance resource allocation and performance monitoring.<br>• Designate a central DRM coordinating authority to streamline DRM activities, prevent overlaps, and implement a whole-of-government approach to resilience.<br>• Implement the National DRR Strategy and strengthen coordination, interoperability, and resource mobilization. |
| **Understanding risk** | • Establish a legal framework for the risk assessment process to ensure earthquake NRA results inform urban planning and continuity plans and improve capacity for risk reduction programs.<br>• Develop a standardized disaster damage and loss assessment methodology and centralized data system to strengthen inter-ministerial coordination, improve data consistency, and support evidence-based decision-making.<br>• Create an interactive web platform with GIS capabilities for risk assessment data to enhance transparency, promote cross-agency collaboration, and increase public awareness of earthquake hazards.<br>• Update the NRA with the most recent hazard models, refined critical entities and infrastructure data, cascading effects, and social vulnerability indicators to achieve a more comprehensive and accurate understanding of earthquake risk.<br>• Expand research to improve understanding of secondary perils triggered by earthquakes, such as landslides and liquefaction, across all districts, to guide safer urban planning and reduce long-term disaster impacts.<br>• Expand tsunami hazard and risk studies using advanced modeling to improve evacuation planning and preparedness and integrate coastal resilience into broader disaster planning. |
| **Risk prevention, reduction, and mitigation** | • Accelerate earthquake resilience through multi-sectoral national earthquake risk reduction program, aligning resources and efforts for maximum impact.<br>• Establish a cross-institutional coordination mechanism to scale up risk reduction investments and facilitate integrated improvements.<br>• Implement an integrated seismic retrofit and energy upgrade program for existing building stock to advance both structural resilience and energy efficiency, leveraging national and EU funding opportunities.<br>• Adopt an investment plan and prioritization framework that, in addition to risk, considers the criticality of infrastructure and co-benefits (for example, energy efficiency, fire safety, functional improvement).<br>• Quantify the benefits of earthquake risk reduction to build support for sustained funding, using avoided losses, cost savings, and social benefits as key advocacy tools.<br>• Update the seismic zonation map in the National Annex of Eurocode 8 in line with ESHM20 and train engineers on upcoming changes, ensuring more efficient seismic design.<br>• Establish the second tier of seismic assessment, disseminate guidelines, and offer training to enhance prioritization of vulnerable buildings. |
| **EWS and public awareness** | • Develop a public preparedness and awareness strategy for earthquakes to engage multiple stakeholders, ensure inclusivity, and set clear key performance indicators with ongoing monitoring.<br>• Organize public awareness campaigns, including social media campaigns, on how to react before, during, and after an earthquake to strengthen civil society resilience.<br>• Develop a dedicated tsunami risk awareness and preparedness program with a coordinating body, focusing on vulnerable populations.<br>• Include the tourism sector in civil protection planning and readiness efforts to mitigate risk and avoid substantial revenue losses.<br>• Establish a publicly accessible information platform featuring interactive risk maps, emergency shelters, and practical guides for individual and family preparedness.<br>• Enhance the EWS by expanding accessibility, regularly testing and training staff, modernizing alert equipment, and running public awareness campaigns to strengthen citizens' understanding of seismic alerts.<br>• Conduct a feasibility study for an earthquake early warning (EEW) system, assessing the investments needed for the seismic station network, detection algorithms and alert distribution system, as well as benefits associated with the achievable alert lead times. |

| | |
|---|---|
| **Preparedness and emergency response** | • Create a mechanism for evaluation and regular updating of 'ZENON' master plans, as well as integration of new knowledge, capacities, and lessons learned from public drills.<br>• Strengthen civil society, private sector, and community participation in emergency exercises to enhance preparedness and response at all levels.<br>• Establish a registry of trained, certified inspector-engineers for rapid deployment and standardized damage assessments after major disasters and provide specialized training and clear guidelines to ensure consistent post-disaster evaluations.<br>• Construct the National Training Center to enhance the country's civil protection capabilities.<br>• Develop coordinated emergency procedures and evacuation routes for potential tsunamis within a comprehensive plan to facilitate timely evacuations, clear communication, and greater coastal resilience. |
| **Recovery, reconstruction, and post-disaster financing** | • Establish disaster recovery legislation and a flexible framework with a central coordinating authority to assign clear responsibilities, adopt a 'BBB' approach, and streamline recovery operations.<br>• Create a National Disaster Risk Financing Strategy that uses risk layering, combines public and private mechanisms (for example, contingent financing, insurance), and is grounded in probabilistic loss analysis, ensuring funding capacity for large, infrequent earthquakes and other disasters. |
| **Social resilience and inclusion** | • Engage the Department for Social Inclusion of Persons with Disabilities and other relevant departments, in collaboration with non-profit organizations, to coordinate preparedness, resource allocation, and post-earthquake support for persons with disabilities.<br>• Integrate the "TRIPOS" Plan with the Cyprus's National DRR Strategy and ensure and monitor the plan's implementation.<br>• Develop targeted, multi-language awareness and preparedness campaigns for migrant and refugee communities, ensuring that everyone can respond effectively to earthquakes.<br>• Create an ASP system building on existing programs, supported by legal frameworks, and pre-agreed financial mechanisms to deliver timely assistance to vulnerable populations post-disaster. |
| **Private sector** | • Strengthen collaboration among public authorities, the private sector, and civil society across all DRM phases.<br>• Develop disaster preparedness plans for tourism-dependent SMEs in high-risk areas to strengthen their seismic resilience.<br>• Develop a business continuity support (such as preparedness toolkit) for small businesses to facilitate scenario-based planning, workshops, and exercises, thereby improving resilience through partnerships with government agencies, emergency services, and insurers.<br>• Introduce incentive programs linking seismic risk reduction to financial benefits (for example, subsidies, tax credits, insurance premium reductions), simplify screening processes, and integrate with other programs like energy efficiency or climate resilience. |

## KEY INVESTMENT AREAS

**A summary of key investment areas is provided below:**

***Legal framework and coordination:*** Establish a robust legal framework that institutionalizes earthquake risk reduction across multiple sectors; designate a central DRM coordinating authority to clarify roles and responsibilities and foster a whole-of-government approach; integrate earthquake-specific risk assessments into national and local planning processes; formalize mechanisms for continuous improvement and accountability; and strengthen partnerships with the private sector, NGOs, and civil society for enhanced information sharing, resource mobilization, and emergency preparedness.

***Systematic risk reduction:*** Develop a multi-sectoral national earthquake risk reduction program supported by a central coordination mechanism to standardize programs, share knowledge, and unlock different streams of EU funding by coupling seismic resilience with energy efficiency measures. This approach should employ a comprehensive prioritization framework that accounts for seismic risk, energy upgrade needs, infrastructure criticality, functional upgrades, and accessibility, ensuring cost-effective, high-impact investments across government institutions. Key investment opportunities could include studies for risk reduction investment needs across all sectors, a unified infrastructure data management platform, capacity building and training, and a risk reduction funding strategy.

***Risk assessment, planning, and data management:*** Expand earthquake risk assessments to cover all sectors, including critical entities, distributed systems, and heritage structures; incorporate advancements in hazard modeling and secondary hazards as well as better built environment data and social vulnerability factors in risk assessment; improve data on building inventory and damage and loss data collection; improve accessibility and usability of risk assessment via GIS web-based technologies. Key investment opportunities could include incorporation of interactive GIS technology, multi-hazard risk maps and microzonation studies, an investigation of cascading effects of critical entity disruption, and increased investigation of liquefaction and landslides, within government and public-facing tools and data-sharing platforms.

***Community preparedness and EWS:*** Enhance earthquake community preparedness and awareness with inclusive training programs and modernized digital resource platforms. Strengthen the general EWS through infrastructure upgrades, including improved communication and information distribution systems, and determine the feasibility of an EEW system. Key investment opportunities could include online resource solutions, an inclusive early warning approach and communication infrastructure, and a feasibility study of an EEW system in Cyprus.

## KEY INVESTMENT AREAS

***Public administration and emergency response capacity:*** Regularly update response plans; strengthen the capacity of public administration for risk assessment and management; and enhance emergency response through infrastructure upgrades, engagement of the public and private sectors in drills and training, and the establishment of a registry of trained and certified inspector-engineers. Key investment opportunities could include expert services, training programs, incentives for inspector-engineers, IT technologies to support risk management and emergency response, and a National Training Center to maximize the added value of other investments and help integrate the activities of key stakeholders in the Cyprus civil protection system and international partners.

***Disaster financing, insurance, and ASP*:** Develop a multi-hazard DRF strategy, employing a risk-layering approach to cover a range of event frequencies and severities. Incentivize insurance uptake and consider tiered premiums or subsidies linked to seismic upgrades in privately owned buildings to reduce reliance on public funds post-disaster. Integrate social protection with DRM and climate adaptation to provide flexible, scalable support for vulnerable households. Key investment opportunities could include financial instruments, insurance products linked to risk reduction, data on social vulnerability and household-level disaster risk, adaptive social protection programs, and improved web resources for post-disaster finance and assistance options.

***Multi-hazard recovery and resilient reconstruction:*** Develop a multi-hazard recovery framework incorporating seismic risk and BBB guidelines for reconstruction. Key investment opportunities could include recovery planning tools, resilient reconstruction services, and capacity building for administrative personnel.

***Public-private collaboration, business continuity, and incentive programs:*** Strengthen alliances between public authorities, private entities—including insurers—and civil society to foster innovative financing, risk-sharing mechanisms, and comprehensive earthquake preparedness and risk reduction. Facilitate the inclusion of DRM into structured multiannual CSR programs. Develop a small-business continuity toolkit to guide scenario-based planning and enhance partnerships among government agencies, emergency services, and the private sector. Offer incentives (for example, tax credits, premium reductions) that link seismic upgrades to financial benefits, simplify screening processes, and provide straightforward guidance to property owners. Key investment opportunities could include a multi-stakeholder cooperation platform, a business continuity toolkit and training, and the development of public-private seismic risk reduction incentive schemes.

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# ANNEX 2. SUPPLEMENTAL TABLES

**Table 3. Special national thematic Plans**

*Source*: Kathimerini Cyprus. 2018. "In Cyprus We Have a Crisis Plan." Link; Cyprus Civil Defence. 2016. *Cyprus Emergency Plans and Practices*. Link.; Chrysiliou, C. n.d. "Emergency Plans of Action in Case of a Disaster in Cyprus." Presentation. Link.

| Id | Plan name | Title | Coordinator |
|---|---|---|---|
| 1 | "IFESTOS (HEPHAESTUS)" | Response to fires in forests, urban and rural areas | Ministry of Agriculture, Rural Development and Environment - Justice and Public Order |
| 2 | "PYRSOS" | Response to fires in agroforestry areas | Ministry of Agriculture, Rural Development and Environment - Justice and Public Order |
| 3 | "IKAROS" | Reduction in accident probability during large fires fire fighting | Forestry Department and Fire Service |
| 4 | "ENGELADOS" | Response to earthquake on land and at sea | Ministry of Interior/Civil Defence |
| 5 | "POLYVIOS" | Evacuation of inhabited areas due to natural or man-made disasters | Ministry of Interior/Civil Defence |
| 6 | "PROMITHEAS" | Response to extreme weather phenomena | Ministry of Interior/Civil Defence |
| 7 | "DEMONIKOS" | Response to large-scale accidents involving liquid fuels (type "SEVESO") | Ministry of Interior |
| 8 | "NAVKRATIS" | Mass arrival of illegal immigrants | Ministry of Interior/Asylum Service |
| 9 | "NEARCHOS" | National research and rescue plan | Ministry of Defence / Joint Research and Rescue (JRCC) |
| 10 | "TEFKROS" | Response to major naval and air accident | |
| 11 | "ELECTRA" | Response to radiological/nuclear event within the territory | Ministry of Labour, Welfare and Social Insurance |
| 12 | "ESTIA" | Evacuation of citizens from neighboring countries | Ministry of Foreign Affairs |
| 13 | "KAPODISTRIAS" | Support of third friendly countries in crisis, accident to a large number of Cypriot foreign nationals | Ministry of Foreign Affairs |

| Id | Plan name | Title | Coordinator |
|---|---|---|---|
| 14 | “KLEON” | Response to a single incident in the Nicosia FIR or EEZ by foreign forces | Ministry of Foreign Affairs |
| 15 | “ORFEAS” | Response to major marine pollution on coasts and open sea | Ministry of Communications and Works |
| 16 | “ARISTEAS” | Response to interruption of communication and information networks | Ministry of Communications and Works |
| 17 | “NIKIAS” | Response to terrorist incident with civil aircraft in flight | Ministry of Communications and Works |
| 18 | “PINDAROS” | Response to shutdown of main airports or sea-ports | Ministry of Communications and Works |
| 19 | “FAEDROS” | Response to interruption of electricity supply | Ministry of Energy, Trade, Industry and Tourism |
| 20 | “KADMOS” | Response to interruption of governmental information systems | Ministry of Finance |
| 21 | “LITO” | Response to exposure of individuals in high risk biological factors | Ministry of Health |
| 22 | “AMFITRITI” | Response to pandemics | Ministry of Health |
| 23 | “ASPIDA” | Response to terrorist action in ships – aircraft at airports – onshore facilities within a territory | Ministry of Justice and Public Order |
| 24 | “PATROKLOS” | Response to contamination of large dam, water supply, desalination, pumping stations, main pipelines | Ministry of Agriculture, Rural Development and Environment |
| 25 | “DORIDA” | Response to drought | Ministry of Agriculture, Rural Development and Environment |
| 26 | “DEIMOS” | Prevention of terrorist actions in facilities | |


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