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Beyond Recovery: Disaster Resilience

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Economic Research

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In making an investment decision investors must rely on their own examination of the Company and the terms of

It Takes More Than an Emergency Bag

May I have your attention please!

Those who are aware and afraid of disasters, but not prepared for one, please come forward and make yourself known to your nearest economist!

No, wait! I have a better idea. Leave what you're doing, and don't just pretend to get prepared for a disaster; act!. Let me tell you why, and let me tell you we are running out of time.

While we write or talk about disasters, I have one wake-up moment in my mind that I always share. Growing up in a country which is tectonically active, it was shocking for me to learn that an earthquake is not a disaster – or rather, it is not necessarily a disaster. An earthquake is just one of the whole myriad of natural hazards which can turn into a disaster if our buildings, roads, cities - the things under our control, unlike the fault line - are not safe.

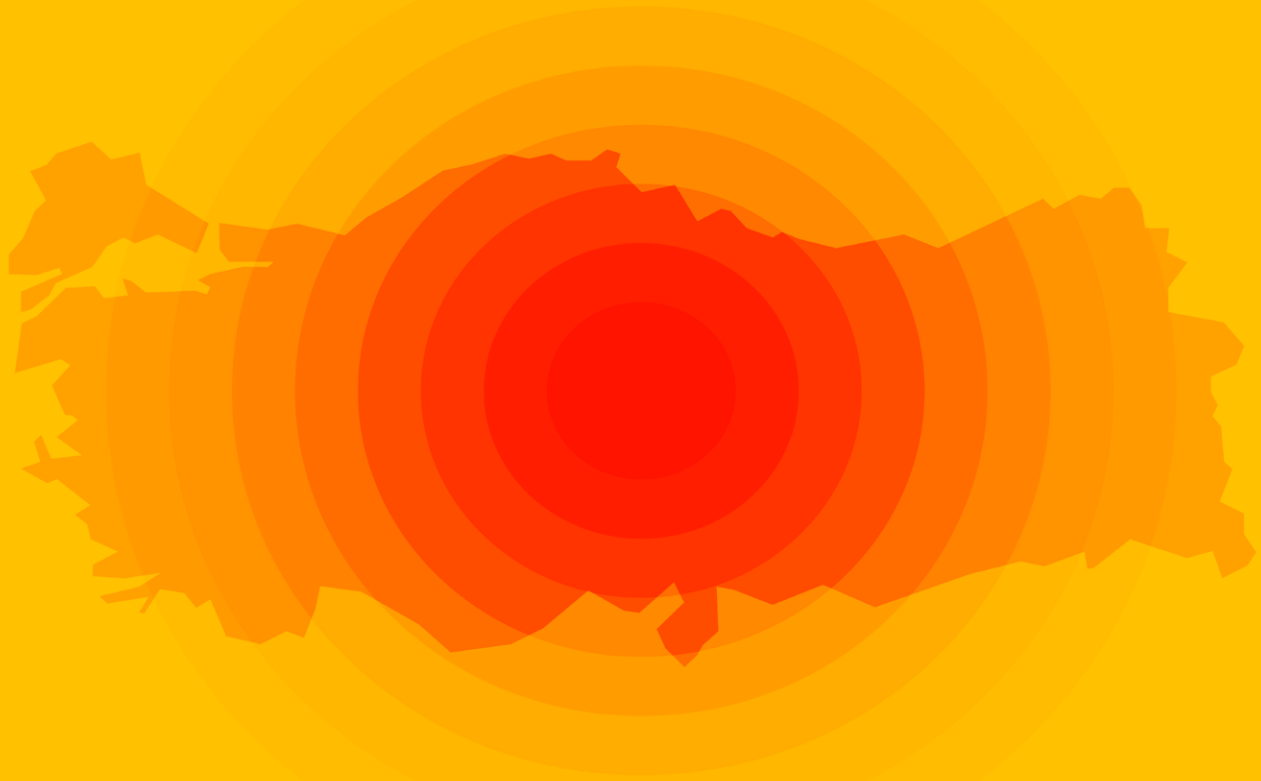
This applies to other natural hazards, which we expect to become more prolific and severe. Humanity's own faults such as uncontrolled urbanization, irresponsible production techniques and, of course, the anthropogenic ecosystem change trigger adverse weather events which have the potential to be hazardous.

Our beloved pale blue dot has come to a point where knocking on wood is not enough (has it ever been?). We have to be aware of the hazards, why they have the potential to be disastrous and how we can prevent negative externalities before speaking of how to tackle them after they arise. Yes, some of them are a matter of life or death, but always and without exception, it is a matter of development and social harmony.

In line with this approach, the aim of this report is not to talk about recovery in the first place. We deliberately choose to turn your attention to the pre-disaster period. We call for keeping hazards as just hazards and preventing them from turning into disasters by being well prepared. We are well aware that it is easier said than done, and takes more than an "emergency bag". Preparedness and striving to raise resilience require social consensus, planning, investment and coherence among economic agents. It takes courage and determination - difficult but for sure, less painful than recovery. Let's just take the first step forward.

Burcu Ünüvar, PhD
Chief Economist / Director





Disaster Resilience : Adapting Before It's Too Late

The impact of disasters presents an increasingly significant challenge to development. As global concentrations for greenhouse gases soar to new highs and global temperatures continue to rise, we are departing from the conditions under which the last 50 years of economic and social development is achieved. With the help of accumulated scientific evidence, we know that climate and weather events like heat and cold waves, storms, cyclones and heavy precipitation, will continue to intensify in the years ahead and pose unique challenges to existing infrastructure and business models (IPCC, 2021). Thus, communities will have to adapt to even more harsh environmental conditions through disaster risk reduction and resilience building measures. Earthquakes also remain a challenge in different parts of the world and global trend of urbanization contributes to the existing problems such as unenforced building codes, vulnerable buildings in use and lack of preparedness. Regarding the massive economic and humanitarian costs of earthquakes, it is vital to build safe, affordable and resilient settlements.

Although it has been widely accepted that disasters can hamper development gains, the role of different paths to development in formation of vulnerability was not recognised until recently. The focus was primarily on immediate response and recovery rather than preventing disaster impact. Disaster resilience is about tackling the root causes rather than dealing with the consequences and it is the most effective way to protect communities' future. New research on the topic suggest that every US\$1 spent on disaster risk reduction saves US\$4 to US\$7 in disaster response (The Economist Group, 2022).

Poorly planned and managed urbanization, environmental degradation, poverty and weak governance are all now considered as risk factors adding to climate change (UNISDR, WMO, 2012). In light of the growing levels of disaster risk, the topic will be vital to meet national and international development objectives. In this report, we aim to shed light on the effects of disasters, the topic's relationship with development and climate change as well as the potential policy steps to address the issue in Türkiye and at international level.

Disaster Risk is a Measure of the Sustainability of Development

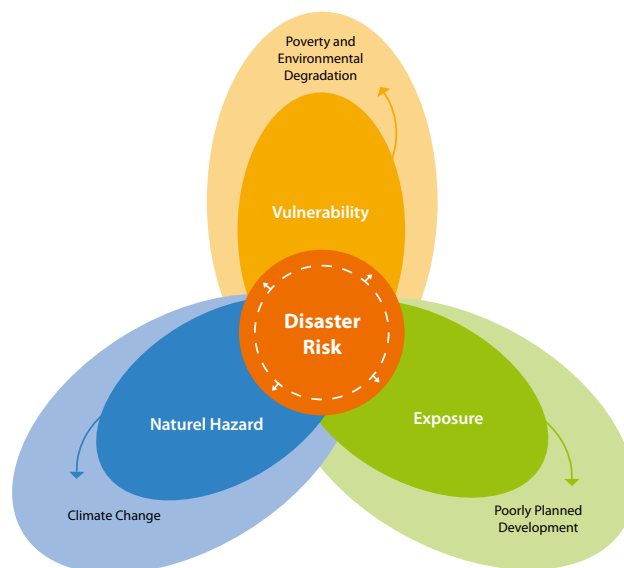
United Nations Office for Disaster Risk Reduction (UNDRR) defines disaster as a serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources (UNDRR, n.d.). The immediate devastation caused by disasters, called direct damage, include mortality, morbidity and destruction of critical assets. The risk of facing this damage is a function of three factors as shown in Figure 1:

- ◆ Hazard: Meteorological or geophysical phenomenon
- ◆ Exposure: People, property, systems, or other elements present in the hazard zone
- ◆ Vulnerability: Characteristics of people and assets which make them susceptible to the damaging effects of the hazard (IPCC, 2012).

Hazards are origins of disasters. Yet, a hazard can only turn into a disaster when it affects society due to inadequate planning, societal and economical measures. Although hazards cannot be prevented, risk can be managed with a focused attention to limiting exposure and reducing vulnerability (ADB, 2018). Risk drivers such as urbanization, environmental degradation and climate change are all within humanity's sphere of influence. Careful planning and hazard-resistant construction coupled with solid environment policies and public awareness can largely reduce the scale and severity of natural hazards.

Today, a growing population lives in cities. Over the last two decades, global share of urban population rose by 10 percentage points and came close to 57% (UN, 2018). Communities living in congested, poorly built houses face high level of disaster risk as they lack coping capacity in terms of finances and access to emergency services (UNDRR, 2022). On the other hand, coastal areas which are drawing increasing number of human activities are more prone to disasters given the rapidity of global sea-level rise and ongoing urban developments. Populations move into hazard-sensitive areas and construction projects stemming from the rapid urbanization result in the modification or destruction of ecosystems such as forests, wetlands, floodways and reefs which may function as natural defense mechanisms. Risk-insensitive growth can significantly hamper socioeconomic advancement through disasters. As the link between disaster risk and key goals of poverty reduction and inclusive growth gets more visible, the need for a longer-term approach in building disaster resilience is being more widely recognized.

Figure 1: Disaster Risk Factors



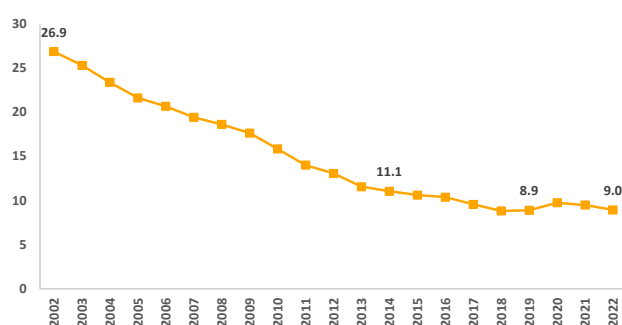
Source: World Bank. (2013). Building Resilience: Integrating Climate and Disaster Risk into Development



Poverty is Both A Cause and a Consequence of Disaster Risk

Since the beginning of the millenium, over 1.1 billion people were lifted out of extreme poverty. Although, the share of the world's population below the extreme poverty line of \$2.15 per day steadily declined until 2019 as shown in Graph 1, the progression considerably slowed down in years prior to COVID-19 outbreak. Global extreme poverty rate declined from 26.9% in 2002 to 11.1% in 2014 and it decreased only by a further 2.1 percentage points during the subsequent 8 years.

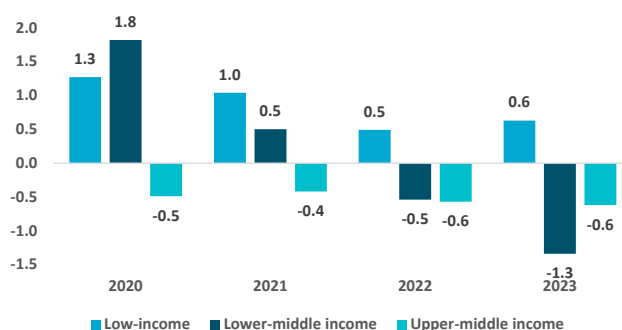
Graph 1: Global Extreme Poverty Rate (%)



Source: World Bank, TSKB Economic Research

It is clear that the pandemic and the geopolitical tensions in Ukraine and Middle East represented major setbacks to economic growth and fight with poverty. In recent years, progress in poverty reduction halted in tandem with steep hike in food and energy prices. Under these circumstances, World Bank estimates that in 2022, a total of 712 million people globally were living in extreme poverty, an increase of 23 million people compared to 2019. It should also be noted that low-income countries were hardest hit by COVID-19 and are still above pre-pandemic poverty rates, negatively diverging from middle-income countries (Yonzan, Mahler, & Lakner, 2023) (Graph 2).

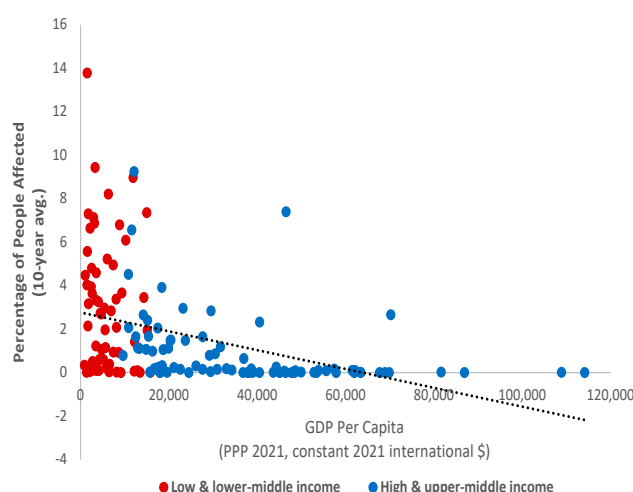
Graph 2: Change in Extreme Poverty Since 2019 (percentage points)



Source: World Bank, Mahler et al. (2022, updated), TSKB Economic Research

In the light of the figures, ending poverty remains a challenge and increasing number of hazards leading to disasters adds another layer of difficulty. Socially and economically disadvantaged households tend to be less resilient and struggle to recover from disaster impacts. Disasters are more likely to result in the loss of homes, work, livestock and inventories of the poor, reflecting their social, economic and political circumstances (ADB, 2018). They also lose a much greater portion of their income and assets compared to non-poor. In order to maintain their basic food consumption, poor households sell their productive assets or limit their consumption. Yet, both of these actions have long-term negative implications for human development (GFDDR, 2013).

Graph 3: Income Level-Disaster Risk Relationship



Source: TSKB Economic Research calculations based on EMDAT statistics and World Bank Database

Disasters have a proportionally greater effect on poor people around the world. Graph 3 depicts a clear picture of the relationship between income and disaster risk. According to our analysis on 147 countries with available data (excluding small island nations), there is a substantial difference in disaster impact among different income groups. In the period of 2014-2023, share of people in population affected (requiring immediate assistance during an emergency situation) by disasters was 2.8% on average in low and lower-middle income countries. This figure stood at only 0.9% in high and upper-middle income countries. The difference can be attributable to the varying levels of active adaptation strategies in the countries. These strategies include solid regulations, access to finance, early warning systems and evacuation plans (Donatti, et al., 2024).



Disaster Impacts Create Poverty Through Multiple Channels

Statistics on disaster losses are only meaningful when we truly understand by whom these losses are experienced by. Having much fewer assets and savings concentrated in their homes or livestock, the poor are more vulnerable to economic losses in disasters. With additional health risks due to living conditions and possible disruption in education, they usually need much longer time to recover.

Agriculture is one of the main economic areas suffering from the adverse effects of extreme climate and weather events. Droughts and floods not only cause worsening hunger and malnutrition in sensitive regions, but also long-term economic losses in lower income countries which depend more on agriculture sector. In addition to the incurred losses during disasters, risk-averting choices of the exposed households can create negative impacts. For example, farmers hedge their risks by seeding in sub-optimal time of the season or gravitate toward lower-yielding but resilient varieties.

When disaster risk management systems fail, basic services of health-care, education and sanitation may not function properly for prolonged periods of time.

Combined with previously mentioned economic effects, this can trigger migration from affected regions to urban areas in search of work and better living conditions. Over the past decade, disasters have forced over 250 million people into internal displacement globally. This figure is three times more than the internal displacements due to conflict and war (UNDRR, 2022). Although human/group mobility after disaster is an important coping mechanism for the affected people, it usually has economic and social consequences. Thus, disaster risk reduction strategies and adaptation plans should take the needs of both displaced population and host communities into account (The Nansen Initiative, 2014).

Disruptions in supply chains are frequently seen in case of disasters as a result of physical losses. Although disasters are mostly local events, they can transcend national boundaries when critical infrastructures are left unusable and transport of raw materials and finished goods become impossible. Therefore, disasters have the potential to hurt economic fundamentals such as growth, balance of payments and fiscal balance in a region.

Focus 1: Women Shoulder Heavier Burden in the Face of Disasters

Economic climate and social norms together play a great role in determining the magnitude of costs that different groups of society suffer. Groups such as children, the elderly and the disabled are particularly vulnerable to disasters. Yet, gender-based inequalities require special attention.

As discussed in depth in our [March 2024 report](#), women, often the primary caregivers and bearers of family responsibilities, face greater danger in case of disaster due to mobility barriers and that is only a small part of challenges they need to overcome (Chisty, Rahman, Khan, & Dola, 2022). The gender pay gap and limited access to finances result in fewer resources to build resilience and overcome disaster shocks (UNDRR, 2022). Moreover, women are more likely to face unemployment and struggle for longer terms for re-employment.

In low-to-middle-income countries where agriculture is a major source of women's employment, women are at higher risk of poverty as extreme weather and climate events hurt the sector's productivity and margins. Despite having a lower asset base, women use their often tradable assets to smooth consumption (GFDRR, 2021). All in all, disasters have more dramatic welfare consequences on women than men.

Recently the need for gender-responsive disaster risk reduction policies are more clearly identified in literature and international frameworks. For example, The 2023 Midterm Review of the Sendai Framework calls for accelerated action in addressing gender inequalities through funding, social security measures and improved data availability.





Footprints of Climate Change In Disaster Figures

According to the International Disaster Database (EM-DAT), events that conform to the definition of a disaster meet at least one of the following criteria:

- 10 or more people reported killed,
- 100 or more people reported affected,
- Declaration of a state of emergency,
- Call for international assistance.

Between 2004 and 2023, EM-DAT recorded 8,023 disasters linked to natural hazards worldwide, which claimed 1.35 million lives, affected 3.4 billion people and caused economic losses totaling around US\$4.2 trillion. Compared to the previous 20-year period, there is a sharp hike in monetary value of physical losses and casualties significantly supressing the increase in number of recorded events (Table 1).

Table 1: Disaster Impacts 1984-2003 vs. 2004-2023

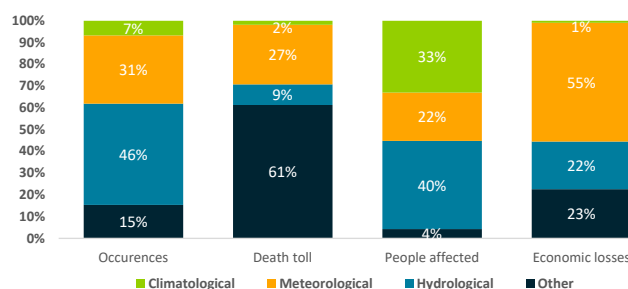
	Reported Disasters	Total Deaths (million)	Total Affected (million)	Economic Losses (US\$ trillion)
1984-2003	5,986	0.90	4.1	2.03
2004-2023	8,023	1.35	3.4	4.17

Source: EMDAT, TSKB Economic Research

Although better reporting may explain some of the increase in these figures, the main reason is the change in the frequency of climate-related disasters which include meteorological (storm, extreme temperature), hydrological (flood, landslide) and climatological (drought, wildfire) disasters. Between 2004 and 2023, 6,786 climate-related events occurred. This points to a 51% jump from 1984-2003 period. As shown in Graph 4, these disasters constituted 96% of the number of people affected and 77% of the economic losses due to disasters in the last two decades. Worldwide, floods were the most common type of disaster (42% of total) and it was followed by storms (26%).

Earthquakes, on the other hand, which are categorized under "Other" in Graph 4 with other geophysical disasters, are the most devastating natural hazards. In the last two decades, earthquakes were responsible for 54% of the casualties and 21% of the total damage due to disasters. With the lack of a mature early warning system yet, building resilience against earthquakes require substantial effort, dedication and resources.

Graph 4: Proportion of Impacts by Disaster Sub-Groups (2004-2023)



Source: EMDAT, TSKB Economic Research



Türkiye's Situation Leaves No Room For Complacency

According to EM-DAT, from 2004 to 2023, Türkiye experienced 73 disasters. These events left more than 10 million people affected. Including the massive earthquakes in 2023, disasters also caused around \$110 billion in direct damage in the 20-year period. In light of these figures, there are strong reasons to put effort in the development of disaster resilience.

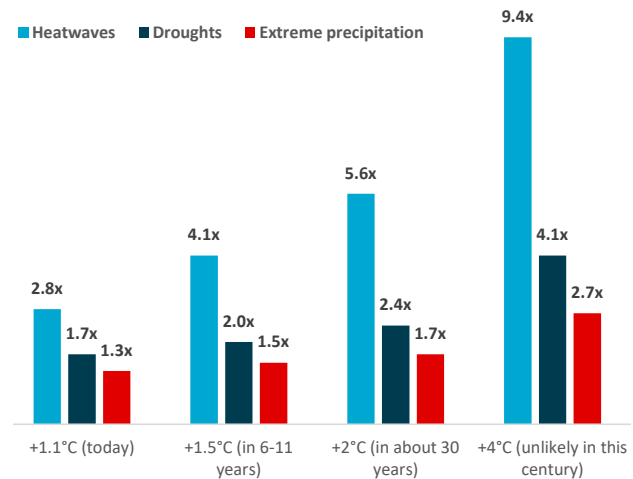
First of all, economic losses recorded by EM-DAT are heavily affected by under-reporting of losses worldwide. According to our analysis, data for economic losses is available for 35% of the disasters globally. Like the other aspects surrounding the topic of disaster risk, there is a divergence in record-keeping. The figure varies from 18% in low income countries to 53% in high income countries (CRED, UNISDR, 2018). In parallel to this reality, economic loss data is available for only 14 (19%) of the disasters that occurred in Türkiye in the last two decades. Considering the indirect and secondary effects of disasters (social effects in particular), any inference based solely on data should be taken with a grain of salt.

Secondly, disaster risk is poised to grow. Global warming creates conditions that are conducive to frequent and often more severe disasters in the form of extreme weather and climate events.

Sixth Assessment Report by Intergovernmental Panel on Climate Change (IPCC) calls attention to this fact (IPCC, 2021).

Graph 5 depicts IPCC's projections on the frequency of extreme events under different global warming levels. Calculations take 1850-1900 as the base period, representing a climate without human influence, and show the consequences already being felt in the world heated to around 1.1°C above pre-industrial levels.

Graph 5: Projected Increase In Global Temperature Levels and Frequency of Extreme Events

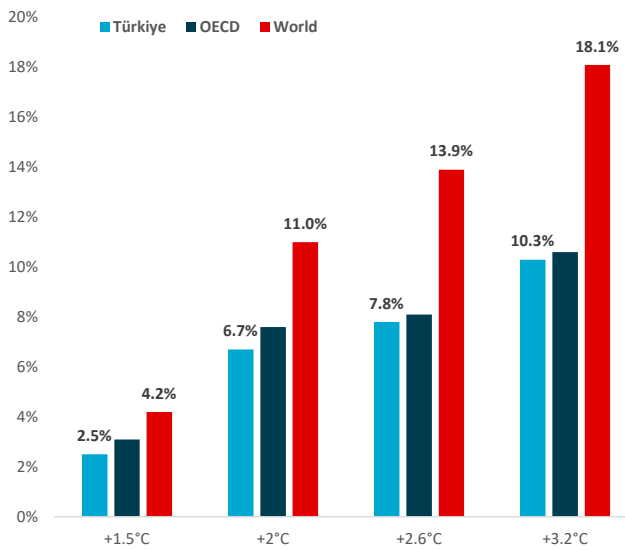


Source: IPCC, TSKB Economic Research

According to International Energy Agency's (IEA) Stated Policies Scenario (STEPS), which reflects the impact of stated policy plans as well as existing frameworks, the global average surface temperature will increase to 1.9°C above pre-industrial levels around 2050 and will be on track for 2.4°C in 2100 (IEA, 2023). Thus, global efforts may be insufficient to limit global temperature rise to 1.5°C by the end of the century and worse scenarios may prove to be realistic rather than pessimistic.

What are the implications for Türkiye? A study conducted by Swiss Re Institute sheds light on the cost of climate action failure (Swiss Re, 2021). It quantifies the potential economic impact in 48 different economies representing 90% of the world economy through six impact channels which are agricultural productivity; human health; labour productivity; sea level rise and the increased risk of flooding of areas of economic activity; tourism flows; and household demand for energy. According to the study, the world economy could lose up to 18.1% of its GDP by 2048 under severe climate scenarios (Graph 6).

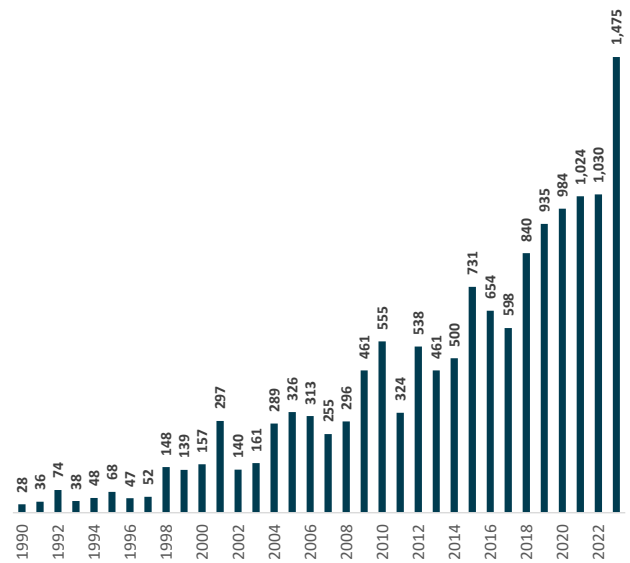
Graph 6: GDP Loss From Rising Temperatures Until 2048
(relative to world without climate change)



Source: Swiss Re, TSKB Economic Research

Türkiye's potential loss stands at 2.5%-10.3% range, close to OECD average. Yet, the country is located in Mediterranean Basin, one of the regions identified as one of global warming hotspots. Accordingly, losses substantially deepen in worse scenarios and are projected to more than quadruple in a case of global warming of 3.2°C. This is in line with the IPCC's work on the Mediterranean Basin which states that the risk of drought, dryness and precipitation deficits substantially increases at 2.0°C scenario compared to 1.5°C global warming (Cramer, et al., 2022).

Graph 7: Extreme Weather Events in Türkiye (1990-2023)



Source: Turkish State Meteorological Service, TSKB Economic Research

Temperatures across the Mediterranean are likely to rise faster than the global average in the decades to come under these scenarios and country's key sectors such as agriculture and tourism could face high stress along with fishery productivity. Mediterranean Basin has already been hit with heatwaves, water shortages and loss of biodiversity in recent years. Graph 7 shows that frequency of extreme weather events in Türkiye have gained a huge momentum over the last decade in parallel to the trend in the region.





Latest Earthquakes Renew Alarm For Türkiye

Caused by the movement of plates along fault lines on the earth's surface, earthquakes can leave a trail of destruction behind. While improvements in weather forecasting, longer lead times for warnings and better responses in the aftermath has brought a progress in climate-related disasters, reducing earthquake risk remains as a formidable task.

Certain countries such as Türkiye are more prone to higher frequency of earthquakes. Türkiye is located in an active seismic zone and has a history of major earthquakes. The 1999 earthquake remains a grim reminder of devastation geophysical events can trigger. In addition to the deep humanitarian crisis it created, the 1999 disaster cost US\$32.5 billion (inflation adjusted), more than the sum of disaster costs recorded in the subsequent 10 years according to EMDAT statistics. Additionally, massive twin earthquakes on Feb. 6, 2023 hit 11 provinces and created widespread damage. The report prepared by the Presidency of Strategy and Budget (SBO) for the earthquakes in which 53,000 people perished puts the cost of the physical damage caused by the earthquake at USD 85 billion, with the total cost rising to USD 104 billion due to urgent spending, excavation processes and insurance payments (Presidency of Strategy and Budget, 2023).

As populations grow in seismically active areas, more people are facing earthquake risk. For example, Istanbul, Europe's most populous city and Türkiye's cultural and economic center, is threatened by North Anatolian Fault in the Marmara Sea. The expected earthquake with a minimum magnitude of 7.0 can create massive damage similar to Feb. 6 disaster. Under these circumstances, Türkiye must

build resilience in the metropolis while recovery efforts to build back better are still underway in 11 provinces.

Today protecting and restoring ecosystems is considered to be vital to tackle climate change. Moreover, healthy ecosystems provide buffers to extreme events and thus, prevent and reduce the adverse impacts of disasters on vulnerable communities and countries.

All in all, Türkiye's disaster response needs to go further than improving emergency assistance and rebuilding damaged settlements. Accordingly, in 2022, national scale Türkiye Disaster Risk Reduction Plan (TARAP) came into force. It defines the duties and responsibilities of related institutions and offices with the purpose of reducing disaster risk for the period 2022-2030. Provincial Disaster Risk Reduction Plans (IRAP), which detail risk mitigation and prevention actions for 81 cities of the country, were also published in the same year.

Türkiye's 12th Development Plan and The Medium Term Program (2024-2026), both published in the second half of 2023, place disaster resilience in the focal point of sustainable growth. These documents reflects government's ambitions to transform risk-prone areas and increase the resilience of the economy by strengthening the relevant administrative, legal, physical, technical and financial framework in all processes of disaster management. Türkiye's National Climate Change Adaptation Strategy and Action Plan covering 2024-2030 period on the other hand, involves steps that will be taken for each of the five pillars.

Focus 2: The Environmental Effects of Disasters are Alarming

Disasters can generate significant volumes of waste such as building rubble, household item and hazardous waste, often overwhelming existing waste management capacities. These waste materials not only hamper emergency services and reconstruction, but also pose public and environmental health danger. Thus, in order to reduce water, air and soil contamination and avoid creating additional burden on already affected regions, detailed plans regarding the removal, recycle and disposal of the disaster debris should be prepared.

The recent earthquake in Türkiye, which devastated southern part of the country is unfortunately a live example for the importance of plans and guidelines on this topic. More than 263,000 buildings were destroyed or severely damaged by the earthquake (Presidency of Strategy and Budget, 2024), liberating significant amounts of dust and asbestos (more insights on air pollution from TSKB Economic Research can be found in a previous [report](#)). Moreover, the question of how to manage the debris is increasingly drawing attention as a poorly planned response may jeopardise region's agriculture lands, seas and air.





Cost of Inadaptation Will Be Rising in the Years Ahead

Large-magnitude disasters may cause significant numbers of deaths and injuries, putting stress on health services. But other systems such as food, water, energy, transportation and education may be jeopardized as well. CRED and UNDRR suggests that shifting rainfall patterns and greater variability in precipitation pose a risk to 70% of the global agriculture (CRED, UNDRR, 2020). IPCC assesment reports present evidences that climate-induced risks and food insecurity have a strong link. Thus, investments in agriculture sector must take disaster risk reduction and resilience mechanisms into consideration. Moreover, strengthening resilience and adaptive capacity to climate-related hazards enhance sustainable agriculture practices.

Businesses in other activities also need to enhance their ability to resist and absorb the effects of natural hazard events without jeopardizing their sustainable growth. By prioritizing disaster resilience in vulnerable regions, they must ensure that existing assets are protected and new investment decisions do not create new forms of risk. Measures taken to strengthen disaster resilience will improve operational practices of businesses and contribute to their profit margins while preventing the adverse impacts on workforce and supply chains. They will also contribute to the overall resilience of economy at regional and national level.

Infrastructure disruptions affects productivity of firms and wellbeing of households negatively. World Bank estimates that in low and middle income countries, these disruptions impose costs totaling US\$391-647 billion and natural hazards explain up to 70% of them, depending on the sector and the region (World Bank, 2019). These figures point to the fact that planning, designing and maintaining infrastructure should be conducted

with close attention to disaster risk as disruptions have negative effects on long-term investment and strategic decisions of firms. For firms and sectors that are exposed to disaster risk due to geographical location, re-location of critical operations should be in the cards.

According to the latest Adaptation Gap Report by UN Environment Programme (UNEP), the costs of adaptation for developing countries is in the range of US\$215-387 billion a year this decade (UNEP, 2023). This estimation implies that costs of adaptation are 10-18 times as much as international public adaptation finance flows which were around US\$21 billion. The report suggests that with current stagnancy in adaptation projects, climate risks are climbing. Although the United Nations Climate Change Conference (COP28) in late 2023 closed with a global consensus on adaptation targets and the need for finance, new financial pledges are considered far short of the amount needed to support developing countries.

Türkiye is world's 17th largest economy as of 2023 and an important actor in its region with young workforce, large domestic market, developed infrastructure and vibrant private sector. In order to fully benefit from its unique position, building resilience against disasters will be vital. The new Country Partnership Framework announced in April 2024 by World Bank Group places disaster resilience in key development strategies among with two other: i) high and sustainable productivity growth and ii) Inclusive services and jobs. The Group expects to deliver US\$18 billion to Turkish economy between 2024 and 2028, adding to the country's current portfolio of US\$17 billion with focus on three areas.

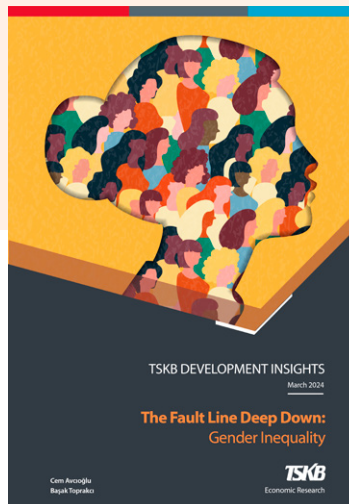
Focus 3: TSKB Economic Research's Body of Work on Disasters

Due to disasters' wide range of effects, disaster resilience is at the center of many other development themes discussed in our body of work and is incorporated in the 2024-2026 research program. After the 2023 earthquakes, it is clear that the topic should be on the agenda of all economic actors. As the need to recognize, assess and understand the risks from natural hazard increases, TSKB Economic Research commits to the following for the 3-year period:

- to watch the course of recovery in the earthquake region and publish reports annually,
- to consider disaster risk in macroeconomic evaluations and projections,
- to re-evaluate our development themes with regard to disaster risk,
- to contribute to the constructive dialog on topic, engage stakeholders and increase awareness.

Building on the understanding that a disaster year is not confined to a single year, with the commitments we have made we aim to:

- keep the multidimensional planning of the reconstruction of the provinces affected by the earthquakes in 2023 within a development framework on the agenda of economic actors,
- direct the international development financing sources, which are expected to accelerate for 3 to 5 years following disasters, towards areas that will produce concrete results in line with needs and based on the right justifications,
- stress the fact that earthquakes are not the only disasters and that Turkey's resilience should be enhanced against both geological and non-geological hazards,
- associate increasing disaster resilience not only with improving physical conditions but also with restoring the ecosystem and strengthening social integration,
- contribute to strengthening a constructive discussion environment regarding the disaster management process.



Conclusion: In Resilience We Trust

As of 2024, there is a wide literature on the link between anthropogenic climate change and natural disasters. Although there are growing efforts worldwide to limit rising temperatures, climate scientists have a high degree of confidence that catastrophic events such as floods, droughts and wildfires are more likely ahead. Moreover, about 40% of humankind are already living in climate vulnerable areas (Birkmann, et al., 2022). Therefore, investments in long-term resilience is much needed. Despite climate change's major contribution to the frequency and intensity of disasters, a significant portion of the risk can be managed through mitigation, adaptation and policy (Grenier, 2022).

Countries having high level of seismic activity have a harder task at hand. In addition to the efforts focused on rebuilding earthquake-prone areas, they also need to mitigate potential damage by moving industrial plants to safe regions. In case of Türkiye, where industries, firms, and capital are concentrated in Marmara region, this reallocation can contribute to reduce regional disparities in development.

Economic loss from disasters can have serious implications for poverty alleviation as they reverse development trajectories and divert limited resources that might have been used to fight poverty. Lost schooling, widening income and gender inequalities are other consequences with long-term effects on development and their impact might exceed sustained physical losses.

National efforts to build disaster resilience are only meaningful with the support and involvement of private sector. Today only a small portion of official development assistance is directed to disaster prevention, while the vast majority of funds is used for emergency response and reconstruction. In developing countries in particular, disaster resilience can be scaled up by enabling long-term financing. Achievements in disaster risk reduction will directly help progress towards 5 of the Sustainable Development Goals (SDGs).



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