International Labour Organization

Enterprises Survey in Post-Disaster Setting

Prospects for recovery of the SMEs after the 6th of February Earthquakes:

A field study in the affected region in Türkiye

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Executive Summary

Background: On February 6, 2023, Türkiye was struck by two catastrophic earthquakes of magnitudes 7.7 and 7.6. These seismic events, among the most devastating in history of Türkiye, affected 11 cities and resulted in substantial loss of life, widespread destruction of property, and economic disruption. The earthquakes severely impacted the Southeastern Anatolia, Eastern Anatolia, Central Anatolia, and Eastern Mediterranean regions, encompassing 16.5%[1] of Türkiye's population and contributing 9.8% to its GDP. The aftermath saw over 3.5 million evacuations, significant infrastructural damage, and a profound impact on the local economy and employment.

Purpose: "The Enterprises Survey in Post-Disaster Setting" study was initiated to assess the current state and recovery processes of businesses in earthquake-stricken areas, identify critical challenges and opportunities for growth, analyze the economic impact on the labour market, evaluate the influence of labour market policies on business recovery, and gather gender-specific data to address the needs of female employers and employees. The research aims to provide evidence-based policy recommendations to support the revitalization of the labour market and economic structures in the affected regions.

Key Findings: The earthquakes resulted in the tragic loss of lives of tens of thousands of people and destruction of physical assets; they created profound economic impacts by worsening existing challenges such as infrastructural deficiencies, labour force shortages and customer losses. Following problems need to be addressed for sustainable recovery efforts:

- **Relocation and Operational Interruptions:** Approximately 16% of businesses had to relocate due to the earthquake, and nearly 60% had to temporarily shut down operations. The average closure period was 60 days, with a significant proportion of businesses resuming operations around one month after the earthquake.
- **Significant Loss of Market Components:** Businesses predominantly experienced customer losses (71.2%), followed by supplier losses (57%), product losses (55.9%), and market share losses (54.6%).
- **Recovery Challenges and Strategies:** The main challenges hindering businesses from returning to pre-earthquake operational levels were customer loss (38.9%) and labour force loss (33.2%). Businesses employed various strategies for recovery, including temporary closure (38%), increasing or decreasing production (20% for each), and diversifying products (19.9%).
- **Revenue Decline and Inflation Impact:** Businesses experienced an approximate of 32% decrease in revenues (when measured in USD) from 2022 to 2023. Furthermore, when considering Türkiye's inflation rate, revenues for 2023 fell below the inflation-adjusted expectations, highlighting the economic pressures and reduced financial stability facing businesses in the aftermath of the earthquakes.
- **Psychological Impact:** A notable 41% of business representatives reported experiencing severe psychological and mental effects due to the earthquake.

Key Policy Implications:

- Businesses have adopted strategies to cope with changed working conditions and labour losses, including offering non-salary benefits such as flexible working hours and transportation assistance. **However, these measures are limited, and financial support, particularly for SMEs, is crucial for sustainability.** For instance, many SMEs reported an urgent need for access to low-interest loans to maintain operations.
- **The effects of the disaster extend beyond economic contraction to psychological impacts and demographic shifts due to migration.** Policies to support reverse migration are deemed critical, with increased employment expected to naturally encourage return. Specifically, a significant number

[1] TURKSTAT, Adrese Dayalı Nüfus Kayıt Sistemi Sonuçları 2022, https://data.tuik.gov.tr/Bulten/Index?p=The-Results-of-Address-Based-Population-Registration-System-2022-49685&dil=2

of displaced workers expressed willingness to return if stable job opportunities and housing solutions were available.

- **A gender-sensitive approach is essential for effective recovery strategies.** The earthquakes have made women's participation in the labour force and their employment continuity significantly more challenging due to the existing unequal social and economic structure. Concrete findings indicate that female employees are more inclined to seek safe spaces at work, highlighting the need for enhanced workplace safety and support mechanisms. Additionally, women entrepreneurs reported a higher demand for childcare facilities to balance work and family responsibilities.
- **Stakeholder engagement and the integration of diverse and gender responsive perspectives are vital for developing inclusive and effective regional solutions.** Monitoring the implementation of these solutions is also crucial for sustained recovery and development. For example, involving local community leaders and affected populations in the planning process has led to more tailored and accepted recovery initiatives. Furthermore, the lack of psychological support post-earthquake has been observed to increase occupational safety and health (OSH) risks, emphasizing the need for comprehensive mental health programs for workers.

Policy Recommendations:

- **Enhancing Digital Operations for Economic Recovery:** Businesses in the region lack digital capabilities, offering an opportunity for recovery through support in social media, websites, and digital marketing to improve market access.
- **Addressing Business Relocation Challenges:** Many businesses are relocating, affecting their operations and customer base. Digitalization is suggested to mitigate these impacts, especially in provinces like Hatay, Kahramanmaraş, and Malatya.
- **Needs-Based Planning in the Reconstruction Phase:** To mitigate the impacts of customer attrition and reduced operational hours in urban transportation, which are significant issues due to infrastructure deficiencies and security concerns, it is imperative to collaborate closely with local governments during the city's reconstruction phase.
- **Addressing Skilled Labour Shortages:** Post-earthquake, there's a shortage of skilled labour, particularly in manufacturing, utilities, agriculture, and natural resources. Vocational training and employment incentives are proposed to address this issue.
- **Promoting Responsible Business Practices in Global Supply Chains:** Collaboration with multinational companies is recommended to improve work conditions and sustainability in sectors like agriculture, food, and textiles.
- **Promoting Value-Added Production and Rural Development:** Supporting productive businesses, especially in agriculture in provinces like Hatay and Adıyaman, to enhance economic growth and empower vulnerable groups such as women and migrants.
- **Strengthening Union Rights and Work Conditions:** Advocating for fundamental rights and principles at work, including freedom of association and safe working environments, to support decent work practices.
- **Promoting Women's Labour Force Participation:** Encouraging women's participation through tailored job opportunities, vocational training, care services, transportation and accommodation support to ensure safety and enhance productivity.
- **Adapting Work Conditions for Psychological Well-being:** Improving employee well-being through work arrangements, mental health support, and trauma-informed practices to reduce psychological burden and enhance productivity.
- **Disaster Preparedness and Resilience:** Preparations for possible future natural disasters must be integrated into the workplace culture. Strategic plans and emergency action plans should commence to minimize losses and ensure continuity of enterprise operations.

- **Developing Data Metrics for Monitoring:** Due to challenges in accessing official data pertaining to the earthquake-affected region, establishing reliable longitudinal data and ensuring robust monitoring are necessary.
- **Further Research:** In small and organized industrial sites, where there is significant industrial activity and production, conducting a field study is essential to complement current research findings, particularly emphasizing outcomes related to the businesses within the service sector.

Introduction

This document is the output of the desk study and field studies conducted to understand the impact of the February 6 earthquakes on medium and small-scale businesses, the current situation and needs, in 5 provinces affected by the earthquake (Gaziantep, Hatay, Kahramanmaraş, Adıyaman, Malatya). This study aims to present a holistic picture that reveals the prospects for recovery by evaluating the current situation of the businesses alongside a comparison before the earthquake and after the earthquake.

Some data concerning the impact of the earthquake do not encompass Gaziantep province due to the localized destruction primarily confined to Islahiye and Nurdağı districts within the region. However, findings from field study conducted in Gaziantep were integrated into the broader analysis concerning the regional effects of the earthquake, regarding supply chains and labour markets in particular.

The report basically addresses the pre-earthquake situation of businesses, the difficulties they encountered after the earthquake, and their future expectations.

In the first section of this report, the purpose, methodology and scope of the research are detailed. Then, before moving on to the field findings, in order to establish the context of the research, micro and macro data on the effects of the earthquake in the target provinces and on the labour market were compiled and presented to the reader as background information.

Following the presentation of this data, the report focuses on the before and after the earthquake conditions of business environment in the region. These include the situation and functioning of businesses before the earthquake, the difficulties faced by businesses after the earthquake, the post-earthquake conditions and the impact of the earthquake. Labour force structure of businesses, labour force losses, situation of earthquake-induced migration in relation to labour market, impact of earthquake on women's employment and working conditions including immigrant women's conditions, and the future expectations of businesses are detailed consecutively. After presentation of these components, the eight chapter of the report focuses on the opinions of key stakeholders on what economic recovery and development strategies should be adopted for the future. Based on all these complementary findings, strategic insights and policy recommendations are laid out in the last section of the report. Special care was paid in the research design to scrutinize employees needs and working conditions alongside business perspectives and priorities for recovery.

We hope that the report will provide actionable evidence and effective guidance for supports to be developed to address recovery needs of the region with a special focus on decent work for all.

Background

On February 6, 2023, two earthquakes of magnitudes 7.7 and 7.6 occurred nine hours apart, with their epicenters in the Pazarcık and Elbistan districts of Kahramanmaraş, respectively. These earthquakes are recorded as among the most devastating in Turkish history, affecting 11 cities. The first earthquake, centered in Pazarcık, impacted a broad region that included Lebanon, Iran, Iraq, Cyprus, Israel, Jordan, and Egypt, as well as Türkiye.

The earthquakes resulted in loss of life and severe damage in Kahramanmaraş, Adana, Adıyaman, Diyarbakır, Gaziantep, Hatay, Kilis, Malatya, Osmaniye, Şanlıurfa, and Elazığ, with the first earthquake being particularly impactful in Kahramanmaraş and Hatay, and the second in Malatya. A third earthquake of magnitude 6.4, with its epicenter in Hatay's Defne and Samandağ districts, occurred on February 20, 2023, further worsening the destruction and loss in Hatay, which had already been heavily damaged by the February 6 earthquakes. These earthquakes, generated by the East Anatolian Fault System (EAFS) and North Anatolian Fault System (NAFS) [2] along the boundary between the Anatolian and Arabian Plates, caused devastating effects in the region encompassing Kahramanmaraş, Malatya, Adıyaman, and Hatay, a significant portion of which is identified as highly dangerous on Türkiye's Earthquake Hazard Map [3]. The 11 affected provinces were declared as disaster zones.

The earthquake region, encompassing 11 cities within the borders of the Southeastern Anatolia, Eastern Anatolia, Central Anatolia, and Eastern Mediterranean regions, has a population of 14,013,196, accounting for 16.5% of Türkiye's total population[4], and covers an area of 13,900 km2, representing 17.8% of Türkiye's total land area.

The physical and psychological devastation of the earthquake led to significant migration from the affected area. According to AFAD (Disaster and Emergency Management Presidency of Türkiye), more than 3.5 million persons[5] have been evacuated from the provincial areas impacted by the earthquake. The affected provinces contributed 9.8% to Türkiye's Gross Domestic Product (GDP) in 2021, and the per capita national income level is below the national average. These provinces also host more than half of the total registered Syrian refugees in Türkiye, reaching 1.7 million[6].

According to the 2017 Socio-Economic Development Index (SEGE) study by the Ministry of Industry and Technology [7], which categorizes provinces based on socio-economic development levels, Adana and Gaziantep are the most developed cities in the region, categorized as level 3; Hatay and Malatya as level 4; Kahramanmaraş, Osmaniye, and Kilis as level 5; and Adıyaman, Şanlıurfa, and Diyarbakır as level 6. The 2022

[2] AFAD, 06 Feb. 2023 Kahramanmaraş (Pazarcık ve Elbistan) Depremleri Saha Çalışmaları Ön Değerlendirme Raporu, 24 Şubat 2023, https://deprem.afad.gov.tr/assets/pdf/Arazi_Onrapor_28022023_surum1_revize.pdf
[3] AFAD Türkiye Deprem Tehlike Haritası, https://www.afad.gov.tr/turkiye-deprem-tehlike-haritasi
[4] TURKSTAT, Adrese Dayalı Nüfus Kayıt Sistemi Sonuçları 2022, https://data.tuik.gov.tr/Bulten/Index?p=The-Results-of-Address-Based-Population-Registration-System-2022-49685&dil=2
[5] Sempozyum, İletişim Başkanı Fahrettin Altun, Cumhurbaşkanlığı Strateji ve Bütçe Başkanı İbrahim Şenel ile AFAD Başkanı Okay Memiş'in açılış konuşmalarıyla başladı. https://www.afad.gov.tr/asrin-felaketinin-birinci-yilinda-afet-iletisim-sempozyumu
[6] T.C. Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı , Türkiye Earthquakes Recovery and Reconstruction Assessment, March 2023 https://www.sbb.gov.tr/wp-content/uploads/2023/03/Turkiye-Recovery-and-Reconstruction-Assessment.pdf
[7] T.C. Sanayi ve Teknoloji Bakanlığı, 2017 İl SEGE, https://www.sanayi.gov.tr/merkez-birimi/b94224510b7b/sege

district-based SEGE rankings reveal that only 2 districts in the earthquake region are ranked as level 1, with 16 districts in level 2, 17 in level 3, 19 in level 4, 32 in level 5, and 38 in level 6[8].

The earthquakes affected 11 cities to varying degrees, with the greatest destruction in Adıyaman, Malatya, Hatay, and Kahramanmaraş. It is estimated that between a quarter and a third of the buildings in these areas are either destroyed or in urgent need of demolition, with less than 30% of buildings undamaged. Gaziantep's Nurdağı and Islahiye districts, along with Kilis and Osmaniye, were also heavily affected. Cities less impacted by the earthquake include Elazığ and Adana[9].

Following the earthquake, the predominant issue that surfaced pertained to housing shortages. Initially, temporary tent settlements were instituted to accommodate the populace impacted by the earthquake. Subsequently, contain centers were erected, facilitating the evacuation of tent encampments within a span of several months. Official reports indicate that within the inaugural year post-disaster, a total of 691,000 individuals have been accommodated within 215,224 containers dispersed across 414 designated container cities[10].

The earthquake additionally precipitated the devastation of critical energy, transportation, water, and sewage systems, alongside extensive impairment to educational institutions, medical facilities, and various public service sectors. Consequently, economic operations experienced a cessation or reduction commensurate with the magnitude of urban devastation. According to assessments by the World Bank, housing-related losses constitute 53% of the overall damage ($18 billion), with non-residential structures accounting for 28% ($9.7 billion) and infrastructure deterioration representing 19% ($6.4 billion) of the total[11].

The economic landscape of the cities affected by the earthquake is consistent with Türkiye's overall economic outlook, where 99.8%[12] of all businesses are SMEs (Small and Medium-sized Enterprises). In the region, 86.6% of businesses were micro-scale enterprises with fewer than 10 employees, similar to the national distribution. Small businesses accounted for 11.1%, medium-sized enterprises for 2%, and large-scale businesses for only 0.4%[13]. Employment in the region was heavily concentrated in low-skilled jobs within the agriculture, trade, textile, and food production sectors. There was a total of 3,841,000 individuals employed in the region affected by the earthquake, representing 13.3% of the national employment[14]. The rate of informal employment stands at 39%[15]. According to the earthquake report prepared by the

[8] T.C. Sanayi ve Teknoloji Bakanlığı, SEGE 2022 İlçelerin Sosyo-Ekonomik Gelişmişlik Sıralaması Araştırması, https://www.sanayi.gov.tr/assets/pdf/birimler/2022-ilce-sege.pdf

[9] Özüdoğru Aydın Burcu, 2023, 2023 Yılında Gerçekleşen Kahramanmaraş Merkezli Depremin Etkileri ve Politika Önerileri, https://www.tepav.org.tr/upload/mce/2023/notlar/2023_yilinda_gerceklesen_kahramanmaras_merkezli_depreminin_etkileri_ve_politika_onerileri.pdf

[10] Sabah, Konteyner kentlerde 691 bin kişi yaşıyor, https://www.sabah.com.tr/gundem/2024/02/03/konteyner-kentlerde-691-bin-kisi-yasiyor, erişim: 21.03.2024

[11] World Bank, Global Rapid Post-Disaster Damage Estimation (GRADE) Report : February 6, 2023 Kahramanmaraş Earthquakes - Türkiye Report (English), https://documents1.worldbank.org/curated/en/099022723021250141/pdf/P1788430aeb62f08009b2302bd4074030fb.pdf

[12] TOBB, Türkiye'nin KOBİ'leri Bülteni, 2020, https://www.tobb.org.tr/KobiArastirma/Sayfalar/TRninKOBIleriBulteni.php

[13] TEPAV, Deprem Bölgesinde Sürdürülebilir İş Gücü İstihdamı: İhtiyaçlar ve Fırsatlar TEPAV Saha Araştırması ve Bulguları Temmuz 2023, https://www.tepav.org.tr/upload/mce/2023/deprem_bolgesinde_surdurulebilir_is_gucu_istihdami_ihtiyaclar_ve_firsatlar.pdf

[14] TURKSTAT Labour Force Statistics, Quarter IV: October-December, 2021, https://data.tuik.gov.tr/Bulten/Index?p=Labour-Force-Statistics-October-2021-37491&dil=2

[15] T.C. Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı , Türkiye Earthquakes Recovery and Reconstruction Assessment, March 2023 https://www.sbb.gov.tr/wp-content/uploads/2023/03/Turkiye-Recovery-and-Reconstruction-Assessment.pdf

Presidency of Strategy and Budget (PSB), there were significant disparities between men and women regarding labour force participation within the region, with 70.3% for men and 32.8% for women, respectively. The employment rate for men was 62.8%, compared to 28% for women. The unemployment rate was 10.7% for men and 14.7% for women[16].

According to December 2022 SGK (Social Security Institution of Türkiye) data, more than half of the companies in the region were registered in Adana, Gaziantep, and Hatay, making up 10% of Türkiye's total with 220,558 companies[17].

In urban settings, the primary factor contributing to business revenue decline is the devastation incurred by micro-scale enterprises predominantly situated beneath buildings. Moreover, the four cities most severely impacted by demolitions also recorded the most significant reductions in employment rates. Notably, TEPAV calculations, drawing from ISKUR data, reveal that while the reduction in workplace numbers across 11 provinces post-earthquake surpassed 66,000, Kahramanmaraş, Hatay, Adıyaman, and Malatya experienced declines in number of workplaces exceeding 50%.

According to TESK, the number of businesses in February 2024, by province, is as follows:

Province	# of Businesses in Feb. 2024
Adana	56.911
Adıyaman	18.176
Diyarbakır	26.360
Elazığ	18.233
Gaziantep	44.249
Hatay	46.786
Kahramanmaraş	28.860
Kilis	4.267
Malatya	20.857
Osmaniye	16.734
Şanlıurfa	46.786
Total	**328.219**

Source: TESK[18]

The total number of employees in the affected provinces has decreased by 28%, with Hatay being the most impacted across all sectors[19]. According to the SGK report based on 2022 year-end data and 2023 post-earthquake data, the total number of workplaces decreased by 39.3 percent in Hatay, 31 percent in Kahramanmaraş, 39 percent in Malatya, 1 percent in Gaziantep, and 3 percent in other provinces affected by the earthquake. Diyarbakır and Elazığ experienced[20]. TEPAV's calculations based on July 2023 SGK data indicate a total employment loss of 4.4% (121,000 people) in the 11 provinces compared to 2022, with the highest decreases in Hatay (18.4% and 58,000), Kahramanmaraş (14% and 35,000), and Malatya (13.8% and 25,000)[21].

[16] T.C. Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı , Türkiye Earthquakes Recovery and Reconstruction Assessment, March 2023
https://www.sbb.gov.tr/wp-content/uploads/2023/03/Turkiye-Recovery-and-Reconstruction-Assessment.pdf
[17] TEPAV July 2023, Sustainable Labour Employment Needs and Opportunities in the Earthquake Zone, https://www.tepav.org.tr/upload/mce/2023/deprem_bolgesinde_surdurulebilir_is_gucu_istihdami_ihtiyaclar_ve_firsatlar.pdf
[18] TESK , İllere Göre Esnaf, İşyeri, Nüfus ve Oda Bilgileri, https://www.tesk.org.tr/resimler/sicil/4.pdf
[19] TEPAV ,April 2023
[20] TEPAV, April 2023
[21] TEPAV , April 2023, Hasar Yönetimi ve Öncelikli Destek Alanlarinin Belirlenmesi Projesi, https://www.tepav.org.tr/upload/files/1685436046-8.Hasar_Yonetimi_ve_Oncelikli_Destek_Alanlarinin_Belirlenmesi_Projesi_birinci_saha_raporu.pdf

Under the state of emergency declared after the earthquake, measures were taken to strengthen the labour force in the affected area. These measures included a moratorium on layoffs and the provision of unemployment benefits and short-term work allowances for workers. However, according to the earthquake report from the PSB and the Central Bank of Türkiye (TCMB), the effectiveness of these measures has been limited due to the high rate of informal employment, which is at 39%[22].

According to the data of the businesses which did not file for insurance, the dramatic decrease in businesses is revealed by the SGK data[23]. After the earthquake, a reduction of more than 66 thousand businesses was observed across 11 provinces, with Kahramanmaraş, Hatay, Adıyaman, and Malatya experiencing declines surpassing 50%. Following closely are Osmaniye and Gaziantep, witnessing reductions of 23.7% and 22.6% respectively. Notably, Kahramanmaraş saw a decrease of 11,439 enterprises (equating to a 58.5% decline), while Hatay recorded a reduction of 17,280 businesses (representing a 60.4% decrease), both of reduction in declarations neared 10 thousand in Malatya and Gaziantep, 4,611 in Adıyaman, and 5,709 in Adana. Conversely, Diyarbakır and Elazığ experienced decreases of less than 3% (Please see Figure 7).

[22] T.C. Central Bank Inflation Report 2023-II, https://www.tcmb.gov.tr/wps/wcm/connect/3380dbff-df2e-4c5b-8012-53c4adf5f0ba/Box.+2.2.pdf?MOD=AJPERES&CACHEID=ROOTWORKSPACE-3380dbff-df2e-4c5b-8012-53c4adf5f0ba-oz326-b

[23] Retrieved by TEPAV, Deprem Bölgesinde Sürdürülebilir İş Gücü İstihdamı: İhtiyaçlar ve Fırsatlar TEPAV Saha Araştırması ve Bulguları Temmuz 2023, https://www.tepav.org.tr/upload/mce/2023/deprem_bolgesinde_surdurulebilir_is_gucu_istihdami_ihtiyaclar_ve_firsatlar.pdf

Part 1: About the Research

Purpose

The earthquakes profoundly impacted the lives of those in the region, leading to fatalities, displacement, and the destruction of residential and commercial properties. Consequently, there was a decrease in income-generating opportunities and ensuing economic difficulties. Furthermore, macroeconomic factors such as inflation, recession, and loss of income are expected to impact both refugees and the local communities following the disaster.

The purpose of this "Enterprises Survey in Post-Disaster Setting" study is to assess the current state and recovery processes of businesses in earthquake-stricken areas with special reference to supply chains, human resources, financial situation, future expectations, and the status of customers and physical assets, identify critical challenges and opportunities for growth, analyze the economic impact on the labour market, evaluate the influence of labour market policies on business recovery, and gather gender-specific data to address the needs of female employers and employees.

We hope that the data obtained in the post-disaster field will support the creation of evidence-based policies for the recovery and development of the labour market and economic structures in the affected regions.

The objectives of the study can be summarized as follows:

- To determine the current status of businesses in the target provinces affected by the earthquake and to analyze their recovery processes.
- To identify the key challenges, obstacles, needs, and opportunities affecting business continuity and corporate development.
- To understand the impact of economic and similar external factors on the labour market and businesses, and to assess their effect on the recovery process.
- To comprehend the impact of labour market policies on businesses, especially how they affect recovery and development processes.
- To understand the current situations and specific needs of female employers and/or employees, and to collect gender-disaggregated data.
- To identify policy implications and recommendations for recovery of the labour market for decent work for all in the affected region.

Methodology and Sampling Characteristics

The methodological framework of the study was designed to understand the state of businesses in the earthquake-impacted provinces and to devise targeted recovery solutions. This framework was executed through a series of interconnected stages, each building on the data gathered to ensure comprehensive analysis and complementarity between each data collection tool.

Desk Study:

The initial phase involved gathering and analyzing existing data and reports to assess the before and after earthquake business environment. This included:

- Official statistics and policy-related information from entities like the Turkish Statistical Institute (TURKSTAT), Ministry of Trade, Ministry of Labour and Social Security, Small and Medium Enterprises Development Organization (KOSGEB), and Turkish Employment Agency (İŞKUR).
- Research from national and international specialized agencies and NGOs, providing perspectives on the social and economic impacts of the earthquake.
- Academic research offering theoretical frameworks and empirical evidence on natural disasters' impact on businesses and economies.
- Data from Chambers of Industry and Commerce, offering sector-specific insights and challenges faced by local businesses.
- Information from local government institutions on immediate earthquake response, specific needs, and ongoing recovery processes.

Preparation Phase:

Simultaneously with the desk study, preparation activities focused on developing the necessary tools for field research:

- **Sampling:** Defining the demographics and characteristics of the businesses to be surveyed to ensure a representative sample reflecting the diverse business landscape impacted by the earthquake. (Please see Appendix 1. for the Sampling Strategy Document and the List of Selected Neighborhoods.)
- **Designing Questionnaires:** Creating detailed questionnaires for the quantitative phase to collect structured data on various aspects of business operations, financial conditions, labour force dynamics, and post-earthquake challenges. The questions were structured to facilitate quantitative analysis, offering a comprehensive overview of the affected business environment (Please see Appendix 2. And Appendix 3. for Screening and Business Surveys).
- **Interview Flows for Qualitative Phase:** Developing semi-structured interview guidelines for in-depth discussions with key stakeholders to gather detailed insights into the earthquake's complex effects on businesses (Please see Appendix 4. for In-Depth Interview Flows).

Throughout this phase, the content and tools developed were periodically reviewed and refined to ensure thoroughness, relevance, and alignment with the study's aims. This collaborative process enhanced the capacity of these instruments to accurately gather the necessary data for the investigation.

Field Research:

1. **Quantitative Phase:** Conducting a Two-Stage Business Survey to collect structured data on the earthquake's impact on businesses.
2. **Qualitative Phase:** In-depth interviews with key stakeholders to gather detailed insights into the experiences and needs of businesses after earthquake.

Analysis and Reporting:

This final stage involved synthesizing all collected data to understand the current state of affected businesses, identifying their immediate, short-term, and long-term needs, and proposing focused recovery solutions. Emphasis was placed on understanding the socio-economic status and needs of female employers and employees, ensuring inclusive recovery solutions.

As a limitation of the research, it should be noted that a significant number of companies in Adıyaman, Kahramanmaraş, and Hatay were unable to continue their operations at the time the fieldwork was conducted. Consequently, this report primarily reflects the perspectives of companies that were able to continue their activities to some extent. This limitation highlights that the findings may not fully capture the experiences of businesses that were severely impacted and unable to resume operations. Therefore, the views presented in this report are representative of those enterprises that maintained some level of operational capability despite the challenges faced in these regions. This factor should be considered when interpreting the results and drawing conclusions from the study.

Key Stakeholder Interviews

Within the scope of the qualitative component of our study, 3 major objectives were established:

- To enhance and corroborate the findings from the quantitative research with deeper insights.
- To incorporate perspectives from experts and organizations that are actively involved in the field.
- To capture the viewpoints and recommendations of the key stakeholders regarding the purpose of this research.

It was aimed to conduct at least 15 in-depth interviews, targeting 3 key stakeholders in each of the following cities: Gaziantep, Hatay, Malatya, Kahramanmaraş, and Adıyaman. It is planned to engage with a variety of stakeholder categories for these interviews, including (1) Local Governments (2) Trade Unions (3) Employer Organizations (4) Professional Chambers (5) Development Agencies (6) NGOs, and an Agricultural Cooperative (7).

Our team reached out to these stakeholders to request interviews and schedule both face to face and online meetings. The interviews were carried out in a semi-structured format through teleconferences and face to face in the earthquake zone, with each session lasting about 40-60 minutes. With the participants' consent, the interviews were audio-recorded to be transcribed.

In this phase, a total of 144 key stakeholders were contacted to conduct interviews; and interviews with 39 stakeholders were completed. The number of interviews by stakeholder category is given in the table below.

Table 1. Distribution of Stakeholders Interviewed

	Number of Interviews
Public Sector	16
Professional Organizations (Chambers and Employers' Organizations)	12
NGO's	5
Private Sector (Development Banks)	2
Trade Unions	3
Private Sector (Organized Industrial Zone)	1
Agricultural Cooperative	1
Total	**40**

For details on the topics discussed during the in-depth interviews with stakeholders, please refer to Appendix 7. For the list of stakeholders contacted, see Appendix 5 and for the list of stakeholders included, see Appendix 6.

Part 2: Findings About the Current Situation

Overview of Participant Businesses

The quantitative phases of the research began with the screening surveys as the first stage, followed by the enterprise surveys as the second stage. In the first stage, a total of 2385 businesses were reached in 87 neighbourhoods across 10 districts in 5 provinces.

During the screening phase, businesses were asked questions under the following main headings:

- The province, district, and neighborhood where the business is located,
- The gender of the participant,
- The name of the business,
- Sector,
- Continuity of activity,
- Number of employees,
- Turnover for 2022 – 2023,
- Formality criteria,
- Presence of female managers,
- The citizenship status of the manager.

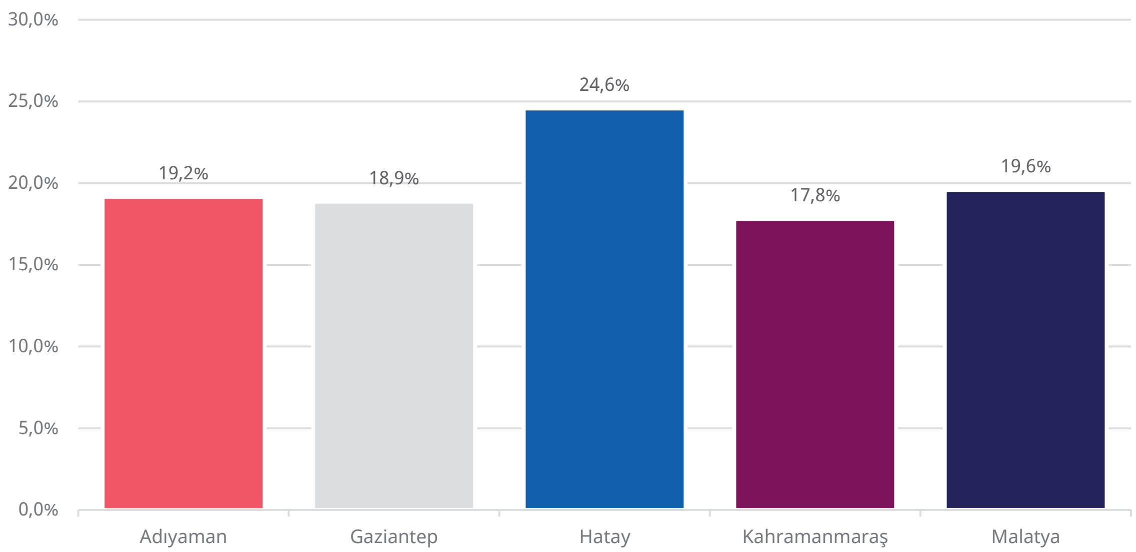
This screening phase of the research was conducted for three purposes: (1) to make a representative estimate regarding the loss of activity and turnover in the districts that were heavily affected by the earthquakes on February 6, 2023, (2) to determine the roles of immigrants and women in the region's economy (3) to enhance the reliability of the study by comparing the distribution of enterprises reached in the business surveys with a more representative sample. In this report, **unless explicitly stated that the findings are from the screening phase, all results are derived from the enterprise survey.**

The locations of the businesses participating in the screening study were recorded, and the distribution's compliance with the sampling strategy was monitored. Figure 1 shows the locations of the businesses that participated in the screening survey (See Figure 1).

Figure 1. Locations of Businesses Participated in Screening Survey (Screening Phase)

Through the screening survey conducted across 5 provinces, a total of 2385 businesses were reached. The proportional distributions of the businesses elaborated in a way to guarantee the participation of each province from a minimum of 425 to a maximum of 586 businesses. Due to 119 of the reached businesses being non-operational, only their sectors were inquired about, and the subsequent questions were posed to the remaining 2266 businesses.

Figure 2. Distribution of Reached Businesses by City (Screening Phase)



Among the businesses interviewed, 17.4% are in the "Accommodation and Food Services" Sector. This is followed by Manufacturing Industry (7.4%) and Information and Communication, which accounts for 5.5%.

Table 2. Sector Distribution Among Reached Businesses (Screening Phase)

	%
Accommodation and Food Service Activities	17,4%
Manufacturing Industry	7,4%
Information and Communication	5,5%
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	4,2%
Construction	2,9%
Agriculture, Forestry, and Fishing	2,6%
Electricity, Gas, Steam and Air Conditioning Production and Distribution	2,6%
Health and Social Service Activities	2,3%
Transportation and Storage	2,2%
Real Estate Activities	1,9%
Arts, Entertainment, Recreation, and Leisure	1,8%
Professional, Scientific, and Technical Activities	1,4%
Water Supply; Sewerage, Waste Management and Remediation Activities	1,3%
Mining and Quarrying	1,0%
Financial and Insurance Activities	0,8%
Education	0,6%
Administrative and Support Service Activities	0,4%
Public Administration and Defense; Compulsory Social Security	0,2%
Other Services	26,2%
Other	17,3%

The region is predominantly characterized by small businesses and sole proprietorships (tradespeople, artisans, small business owners). Of the businesses surveyed (n=2266), 90% have a maximum of 5 employees. Among these, 43% are sole proprietorships with no employees. The proportion of businesses with 6-10 employees is 4.8%, with 11-50 employees is 3.5%, and with 51-250 employees is 1.5%.

Table 3. Employee Distribution Among Reached Businesses (Screening Phase)

	%
Sole proprietorship	43,3%
1-5 employees	46,9%
6-10 employees	4,8%
11-50 employees	3,5%
51-250 employees	1,5%

The majority of businesses have basic official records and documents. 93% of them are taxpayers connected to the tax office. 87% have a bank account, 82% have professional association and social security registration records. A significant portion has social media accounts and websites. (n=2266)

Table 4. Business Registration and Documentation Among Reached Businesses (Screening Phase)

	%
Tax number	93,0%
Bank account	87,2%
Chamber of Commerce / Industry / Craftsmen and Artisans Registry	81,8%
Registration with local authorities	81,5%
Social security registration (SGK)	77,5%
Website	56,2%
Social media accounts	42,8%

Approximately one third of all businesses are managed by women (36.5%). While almost all of the business representatives (owners, managers, etc.) are citizens of the Republic of Türkiye, a small portion of 1.6% declare that they are not citizens of the Republic of Türkiye.

Table 5. Gender and Nationality Distribution of Managers in Reached Businesses (Screening Phase)

		%
Are there any women among the managers of your business?	**Yes, there are**	36,5%
	No, there are not	63,5%
Does the business representative hold citizenship of the Republic of Türkiye?	**Yes, holds citizenship of the Republic of Türkiye**	98,4%
	No, doesn't hold citizenship of the Republic of Türkiye	1,6%

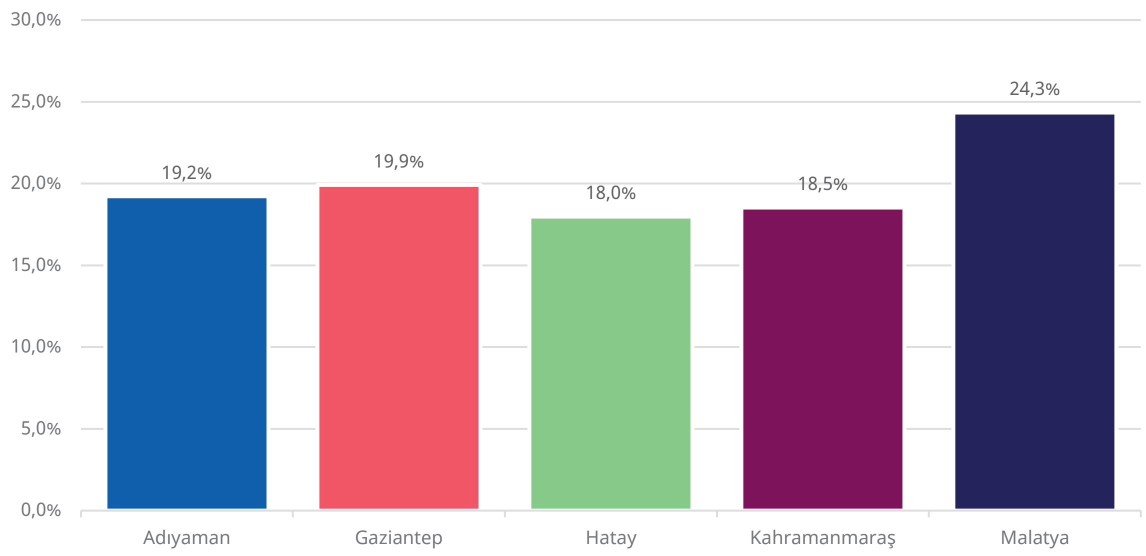
The majority of the businesses surveyed were established in the year 2000 and afterwards.

Table 6. Distribution of Businesses by Establishment Year (Screening Phase)

Year of Establishment	Number of Items
Before 1900	4
1950-2000	118
2000 - 2020	434
2020 and after	162

Out of 723 businesses that participated in the research, 130 are located in Hatay, 134 in Kahramanmaraş, 139 in Adıyaman, 144 in Gaziantep, and 176 in Malatya.

Figure 3. Distribution of Businesses by City (Enterprise Survey Phase)



32.2% of the businesses operate in the "other services" category, and 17.2% are in "accommodation and food services," meaning nearly half (49.4%) are in the service sector. It is observed that small and medium-sized enterprises operate in diversified fields within the service sector. The distribution across other sectors is detailed in the table below.

Table 7. Sector Distribution in Businesses (Enterprise Survey Phase)

	Sectoral Distribution	Employment
Accommodation and Food Service Activities	17,2%	13,4%
Information and Communication	5,7%	1,8%
Construction	5,1%	38,7%
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	3,7%	3,6%
Manufacturing Industry	3,5%	5,1%
Professional, Scientific, and Technical Activities	2,8%	2,2%
Real Estate Activities	2,5%	0,5%
Arts, Entertainment, Recreation, and Leisure	2,4%	0,9%
Health and Social Service Activities	2,1%	1,5%
Agriculture, Forestry, and Fishing	1,9%	1,6%
Transportation and Storage	1,4%	4,2%
Education	0,8%	1,1%
Electricity, Gas, Steam and Air Conditioning Production and Distribution	0,7%	0,4%
Financial and Insurance Activities	0,7%	0,7%
Administrative and Support Service Activities	0,7%	0,9%
Water Supply; Sewerage, Waste Management and Remediation Activities	0,6%	0,1%
Mining and Quarrying	0,3%	0,07%
Public Administration and Defense; Compulsory Social Security	0,0%	0,0%
Other Services	32,2%	12,6%
Other	15,9%	10,4%

82.2% of the businesses are sole proprietorships. It is observed that small and medium-sized enterprises prefer to be established as sole proprietorships.

Table 8. Distribution of Legal Status of Businesses (Enterprise Survey Phase)

	%
Public Limited Company	4,6%
Limited Company	9,0%
Sole Proprietorship	82,2%
Other	4,2%

Upon investigating the employment figures within the surveyed businesses, it was observed that the presence of employees is a common feature, regardless of the business's classification as a sole proprietorship. Notably, the characterization of the business as a single-person operation is applicable to 39.8% of the cases. However, a significant proportion, amounting to 41.2%, reported having a labour force ranging from 1 to 5 employees. This finding underscores the nuanced nature of employment within sole proprietorships, challenging the perception that such businesses operate without any additional labour force. From this data, it can be inferred the potential prevalence of informal employment in the region. If sole proprietors legally identified as single-person operations have employees in practice, it raises questions about the registration of these employees with the social security system.

Table 9. Distribution of Number of Employees in Businesses (Enterprise Survey Phase)

	%
Sole proprietorship, single person	39,8%
1–5 employees	41,2%
6-10 employees	13,7%
11-50 employees	4,7%
51-250 employees	0,6%

The composition of the interviewees, in the workplaces reached by random method in the locations determined in the sample, shows a gender distribution, with 22.5% male and 77.5% male representatives. This gender ratio highlights a clear male dominance among participants and highlights potential areas for further investment in gender dynamics in the economic region.

Table 10. Gender Distribution of Interviewed Individuals (Enterprise Survey Phase)

	%
Women	22,5%
Men	77,5%

Analysis of the roles occupied by the interviewees indicates that a significant majority, 61.5%, occupy the position of General Manager or Company Representative within sole proprietorship structures. Furthermore, a notable 22% are identified as managing partners. The gender breakdown shows that 52.8% of women hold the position of General Manager of Business Representation in sole proprietorships, whereas 64.1& of men occupy the same roles. This distribution of roles highlights the predominance of top-level management participation in the survey, reflecting the decision-making authority and operational oversight prevalent among respondents.

Table 11. Distribution of Positions by Gender for the Interviewed Individuals (Enterprise Survey Phase)

	Total	Women	Men
General Manager - Business representative in a sole proprietorship	61,5%	52,8%	64,1%
Managing partner	22,0%	24,5%	21,3%
Full-time employee in managerial position	13,0%	16,6%	12,0%
Part-time employee in managerial position	0,5%	1,2%	0,2%
Other	3,0%	4,9%	2,4%

The data reveals that 30.7% of the businesses surveyed include women within their management teams. This observation suggests the presence of a degree of gender diversity in the leadership structures of these enterprises, but also indicating a need towards more inclusive management practices.

Table 12. Proportion of Businesses with Female Managers (Enterprise Survey Phase)

	%
Yes	30,7%
No	69,3%

Upon examining the educational qualifications of the respondents, predominantly company officials or managing partners, within the surveyed enterprises, it was identified that a substantial majority, 71%, have attained an educational level of secondary education or lower. Furthermore, the analysis indicates that 12.3% of the respondents are associate degree graduates, and 14% have completed a bachelor's degree program.

Table 13. Distribution of Education Levels of Interviewed Individuals (Enterprise Survey Phase)

	Total	Women	Men
Never attended education / Below primary education	0,7%	0,6%	0,7%
Primary education (Elementary - Middle School)	19,5%	12,9%	21,4%
Secondary education (General High School)	38,9%	33,1%	40,5%
Secondary education (Vocational High School / Religious High School)	12,0%	9,8%	12,7%
Associate degree (2 years)	12,3%	22,7%	9,3%
Bachelor's degree (Open education)	3,9%	3,1%	4,1%
Bachelor's degree (4 years)	10,4%	14,7%	9,1%
Masters	2,4%	3,1%	2,1%
PhD and above	0,0%	0,0%	0,0%

When gender breakdown of the education level of the interviewed business representatives is considered, it is observed that the general education level of women is higher than that of men. This reveals two important findings regarding employment-based gender inequalities in the region. First, it is easier for men to reach business executive or managerial positions compared to women, even though they have not reached higher education level. For women to achieve such positions, they must possess a higher level of education. Furthermore, the participation of women with lower levels of education in employment is limited.

Categorization of the Businesses:

Clustering Based on Earthquake Damage Level

K-Means clustering analysis is used to categorize businesses based on the severity and nature of damages they experienced during the February 6, 2023, earthquakes. The dataset contains responses from businesses regarding various types of damages experienced during the earthquakes. Each type of damage is recorded as:

1: Yes
2: No

Elbow Method is used to determine the optimal number of clusters by plotting the Sum of Squared Errors (SSE) for different values of kk (number of clusters). "Elbow" point was identified in the plot, which suggested that 5 clusters would be an appropriate choice.

K-Means clustering algorithm is applied the with k=5k=5 to categorize the businesses into five clusters. Mean values for each type of damage within each cluster was calculated to understand the common characteristics of businesses in each cluster.

The key characteristics of each cluster based on the average frequency of different types of damages was summarized below:

Cluster 1: Very Low Damage Cluster
- Very low frequencies of all types of damages.

Cluster 2: Low Damage Cluster
- Generally low frequencies of all types of damages.
- Especially low product and market losses.

Cluster 3: Medium Damage Cluster
- Moderate frequencies of talent pool shrinkage, product and market losses, supplier and customer losses.
- Low frequencies of employee fatalities and permanent physical disabilities.

Cluster 4e: Medium-High Damage Cluster
- Medium-high frequencies of physical damage to property, loss/damage to production equipment, and market losses.
- Moderate frequencies of supplier and customer losses.

Cluster 5: High Damage Cluster
- High frequencies of physical damage to property, loss/damage to production equipment, shrinkage in talent pool, product and market losses.
- Very high frequencies of supplier, customer, raw material, and distributor losses.

This analysis categorizes businesses based on the severity and nature of damages they experienced, which can aid in developing targeted recovery and support strategies for each cluster.

Based on the frequency of clusters, the analysis revealed the following distribution of businesses across the damage categories:

- **Very Low Damage Cluster:** This cluster comprises 161 businesses, accounting for 22.3% of the total. These businesses experienced minimal impacts from the earthquakes.
- **Low Damage Cluster:** A total of 118 businesses falls into this category, representing 16.3% of the dataset. These businesses faced relatively minor damages.
- **Medium Damage Cluster:** This is the largest cluster with 193 businesses, making up 26.7% of the total. These businesses encountered moderate levels of damage.
- **Medium-High Damage Cluster:** Comprising 85 businesses, this cluster represents 11.8% of the dataset. These businesses faced significant damages but not the most severe.

- **High Damage Cluster:** This cluster includes 166 businesses, accounting for 23.0% of the total. These businesses suffered the most severe damages.

Overall, the majority of businesses experienced either medium or high levels of damage, indicating substantial impacts from the earthquakes across various sectors.

The distribution of damage clusters across the provinces reveals significant regional variations in the impact of the earthquakes. Gaziantep experienced the highest proportion of businesses with very low damage (38.2%), indicating a relatively minimal impact in this area. Conversely, Hatay and Kahramanmaraş had the highest percentages of businesses in the high damage cluster, with 33.8% and 32.1%, respectively, reflecting severe impacts in these regions. Adıyaman showed a notable presence in the medium-high damage cluster (31.7%), while Malatya had a more balanced distribution across the clusters, with a substantial percentage in both the very low damage (26.7%) and high damage (22.7%) categories. This analysis highlights the varied effects of the earthquakes on businesses, emphasizing the need for tailored recovery efforts in each province based on the specific severity of damage encountered.

Table 14. Damage Clusters by Provinces

	Adıyaman	Gaziantep	Hatay	Kahramanmaraş	Malatya
Very Low Damage	7.9%	38.2%	11.5%	24.6%	26.7%
Low Damage	15.8%	15.3%	12.3%	14.9%	21.6%
Medium Damage	27.3%	32.6%	31.5%	25.4%	18.8%
Medium-High Damage	31.7%	3.5%	10.8%	3.0%	10.2%
High Damage	17.3%	10.4%	33.8%	32.1%	22.7%

Clustering Based on Sector

The categorization and distribution of the surveyed enterprises reveal significant insights into the economic sectors they represent. The six broad categories identified are Agriculture and Natural Resources, Manufacturing and Utilities, Construction and Real Estate, Trade and Transportation, Services, and Other. The Services category encompasses the largest portion of the surveyed enterprises, accounting for 72.6% of the total. This includes sectors such as accommodation and food service activities, information and communication, financial and insurance activities, professional, scientific, and technical activities, administrative and support service activities, education, human health and social work activities, arts, entertainment, and recreation, as well as other service activities.

Table 15. Sector Categorization

Subcategory	Item
Agriculture and Natural Resources	Agriculture, Forestry and Fishing - Mining and Quarrying
Manufacturing and Utilities	Manufacturing - Electricity, Gas, Steam and Air Conditioning Supply - Water Supply, Sewerage, Waste Management and Remediation Activities
Construction and Real Estate	Construction- Real Estate Activities
Trade and Transportation	Wholesale and Retail Trade, Repair of Motor Vehicles and Motorcycles - Transportation and Storage
Services	Accommodation and Food Service Activities - Information and Communication - Financial and Insurance Activities - Professional, Scientific and Technical Activities - Administrative and Support Service Activities - Education - Human Health and Social Work Activities - Arts, Entertainment and Recreation - Other Service Activities

Table 16. Distribution of Enterprises by Sector

	Frequency	Percent
Agriculture and Natural Resources	16	2.2%
Construction and Real Estate	57	7.9%
Manufacturing and Utilities	46	6.4%
Trade and Transportation	42	5.8%
Services	525	72.6%
Other	37	5.1%

Clustering Based on Employee Number

The survey of 723 enterprises reveals insights into their employee distribution. Among these enterprises, a significant portion, 27.7%, consists of single-employee entities. This indicates a prevalence of small-scale operations or sole proprietorships within the surveyed group. Enterprises with no employees account for 17.8%, highlighting a substantial number of inactive businesses or those potentially relying on non-employee labour such as contract workers and informal employment.

The majority of the surveyed enterprises, 38.8%, employ between 2 to 5 individuals, reflecting the presence of micro to small enterprises in the dataset. This group constitutes the largest category, indicating a high concentration of businesses operating at a smaller scale. Enterprises with six or more employees make up 15.6% of the total, pointing to a lesser, yet significant, presence of slightly larger small businesses.

Overall, the data underscores the dominance of small and micro-enterprises within the survey, with a notable 84.3% of the businesses employing five or fewer individuals. This distribution is indicative of a business environment heavily characterized by small-scale operations, which may have implications for economic policies and support systems aimed at fostering business growth and sustainability.

Table 17. Employee Distribution in Surveyed Enterprises

	Frequency	Percentage
None	129	17.9%
1 Employee	200	27.7%
2 - 5 Employees	280	38.8%
6 or More Employees	113	15.6%

Official Records and Formality

The evaluation of formality encompasses various components, including records within the social security system, bank account information, tax compliance, adherence to labour regulations, and monitoring of working hours. Furthermore, factors such as legal registration of enterprises, maintenance of activity records, and verification of employee insurance coverage constitute integral elements of formality. The registration status of workplaces is an important indicator for the decent work in the world of work.

Businesses were asked whether they have staff specializing in finance or accounting. It was found that 67.5% of the businesses do not have any finance or accounting employees. Among these, 17.4% work with external experts, while 50.1% do not employ any staff or external experts in finance or accounting. Considering that the majority of these businesses are sole proprietorships, it can be inferred that they have limited budgets for finance or accounting operations.

Table 18. Status of Finance and Accounting Staff in Businesses

	%
Yes, at least 1 full-time employee.	24,5%
Yes, at least 1 part-time employee.	8,0%
No, I work with a freelance accountant / financial adviser.	17,4%
No, there is no finance or accounting employee.	50,1%

According to the T.R. Central Bank (TCMB) report, after the earthquakes on February, exports in the region, which account for 10% of Türkiye's exports, were affected at small levels compared to the extent of the destruction and started to recover rapidly. Before the earthquake, exports of the region decreased to 6% in February and then increased to 7.6% in March, and it has entered a recovery process since March. Seasonally adjusted exports in the earthquake region fell approximately 40% below the January level in February, while they recovered in March and approached the January level. The sectors relatively affected more are steel, carpet, iron and non-ferrous metals, and textile sectors.

The findings during the interviews and the level of entrepreneurship in the region shows that although businesses in the region do not predominantly export, they operate as second or third tier suppliers in global supply chains (especially in the textile and food sectors). The secondary economic status of businesses in the region precludes them from availing themselves of the assistance and aid typically extended at the primary level following the earthquake. The assistance primarily targets larger scales and is confined to areas where global suppliers wield greater influence. This circumstance has had adverse ramifications on the recovery process of businesses in the region.

Upon examination of the export activities of businesses, it is evident that a significant majority (84.5%) did not engage in exporting either before or after the earthquake. Meanwhile, 10.4% of businesses were exporting before the earthquake and have continued to do so, whereas 2.6% have ceased exporting and 2.5% commenced exporting after the earthquake. The data underscores the limited export capacities of businesses in the region, irrespective of the conditions of disaster. Additionally, given that approximately half of the businesses operate within the service sector, it is understandable that many do not partake in export-oriented activities.

Table 19. Export Status of Businesses

	%
We used to before the February 6, 2023, Earthquakes, but not anymore	2,6%
We did before the February 6, 2023, Earthquakes, and we continue to do so	10,4%
We didn't before the February 6, 2023, Earthquakes, but we are now	2,5%
We didn't before the February 6, 2023, Earthquakes, and we are not now	84,5%

The decrease in export volumes of exporting companies due to reasons such as disruptions in the supply chain, logistics problems, contraction in production capacity, lack of workers, and high prices was also a finding that we encountered in in-depth interviews:

> *"We used to export to 152 countries. It seems that the kitchen industry in Kahramanmaraş exports. There is not that much after the earthquake. Due to the decrease in prices and production due to the earthquake, and staff shortages, exports are now almost 10% to 15% of what they were before the earthquake. It has decreased considerably."*

During the research, it was investigated from which sources businesses were established. According to the responses from business managers, businesses are primarily established through the manager's own research and planning (39.1%). This is followed by support from the community at 31.3%, private sector support or investments at 24.2%, and state supports or programs at 20.3%. Consulting and international aid and programs are ranked at the bottom. It is observed that businesses mostly utilize their own resources during the establishment phase. Access to other resources is relatively limited.

Table 20. Sources of Establishment for Businesses

	%
Self-research and self-planning	39,1%
Support from my surroundings (relatives, family, or friends)	31,3%
Private sector supports, or investments	24,2%
Public assistance or programs	20,3%
Mentorships	8,6%
International aid and programs	8,2%

Nearly 80% of businesses possess the commercial registry record required to establish a business. Additionally, it has been observed that 11% have never applied for such registration. In other words, there are legal and commercial risks for one in every ten businesses in the region.

Table 21. Status of Trade Registry of Businesses

	%
No, we never applied	10,9%
No, we applied but have not yet been registered	9,7%
Yes, registered	79,4%

Upon close scrutiny of the legal and commercial identity registration status of businesses, it is revealed that a significant majority, 96.7%, possess the requisite tax identification number essential for being legally acknowledged. This delineates that for every 100 enterprises, there are three that lack legal recognition. Moreover, a substantial portion of businesses, 91.3%, maintain a bank account, while 87.6% are enlisted with a professional chamber. Additionally, 84.5% of these entities are registered with local governing bodies, and 80.2% have engaged in social security registration.

Delving deeper into the aspect of digital footprint, the percentages drop to 58.2% for social media accounts and 40.5% for owning a website. The data indicate that the majority of businesses undertake the necessary procedures to establish their legal and commercial identities, but the utilization of online platforms remains limited. This data underscores a pivotal trend where, despite a robust inclination towards fulfilling essential legal and commercial identity formalities, the engagement with online platforms by businesses is notably limited. This situation may be directly related to the digital literacy levels of business managers.

Table 22. Legal Identity Status of Businesses

	%
Tax number	96,7%
Bank account	91,3%
Chamber of Commerce / Industry / Craftsmen and Artisans Registry	87,6%
Registration with local authorities	84,5%
Social security registration (SGK)	80,2%
Social media accounts	58,2%
Website	40,5%

In the conducted interviews, business owners were asked whether they had the necessary permits related to the sector in which their business operates. According to the data obtained, 13 out of every 100 businesses do not have the necessary permits for the sector they operate in. This finding reflects the difficulties businesses in the region face in complying with legal regulations.

Table 23. Permit Status of Businesses

		%
Does your business have the necessary permits related to your sector?	**Yes**	87,4%
	No	12,6%

Additionally, the extent of difficulty regarding legal and commercial identity procedures was examined. While no specific procedure emerged as distinctly difficult, it was observed that neutral assessments were made. The proportion of respondents who considered the presented procedures to be "difficult" ranges between 21% and 14%. For those deeming the procedures "not difficult," the rates vary between 50% and 38%. Among the procedures, "opening a bank account" holds the highest rate of being considered "not difficult" at 50%. "Registering with local authorities" leads the perceived "difficult" procedures with 20%.

Table 24. Difficulty Level of Legal and Commercial Identity Procedures

	Not difficult	Neither difficult nor easy	Difficult	Don't know
Registering with local authorities	38,7%	35,5%	20,7%	5,0%
Obtaining industry-related permits	39,5%	36,2%	20,1%	4,0%
Registering the business at the Trade Registry Office	38,3%	36,1%	19,9%	5,7%
Making social security registration	42,9%	35,8%	17,3%	4,0%
Registering with the Chamber of Commerce / Industry / Craftsmen and Artisans	43,7%	34,3%	16,6%	5,4%
Opening a bank account	50,0%	32,0%	14,4%	3,7%
Obtaining a tax number	42,8%	38,6%	14,1%	4,4%

Different registration statuses such as workplace licenses, accounting records, and social security records can be seen as some of the indicators of formality in workplaces. In addition to this situation, family workers, which are quite common and another form of informal work, should also be taken into consideration. Therefore, different manifestations of formality can arise on the scale of being fully registered or fully unregistered. Through the interviews, it became apparent that the earthquake-stricken area does not exhibit complete informality but rather a predominance of partial informality. This structure of the region in terms of registration presents an appearance that is generally thought to be caused by small-scale and low value-added workplaces. Ultimately, this situation is decisive on whether employees can work registered and receive all their rights.

The fact that labour intensive sectors such as textiles and agriculture stand out in the regional economy is a factor that should be taken into consideration in supporting economic development and decent work in this context. Not only in the region, but also in the micro and small-scale economic structure, the unregistered, low-paid and non-unionized working environment is a general trend, making it difficult for the labour force to achieve wage satisfaction and revealing problems such as inability to specialize in work:

> *"...There is a lot of unregistered work in these companies, which are located in the industrial area where small businesses are located. They do not have an accounting unit anyway. They have working systems under such primitive conditions."*

> *"Working hours are long. In other words, the garment industry is a very busy industry. It is a completely labour-intensive sector. In other words, since companies work as subcontractors, they always have to keep the capacity high so that they can produce in volume. And this also means workers, so as far as I can see, they do not have many social opportunities. So that's why people don't want it too much. "*

> *"These places show minimum wage and then pay well below it. In the form of retrieval. Everyone knows about it too. Politics is also aware of this. They work too much and do not pay."*

> *"The sectors here are traditional sectors. The added value is not very high. This, of course, affects the labour force. It leads to low wages..."*

Part 3: Perceived Impact of Earthquake: Before – After Comparison

This chapter delves into the intricate dynamics of the business environment and the resilience of businesses before February 6 earthquakes. Through a detailed survey, we explore the prevailing sentiments among businesses concerning employee welfare, access to skilled labour, state support, and the overall stability of economic and political frameworks. With insights into pre-disaster challenges like high interest rates and customer demand variability, the narrative unfolds to illustrate the pre-existing vulnerabilities that were amplified by the earthquakes. As indicated in the background section of the report, the earthquake region was already harboring certain disadvantages for both economic actors and workers. This is clearly seen in the districts' SEGE classification. The chapter further navigates through the financial, strategic, and operational challenges encountered by businesses, emphasizing the critical need for strategic planning and adaptability.

The survey data provides a granular view of business performance across multiple domains: Nearly half of the businesses (48.9%) assessed their financial performance (including revenue, cash flow, and debt levels) as poor, highlighting the economic strains before the earthquake. Operational performance, customer potential, and human resources similarly reflect a landscape of challenges, with 47.2%, 43.5%, and 44.4%, respectively, rating these areas as poor. This underscores not just the operational and market challenges but also the critical human element of business resilience. The high percentage of businesses finding state support lacking (50.4% rated poor) points to a need for more effective support mechanisms. Furthermore, strategic planning and risk management are identified as areas needing significant improvement, with 45.3% and 44.7% of businesses respectively rating their performance as poor, suggesting a gap in preparedness and adaptive capacity.

Table 25. Self-Assessment of Business Performance before Earthquake

	Poor	Neither poor nor good	Good
Financial performance (revenue, cash flow, debt level)	48,9%	32,8%	18,3%
Operational performance (Supply chain, capacity, costs)	47,2%	36,4%	16,4%
Customer potential (Loyalty, demand)	43,5%	38,3%	18,1%
Human resources	44,4%	37%	18,7%
Use of technology	43,4%	38,2%	18,5%
Market access	44%	41,1%	14,9%
Sustainability practices	43,9%	39%	17,1%
Strategic planning	45,3%	38,9%	15,9%
Risk management	44,7%	38,9%	16,4%
Utilization of support from state or other organizations	50,4%	35,9%	13,6%
Social protection and income security for employees	43,2%	40,1%	16,8%
Growth vision	44,9%	39,4%	15,7%
Innovative initiatives	47%	37,3%	15,7%
New investments	48%	35,8%	16,2%
Responsible business applications	41,5%	41,6%	16,9%

When examining the performance assessments for the first six months following the earthquake, operational performance (49.9%), the use of support from the state or other organizations (47.8%), social protection and income security for employees (47.7%), and financial performance (47.2%) are distinctly identified as areas that have deteriorated. Therefore, businesses have primarily found themselves at a disadvantage in terms of institutional capacity after the earthquake.

Table 26. Self-Assessment of Business Performance for the First Six Months After Earthquake

	Much worse	No change	Much better
Financial performance (revenue, cash flow, debt level)	47,2%	39,7%	13,1%
Operational performance (supply chain, capacity, costs)	49,9%	36,6%	13,5%
Customer potential (loyalty, demand)	43,0%	40,4%	16,6%
Human resources	43,0%	39,0%	18,0%
Use of technology	40,2%	43,7%	16,1%
Market access	45,8%	39,9%	14,3%
Sustainability practices	45,1%	38,9%	16,1%
Strategic planning	44,6%	40,9%	14,5%
Risk management	45,8%	39,6%	14,7%
Utilization of support from state or other organizations	47,8%	38,9%	13,3%
Social protection and income security for employees	47,7%	38,0%	14,3%
Growth vision	43,5%	41,3%	15,2%
Innovative initiatives	42,5%	41,1%	16,4%
New investments	44,9%	38,7%	16,4%
Responsible business applications	44,6%	37,7%	17,8%

Upon examining the second six-month performance evaluations, a limited but noticeable shift from "worsened" responses to "neither improved nor worsened" and "improved" responses is observed. However, similar to previous evaluations, operational performance, new investments, and the utilization of support from the state or other organizations continue to rank highly in the "worsened" assessments. Notably, sustainability practices, which were relatively overlooked in earlier evaluations, have risen to the forefront among the performance indicators rated as "worsened" during the second six months. This suggests that priorities have shifted in the adaptation process following the initial negative impacts of the earthquake, with increasing concerns about the future.

Table 27. Self-Assessment of Business Performance for the Second Six Months After Earthquake

	Much worse	No change	Much better
Financial performance (revenue, cash flow, debt level)	44,6%	41,3%	14,2%
Operational performance (supply chain, capacity, costs)	45,8%	36,6%	17,6%
Customer potential (loyalty, demand)	41,5%	36,1%	22,5%
Human resources	41,5%	40,4%	18,1%
Use of technology	39,0%	41,1%	19,9%
Market access	42,1%	40,1%	17,8%
Sustainability practices	44,9%	39,6%	15,5%
Strategic planning	39,6%	42,3%	18,1%
Risk management	42,3%	41,1%	16,6%
Utilization of support from state or other organizations	45,1%	38,0%	16,9%
Social protection and income security for employees	43,2%	39,0%	17,8%
Growth vision	42,3%	40,1%	17,6%
Innovative initiatives	39,6%	41,3%	19,2%
New investments	45,3%	35,4%	19,3%
Responsible business applications	38,3%	39,7%	21,9%

There's a general shift towards more positive assessments in the second half-year. Notably, the percentages of businesses reporting "Much worse" performance tend to decrease across most categories, suggesting an overall improvement or adaptation over time. The "No change" category remains relatively stable or shows slight increases in areas like financial performance, strategic planning, and market access. This could indicate that businesses are beginning to stabilize and possibly recover in certain aspects.

Workplaces were asked to evaluate the development of their business performance after the earthquake. Based on the responses, there is a noticeable decrease in "Much worse" assessments (from 49.9% to 45.8%) and a significant increase in "Much better" assessments (from 13.5% to 17.6%) regarding operational performance. Additionally, an improved outlook is noted with a reduction in "Much worse" assessments (from 43.0% to 41.5%) and a notable rise in "Much better" assessments (from 16.6% to 22.5%) regarding customer potential reported.

Maintaining business relationships and improving customer and order relationships after the earthquake became a significant challenge. In our interviews, the fact that uncertainties, logistic hardships, customer and contract losses coincides with this concrete data:

> *"After the earthquake, there was an atmosphere of insecurity. Our customers thinks that they would not receive their order."*

> *"So maybe there was no work for a month or two. The earthquake affected it very badly. In other words, the vehicles could not operate easily, and resources could not be found. Those who were engaged in trade had debts and receivables. They couldn't get them; they couldn't collect them. For example, the wholesaler did not deliver goods because he could not collect his money. These men had doubts and hesitations about how we would collect their checks. In other words, the state tried to help, but it did not have much effect. There is still a big problem in trade, for example."*

Despite these improvements, challenges persist, especially in financial performance, utilization of support from state or relevant organizations, and new investments, where a significant portion of businesses still rate their performance as "Much worse." However, even in these areas, there is a slight shift towards more positive assessments.

The enterprises were asked to assess their performance at certain stages before, 6 and 12 Months after the earthquakes. The findings indicate a commencement of recovery efforts among businesses. However, it is evident that they have yet to return to pre-earthquake levels or achieve desired high-performance standards. It is apparent that businesses are striving to recuperate from the challenging period they endured, particularly in areas where pre-earthquake performance was subpar, with some improvements observed during this phase.

Table 28. Self-Assessment of Business Performance for Before, 6 and 12 Months After Earthquake (Trend of Good - Much Better Responses)

	Before	6 Months After	12 Months After
Financial performance (revenue. cash flow. debt level)	18.3%	13.1%	14.2%
Operational performance (Supply chain. capacity. costs)	16.4%	13.5%	17.6%
Customer potential (Loyalty. demand)	18.1%	16.6%	22.5%
Human resources	18.7%	18.0%	18.1%
Use of technology	18.5%	16.1%	19.9%
Market access	14.9%	14.3%	17.8%
Sustainability practices	17.1%	16.1%	15.5%
Strategic planning	15.9%	14.5%	18.1%
Risk management	16.4%	14.7%	16.6%
Utilization of support from state or other organizations	13.6%	13.3%	16.9%
Social protection and income security for employees	16.8%	14.3%	17.8%
Growth vision	15.7%	15.2%	17.6%
Innovative initiatives	15.7%	16.4%	19.2%
New investments	16.2%	16.4%	19.3%
Responsible business applications	16.9%	17.8%	21.9%

Upon examining the overall picture, a trend of “neither agree nor disagree” responses to premises regarding the business environment and business supports is observed. Notably, the "neither agree nor disagree" response stands out in matters concerning the fairness and equality of central state supports, the ease of access to local state supports, the accessibility of employer and business organizations, and the presence of stable political processes. On the other hand, areas where the "agree" response predominates include employee welfare and access to a skilled labour force.

Table 29. Approaches to Business Environment and Business Support Systems

	Not agree	Neither agree nor disagree	Agree
Access to affordable housing for employees was easy.	23,4%	44,4%	32,2%
Access to a skilled labour force and skills development services were easy for our business.	24,2%	44,7%	31,1%
Access to healthcare services for employees was easy.	23,5%	45,5%	31,0%
State practices were fair.	22,1%	48,1%	29,7%
Access to employers’ and business organizations was easy.	22,8%	48,4%	28,8%
Access to expertise was easy for our business.	26,4%	45,0%	28,6%
Access to incentives for employees (e.g., Short-Time Work Allowance, Wage Guarantee Fund) was easy.	24,1%	47,3%	28,6%
There were stable economic policies.	23,8%	48,0%	28,2%
State practices were implemented fairly.	24,6%	48,1%	27,2%
Access to childcare and family support services was easy for employees.	26,1%	46,9%	27,0%
Access to finance was easy for our business.	29,2%	44,5%	26,3%
State provided fair and equal support.	23,4%	50,8%	25,9%
Access to business regulations was easy for our business.	26,4%	48,0	25,6%
Access to support from local governments was easy.	26,1%	49,0%	24,9%
There were stable political processes.	27,0%	48,3%	24,8%

This ongoing deterioration in the aftermath of the earthquakes highlights significant vulnerabilities within the economic and political frameworks affecting both businesses and their employees. The lack of stability in economic policies and political processes, coupled with restricted access to financing and incentives, severely impacts the capacity for recovery and rehabilitation. The continuation and exacerbation of pre-existing financial challenges indicate a critical need for targeted interventions to support the affected sectors.

Table 30. Post-Earthquake Assessment: Employee Welfare and Business Support

	Worse	No change	Better
Access to childcare and family support services for employees	37,9%	45,0%	17,2%
Fair implementation of state practices	40,5%	42,5%	17,0%
Access to expertise for our business	40,1%	43,2%	16,7%
Access to a skilled labour force with professional knowledge	40,5%	42,7%	16,7%
Access to affordable housing for employees	42,6%	40,9%	16,5%
Fairness of state practices	41,5%	42,9%	15,6%
Access to healthcare services for employees	40,0%	44,5%	15,5%
Fair and decent labour practices	40,0%	44,5%	15,5%
Fair and equal support from the state	39,8%	44,8%	15,4%
Effective use of digital tools	40,8%	43,8%	15,4%
Stability of economic policies	44,8%	40,2%	14,9%

Access to incentives for employees (e.g., Short-Time Work Allowance, Wage Guarantee Fund)	44,7%	40,8%	14,5%
Access to employers and business organizations	39,0%	46,6%	14,4%
Stability of political processes	44,8%	40,8%	14,4%
Access to business regulations for our business	41,5%	44,7%	13,8%
Access to support from local governments	41,6%	44,5%	13,8%
Existence of effective occupational health and safety (OHS) mechanisms	42,9%	45,0%	12,2%
Access to finance for our business	46,6%	46,5%	6,9%

When the before and after earthquake conditions are compared, the most critical items affecting businesses and their employees are:

- **Access to Finance:** After earthquake, access to finance was significantly worse (46.6% worse), highlighting a major barrier to recovery and growth.
- **Stability of Economic and Political Processes:** The stability of economic policies (44.8% worse) and political processes (44.8% worse) are crucial for a predictable and supportive business environment.
- **Access to Essential Services for Employees:** Access to affordable housing (42.6% worse), healthcare services (40.0% worse), and childcare and family support (37.9% worse) for employees are vital for maintaining labour force stability and productivity.
- **Fair Implementation of State Practices (public services and support measures for businesses):** The perceived fairness of state practices (41.5% worse) and their implementation (40.5% worse) is essential for trust and effective support.

The findings emphasize a critical need for targeted interventions and support to address significant vulnerabilities within the economic and political frameworks affecting businesses and their employees, especially in the aftermath of the earthquakes. Access to finance has emerged as a particularly severe challenge, impacting the capacity for recovery and growth. The stability of economic and political processes is crucial for creating a predictable and supportive environment for businesses. Additionally, ensuring access to essential services for employees, such as affordable housing, healthcare, and childcare, is vital for labour force stability and productivity. Lastly, fair implementation of state practices is essential for maintaining trust and effective support.

When inquiring about the challenges encountered in terms of business growth prior to the February 6 earthquakes, high interest rates (39%) and the variability of customer demands (35.3%) are among the top challenges faced.

The economic problems before the earthquake were listed by the interviewed stakeholders as high inflation, high labour costs, qualified labour problems, high-interest rates, and were expressed as factors that would negatively affect the recovery after the destruction caused by the earthquake:

> *"A loan was given through KOSGEB, so It became a lifeline. But prices are increasing dramatically. You cannot replace tomorrow what you buy today. Or you cannot buy back what you sold for the same amount of money... In other words, it may not be visible to the naked eye, but this affects trade negatively."*

According to the interviewees, it is imperative to consider Türkiye's current macroeconomic indicators when devising strategies for supporting the region in establishing sustainable employment and decent job practices.

The problem of lack of qualified workers, which was one of the main problems of the Turkish economy before the earthquake, manifests itself more dramatically in the region after the earthquake. It is understood that this situation results in a simultaneous increase in wages and informality:

> *"Let's say the number of workers has dropped to one third... The factory is intact, the machines are intact, but the number of workers has decreased. Therefore, in order to survive, it needs to find workers..."*

> *"After the earthquake, the minimum wage was naturally exceeded. In other words, everyone has difficulty finding workers after the earthquake."*

> *"In the past, for example, for people you employed for ten thousand liras or minimum wage, the wage is now three times the minimum wage."*

Additionally, the intensity of competition (23,4%), the inability to secure sufficient financing (22,0%), supply chain disruptions (21,0%), and the difficulty of finding investors (19,1%) are identified as factors complicating business growth. This situation reveals that businesses were already grappling with financial difficulties before the earthquake. The distribution of encountered challenges indicates that businesses were at a disadvantage in finance and marketing areas and needed strategic planning. Moreover, adapting to societal expectations and responsibilities and technological advancements are among the lesser challenges. This could suggest that businesses experienced fewer difficulties in these areas and that these issues were lower priorities for business operations.

Table 31. Challenges Faced in Business Growth Before the Earthquake

	%
High interest rates	39,1%
Variability of customer demands	35,3%
Intense competition	23,4%
Lack of sufficient financing	22,0%
Supply chain disruptions	21,0%
Difficulty in finding investors	19,1%
Difficulties in entering new markets	18,1%
Production efficiency issues	15,6%
Taxation and financial obligations	13,7%
Difficulty finding qualified personnel	12,7%
Rigid and variable regulatory requirements	9,3%
Inability to develop an effective business strategy	9,1%
Insufficient management and leadership skills	7,9%
Challenges in adapting to innovation and technology	7,9%
Compliance with sustainability and environmental standards	7,5%
Challenges in building marketing and brand awareness	7,5%
Protection of intellectual property rights	7,1%
Corporate reputation management	7,1%
Adherence to societal expectations and responsibilities	6,8%
Difficulty in adapting to technological changes (in terms of machines, digital tools, human resources, process management)	5,4%

In conclusion, the comprehensive examination of the pre-earthquake business environment and the subsequent impact of the February 6 earthquakes provides valuable insights into the resilience and adaptability of businesses in the face of natural disasters. The mixed responses from businesses regarding state support, accessibility to resources, and the stability of economic and political processes highlight a landscape marked by uncertainties but also opportunities for growth and improvement. Particularly, the emphasis on employee welfare and access to a skilled labour force as areas of agreement underscores the importance of human capital in business recovery and sustainability.

The chapter highlights several key findings. **Firstly, nearly half of the businesses rated their financial performance as poor before the earthquake, with significant challenges also noted in operational performance, customer potential, and human resources**. The survey data indicates that state support was largely perceived as insufficient, with 50.4% of businesses rating it as poor. This points to a critical need for more effective support mechanisms.

In the first six months following the earthquake, businesses reported a deterioration in key performance areas, including operational performance, financial performance, and the utilization of support from state or other organizations. **Despite some improvement in the second six months,** businesses continued to face substantial challenges, particularly in financial performance and new investments.

The analysis also reveals that businesses struggled with pre-existing economic issues such as high-interest rates and customer demand variability, which were exacerbated by the earthquake. The high rate of informal employment and the significant increase in minimum wage after the earthquake further complicated the recovery process.

Moreover, the chapter identifies a general trend of "neither agree nor disagree" responses regarding the **fairness and accessibility of business support systems**. This ambivalence suggests a lack of confidence in existing support mechanisms and highlights the need for more transparent and effective policies.

Part 4: Preliminary Impact of Earthquake over Enterprises

This section undertakes an analysis of inquiries aimed at comprehending the economic losses incurred by enterprises, the nature of these losses, the strategies devised by businesses to cope with them along with their outcomes, and the future prospects of these enterprises. As a consequence of the disparities within the earthquake-affected region, cities experienced varying degrees of impact from the earthquake. The data analyzed in this section stems from the responses of enterprises located in Hatay, Kahramanmaraş, Adıyaman, and Malatya, with the exclusion of Gaziantep, where the extent of destruction was notably limited.

Gaziantep serves as a robust commercial hub predominantly driven by the private sector. Surveys were conducted with businesses in Gaziantep's Şehitkamil district, categorized as a first stage developed district (ranked 31 in Türkiye), and Şahinbey, classified as a second-stage district (ranked 151), as per the 2022 SEGE district report[24]. These areas experienced comparatively lesser impact from the earthquake compared to other districts in Gaziantep, such as İslahiye and Nurdağı. Consequently, Gaziantep is excluded from certain analyses when assessing the earthquake's impact, with data from 579 businesses in other provinces incorporated to gain a clearer understanding of its effects on businesses.

The distribution of losses experienced by businesses in the February 6 earthquake is provided below. Among the items presented, customer losses rank first (71,2%), followed by supplier losses (57,0%), product losses (55,9%), and market losses (54,6%), respectively. Significant declines and losses are also observed in distributors/distributors, production tools, raw materials, talent/candidate pools, and business properties.

Additionally, the occurrences of fatalities or permanent physical disabilities among business employees are relatively low. The losses businesses incurred due to the Earthquakes of February 6th are heavily concentrated on marketing processes. From this data, it is inferred that the region experienced fragility in marketing processes after the February 6 Earthquakes.

This analysis reveals the multi-dimensional impact of the earthquake on the business ecosystem, emphasizing not only the immediate physical damages but also the profound disruptions in market relationships and supply chains. The predominance of customer losses indicates a significant shift in market dynamics, likely due to the displacement of populations and the changing economic landscape. The cascade effect from customer losses to supplier, product, and market losses underscores the interconnectedness of the business ecosystem and the broad spectrum of challenges faced by businesses in the aftermath of the disaster.

Table 32. Distribution of Losses in Businesses during the 6th of February Earthquake

	%
Loss of customers	71,2%
Loss of suppliers	57,0%
Loss of products	55,9%
Loss of market share	54,6%
Loss of distributors/suppliers	37,3%
Loss/damage of production equipment/assets	36,7%
Loss of raw materials	35,1%
Physical damage to business properties	32,2%
Loss of life among business employees	14,0%
Permanent physical disability among business employees	13,6%

[24] Republic of Türkiye Ministry of Industry and Technology. 2022. SEGE 2022: Socio-Economic Development Ranking of Districts in Türkiye. https://www.sanayi.gov.tr/assets/pdf/ birimler/2022-ilce-sege.pdf

The provided table delineates clusters of earthquake damage and the ensuing damages and losses suffered by businesses across provinces. While each province exhibits varying degrees of damage and loss, there is a notable concentration in losses related to products, markets, suppliers, and customers. Particularly, customer losses emerge as a prominent concern across all regions. On a provincial level, businesses in Adıyaman and Hatay endure customer losses exceeding 80%. Specifically, in Adıyaman, 81.3% of businesses report customer losses, along with 66.9% experiencing product losses, 64% facing market losses, 57.6% encountering supplier losses, and 53.2% grappling with damage to production tools/equipment. Similarly, Hatay and Kahramanmaraş present a comparable pattern of damage and losses. Notably, unlike the other provinces, Hatay businesses report higher distributor losses at 67.7%. Although Malatya fares relatively better, significant losses are still evident, particularly in the customer and market loss categories. A noteworthy observation is the pronounced level of customer losses even at lower damage levels, underscoring the challenge businesses face in retaining their customer base despite minimal physical damage.

Table 33. Distribution of Losses in Businesses by Province and Earthquake Damage Level

	Earthquake Damage					Province			
	Very Low Damage	Low Damage	Medium Damage	Medium-High Damage	High Damage	Adıyaman	Hatay	Kahraman maraş	Malatya
Loss of life among business employees	4,7%	10,4%	8,2%	25,0%	31,1%	12,2%	42,3%	1,5%	11,4%
Permanent physical disability among business employees	2,8%	12,5%	8,2%	15,0%	31,8%	15,1%	32,3%	2,2%	11,9%
Physical damage to business real estate	10,4%	24,0%	7,5%	63,7%	79,5%	46,8%	46,9%	27,6%	30,1%
Loss/damage to production tools/equipment	3,8%	15,6%	14,4%	81,3%	92,1%	53,2%	47,7%	34,3%	35,2%
Reduction in talent/candidate pool	4,7%	16,7%	13,7%	63,7%	83,4%	42,4%	33,8%	32,8%	40,3%
Product losses	6,6%	13,5%	76,7%	81,3%	96,0%	66,9%	67,7%	62,7%	43,8%
Market losses	5,7%	5,2%	88,4%	63,7%	95,4%	64,0%	66,9%	57,5%	46,6%
Supplier losses	1,9%	38,5%	88,4%	43,8%	96,0%	57,6%	77,7%	57,5%	51,1%
Customer losses	0,0%	95,8%	91,1%	70,0%	97,4%	81,3%	81,5%	75,4%	61,4%
Raw material losses	5,7%	22,9%	37,0%	13,8%	87,4%	30,9%	41,5%	47,0%	36,9%
Distributor losses	4,7%	30,2%	39,0%	12,5%	96,0%	20,1%	67,7%	38,1%	44,9%

The distribution of losses among businesses based on employee numbers reveals significant variations in the impact of the earthquake. Businesses with six or more employees experienced the highest losses in several categories, including loss of life among business employees at 34.0% and permanent physical disability at 30.0%. Human losses are more prevalently perceived as a challenge by the larger businesses compared to the small enterprises. While 34% of businesses with six and more employees report loss of life among employees as a challenge, only 2,8% of enterprises with one employee and 16,3% of enterprises with 2-5 employees reported loss of life among employees as a challenge. Physical damage to business real estate and production equipment was also more pronounced in larger businesses, with 47.0% and 46.0% respectively. Interestingly, smaller businesses with no employees reported higher percentages in product and market losses at 62.5% and 58.0%, respectively, compared to those with more employees. This pattern suggests that smaller businesses may have struggled more with inventory and market stability. Conversely, customer losses were highest among businesses with one employee at 77.1%, indicating that very small businesses faced significant challenges in retaining their customer base.

Table 34. Distribution of Losses in Businesses by Employee Number

	Employee Number			
	None	1 Employee	2 - 5 Employee	6 or More Employee
Loss of life among business employees	17,0%	2,8%	16,3%	34,0%
Permanent physical disability among business employees	22,7%	3,5%	12,6%	30,0%

Physical damage to business real estate	40,9%	31,3%	35,4%	47,0%
Loss/damage to production tools/equipment	43,2%	39,6%	41,5%	46,0%
Reduction in talent/candidate pool	36,4%	27,8%	41,1%	44,0%
Product losses	62,5%	59,7%	61,8%	48,0%
Market losses	58,0%	59,7%	60,2%	49,0%
Supplier losses	54,5%	63,2%	63,0%	53,0%
Customer losses	70,5%	77,1%	76,4%	66,0%
Raw material losses	52,3%	27,8%	37,4%	46,0%
Distributor losses	47,7%	33,3%	43,5%	48,0%

The manufacturing and utilities sector suffered the most severe losses, with 51.2% of businesses reporting loss of life among employees and permanent physical disabilities, indicating significant human impacts. This sector also experienced considerable physical damage to real estate (61.0%) and production tools/equipment (61.0%), reflecting the extensive disruption to its operations. The agriculture and natural resources sector faced the highest physical damage to business real estate at 81.3%, along with notable losses in production tools/equipment (68.8%) and supplier relationships (81.3%).

In the construction and real estate sector, 28.3% of businesses reported loss of life, and 30.4% reported permanent physical disabilities, coupled with substantial physical damage (34.8%) and product losses (56.5%). The trade and transportation sector, while having lower human impact percentages (loss of life at 17.9%), still faced significant market (51.3%) and supplier losses (69.2%), indicating major supply chain disruptions.

The services sector, although reporting lower percentages of loss of life (11.2%) and permanent physical disabilities (9.2%), still encountered significant challenges in market losses (56.1%) and customer losses (73.5%).

Table 35. Distribution of Losses in Businesses by Sector

	Sector					
	Agriculture and Natural Resources	Construction and Real Estate	Manufacturing and Utilities	Trade and Transportation	Services	Other
Loss of life among business employees	31,3%	28,3%	51,2%	17,9%	11,2%	8,0%
Permanent physical disability among business employees	18,8%	30,4%	51,2%	17,9%	9,2%	16,0%
Physical damage to business real estate	81,3%	34,8%	61,0%	43,6%	31,8%	56,0%
Loss/damage to production tools/equipment	68,8%	45,7%	61,0%	38,5%	38,1%	60,0%
Reduction in talent/candidate pool	56,3%	32,6%	56,1%	46,2%	33,5%	60,0%
Product losses	56,3%	56,5%	75,6%	59,0%	57,8%	60,0%
Market losses	68,8%	69,6%	61,0%	51,3%	56,1%	64,0%
Supplier losses	81,3%	76,1%	68,3%	69,2%	55,6%	64,0%
Customer losses	81,3%	73,9%	80,5%	76,9%	73,5%	60,0%
Raw material losses	62,5%	47,8%	58,5%	43,6%	33,3%	60,0%
Distributor losses	56,3%	60,9%	58,5%	56,4%	35,7%	64,0%

Business losses caused by customer loss and problems in collecting debts and receivables appear as a clear outcome in the in-depth interviews we conducted:

> *"... there are many businesses whose debtor customers have passed away. This has negatively affected this region. A permanent loss. Of course, customer loss... caused job loss."*

To understand one of the significant determinants that will influence the recovery process after the earthquake, namely the psychological effects of the disaster, various questions were posed to businesses. The initial question focused on the psychological and mental impacts of the February 6, 2023, earthquake. The responses indicate that 41% of the business representatives interviewed experienced severe psychological and mental effects due to the earthquake.

This finding underscores the profound psychological and emotional toll the disaster has taken on individuals within the business community. This holistic approach to recovery is essential for fostering resilience and ensuring the sustainable revitalization of the affected regions, highlighting the need for integrated disaster response strategies that encompass both economic support and psychological care.

Table 36. Evaluation of the Psychological and Mental Effects of the Earthquake on Businesses

	Total	Women	Men
1 No impact	7,6%	10,4%	6,8%
2 Not affected	15,5%	13,5%	16,3%
3 Neither affected nor not affected	35,6%	41,7%	39,6%
4 Affected	13,3%	11,0%	12,5%
5 Extremely negatively affected	28,0%	23,3%	24,8%

Converting the qualitative scale to a numeric scale allows for a more precise and quantifiable comparison of the impact across different provinces. By assigning numerical values to the responses, mean scores calculated, providing a clearer and more objective view of the varying degrees of impact experienced by each province. This method enhances the ability to analyze and interpret data, revealing distinct patterns and trends.

The mean values provided in the table offer insight into the psychological and mental effects of the February 6 Earthquake on businesses across different dimensions. The severity of earthquake damage appears to correlate with higher psychological impacts, with the highest mean values observed in regions like Hatay (4.26) and among sectors such as Agriculture and Natural Resources (4.00). Businesses in the Manufacturing and Utilities sector also reported elevated mean values (3.70), indicating significant mental stress. Conversely, Kahramanmaraş (2.77) and the “Other” sector (2.68) show lower mean values, suffering relatively lesser psychological impact. Additionally, businesses with larger employee numbers (6 or more employees) reported higher mean values (3.53), indicating greater psychological strain likely dur to more significant operational and human resources challenges.

Table 37. Evaluation of the Psychological and Mental Effects by Categories

		Mean
Earthquake Damage	Very Low Damage	2.95
	Low Damage	3.36
	Medium Damage	3.33
	Medium-High Damage	3.52
	High Damage	3.46
Province	Adıyaman	3.60
	Hatay	4.26
	Kahramanmaraş	2.77
	Malatya	3.04
Employee Number	None	3.15
	1 Employee	3.09
	2 - 5 Employee	3.43
	6 or More Employee	3.53
Sector	Agriculture and Natural Resources	4.00
	Construction and Real Estate	3.53
	Manufacturing and Utilities	3.70
	Trade and Transportation	3.40
	Services	3.26
	Other	2.68

In our interviews, it is seen that the psychological trauma experienced after the earthquake is not the only problem regarding the continuation of psychological effects, and that the unhealthy and difficult living conditions in the collapsed cities make this process even more difficult:

> *"NGOs can provide psychological and social support to the region...there is nowhere you can go after working hours in Adıyaman. There were a few cafes before the earthquake, even they were destroyed. Even the cinema is not working properly. There is no theatre, for example. There are no cultural and art activities. That's why it's so difficult for young people to stay here; Thus, development is not possible..."*

> *"Solving the housing problem is not a solution alone. The so-called solution still consists of staying in the container city. [Living in a] Container means despair. A sofa bed, a stove; one step length room. We are not psychologically well; we are not happy."*

> *"...daily life has become very difficult. The building is being demolished, so dust and noise are coming."*

While the profound psychological and emotional impacts of the earthquake are deeply felt, the availability of psychological support services remains constrained. Merely 19% of individuals report having received such support. In addition to bolstering access to these services within the region, the recognition of social or individual impediments to seeking assistance emerges as a crucial concern. Gender roles constitute one such barrier. Post-earthquake data reveals that 25.8% of women received psychological support, in contrast to only 16.2% of men. This underscores a greater inclination among women to avail themselves of psychological support services. In addition to the macroeconomic and individual repercussions, the psychological and mental effects of the earthquake possess the potential to unearth additional challenges affecting business operations and workplace dynamics. Gender-sensitive methodologies must be formulated to ensure the broader accessibility of psychological support initiatives, thereby augmenting the participation of men in such programs.

Table 38. Access Status to Psychological Support Services After the Earthquake

	Total	Women	Men
Yes	19,0%	25,8%	16,2%
No	81,0%	74,2%	83,8%

16% of businesses had to relocate to a different address following the earthquake. Among those who currently do not feel the need to change their address, 5% indicate that they might need to relocate in the future. In summary, due to the earthquake, one out of every five businesses have either needed to change its address or will need to in the future.

Table 39. Address Change Situation in Businesses

		%
Did the February 6 earthquakes cause your business to move to a different address?	Yes	16,4%
	No	83,6%
Due to the February 6 earthquakes, will you need to move from your current address?	Yes	5,4%
	No	94,6%

By elucidating the post-earthquake address changes of businesses and the potential for future address alterations, it aids in comprehending the challenges and restructuring endeavors encountered by these enterprises. Hence, a detailed analysis was conducted based on diverse variables. Initially, when assessing businesses' address change status in relation to the earthquake's impact severity, it is observed that 23.2% of highly affected businesses relocated their addresses. Notably, 10.8% of those minimally impacted are contemplating future address changes.

Table 40. Address Change Situation in Businesses by Earthquake Damage

	Earthquake Damage				
	Very Low Damage	Low Damage	Medium Damage	Medium-High Damage	High Damage
Did the February 6 earthquakes cause your business to move to a different address?	9,4%	13,5%	20,5%	8,8%	23,2%
Due to the February 6 earthquakes, will you need to move from your current address?	4,2%	10,8%	5,2%	5,5%	2,6%

When examining the change of address by province, it is observed that 23.8% of businesses in Hatay have changed their address, while this rate is the lowest in Adıyaman at 2.2%. The future need to change address is highest in Malatya at 11.8%.

Table 41. Address Change Situation in Businesses by Province

	Province			
	Adıyaman	Hatay	Kahramanmaraş	Malatya
Did the February 6 earthquakes cause your business to move to a different address?	2,2%	23,8%	21,6%	18,2%
Due to the February 6 earthquakes, will you need to move from your current address?	3,7%	4,0%	0,0%	11,8%

The Manufacturing and Utilities sector has the highest address change rate at 34.1%, while the Agriculture and Natural Resources sector has a rate of 25%. The sector with the highest future need to change address is Trade and Transportation, at 11.4%.

Table 42. Address Change Situation in Businesses by Sector

	Sector					
	Agriculture and Natural Resources	Construction and Real Estate	Manufacturing and Utilities	Trade and Transportation	Services	Other
Did the February 6 earthquakes cause your business to move to a different address?	25,0%	8,7%	34,1%	10,3%	15,5%	20,0%
Due to the February 6 earthquakes, will you need to move from your current address?	0,0%	2,4%	3,7%	11,4%	5,2%	10,0%

The data on address changes highlights the importance of carefully planning post-earthquake recovery strategies, which should include both financial support and logistical planning. Additionally, the source and distribution of aid received after the earthquake play a crucial role within this framework.

Among the aid received after the earthquake, resources from the private sector (43%) stand out. Private sector resources encompass both direct grants allocated to the region after the earthquake and loans extended by private financial institutions. In addition to private sector resources, there has also been utilization of resources from the state (29.2%) and local government sources (21.1%).

Table 43. Distribution of Post-Earthquake Aid Sources

	%
Private sector resources	43,0%
State resources	29,2%
Local government resources	21,1%
Civil society resources	13,0%
International resources	11,6%

The earthquakes have had a significant impact on businesses, forcing many to temporarily shut down their operations. According to reports, six out of every ten businesses indicate that they had to temporarily close their establishments as a result of the earthquakes.

Table 44. Temporarily Closes of Businesses

		%
Did your business temporarily close as a result of the February 6 earthquakes	Yes	59,9%
	No	40,1%

The table below lists workplaces that had to temporarily close their workplaces after the earthquake, in categories of earthquake damage, province, and employee number sector. Accordingly, 74% of workplaces with low physical damage in the earthquake and 58.9% of those with severe damage temporarily closed their workplaces. Considered on a provincial basis, 77.7% of the businesses in Hatay temporarily stopped their operations, while this rate is 59.7% in Malatya. When looking at the number of employees category, the number of small businesses operated by the owner alone is 54.4%. The businesses with the highest temporary closure rate are businesses with 2-5 employees and the rate is 64.2%. When the distribution of businesses experiencing temporary closures by sectors is examined, the closure rates are 69.2% in the Trade and Transportation sector, 63.4% in Manufacturing and Utilities, and 60.2% in the service sector.

Table 45. Temporarily Closes of Businesses by Categories

		Yes	No
Earthquake Damage	**Very Low Damage**	40,6%	59,4%
	Low Damage	74,0%	26,0%
	Medium Damage	65,1%	34,9%
	Medium-High Damage	61,3%	38,8%
	High Damage	58,9%	41,1%
Province	**Adıyaman**	51,8%	48,2%
	Hatay	77,7%	22,3%
	Kahramanmaraş	51,5%	48,5%
	Malatya	59,7%	40,3%
Employee Number	**None**	54,5%	45,5%
	1 Employee	54,9%	45,1%
	2 - 5 Employee	64,2%	35,8%
	6 or More Employee	61,0%	39,0%
Sector	**Agriculture and Natural Resources**	62,5%	37,5%
	Construction and Real Estate	54,3%	45,7%
	Manufacturing and Utilities	63,4%	36,6%
	Trade and Transportation	69,2%	30,8%
	Services	60,2%	39,8%
	Other	44,0%	56,0%

The average number of days those businesses remained closed due to the impact of the disaster is 60. The mode value is 30 days, indicating that a significant proportion of businesses were able to resume operations approximately one month after the earthquake. Among the businesses surveyed, the longest period of closure reported was 400 days, while the shortest span of time a business remained closed was just 1 day.

Table 46.Number of Days Businesses Stay Temporarily Closed

	Mean	Median	Maximum	Minimum	Mode
Approximately how many days was your business closed? [Number of Days]	60	45	400	1	30

Businesses experiencing high damage reported the longest median closure period of 80 days, reflecting the severe impact on their operations. In contrast, businesses with very low and low damage had a median closure period of 30 days, indicating a quicker recovery.

Looking at the data by province, Hatay had the longest median closure period at 60 days, followed by Adıyaman at 50 days. Kahramanmaraş and Malatya had shorter median closure periods of 35 and 30 days, respectively.

The number of employees also influenced the closure duration. Businesses with no employees had the longest median closure period of 78 days, suggesting that smaller businesses struggled more to resume operations. In contrast, businesses with one employee had a median closure period of 40 days, and those with two to five employees had a median of 44 days. Larger businesses with six or more employees had a median closure period of 45 days.

Table 47. Number of Days Businesses Stay Temporarily Closed by Categories

		Median
Earthquake Damage	Very Low Damage	30
	Low Damage	30
	Medium Damage	43
	Medium-High Damage	60
	High Damage	80
Province	Adıyaman	50
	Hatay	60
	Kahramanmaraş	35
	Malatya	30
Employee Number	None	78
	1 Employee	40
	2 - 5 Employee	44
	6 or More Employee	45
Sector	Agriculture and Natural Resources	70
	Construction and Real Estate	40
	Manufacturing and Utilities	70
	Trade and Transportation	50
	Services	43
	Other	90

Following the February 6th earthquakes, the primary factors contributing to the reduction in services or products offered by businesses have been identified as labour loss (42%) and infrastructure damage (38.7%). Additionally, a significant impact has been observed from the decrease in customer demand (31.6%) and loss of customers (30.2%) on the diminution of services and products. The implications of reduced demand and customer loss are anticipated to have ongoing effects, potentially leading to a decrease in market shares for businesses in the long term.

Table 48. Challenges Faced by Businesses in the Aftermath Earthquakes

	%
Loss of labour force	42,0%
Infrastructure damage	38,7%
Decreased customer demand	31,6%
Loss of customers	30,2%
Supply chain disruption	29,0%
Price increase	28,2%
Financial difficulties	26,6%
Failure to meet demand due to supplier capacity decrease or closure	22,3%
Logistical delays	18,5%
Communication breakdown with main raw material providers	14,5%
Access issues (transportation, communication, etc.)	13,3%
Increased competition	11,7%
Distribution problems	11,6%
Decrease in marketing effectiveness	10,4%
Quality issues	9,0%
Decrease in sales points	8,8%
Decrease in production capacity	8,6%
Raw material shortages	7,6%
Management crisis	5,2%
Lack of development of new products or services	5,0%
No change	2,1%

Upon examining the principal challenges that prevent businesses from returning to their pre-earthquake operational levels, customer loss (38.9%) and labour force loss (33.2%) stand out as significant issues. Enterprises are struggling to reconnect with their customer base and are unable to compensate for the shortfall in labour. Additionally, decreases in demand further impede the recovery to pre-disaster levels.

In a detailed investigation, other notable difficulties include financial constraints (25.7%) which highlight the monetary strain on business operations. Infrastructure damage (23.7%) reflects the direct impact of the earthquake on physical assets necessary for business function. The disruption of the supply chain, also at 23.7%, underscores the systemic challenges affecting the delivery and procurement of goods. Additional costs (22.8%) suggest an increase in operating expenses after disaster.

Table 49. Challenges in Returning to the Pre-Earthquake Conditions

	%
Loss of customers	38,9%
Loss of labour force	33,2%
Decreased demand	29,7%
Financial difficulties	25,7%
Infrastructure damage	23,7%
Supply chain disruption	23,7%
Additional Costs	22,8%
Supplier Losses	21,2%
Communication breakdown with main raw material providers	20,9%
Changes in Market Conditions	18,8%
Health and Safety Concerns	17,8%
Difficulties in Accessing Services	14,0%
Increase in Competition	13,8%
Management Crisis	12,8%
Mental Health Issues	11,2%
Restrictions in Energy Resources	10,2%
Challenges in Entering New Markets	7,1%
Changes in Legal Regulations	6,6%
Decrease in Production Capacity	5,2%
Gaps in Management and Leadership	1,9%

In the aftermath of the earthquake, businesses that managed to remain operational have adopted a variety of strategies to maintain their existence. An inquiry into the recovery steps taken by these businesses reveals a multifaceted approach to overcoming the disaster's impacts. Notably, approximately 4 out of every 10 businesses (38%) reported temporary closures following the earthquake, a significant measure reflecting the immediate aftermath's challenges. 20% of businesses increased their production, possibly to meet changing market demands, recover lost production time, or capitalize on new opportunities. Conversely, 18.8% decreased their production, reflecting demand reductions, operational challenges, or supply chain disruptions. 20% pursued product diversification strategies, innovating their product lines to adapt to new market needs or opportunities arising from the earthquake's socio-economic shifts.

This comprehensive overview, derived from direct inquiries with businesses, illustrates the multi-dimensional strategies employed to navigate the complex challenges after the earthquake. The adoption of these strategies underscores the resilience and adaptive capacities of businesses in the face of such unprecedented disruptions.

Table 50. Post-Earthquake Business Recovery Strategies

	%
Temporary business closure	38%
Reducing production	20%
Increasing production	20%
Diversifying products	19,9%
Diversifying sale channels	18,8%
Changing sector	18,3%
Payment terms negotiation	17,4%
Negotiation with workers	16,9%
Layoffs	16,4%
Postponing investment	14%
Securing financial supports	12,1%
Rebuilding infrastructure	11,9%
Improve emergency preparedness	9,7%

Businesses with low damage had the highest rate of temporary closures at 54.2%, while those with very low damage reported a significantly lower rate of 28.3%. In contrast, businesses with high damage were more likely to increase production (29.8%) as part of their recovery strategy, reflecting efforts to compensate for lost production time and meet market demands.

On provincial level, businesses in Hatay experienced the highest rate of temporary closures at 56.9%, indicating severe immediate impacts. Conversely, Kahramanmaraş businesses reported the highest rate of increasing production (34.3%), showcasing a proactive approach to recovery.

In terms of sectoral shifts, 25% of businesses with low damage and 23% in Adıyaman explored changing sectors as a recovery strategy, highlighting the dynamic adjustments businesses are making to adapt to new circumstances. Payment terms negotiation was most common in very low damage areas (20.8%) and Malatya (21.0%)

Negotiation with workers was notably higher in low damage areas (31.3%) and Adıyaman (29.5%). Additionally, securing financial support was a significant strategy in highly damaged areas (25.0%) and Adıyaman (28.8%).

Table 51. Post-Earthquake Business Recovery Strategies by Damage Level and Province

	Earthquake Damage					Province			
	Very Low Damage	Low Damage	Medium Damage	Medium-High Damage	High Damage	Adıyaman	Hatay	Kahramanmaraş	Malatya
Temporary business closure	28,3%	54,2%	37,7%	41,3%	33,1%	40,3%	56,9%	20,1%	35,8%
Reducing production	17,0%	15,6%	23,3%	17,5%	18,5%	10,1%	13,8%	25,4%	24,4%
Increasing production	24,5%	14,6%	15,1%	11,3%	29,8%	7,9%	7,7%	34,3%	27,8%
Diversifying products	18,9%	36,5%	13,0%	17,5%	18,5%	18,7%	16,2%	16,4%	26,7%
Diversifying sale channels	19,8%	22,9%	16,4%	26,3%	8,6%	23,0%	9,2%	14,9%	21,0%
Changing sector	12,3%	25,0%	9,6%	20,0%	9,3%	23,0%	4,6%	11,2%	15,9%
Payment terms negotiation	20,8%	17,7%	16,4%	17,5%	11,9%	15,1%	14,6%	13,4%	21,0%
Negotiation with workers	13,2%	31,3%	14,4%	21,3%	21,9%	29,5%	7,7%	17,2%	23,3%
Layoffs	10,4%	11,5%	11,6%	16,3%	11,3%	12,9%	6,2%	11,9%	15,3%
Postponing investment	10,4%	19,8%	13,0%	13,8%	25,2%	18,0%	18,5%	18,7%	13,6%
Securing financial supports	16,0%	14,6%	16,4%	25,0%	20,5%	28,8%	16,2%	18,7%	11,4%
Rebuilding infrastructure	4,7%	9,4%	14,4%	17,5%	13,9%	10,8%	13,1%	14,2%	10,8%
Improve emergency preparedness	6,6%	0,0%	10,3%	5,0%	19,9%	9,4%	12,3%	7,5%	9,7%

Reducing production was more common among businesses in the Agriculture and Natural Resources sector (31.3%) and the Manufacturing and Utilities sector (31.7%), reflecting operational challenges and demand reductions. Conversely, the Construction and Real Estate sector saw a higher rate of increasing production (32.6%), possibly to meet reconstruction demands.

Diversifying products and sales channels were a notable strategy among businesses with six or more employees (25.0% each), suggesting a proactive approach to adapting to market changes. The Manufacturing and Utilities sector also had a high rate of product diversification (22.0%).

Changing sectors was relatively low across the board but was more prevalent in the Manufacturing and Utilities (17.1%) and Trade and Transportation (17.9%) sectors, indicating some businesses' strategic shifts to new markets.

Payment terms negotiation was a common strategy for businesses with six or more employees (25.0%) and in the Construction and Real Estate sector (21.7%), highlighting the importance of financial flexibility. Negotiations with workers were more frequent in businesses with six or more employees (25.0%) and the Agriculture and Natural Resources sector (31.3%)

Table 52. Post-Earthquake Business Recovery Strategies by Employee and Sector

	Employee Number				Sector					
	None	1 Employee	2 - 5 Employee	6 or More Employee	Agriculture and Natural Resources	Construction and Real Estate	Manufacturing and Utilities	Trade and Transportation	Services	Other
Temporary business closure	26,1%	34,0%	40,2%	48,0%	37,5%	43,5%	39,0%	69,2%	35,4%	20,0%
Reducing production	18,2%	22,9%	15,4%	21,0%	31,3%	13,0%	31,7%	20,5%	17,0%	28,0%
Increasing production	19,3%	17,4%	19,1%	27,0%	12,5%	32,6%	26,8%	12,8%	19,4%	12,0%
Diversifying products	22,7%	14,6%	20,3%	25,0%	6,3%	8,7%	22,0%	17,9%	21,6%	24,0%
Diversifying sale channels	18,2%	10,4%	18,3%	25,0%	6,3%	8,7%	22,0%	12,8%	18,7%	20,0%
Changing sector	12,5%	11,1%	16,7%	13,0%	6,3%	0,0%	17,1%	17,9%	15,5%	8,0%
Payment terms negotiation	11,4%	11,1%	17,9%	25,0%	6,3%	21,7%	9,8%	15,4%	17,0%	16,0%
Negotiation with workers	18,2%	11,8%	23,2%	25,0%	31,3%	15,2%	22,0%	23,1%	20,1%	8,0%
Layoffs	11,4%	15,3%	11,8%	8,0%	12,5%	6,5%	19,5%	12,8%	12,1%	4,0%
Postponing investment	14,8%	18,1%	16,7%	18,0%	31,3%	17,4%	19,5%	17,9%	16,5%	8,0%
Securing financial supports	18,2%	19,4%	19,1%	15,0%	25,0%	19,6%	26,8%	17,9%	17,7%	8,0%
Rebuilding infrastructure	5,7%	13,2%	12,6%	15,0%	6,3%	17,4%	14,6%	17,9%	11,4%	4,0%
Improve emergency preparedness	19,3%	5,6%	8,1%	10,0%	6,3%	15,2%	14,6%	2,6%	7,0%	48,0%

In synthesizing these findings, it is evident that the path to recovery is obstructed by a confluence of factors: psychological strain, economic destabilization, and structural impairments. The aggregate impact of these factors necessitates a multi-tiered, responsive strategy that not only targets immediate relief but also strategically addresses the enduring aftershocks of this calamity. A cohesive, cross-sectoral effort becomes paramount to bolster the regional economy, foster resilience, and ensure that the vibrant entrepreneurial spirit of these communities is not just restored but fortified against future adversities.

To mitigate the impact of outliers in the annual revenues declared by businesses, the revenues for the fiscal years 2022 and 2023 have been evaluated based on the median value. Accordingly, the median values of the turnover for the fiscal years 2022 and 2023, based on the declarations of businesses and calculated in USD, are shown below. According to this, there has been an approximate 32% decrease in businesses' revenues when measured in USD.

Table 53.2022 / 2023 Business Turnovers in USD

	Median
Turnover in 2022 [USD] (USD/TRY=18,71)	29.930,5
Turnover in 2023 [USD] (USD/TRY=29.49)	20.345,9

Based on median values, the 2022 and 2023 fiscal year turnovers of the enterprises were examined on a 5-province basis. Accordingly, it is seen that the 2023 fiscal year turnovers in 4 provinces (Adıyaman, Hatay, Kahramanmaraş, Malatya) except Gaziantep decreased compared to the previous year. The highest decrease was experienced in Hatay province with approximately 49%.

Table 54. Business Turnovers Change for 2022-2023

	Adıyaman	Gaziantep	Hatay	Kahramanmaraş	Malatya
Turnover Change for 2022 -2023 (%) (USD)	-36,5 %	58,6%	-49,2%	-36,5%	-25,9%

The table below shows the turnover change percentages for 2022 and 2023 by sectors, and Gaziantep is excluded from this calculation. Accordingly, changes in turnover in all sectors are negative. Excluding the other category, the highest decrease was experienced in the 'other service activities' and 'water supply: sewerage, waste management and remediation activities' sectors. The manufacturing industry is the sector that experienced the least decrease in turnover, with a decrease of 3%.

Table 55. 2022 / 2023 Business Turnovers in USD by Sector

	Turnover in 2022 [USD] (USD/TRY=18,71)	Turnover in 2023 [USD] (USD/TRY=29.49)	
	Median	Median	Percentage of Change
Agriculture, Forestry and Fisheries	26723,7	23736,9	-11%
Mining and Quarrying	138963,1	111054,6	-20%
Manufacturing Industry	24585,8	23736,9	-3%
Electricity, Gas, Steam and Air Conditioning Production and Distribution	33671,8	21193,6	-37%
Water supply; Sewage, Waste Management and Remediation Activities	1870,7	1085,1	-42%
Construction	52111,2	33909,8	-35%
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	53447,4	33909,8	-37%
Transportation and Storage	43826,8	27975,6	-36%
Accommodation and Food Service Activities	37413,2	23736,9	-37%
Information and Communication	32068,4	20345,9	-37%
Finance and Insurance Activities	42757,9	30518,8	-29%
Real Estate Activities	29396,0	20345,9	-31%
Professional, Scientific and Technical Activities	37413,2	23736,9	-37%
Management and Support Services	37413,2	27127,8	-27%
Education	32068,4	23736,9	-26%
Health and Social Service Activities	34740,8	27975,6	-19%
Culture, Art, Entertainment, Recreation and Sports	37413,2	26449,6	-29%
Other Service Activities	24051,3	13563,9	-44%
Other	13361,8	5086,5	-62%

According to official data released by the TURKSTAT, the annual inflation rate in Türkiye for 2023 was 64.72%. Unofficial data suggests that the increase in inflation exceeds 100%. According to the Inflation Research Group (ENAG), this rate is 127.21%. When the inflation rate provided by ENAG is used, the expected median value for businesses is 1,272,376, and it has been observed that the revenues for 2023 fall below this figure. While there is a decrease of approximately 35% in adjusted turnover from 2022 to 2023 according to TURKSTAT inflation data, the decrease is approximately 53% according to ENAG data.

Table 56. 2022 / 2023 Inflation Adjusted Business Turnovers

	Median
2022 Turnover [TRY]	560000
2023 Turnover [TRY]	600000
Inflation Adjusted Turnover [(2022 Turnover × (1.6472)] [TRY]	922432

Part 5: Impact of Earthquake on Labour Force Dynamics and Decent Work

The focal point of this chapter is the labour loss and changing working conditions of businesses following the February 6th Earthquakes. In this context, the effects of labour loss and altered working conditions are elaborated upon, particularly in relation to unionization, bargaining, production processes, costs, strategic planning, and business continuity.

A critical majority (70%) of businesses in the region do not have trade union organization. In 15% of the businesses, there were organized unions both before and after the earthquake. The rate of businesses stating that there is no longer any union organization in the business after the earthquake is 9%. This situation can be explained by demographic changes (death, migration, etc.) in the region.

Table 57. Unionization Status in Businesses

	%
There was before the February 6 Earthquakes, now there is not.	8,9%
There was not before the February 6 Earthquakes, there is still not.	70,1%
There was before the February 6 Earthquakes, there still is.	14,9%
There was not before the Earthquakes, there is now.	6,1%

Experience shows that access to support is easier in provinces where the relationship with civil society is more developed and organized. It is reported that there are inequalities between cities in this regard:

> *"The voices of those are a little stronger in the private sector are loud. They are able to convey their demands and reach [the aids]. We received calls from the Kahramanmaraş Chamber of Commerce after the earthquake, if not every day, but every other day. But no one called us from Hatay. Or no one called from Malatya. If the relations with financial providers, the public and civil society are strong, you can benefit from it."*

The unionization rate in the region does not differ from the rate in Türkiye. According to the January 2024 data of Ministry of Labour of Türkiye, only 14.7% of workers in Türkiye are unionized[25]. The proportion of workers with the right to collective bargaining among those who are unionized is 9% in 2021, but this rate drops to 5% in the private sector[26]. Multiple factors contribute to low union membership rates; The main factors are undemocratic practices towards unionization and the dominance of the country's economy by small-scale businesses based on labour intensive sectors. As can be understood from the statements of labour organizations and public stakeholders, there are major problems in union organization and ensuring workers' rights in the region:

> *"There are many obstacles to organizing workers in the region. Especially in Gaziantep, employers act in an organized manner. Especially if a worker rebels in a factory... employers*

[25] Çalışma ve Sosyal Güvenlik Bakanlığı, Feb 1, 2024, https://www.csgb.gov.tr/cgm/haberler/2024-ocak-ayi-istatistigi-yayimlandi/#:~:text=%2D2023%20Temmuz%20ay%C4%B1nda%20ger%C3%A7ekle%C5%9Fen%20%25%2014,oran%C4%B1nda%20(73%2C483)%20art%C4%B1%C5%9F%20ger%C3%A7ekle%C5%9Fmi%C5%9Ftir.

[26] Türkiye'de Sendikalar 2022, FRIEDRICH-EBERT-STIFTUNG, https://turkey.fes.de/fileadmin/user_upload/pdf-files/2022/fes/Tu__rkiye_de_Sendikalar_2022_08.12.22.pdf

> *come together and close that factory. Whatever the factory's losses are, the employers here cover them... As long as the union doesn't come here."*

> *"I mean, we are also organized, but I mean, there is a lot of pressure. The pressure is visible. Unions are not welcomed. In fact, they do not think that the future development of a country will be controlled by the self-control system of these non-governmental organizations, especially unions. They do not think that the biggest reason why Europe has reached this advanced point both economically and socially is unions."*

> *"Of course, there are people with organizational disabilities. Before the earthquake, after the earthquake, it doesn't matter... In other words, they let him out immediately because he is a member of a union... Workers are afraid and cannot become members of the union."*

One of the union stakeholder states that the union barriers that existed in the region before the earthquake have become much worse, especially in the construction sector, which has been the main sector for the recovery of the urban areas:

> *"As mass and uncontrolled production in the construction sector has increased and there is currently time pressure in housing production, the problems have increased even more...Frankly, we are nervous about entering Maraş. We visit our members at construction sites in the center of Hatay, but we are afraid when we go to the districts or the construction sites in the boondocks. We don't know what will happen to us. We also had unionist friends who were threatened with gun in Hatay. We had gone there when there was a problem at the construction site. In other words, the construction business has turned into a gang-like industry."*

In the survey conducted among businesses with union organization, a question was posed regarding whether the organized unions had the authority to negotiate collective bargaining agreements. It was observed that 42% of the businesses with organized unions lack the authority to engage in collective bargaining. This finding points to a significant limitation within the sphere of labour rights and union activities in the surveyed area. The absence of collective bargaining rights in almost half of the businesses with union presence underlines a critical gap in the effective exercise of labour rights and representation. This suggests that while union organization may exist, its effectiveness and the scope of its influence on worker rights and conditions are considerably constrained.

Table 58. Unionization and Collective Bargaining Authority Status in Businesses

	%
Yes	57,9%
No	42,1%

Employer organizations, unions, chambers, and associations play a crucial role in safeguarding employers' rights, providing information and support, creating opportunities for training and collaboration, and ensuring representation for employers. Despite their importance, it is observed that 53% of employers are not part of such structures. Only 25% of employers report being members of employer organizations and structures. The data suggest a shift in the representation of employers in these structures following the earthquake, indicating alterations in their participation and engagement levels after disaster.

Specifically, 14.5% of employers indicate that they were represented in employer structures before the earthquake but are no longer represented; meanwhile, 8% report that they began to be represented in these structures after the earthquake. This reveals a significant trend: a majority of employers are not represented in employer organizations and structures. This lack of representation can have profound implications for the ability of employers to access vital resources, support, and advocacy, especially in the challenging context of post-disaster recovery.

Table 59. Representation Status of Employers in Employer Organizations

	%
We were represented before the February 6 Earthquake, not anymore	14,5%
We were represented before the February 6 Earthquake, still are	24,7%
We were not represented before the February 6 Earthquake, now we are	7,8%
We were not represented before the February 6 Earthquake, still are not	53%

A primary line of inquiry addressed to businesses post-earthquake concerned alterations in working hours. Approximately 60% (58.9%) of businesses reported no change in their working hours after the disaster, while a significant portion indicated a decrease. Roughly 3 out of every 10 businesses acknowledged a reduction in working hours. Such a reduction holds the potential to adversely impact business continuity, profitability, productivity, and a multitude of other factors. The decrease in working hours in the earthquake-affected region can be explained by several factors: the lack of public transportation in certain hours and locations; the closure of container markets after a certain hour; the discontinuation of security services. These challenges, among others, have caused a reduction in working hours, leading to time-related underemployment in the region.

Table 60. Status of Working Hours in Post-Earthquake Businesses

		%
Did working hours in the business change after the earthquake?	Yes, decreased.	32,8%
	Yes, increased.	8,3%
	No, no change.	58,9%

The status of the shift system within businesses can serve as a significant indicator of post-disaster business continuity. In this regard, the current state of shift systems reflects how businesses adapt to the aftermath of a disaster. A majority of businesses, 63.4%, indicate that they do not operate a shift system. Furthermore, 12.3% report that they had a shift system before the earthquake but have ceased it thereafter, while 4.5% have reduced the number of shifts. Conversely, 15.7% have increased their number of shifts, and 4.1% have instituted a shift system after disaster.

The cessation or reduction of shift work, as reported by 12.3% and 4.5% of businesses respectively, could be indicative of a contraction in operational capacity, possibly due to reduced demand or labour shortages.

On the other hand, the increase in shift numbers by 15.7% of businesses signals an adaptive strategy to meet shifting demands or to compensate for operational hours lost in the immediate aftermath of the disaster.

Table 61. Status of Shift System in Post-Earthquake Businesses

	%
No, there wasn't one before the earthquake, and there still isn't.	63,4%
No, there was one before the earthquake, but not now.	12,3%
Yes, there was, and it continues with increased number of shifts.	15,7%
Yes, there was but it continues with decreased number of shifts.	4,5%
Yes, there wasn't one before the earthquake, but there is now.	4,1%

The common point emphasized by the interviewees who stated that the night shift was abolished was the psychological effect of the earthquake that occurred at night. Although work capacity did not decrease, night shifts were abolished even in some factories; It is stated that workers want to be with their families at night:

> *"For example, night shifts have been abolished here. Families say they are afraid at night. Workers cannot go to work. Workers say, 'I workday shifts. My family is afraid of night shifts.'"*

The post-earthquake salary adjustments provide insight into the economic resilience of businesses. According to the data, 43.2% of businesses have reported salary increases in line with inflation rates following the earthquake, while 23.3% have granted raises above the inflation rate. Conversely, a smaller portion, 8.8%, have admitted to increases below inflation, and 24.7% have kept salaries unchanged.

However, the 24.7% that have not altered salaries, alongside the 8.8% providing below-inflation raises, point to a segment of the business population experiencing economic strain. The unchanged salary conditions could be due to a variety of factors, including reduced revenues, attempts to manage costs in the face of operational disruptions, or strategic decisions to freeze wages to ensure business survival. Drawing upon the table below, it could be inferred that approximately three out of every ten businesses may be economically fragile.

Table 62. Salary Adjustments after Earthquake

	%
Increased at the rate of inflation.	43,2%
Increased above the rate of inflation.	23,3%
Increased below the rate of inflation.	8,8%
Stayed the same.	24,7%

The data provided on non-wage benefits and supports offered by businesses to their employees reveals a pre-earthquake scenario where, aside from meal support, other benefits were limited. However, when comparing the post-earthquake period, there's a noticeable increase in the provision of bonuses and profit-sharing, while there's a decline in the rates of commissions and premiums that are contingent upon achieving certain sales targets or goals. This could be interpreted as a pivot by businesses towards supportive practices for employees, despite a downturn in sales.

Additionally, it's evident that there has been a significant uptick in the provision of both in-kind and monetary supports, such as meal, clothing, fuel, housing/rent assistance, and childcare support. Thus, it can be deduced that in the post-disaster phase, businesses have taken substantive steps to support their employees.

Table 63. Non-Wage Benefits and Supports Before and After the Earthquakes

	12 months long period before the earthquakes	12 months long period after the earthquakes
Bonus payment	30,6%	32,8%
Premium payments	39,2%	35,9%
Commission	25,7%	24,0%
Dividend	23,1%	25,0%
Food benefits	50,8%	53,5%
Transportation benefits	27,5%	26,4%
Clothing benefits	19,7%	25,0%
Coals	19,0%	21,6%
Housing benefits	16,9%	23,1%
Childcare benefits	19,2%	21,9%

Businesses were surveyed regarding the proportion of their employees earning minimum wage before and after the earthquake. During the one-year period under consideration, there is a pronounced increase in the response category "up to 90%" of employees receiving minimum wage. This marked rise in the proportion of employees earning minimum wage can be interpreted as a consequence of the economic contraction experienced following the earthquake.

The surge in minimum wage employment within companies suggests a shift in labour compensation structures, possibly due to several factors. One is the financial pressure to reduce costs in the face of decreased revenues; businesses might be hiring more employees at the minimum wage rate to maintain operations while managing expenses. Another factor could be the loss of higher-paying jobs due to the disaster, resulting in an increased number of workers accepting minimum wage positions.

Table 64. Proportion of Employees Earning Minimum Wages

	Up to 25%	Up to 50%	Up to 75%	Up to 90%	More than 90%
Jan.23	29,0%	26,9%	18,3%	5,4%	20,4%
Jan.24	21,6%	23,3%	16,4%	17,8%	20,9%

When examining the post-earthquake changes in the labour force, the general attitude suggests that there has been no significant shift. However, within the category indicating an increase, there is a noteworthy rise in the number of employees under 29, the number of unskilled workers, and the number of workers who are not Turkish citizens. The increase in young, unskilled, and immigrant/refugee workers supports the notion of an economic contraction.

The conditions for the migrant workers are apparently worse than the locals. It is widely stated in the region that unregistered refugee workers are concentrated in areas such as textile, shoe-making and small industrial enterprises. Also, it should be noted that the refugees are not allowed to leave the affected cities and settled in the container camps which were designed for them. That caused use of refugee labour force even more under the conditions of labour scarcity. It is understood that the employment of refugee/migrant workers is made under more disadvantageous conditions and with lower wages before and after the earthquake:

> *"As you know, when they first come to those Syrians, there is such a thing as very cheap labour. They work for cheap labour... When we talk to employers and ask why they employ Syrians, we can get them to do things that we cannot do to our men. Because trying to please our man tires us out. In other words, the employer employs Syrians or refugees because they think they cannot get their workers to do this work. These things happen in small scale workplaces rather than large."*

> *"So, working hours can be well over ten hours...As far as we know, most of them unfortunately do not receive overtime pay. Informality is increasing considerably, especially after Syrian and other Afghan immigrants. Because maybe they don't want to be registered themselves. Our investors also want this, a little bit, in smaller scale places."*

> *"I think there are lots of unregistered Syrian workers because there is an intense immigration from Syrians. I know that they are in shoes and slipper manufacturing."*

> *"... it is a fact that everyone knows. Mostly small-scale sectors. In places such as businesses in small industrial sites, repair and maintenance workshops. There are many people who use them in places where control is difficult."*

One of our stakeholders stated that refugees are an obstacle to development:

> *"The large accumulation of refugees has reduced job opportunities here in recent years. Because the state takes refugees under its own protection."*

The substantial presence of migrants in the region, who persist in residing in the city after earthquake, will entail implications concerning their integration into the labour market. It is observed that they fulfill certain demands for skilled workers in Türkiye, particularly in sectors where they are employed as low-cost labour. Moreover, it is noted that they enhance their circumstances by acquiring proficiency in their respective occupations over time:

> *"Tradesmen or business owners are looking for cheap labour. [Refugees] They were made to work in large amounts. For very cruel wages. They accepted this jobs because they were in a difficult situation. Since our local young people did not accept to work under those conditions, they became unemployed. Let me tell you what happened after a while. While an employer employs 5-10 migrant workers, those migrant workers have become master this long period of time. And they became experts and started to employ their own staff. This vicious circle is extremely bad and dangerous for us. Currently their position is no longer bad."*

When devising support plans for the region, it's essential to consider potential and current tensions between the locals and immigrant population. Some employer representatives emphasized that refugee quotas should not be mandated as a precondition for employment opportunities in the region, particularly in the event of receiving grants:

> *"Frankly, I do not want there to be a refugee quota in these projects. These projects should be implemented without a refugee quota. Because a refugee quota means a decrease in our job opportunities. I think this is important."*

Another national stakeholder shares their insights with business owners in alignment with the aforementioned perspectives on support for refugees through the following statement:

> *"They need a grant, but they do not want an immigrant refugee quota to be imposed when receiving this grant. While we used to say that we should support the region, but only this much should go to Syrian entrepreneurs, we cannot say this anymore. Because the words 'we, as the people of this country, cannot receive it' are more easily said...The tension is a little high."*

This pattern may be indicative of a labour market that is responding to economic pressures by employing more individuals from demographics that are typically more flexible or available for lower wages.

Table 65. Employee Composition Change

	Decrease	No change	Increase
Number of male employees	32,6%	59,6%	7,8%
Number of female employees	29,0%	64,9%	6,0%
Number of skilled employees	31,8%	62,5%	5,7%
Number of unskilled employees	25,9%	64,2%	9,8%
Number of employees under 29 years old	27,8%	61,7%	10,5%
Number of employees aged 30-49	24,0%	67,4%	8,6%
Number of temporary employees	25,9%	66,0%	8,1%
Number of Turkish citizen employees	25,4%	66,1%	8,5%
Number of non-Turkish citizen employees	25,0%	65,1%	9,8%

To support employees both mentally and physically, businesses have implemented various measures addressing basic needs as well as modifications to working conditions and environments. Meal assistance has been provided by 35.2% of businesses, and accommodation has been made available by 25.6%. In terms of working conditions, short-term work allowances have been granted by 23.5% of businesses, and a reduction in working hours has been implemented by 22.8%.

In comparison, services that support employees beyond basic needs appear less frequently: offering childcare services (3.5%), conducting regular health screenings (4.1%), and providing workplace psychological counseling services (5%). It is noteworthy that 14% of businesses report "no contribution" in terms of additional support to employees.

Table 66. Mental, Economic and Physical Supports Implemented

	%
Meal assistance	35,2%
Providing accommodation	25,6%
Short-term work allowances	23,5%
Reducing working hours	22,8%
Supporting transportation to work	19,5%
Organizing motivational activities	16,9%
Remote working	14,7%
No contribution	14,0%
Psychosocial therapy support	12,6%
Reallocating workloads	12,1%
Promoting physical activities	11,9%
Providing financial support	11,9%
Offering support programs for families	11,1%
Organizing activities to increase solidarity and communication among employees	10,2%
Implementing flexible working arrangements	8,5%
Assisting employees with solving problems at home	7,1%
Arranging personal development and stress management training	6,9%
Providing workplace psychological counseling services	5,0%
Conducting regular health screenings	4,1%
Offering childcare services	3,5%

To support employees both mentally and physically after the earthquake, businesses implemented various measures, though the extent of support varied significantly across regions and damage levels. In Adıyaman, accommodation support was most frequent at 35.3%, whereas Hatay, heavily devastated, saw only 16.2% provision of accommodation. Short-term work allowances were particularly prevalent in Malatya (31.8%) and less so in Adıyaman (15.8%). Reducing working hours was a common strategy, especially in high damage areas (28.5%) and Kahramanmaraş (26.1%).

Supporting transportation to work was notably implemented in medium-high damage regions (26.3%) and Kahramanmaraş (26.9%). Meal assistance was the highest in Adıyaman (45.3%), indicating significant basic needs support. Remote working was more common in Malatya (16.5%) and less so in Hatay (4.6%), demonstrating variations in adaptability to remote operations. Psychosocial therapy support was more frequent in Adıyaman (18.0%).

Table 67. Mental, Economic and Physical Supports Implemented by Damage Level and Province

	Earthquake Damage					Province			
	Very Low Damage	Low Damage	Medium Damage	Medium-High Damage	High Damage	Adıyaman	Hatay	Kahramanmaraş	Malatya
Providing accommodation	26,4%	31,3%	25,3%	32,5%	17,9%	35,3%	16,2%	23,1%	26,7%
Short-term work allowances	29,2%	25,0%	19,2%	17,5%	25,8%	15,8%	17,7%	26,1%	31,8%
Reducing working hours	22,6%	27,1%	18,5%	15,0%	28,5%	11,5%	23,8%	26,1%	28,4%
Supporting transportation to work	14,2%	17,7%	16,4%	26,3%	23,8%	18,7%	15,4%	26,9%	17,6%
Meal assistance	25,5%	31,3%	34,9%	36,3%	44,4%	45,3%	19,2%	39,6%	35,8%
Remote working	15,1%	14,6%	13,7%	18,8%	13,2%	13,7%	4,6%	23,1%	16,5%

Psychosocial therapy support	8,5%	20,8%	11,0%	12,5%	11,9%	18,0%	10,0%	8,2%	13,6%
Promoting physical activities	13,2%	7,3%	13,0%	20,0%	8,6%	18,0%	6,9%	9,7%	12,5%
Organizing motivational activities	14,2%	17,7%	19,2%	12,5%	18,5%	15,8%	13,8%	17,2%	19,9%
Offering support programs for families	8,5%	13,5%	8,2%	11,3%	13,9%	10,1%	8,5%	12,7%	12,5%
Organizing activities to increase solidarity and communication among employees	14,2%	6,3%	10,3%	7,5%	11,3%	12,2%	3,8%	11,2%	12,5%
Arranging personal development and stress management training	7,5%	4,2%	9,6%	6,3%	6,0%	10,8%	2,3%	6,7%	7,4%
Implementing flexible working arrangements	4,7%	10,4%	8,2%	5,0%	11,9%	8,6%	8,5%	9,7%	7,4%
Reallocating workloads	13,2%	14,6%	7,5%	10,0%	15,2%	12,2%	4,6%	18,7%	12,5%
Providing workplace psychological counseling services	2,8%	4,2%	6,2%	11,3%	2,6%	8,6%	3,8%	2,2%	5,1%
Conducting regular health screenings	6,6%	1,0%	4,8%	5,0%	3,3%	5,0%	3,1%	6,7%	2,3%
Assisting employees with solving problems at home	5,7%	4,2%	10,3%	6,3%	7,3%	5,0%	4,6%	9,7%	8,5%
Providing financial support	3,8%	11,5%	11,6%	13,8%	17,2%	8,6%	18,5%	15,7%	6,8%
Offering childcare services	6,6%	2,1%	2,7%	1,3%	4,0%	2,9%	4,6%	6,0%	1,1%
No contribution	10,4%	25,0%	15,1%	10,0%	10,6%	6,5%	34,6%	9,0%	8,5%

Accommodation support was most frequently provided by businesses with six or more employees (36.0%) and in the Manufacturing and Utilities sector (36.6%). Short-term work allowances were prevalent in larger businesses (34.0%) and the Trade and Transportation sector (35.9%).

Reducing working hours was common in businesses with six or more employees (31.0%) and in Trade and Transportation (35.9%). Supporting transportation to work was notably high in businesses with six or more employees (29.0%) and in Agriculture and Natural Resources (31.3%). Meal assistance was widely provided by businesses with six or more employees (45.0%) and in the Construction and Real Estate sector (43.5%).

Remote working was more common in businesses with six or more employees (20.0%) and in the Manufacturing and Utilities sector (22.0%). Psychosocial therapy support was frequently reported by larger businesses (16.0%) and the Services sector (14.1%).

Table 68. Mental, Economic and Physical Supports Implemented by Damage Level and Province by Employee Number and Sector

	Employee Number				Sector					
	None	1 Employee	2 - 5 Employee	6 or More Employee	Agriculture and Natural Resources	Construction and Real Estate	Manufacturing and Utilities	Trade and Transportation	Services	Other
Providing accommodation	15,9%	18,8%	28,9%	36,0%	6,3%	26,1%	36,6%	20,5%	26,0%	20,0%
Short-term work allowances	28,4%	10,4%	25,2%	34,0%	12,5%	26,1%	26,8%	35,9%	22,3%	20,0%
Reducing working hours	29,5%	9,0%	25,2%	31,0%	25,0%	30,4%	24,4%	35,9%	20,4%	24,0%
Supporting transportation to work	17,0%	11,1%	21,5%	29,0%	31,3%	23,9%	22,0%	20,5%	18,9%	8,0%
Meal assistance	23,9%	24,3%	41,9%	45,0%	18,8%	43,5%	36,6%	25,6%	36,9%	16,0%
Remote working	18,2%	11,8%	13,0%	20,0%	6,3%	6,5%	22,0%	10,3%	16,0%	8,0%
Psychosocial therapy support	14,8%	9,0%	12,6%	16,0%	12,5%	6,5%	9,8%	10,3%	14,1%	8,0%
Promoting physical activities	11,4%	6,9%	13,8%	15,0%	0,0%	4,3%	14,6%	20,5%	12,4%	8,0%
Organizing motivational activities	21,6%	11,8%	17,1%	20,0%	6,3%	19,6%	14,6%	20,5%	16,5%	24,0%
Offering support programs for families	10,2%	8,3%	10,6%	17,0%	0,0%	15,2%	17,1%	10,3%	10,4%	12,0%
Organizing activities to increase solidarity and communication among employees	13,6%	9,0%	8,9%	12,0%	6,3%	2,2%	19,5%	5,1%	10,9%	8,0%
Arranging personal development and stress management training	10,2%	6,3%	6,5%	6,0%	0,0%	4,3%	12,2%	5,1%	7,5%	0,0%
Implementing flexible working arrangements	9,1%	6,3%	9,8%	8,0%	12,5%	15,2%	9,8%	5,1%	7,5%	12,0%
Reallocating workloads	12,5%	5,6%	15,4%	13,0%	12,5%	10,9%	9,8%	7,7%	13,6%	0,0%
Providing workplace psychological counseling services	6,8%	4,2%	4,9%	5,0%	0,0%	2,2%	12,2%	2,6%	5,1%	4,0%
Conducting regular health screenings	1,1%	4,9%	4,9%	4,0%	0,0%	6,5%	2,4%	5,1%	3,6%	12,0%

Assisting employees with solving problems at home	9,1%	6,3%	7,3%	6,0%	6,3%	4,3%	7,3%	2,6%	7,0%	20,0%
Providing financial support	10,2%	8,3%	14,2%	12,0%	12,5%	13,0%	26,8%	10,3%	11,2%	0,0%
Offering childcare services	3,4%	2,1%	4,9%	2,0%	0,0%	2,2%	7,3%	5,1%	3,4%	0,0%
No contribution	13,6%	29,2%	8,5%	6,0%	31,3%	26,1%	7,3%	12,8%	13,6%	0,0%

In the survey aimed at understanding the repercussions of the earthquake on businesses, two critical questions were posed to gain insights into the impact on employee welfare and the overall performance of the businesses after disaster.

The first question sought to assess the earthquake's effect on the well-being of employees within these businesses. The responses were scaled from 1 (indicating no impact) to 5 (indicating extremely negatively affected). The distribution of responses provides a nuanced view of the situation: According to the responses, 40.5% of businesses indicated that employee welfare was negatively affected after the earthquake, with an equal proportion of businesses displaying a neutral stance on this matter.

Additionally, the second question focused on the businesses' performance following the earthquakes, with options ranging from 1 (much worse) to 5 (much better). This question aimed to capture the broader operational impacts of the disaster on businesses: a relatively higher percentage of businesses (43.2%) believe that their business performance has deteriorated.

Table 69. Assessment of Earthquake Impact on Employee Welfare and Business Performance

		%
What is the impact of the earthquake on the well-being of your employees?	1 No impact	4,3%
	2 Not affected	14,8%
	3 Neither affected nor not affected	40,4%
	4 Affected	19,9%
	5 Extremely negatively affected	20,6%
How has your current business performance changed after the earthquakes?	1 Much worse	12,6%
	2 Bad	30,5%
	3 Neither bad nor good	38,0%
	4 Good	13,5%
	5 Much better	5,4%

The table below presents the mean scores reflecting evaluations of employee welfare and enterprise performance after the earthquake, categorized by earthquake damage severity, province, employee number, and sector. The distributions given as percentages in the previous table are presented as averages below, broken down by earthquake damage level, province, employee number, and sector to better observe categorical differences. These averages should be interpreted based on a scale ranging from 1 to 5.

Observations indicate a gradual escalation in the impact on employee well-being in accordance with the level of earthquake damage. Additionally, evaluations regarding employee well-being tend to hover around the medium to medium-high range. Notably, in the provincial assessment, Hatay exhibits a notable proximity to the "extremely negatively affected" level, particularly noteworthy given its classification in the high damage category. This suggests a significant adverse effect of damage severity on employee welfare.

Concerning business performance, evaluations across all categories predominantly range from moderate to poor. A salient observation is the declining performance in the "Manufacturing and Utilities" sector, with businesses reporting a post-earthquake deterioration in their performance.

Table 70. Assessment of Earthquake Impact on Employee Welfare and Business Performance by Categories

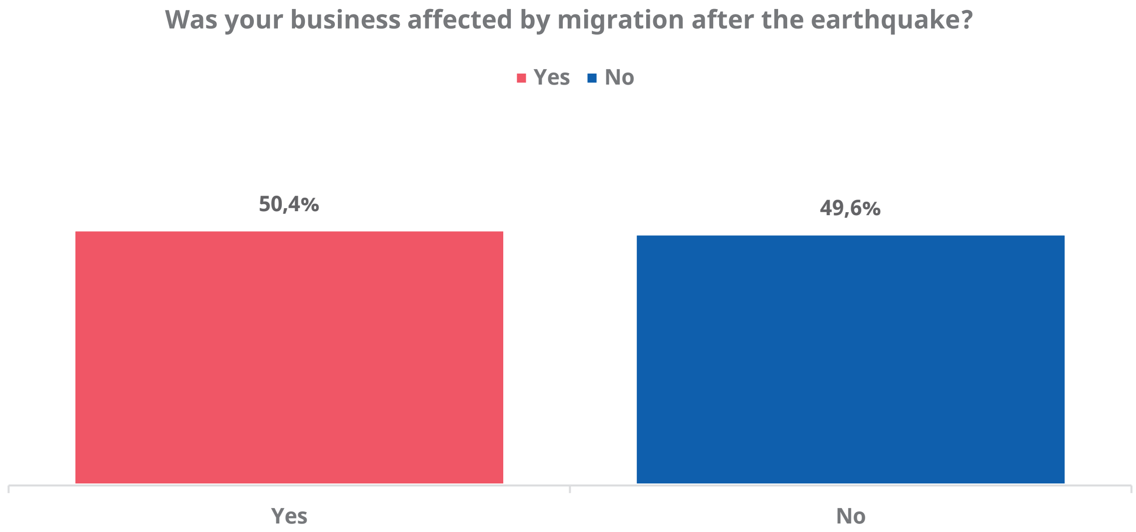
		What is the impact of the earthquake on the well-being of your employees?	How has your current business performance changed after the earthquakes?
Earthquake Damage	Very Low Damage	3,07	2,75
	Low Damage	3,36	2,86
	Medium Damage	3,41	2,77
	Medium-High Damage	3,59	2,65
	High Damage	3,39	2,62
Province	Adıyaman	3,5	2,81
	Hatay	4,05	2,6
	Kahramanmaraş	2,81	2,6
	Malatya	3,2	2,7
Employee Number	None	3,08	2,71
	1 Employee	3,14	2,7
	2 - 5 Employee	3,53	2,72
	6 or More Employee	3,53	2,81
Sector	Agriculture and Natural Resources	3,06	2,63
	Construction and Real Estate	3,61	2,81
	Manufacturing and Utilities	3,59	2,22
	Trade and Transportation	3,64	2,67
	Services	3,31	2,78
	Other	2,89	2,73

Part 6: Women at Work and Migration

Following the February 6th earthquakes, there has been a significant migration from the affected region to other provinces in Türkiye. While official and precise figures on the scale of this migration are yet to be known, it is possible to say that the migration has had significant effects on both societal life and the labour market.

Businesses in the region also feel the impact of this migration, with half of them stating that their operations have been affected by the post-earthquake migrations.

Figure 4. Impact of Migration After Earthquake on Businesses



Businesses experiencing high damage reported the biggest post-earthquake migration impact, with 63.6% affected, compared to only 30.2% of businesses with very low damage. Geographically, Adıyaman faced the highest impact, with 71.9% of businesses affected by migration, while Kahramanmaraş experienced the lowest at 40.3%.

The impact was consistent across different employee numbers, with businesses having one employee reporting a 55.6% impact, and those with six or more employees at 52.0%. Sector-wise, the Manufacturing and Utilities sector was most affected, with 75.6% of businesses feeling the impact, whereas the Trade and Transportation sector was least affected at 30.8%.

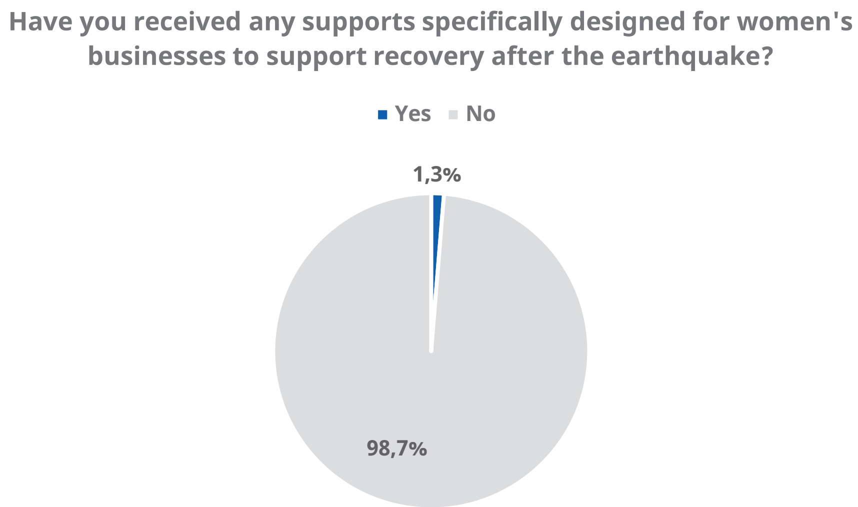
Table 71. Impact of Migration After Earthquake on Businesses by Categories

		Yes	No
Earthquake Damage	**Very Low Damage**	30,2%	69,8%
	Low Damage	41,7%	58,3%
	Medium Damage	51,4%	48,6%
	Medium-High Damage	61,3%	38,2%
	High Damage	63,6%	36,4%
Province	**Adıyaman**	71,9%	28,1%
	Hatay	45,4%	54,6%
	Kahramanmaraş	40,3%	59,7%
	Malatya	44,9%	55,1%
Employee Number	**None**	30,7%	69,3%
	1 Employee	55,6%	44,4%
	2 - 5 Employee	53,7%	46,3%
	6 or More Employee	52,0%	48,0%
Sector	**Agriculture and Natural Resources**	37,5%	62,5%
	Construction and Real Estate	41,3%	58,7%
	Manufacturing and Utilities	75,6%	24,4%
	Trade and Transportation	30,8%	69,2%
	Services	51,7%	48,3%
	Other	44,0%	56,0%

In the aftermath of the earthquake, the reconstruction and recovery phase has underscored significant challenges across various sectors, notably within the sphere of small and medium-sized enterprises (SMEs). Among these challenges, the ability of women entrepreneurs to access targeted support measures for rebuilding and revitalizing their businesses emerges as a particularly acute issue. Despite the recognition of the unique challenges faced by women in the business sector, particularly in post-disaster contexts, the data indicates that the provision and accessibility of support designed specifically for women entrepreneurs remain markedly insufficient.

In the 12 months following the 6 February Earthquakes, a mere 1.3% of women entrepreneurs reported having access to support mechanisms explicitly tailored to their needs.

Figure 5. Access to Post-Earthquake Recovery Support for Women's Businesses



Support for women in the aftermath of the earthquake is very limited. Only enterprises in the highly damaged manufacturing sector in Malatya, specifically those with six or more employees, received support designed for women. This highlights a significant gap in targeted assistance for women, underscoring the need for more inclusive recovery efforts that address the specific needs of female employees across various sectors and regions.

Table 72. Access to Post-Earthquake Recovery Support for Women's Businesses by Categories

			% (Yes)
Earthquake Damage	Very Low Damage		0,0%
	Low Damage		0,0%
	Medium Damage		0,0%
	Medium-High Damage		0,0%
	High Damage		4,3%
Province	Adıyaman		0,0%
	Hatay		0,0%
	Kahramanmaraş		0,0%
	Malatya		2,8%
Employee Number	None		0,0%
	1 Employee		0,0%
	2 - 5 Employee		0,0%
	6 or More Employee		4,2%
Sector	Agriculture and Natural Resources		0,0%
	Construction and Real Estate		0,0%
	Manufacturing and Utilities		14,3%
	Trade and Transportation		0,0%
	Services		0,0%
	Other		0,0%

Both the initiatives carried out in the year since the earthquake and the findings from our research indicate that the disaster has created gender-based disparities in the working life. These disparities may become even more pronounced during the post-earthquake recovery process. Among the prevailing conditions in businesses after earthquake, the most common is the reduction of working hours for women (39.9%). In the aftermath of the earthquake, the necessity for women to reduce their working hours due to the increased 'care burden' is noted, alongside an increase in in-kind and cash demands to contribute to their obligations, such as child, elderly, and disabled care (16.1%). Women are struggling more than before the earthquake to balance work and life. The need for support policies directly targeting women, to bolster both female employment and social participation, is clearly evident. Women's participation to decision making processes during the recovery period is essential to approach to gender equality target in the region.

Table 73. Impact of Earthquake on Employment and Working Conditions for Women

	%
Less women are employed in technical positions	17,9%
Less women employed in managerial positions after the earthquake	26,1%
Working hours of women were declined	39,9%
Increase of women’s demands for financial and in-kind contribution for the care responsibilities such as child, elderly and disabled care	16,1%

The steps taken by businesses to support female employees after the earthquakes are limited. Approximately 29% of businesses provide special support to ensure the safety and accommodation needs of female employees and offer support services such as counseling or flexible working arrangements specifically for women affected by the earthquakes.

However, the proportion of those who have taken permanent and tangible steps, such as changes in workplace policies, is only 6.4%. Awareness or implementation of any initiative to create additional economic opportunities for female workers after the earthquake is even lower, at just 1.8%.

Table 74. Business Responses to Support Female Workers After Earthquake

		%
Did you provide any support specifically for the safety and accommodation needs of female workers affected by earthquakes?	Yes	28,9%
	No	71,1%
Did you implement support services such as counselling or flexible working arrangements specifically for female workers affected by earthquakes?	Yes	29,4%
	No	70,6%
Did you make any changes to workplace policies to support female workers after the earthquakes?	Yes	6,4%
	No	93,6%
Are you aware of any initiatives intended to increase or implemented to increase economic opportunities for female workers after the earthquakes?	Yes	1,8%
	No	98,2%

Opinions obtained from stakeholders regarding the situation of women in the earthquake-affected region show that the devastating effects of the earthquake put extra burdens on women and that these physical, psychological, and emotional burdens make it difficult for women to return to working life. We encountered situations where people migrated from the city to take care of the sick, the disabled, the elderly, and their children because problems such as housing, education, and health could not be solved in the cities, but the father remained as an employee in the city. Women who stay in the city also face greater obstacles to participating in working life due to these social roles:

> *"There are health problems. Or the elders of your family that you are responsible for taking care of are your parents or your spouse's parents. Since women have to deal with such things more, they can remain a little more in the background."*

> *"But by declaring some living spaces, creating environments where women or children can live, and classrooms where they can receive education, there is a great need right now. Meeting these needs or nursing homes... In other words, there are things that the private sector or civil society can do as a social need."*

> *"Schools are so important. There are many people who migrate because of their children's education. Therefore, if they can stay in safe and clean conditions, (...) if the social responses of the schools are made... 80% of them say they want to return to the city."*

> *"Day care homes, nursing homes for the elderly and children, etc... These are very important in women's employment. If the working family member was the father, he was able to return to that region. But stories of children staying in the place of migration with their mothers are also very common. The mother is in charge of the children's education. Therefore, these main stories are still valid in women's employment."*

"Husbands do not want their wives to go back to work when there is no solution for children" indicates that women's gender roles strengthen the tendency for gender discrimination to intensify. In the statements of the stakeholders, the idea of providing training and psychological support designed to alleviate the emotional burden as well as the physical facilities required for women to return to working life comes to the fore. In order to increase and support women's motivation in working life, a comprehensive approach should be put forward, taking into account the extra psychological and emotional burdens brought by the care burden:

> *"Unfortunately, the relatives of those who survived were either disabled or amputated. When this happened, a huge obstacle appeared in front of her work. I think a rehabilitation center*

should be established for them and areas should be created where women can safely leave their children or the people they need to care for. I think this would be the best move. In this way, he will come together with others and socialize. Women will also contribute to the household by working."

"For example, I would not want to leave my child in a building, even if it is slightly damaged, and go to work. Or if I go, I go because I have to work. My mind always stays back there. I think establishing nurseries in businesses or organized industrial zones, safe areas, etc., that is, providing psychosocial support to the employees there during working hours, so that their families know that they are safe, etc., are very, very valuable things."

"Children's mental health in general was very affected by the earthquake. Their attachment to their families, especially their mothers, increased. Of course, because of this, working mothers' psychological concerns about their children have increased. Like not leaving them alone and having the fear of an earthquake at any moment... Therefore, perhaps increasing the number of nurseries and providing training can be one of the supports in this sense. So, yes, I think the care burden is the biggest problem for women right now."

On the other hand, it is possible to see the kernels of a planned approach in the form of employing women and evaluating them as qualified labour force in closing the labour force gap arising from migration to the region:

"Most of the women we talked to in container cities wanted a job from us, a place to work. In other words, it is not possible to move from a container to a house and rebuild life with the work of a single person. Women have a desire to work."

"...many companies now have the opinion that we should hire women as well. An SME we interviewed in Gaziantep said directly that they had started employing women for the day shifts and they will test whether they can come at night. A female developer on the board of directors of a large company in Kahramanmaraş also said that their companies had started to train and employ women in professions where women were not available. They started training women as concrete transmixer operators and trained the first batch."

The approach of training female labour force and recruiting in the sectors they had never been employed offers a gender sensitive perspective to development of professional qualifications. Developing similar cooperations on this issue should be considered as an important outcome for women's return to work life.

In conclusion, the Earthquake of February 6th have precipitated not only a geographical but also a socio-economic shift in the affected regions of Türkiye. The migration has had profound implications on societal structures and labour dynamics, felt by businesses, half of which report operational impacts from the population movements. This has intensified preexisting gender disparities in the labour force, a key concern for SME's.

Notably, the aftermath has seen women's work hours curtailed, with nearly 40% affected, underscoring the amplified burden of care responsibilities and the struggle to maintain a viable work-life balance. The decrease in women holding technical and managerial positions further illustrates the regressive shift in gender equity within the professional sphere post-disaster. The precariousness of economic opportunities for women in the earthquake's wake is evidenced by the mere 1.3% of women entrepreneurs who could access support tailored to their circumstances.

The agriculture and food economy in the region has a decisive position. The labour force required for agricultural production, which is among the most important export oriented economic activities of Hatay, Malatya, and Adana provinces affected by the earthquake, is provided by seasonal agricultural workers migrating from surrounding provinces. The needs of the agricultural economy should be met by supporting good agricultural practices and sustainable agricultural practices. Due to the devastating effects of the earthquake, seasonal agricultural workers will have to deal with more problems than ever before in meeting basic vital needs such as transportation, shelter, and hygiene. Holistic policies should be developed to address the problems of seasonal agricultural workers, such as unregistered work, low wages, and housing in humane conditions for sustainable agricultural production. Considering that women and children are heavily included in the agricultural labour force, the need to address the issue as a priority becomes even more evident. Agricultural production in this region has a critical impact on the country's food security as well as export revenues.

The response from businesses in terms of support for female employees, while present, is not widespread. Less than a third of businesses have taken steps to address the immediate safety, accommodation, and flexibility needs of their female labour. More striking is the paucity of initiatives, with only 6.4% of businesses amending workplace policies to support women after earthquake and an alarmingly low awareness of measures to enhance economic opportunities for female workers.

These observations elucidate a clear need for concerted policy interventions and strategic support mechanisms. There is an imperative for a gender-sensitive approach to disaster recovery that not only addresses the immediate gaps but also fosters a sustainable framework for inclusive economic participation. As we move forward, it is paramount that recovery strategies are imbued with a nuanced understanding of these gendered impacts, ensuring that both the economic and socio-cultural fabric of the affected regions are strengthened against future adversities. Even before the earthquake, women's labour force participation rate was low, and women's unregistered employment and unemployment rates were high in the region. Considering that a major crisis such as an earthquake will exacerbate all these negativities, gender-sensitive measures should be taken. While designing all these measures, gender-based violence and harassment, which intensify in times of crisis, should be prevented and supportive and protective steps should be taken for those who are subjected to violence.

Part 7: Future Predictions and Expectations

Businesses' forecasts for employment growth over the next year indicate that 42.8% expect it to remain the same. This is followed by 34.2% predicting a decline in employment. While responses indicating a significant increase are quite limited, there are still businesses that anticipate a rise in employment (22.9%).

Table 75. Employment Growth Forecasts for 2024

	%
Will decrease significantly	21,8%
Will decrease slightly	12,4%
Will remain the same	42,8%
Will increase slightly	18,1%
Will increase significantly	4,8%

Businesses were asked about their growth expectations at different breakdowns. It is found that the businesses with very low damage are more optimistic, with 41.5% expecting employment to remain the same and 7.5% anticipating significant increases. Conversely, growth expectations of the businesses with high damage are more pessimistic, with 33.8% predicting a significant decrease and only 4.0% expecting significant increases in growth.

On provincial level, businesses in Kahramanmaraş are the most stable, with 50.0% expecting no change in growth, while those in Malatya are more cautious, with 32.4% predicting significant decreases. In terms of employee numbers, businesses with no employees are more stable, with 47.7% expecting no growth change, whereas those with six or more employees are more varied in their forecasts, with 25.0% predicting significant decreases.

On sectoral level, the Manufacturing and Utilities sector is notably pessimistic, with 61.0% forecasting significant decreases in growth. In contrast, the Construction and Real Estate sector shows more optimism, with 26.1% expecting slight increases and 15.2% anticipating significant growth. The Services sector appears relatively stable, with 49.5% expecting no changes.

Table 76. Employment Growth Forecasts for 2024 by Categories

		Will decrease significantly	Will decrease slightly	Will remain the same	Will increase slightly	Will increase significantly
Earthquake Damage	Very Low Damage	20,8%	15,1%	41,5%	15,1%	7,5%
	Low Damage	26,0%	10,4%	47,9%	13,5%	2,1%
	Medium Damage	10,3%	9,6%	52,7%	21,2%	6,2%
	Medium-High Damage	16,3%	12,5%	43,8%	23,8%	3,8%
	High Damage	33,8%	14,6%	30,5%	17,2%	4,0%
Province	Adıyaman	14,4%	10,1%	48,9%	22,3%	4,3%
	Hatay	14,6%	10,8%	40,8%	30,0%	3,8%
	Kahramanmaraş	22,4%	12,7%	50,0%	9,7%	5,2%
	Malatya	32,4%	15,3%	34,1%	12,5%	5,7%
Employee Number	None	22,7%	8,0%	47,7%	18,2%	3,4%
	1 Employee	22,9%	14,6%	48,6%	9,0%	4,9%
	2 - 5 Employee	19,1%	11,4%	43,5%	22,4%	3,7%
	6 or More Employee	25,0%	16,0%	29,0%	21,0%	9,0%
Sector	Agriculture and Natural Resources	12,5%	18,8%	43,8%	18,8%	6,3%
	Construction and Real Estate	15,2%	10,9%	32,6%	26,1%	15,2%
	Manufacturing and Utilities	61,0%	4,9%	19,5%	9,8%	4,9%
	Trade and Transportation	12,8%	25,6%	28,2%	33,3%	0,0%
	Services	16,5%	12,1%	49,5%	17,7%	4,1%
	Other	76,0%	8,0%	12,0%	0,0%	4,0%

When businesses were asked, "Which state supports do you need?", the response for "financial support" significantly stood out, with 67.4% indicating it as their primary need. This is followed by labour support. Psychological support and welfare assistance, as well as technical support, are ranked lower in priority (13.3%, 12.8%, respectively). At this point, it is anticipated that financing is the primary need for reconstruction, development, and growth.

Table 77. Expected State Supports

	%
Financial Support (grants, loans, tax reliefs, subsidies)	67,4%
Labour Force Support	34,2%
Supply Chain support (access to information, logistical support, etc.)	21,2%
Regulatory Support (fast tracking permits, relaxation, and support on navigation in new compliance)	20,7%
Mental Health and Wellbeing Support	13,3%
Technical support	12,8%

Labour force support was particularly emphasized by businesses in Kahramanmaraş (56.7%) and those with one employee (45.8%). Supply chain support was most needed by the Trade and Transportation sector (30.8%) and businesses with low damage (29.2%). Technical support was significantly demanded by the Manufacturing and Utilities sector (22.0%) and businesses with high damage (15.9%). Mental health and wellbeing support, though a lower priority overall, was notably higher in Hatay (30.8%).

Table 78. Expected State Supports by Categories

		Financial Support (grants, loans, tax reliefs, subsidies)	Regulatory Support (fast tracking permits, relaxation, and support on navigation in new compliance)	Labour force support	Supply Chain support (access to information, logistical support, etc.)	Technical support	Mental health and wellbeing support
Earthquake Damage	Very Low Damage	55,7%	24,5%	29,2%	21,7%	13,2%	5,7%
	Low Damage	70,8%	26,0%	42,7%	29,2%	9,4%	15,6%
	Medium Damage	70,5%	14,4%	30,8%	17,8%	13,7%	12,3%
	Medium-High Damage	75,0%	26,3%	23,8%	15,0%	8,8%	13,8%
	High Damage	66,2%	17,9%	41,1%	22,5%	15,9%	17,9%
Province	Adıyaman	77,0%	18,7%	23,0%	15,1%	8,6%	6,5%
	Hatay	68,5%	13,8%	25,4%	26,2%	13,8%	30,8%
	Kahramanmaraş	56,0%	11,9%	56,7%	20,1%	21,6%	6,7%
	Malatya	67,6%	34,1%	32,4%	23,3%	8,5%	10,8%
Employee Number	None	58,0%	27,3%	26,1%	19,3%	9,1%	12,5%
	1 Employee	66,7%	11,1%	45,8%	18,1%	20,8%	13,2%
	2 - 5 Employee	73,2%	18,3%	31,3%	22,8%	9,8%	13,0%
	6 or More Employee	62,0%	35,0%	32,0%	23,0%	11,0%	14,0%
Sector	Agriculture and Natural Resources	62,5%	37,5%	62,5%	18,8%	6,3%	12,5%
	Construction and Real Estate	60,9%	17,4%	28,3%	19,6%	17,4%	21,7%
	Manufacturing and Utilities	73,2%	31,7%	34,1%	22,0%	22,0%	19,5%
	Trade and Transportation	79,5%	20,5%	23,1%	30,8%	12,8%	12,8%
	Services	67,0%	18,7%	36,7%	20,9%	12,1%	12,1%
	Other	60,0%	32,0%	4,0%	16,0%	4,0%	8,0%

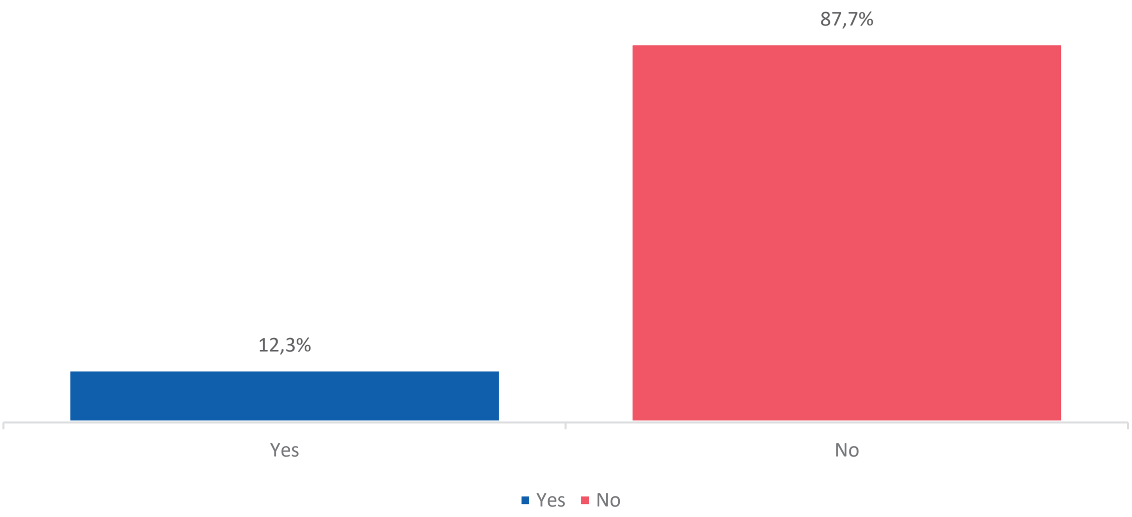
Similarly, in terms of expected needs from the state or other stakeholders, "financial supports" and "incentives" emerge as the primary focus. The response that 43.2% have "no need" for vocational skill trainings is noteworthy. This finding could be interpreted to mean that businesses operating in the service sector place less emphasis on the need for vocational skills training compared to other sectors.

Table 79. Expected Supports from Other Stakeholders

	No needed	Neither needed nor not	Needed
Vocational skill trainings	43,2%	37,3%	19,5%
Recruitment assistance and employment services	37,5%	33,7%	28,8%
Incentives	32,5%	31,6%	35,9%
Financial support	22,8%	30,6%	46,6%
Workplace consultancy services	36,3%	39,4%	24,4%
In-house training programs	38,5%	36,1%	25,4%
Employment incentive programs	37,7%	34,5%	27,8%
Workplace diversity and inclusion training	40,6%	36,3%	23,1%
Occupational health and safety trainings	34,4%	40,6%	25,0%
In-house mentorship programs	38,0%	40,4%	21,6%
Labour planning consultancy	39,6%	36,8%	23,7%

88% of businesses indicate that they have not formulated a strategy for new business opportunities following the earthquake. This situation may point to the need for strategic planning among businesses in the region.

Figure 6. Post-Earthquake Strategy among the Businesses



The level of recovery in the region after the earthquake is observed to be low. 54% of businesses believe there has been no recovery in the region following the earthquake.

Table 80. Recovery Assessment in Earthquake Region

	%
No improvement in recovery	53,9%
Neither improved nor not	29,7%
Improvement in recovery	16,4%

While the number of interviewees expressing positive opinions about the recovery in the destroyed cities after the first year remained limited, basic infrastructure deficiencies were widely expressed:

> *"Nothing much has changed here yet. We just got used to the process a little bit. There is no progress. We still don't have roads in our city, we still don't have lights. People, thousands of people, are still queuing for water."*

The stakeholders we asked about improvement expectations expressed their pessimistic observations on the economic and physical recovery in line with the data:

> *"My personal opinion is at least 10 years [needed]. To go back to the past, before the earthquake...at least 10 years. I think optimistically. Because there is neither infrastructure nor superstructure left... a year has passed but still the debris is everywhere"*

> *"...if a person has made a loss, his factory is gone, it must take five or ten years to recover that factory and reach that level."*

> *"...despite the very intense reconstruction processes caused by earthquake...especially in provinces such as Maraş, Malatya and Hatay, we do not think this will recover before 5 years."*

Businesses do not appear optimistic about their future, with only 32% of all businesses feeling optimistic about the future of their operations over the next 12 months. The remaining 32.0% of businesses expressing optimism, despite the challenges, signifies resilience and perhaps a belief in recovery strategies, adaptability, and the potential for new opportunities that may arise from the post-disaster context.

Table 81. Optimism for Economic Recovery about the Next Year

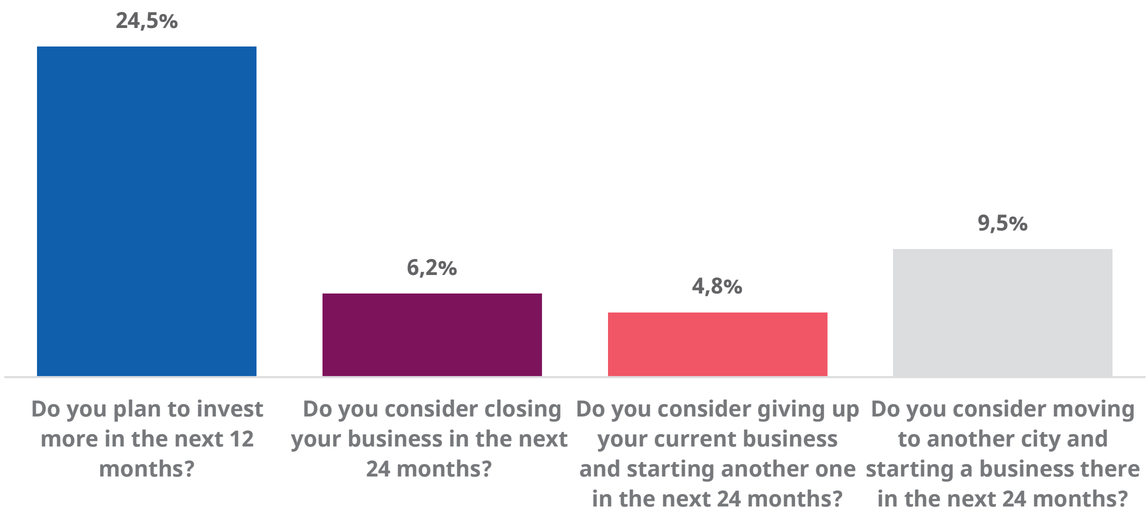
	%
Pessimistic	35,0%
Neither pessimistic nor optimistic	33,0%
Optimistic	32,0%

In our in-depth interviews, it is understood that macroeconomic conditions also create uncertainty in the answers to questions about the main obstacles to economic recovery, and that this uncertainty makes the post-earthquake recovery process more difficult:

> *"Actually, the market situation is a bit of an obstacle. The current high interest rate we are experiencing creates a somewhat uncertain environment in the market"*

Businesses generally tend to continue their current operations. 6.2% of businesses are considering closing their business within the next 24 months, while 4.8% are thinking about starting a different business instead of continuing their current one, and 9.5% are contemplating establishing a business in another city. The percentage of those planning to make more investments in the next 12 months is 24.5%.

Figure 7. Business Continuity and Investment Plans for the Next 24 Months



A significant portion of businesses plan to invest more in the next 12 months, particularly those in the Construction and Real Estate sector (52.2%) and those with six or more employees (47.0%). Conversely, businesses in Adıyaman show the least inclination to invest, with only 12.2% planning further investments.

Regarding business closures, 9.3% of businesses with high earthquake damage are considering closing within the next 24 months, while this figure is notably lower in Kahramanmaraş (0.7%). A small percentage of businesses (4.8%) are thinking about starting a different business, with the highest consideration in the Manufacturing and Utilities sector (9.8%). Relocating to another city to start a business is a consideration for 24.0% of businesses in the "Other" sector, and 18.0% of businesses with six or more employees. Hatay and Malatya also show higher tendencies towards relocation, with 15.4% and 15.9% respectively.

Table 82. Business Continuity and Investment Plans for the Next 24 Months by Categories

		Do you plan to invest more in the next 12 months?	Do you consider closing your business in the next 24 months?	Do you consider giving up your current business and starting another on in the next 24 months?	Do you consider moving to another city and starting a business there in the next 24 months?
Earthquake Damage	Very Low Damage	15,1%	4,7%	3,8%	8,5%
	Low Damage	32,3%	8,3%	7,3%	13,5%
	Medium Damage	24,7%	2,7%	4,8%	6,8%
	Medium-High Damage	20,0%	6,3%	5,0%	8,8%
	High Damage	28,5%	9,3%	4,0%	10,6%
Province	Adıyaman	12,2%	1,4%	2,2%	2,2%
	Hatay	32,3%	9,2%	6,2%	15,4%
	Kahramanmaraş	33,6%	0,7%	3,7%	3,0%
	Malatya	21,6%	11,9%	6,8%	15,9%
Employee Number	None	28,4%	8,0%	1,1%	8,0%
	1 Employee	13,9%	2,8%	4,9%	6,9%
	2 - 5 Employee	20,3%	5,7%	4,5%	7,7%
	6 or More Employee	47,0%	10,0%	8,0%	18,0%
Sector	Agriculture and Natural Resources	50,0%	6,3%	0,0%	0,0%
	Construction and Real Estate	52,2%	2,2%	13,0%	19,6%
	Manufacturing and Utilities	22,0%	12,2%	9,8%	12,2%
	Trade and Transportation	28,2%	2,6%	0,0%	5,1%
	Services	20,4%	5,6%	3,9%	8,0%
	Other	24,0%	20,0%	8,0%	24,0%

In synthesizing these findings, it is apparent that while businesses have shown adaptability and a measure of resilience, the overarching narrative is one of cautious recovery, tempered by a clear need for strategic planning and targeted support. The prevalent uncertainty in employment prospects, the prioritization of financial and labour support, and the limited uptake of strategic and innovative initiatives underscore the necessity for a cohesive and informed response to support economic revival. This is especially pertinent in bolstering sectors that are pivotal in shaping the future economic landscape, such as SMEs and women-led businesses, which demonstrate specific vulnerabilities and needs in the post-disaster context.

Part 8: Approaches of key stakeholders to future development and economic recovery

The extensive stakeholder feedback underscores several critical needs and opportunities for both immediate recovery and long-term development. Prioritizing these recommendations involves a focus on sectors that are crucial to the regional economies affected by the disaster, as well as addressing systemic challenges to enhance resilience and sustainable growth.

The narrative from various stakeholders underscores the urgent need for innovative financial support mechanisms that transcend the conventional offerings of loans and grants. This plea is rooted in the recognition that the path to recovery and sustainable development in disaster-impacted regions requires access to financing options that are not only more accessible but also more accommodating to the unique challenges faced by these areas.

Statements from financial stakeholders reveal that there are major problems with the loan process. Current economic uncertainties lead financial providers to act cautiously, which has created obstacles in accessing credit:

> *"...we know that most of the loans were actually used in provinces such as Gaziantep and Adana, which were not much affected by the earthquake. Because bankers see these places as more solid."*

Specifically, there's a pronounced emphasis on the necessity for low-interest, long-term financing solutions.

> *"Employment-supportive loans could be provided to businesses. For the growth of the business, some truly need an increase in capacity. The capacity of customers' needs to be increased as well, but the available low-interest loans could benefit businesses, allowing them to take advantage of these supports. Such supports would be very beneficial for businesses. They would significantly contribute to preserving employment, both in terms of working capital and increasing capacity."*

> *"We are not beggars. We're not asking anyone to give us grants. It's not about these interest rates; I can't afford this interest... We need support in the form of long-term, low-interest financing."*

> *"Actually, the state of the market is somewhat of a barrier. The high interest rates we are currently experiencing create an atmosphere of uncertainty in the market."*

As a short-term policy, stakeholders of industrial sectors take the attention to the governments' prolonged community benefit programs (TYP) across 11 provinces within the earthquake-stricken regions. With TYP, 90 thousand workers were employed in the public sector on temporary contracts throughout the region. TYP has been extensively used to provide necessary aid distribution and cleaning services in temporary settlements after the earthquake, as well as to provide short-term employment and income generation opportunities to survivors. On the other hand, the following statements of the interviewed stakeholders show that TYP caused a different result as it offers a safer alternative for the labour force. Due to the existing long working hours and low wages in the private sector, a significant part of the labour force in the region has chosen to participate in employment in the TYP program. Here, the importance of providing decent working hours and conditions to prevent the labour force from choosing the TYP, which is a temporary program, instead of full-time jobs in the manufacturing sector emerges once again.

Different stakeholders expressed the fact that the labour force in the region intensively participated in this program in the face of poor working conditions and economic uncertainties brought about by the earthquake, as follows:

> *"In manufacturing, there is a shortage of workers, shortage of personnel, shortage of masters. These are a very big disadvantage for Adıyaman. Because, as you know, there are many people working in TYP in the earthquake zone. Of course, working is not a problem. But my qualified man was lost. My master left me. For this reason, I cannot find workers."*

> *"No one wants to go to a garment factory and work for 10-11 hours when there is such an opportunity."*

Employer organizations and industry representative stakeholders state that the immediate termination of the TYP, which has been ongoing for more than a year, is essential to close the labo*ur force gap in the market:*

> *"Right now, TYP needs to be abolished. There is no need anymore. Because people are looking for workers. I spoke, all the factory owners, let alone the textile workers of the factory owners, the builders cannot find workers to employ. That's why it needs to be finished as soon as possible. It is very important."*

Another short-term support, immediate attention is required for the agricultural sector, particularly in regions like Hatay, where the citrus farming industry faces significant challenges due to labour shortages and supply disruptions in agricultural inputs.

> *"One of the biggest issues, which you might have followed in the media, is related to citrus production, a significant sector in this area. The regions of Samandağ, Dörtyol, and Erzin, known for their mandarins, lemons, and oranges, faced a unique challenge as their produce remained unharvested on the trees. Producers were not asking for money; they merely requested help to harvest their crops, but even this was not feasible. Now, they are cutting down their trees. Why? Because agricultural workers were either too costly or simply unavailable. The labour shortage, combined with difficulties in accessing the market, caused significant problems for citrus producers."*

Also, as an urgent attention, the **livestock** needs **infrastructure repair and supply restoration**.

> *"Irrigation (electricity) and diesel, fertilizer, pesticide, and other input costs are high. In livestock, costs for medication, feed, and veterinary services are high. Agriculture is dispersed and small-scale. Productivity and product diversity are low. There are very few cooperatives, and they are not robust."*

> *"In Hatay, there's a significant agricultural and livestock sector, and the milk collection chain has been disrupted. Why? Truck drivers have lost their lives, perhaps trucks have been crushed under various parking garages or buildings, and if a village has been destroyed, people have lost their milk cooling tanks, among other things."*

The women's agricultural cooperative stakeholder we interviewed stated that participating in a cooperative is very beneficial in terms of economic, physical, and psychological recovery. This case can be a positive example of supporting small-scale agricultural female entrepreneurs with a gender-sensitive approach:

"The only place that could improve our farmers' own lives and improve their psychology was the cooperative roof. We say that we are glad we did it, we are glad that this cooperative existed. After the earthquake, our cooperative member farmers said that we had grown a tree for years,

> *and at the first problem, we all moved under the shade of that tree... We chose to go and bury someone every day, wipe our tears, and heal through production when we came to the cooperative. And I believe that we achieved this... If we did not have the cooperative, we would be subjected to serious harassment. Women were exposed to this. Maybe I would be one of those women. Because I would have had to stay somewhere either in a tent city or a container city. This place was very good for us. We are glad we did it."*

As a middle term support, the **shortage of skilled labour, highlighted as a persistent challenge, necessitates investments in machinery and affordable financing** to stimulate industrial activity and employment. But for long term special focus should be on **transforming low-margin, low-added-value sectors into higher value-added** sectors, leveraging technology to produce high-level products.

> *"Investing in machinery could be viable because there's a need for machinery investment to generate labour demand. Simply hiring workers is not sufficient; there must be a justification for it. This could be supported by machinery or through affordable financing."*

As a long-term policy, addressing the lack of skilled labour through **specialized training programs in sectors with labour shortages can provide a solution to the employment needs**. Professional vocational training centers, if established and operated professionally, could serve as a catalyst for revitalizing the regional economy by spreading qualified personnel across sectors. This is particularly important for agricultural and manufacturing sectors, where there is a significant need for skilled labour to operate advanced machinery and technology.

> *"I suggest we establish a vocational training center. Let's provide quick vocational training in sectors where there are gaps and integrate these into the sectors. It could be supported with wage subsidies or whatever necessary. First and foremost, let the people here live humanely."*

> *"If a professional vocational training center is established and operated professionally, spreading possibly to each district over the long term, it could pave the way for addressing the shortage of skilled personnel at a potentially lower cost, thus serving as a catalyst for revitalizing the regional economy."*

As a short-term suggestion, discussions around **urban planning and the need for reconstruction offer a chance to rethink city layouts and infrastructure** with an eye toward sustainability and resilience. Stakeholders underlines housing affordability, revamping irrigation projects to improve agriculture, and ensuring that industrial facilities have the necessary utilities and services to operate efficiently. "Build Back Better" understanding is pointed as a perspective by the stakeholders:

> *"...it is important to have sustainable investments...if infrastructure is damaged, it is important not only to save the day, but also to have a long-term one...You have to do it in accordance with EU standards. You have to do it at world standards... that's why I think it is important to get international support... It is important to do it with the understanding of build back better."*

> *"Actually, a serious planning and a thorough study should have been conducted, but construction began too quickly, so we started without going through a good, let's say, consultative process. As a result, we tried to maintain the existing state of an already developed city plan without making too many changes or a new revision. This was not actually correct. After all, the city has been demolished, and there will be significant reconstruction. Turning this into an opportunity, making the most of it, was actually a chance at the hands of the current city managers."*

Stakeholders state that encouraging R&D activities in universities and private firms, particularly in sectors like agriculture and manufacturing, can drive innovation and improve productivity and competitiveness.

> *“The local economy largely depends on apricot production, and the labour force is not highly skilled [in Malatya]. Universities or private firms could engage in R&D, but since the headquarters of these private firms are not located here, R&D activities are not actively pursued in this area. We have a few firms that conduct R&D. There's one firm recognized as an R&D and design center.”*

In summary, the stakeholders interviewed offer a set of economic recovery recommendations for the region's various sectors. These suggestions are multi-layered and holistic, encompassing short-term (tailored and favorable condition financing), medium-term (employment increase), and long-term (infrastructural adjustments and shifting from high cost-low profit sectors to low cost-high profit sectors) strategies. All these supports need to be designed with a focus on regional needs, without leaving anyone behind, and taking into account decent work principles. A gender equality perspective should be incorporated into each phase of implementation, starting from the design and planning stages.

An expression of a stakeholder states the tragic picture of the region regarding the needs that caused by the earthquake: "Everything that human civilization has invented after fire is needed here. Including the wheel."

Strategic Insights and Pathways Forward: Concluding Reflections and Recommendations for Resilient Business Recovery After Earthquake

The region's businesses have faced significant challenges in returning to pre-earthquake operational levels, primarily due to substantial customer loss (38.9%) and labour force loss (33.2%). The average closure duration for businesses was 60 days, resulting in a 32% decrease in revenues when measured in USD. This period of inactivity has driven businesses to adopt various recovery strategies. Approximately 38% of businesses reported temporary closures, while 20% increased production to meet changing market demands or recover lost production time. Conversely, 18.8% decreased production due to operational challenges or reduced demand. Product diversification was pursued by 20% of businesses, indicating a strategic adaptation to the new market landscape. Additionally, significant losses were reported in market components such as customers (71.2%), suppliers (57%), products (55.9%), and market share (54.6%).

Adjusting working hours has been another critical response. About 30% of businesses acknowledged a reduction in working hours, which can negatively impact business continuity and profitability. The cessation or reduction of shift work by 12.3% and 4.5% of businesses, respectively, points to a contraction in operational capacity. However, 15.7% of businesses increased their shift numbers to meet shifting demands or compensate for lost operational hours. The abolition of night shifts in some factories highlights workers' desire to be with their families, reflecting the profound psychological impact of the disaster, which was reported by 41% of business representatives.

Despite the economic fragility of approximately 30% of businesses, there has been an increase in supportive practices for employees. After earthquake, businesses have offered more bonuses and profit-sharing while reducing commission-based incentives. Additionally, in-kind and monetary supports such as meal, clothing, fuel, housing/rent assistance, and childcare support have significantly increased. This demonstrates a concerted effort by businesses to support their employees during the recovery phase.

Labour force dynamics have also shifted, with a notable rise in young, unskilled, and non-Turkish workers, supporting the notion of economic contraction and the need for skilled labour. However, only 25% of employers are members of employer organizations, and 70% of businesses lack trade union organization. This lack of unionization, combined with demographic changes and migration, has further weakened labour rights. Among businesses with organized unions, 42% lack the authority for collective bargaining, highlighting a significant limitation in labour rights and union activities.

Key considerations for the recovery process after the earthquake, derived from the research findings, can be summarized as follows:

- **Firstly, the earthquake has created significant economic impacts on businesses.** Despite a year passing, unresolved issues such as infrastructure problems continue to hinder the focus on key issues such as labour force loss and customer loss that are critical for recovery.
- **Businesses have developed strategies to cope with the changing working conditions and labour losses following the earthquake.** Non-salary benefits stand out among these strategies, albeit limited. Financial support provided, especially for SMEs, will have a significant impact and will support their sustainability.
- **The effects of the earthquake on businesses are not limited to economic contraction alone.** Businesses are also affected by psychological and mental impacts, along with the population movements experienced. Migration is one of the main topics affecting the labour market along with

social life. Developing policies to support reverse migration is seen as critical, and it is thought that an increase in employment will naturally trigger reverse migration.

- **Adopting a gender-sensitive approach is essential for the effectiveness of the strategies to be developed**. In addition to the psychological impacts resulting from the challenging circumstances following the earthquakes, new challenges have arisen hindering women's participation in the workforce or their ability to sustain employment. Disruptions in social services and the traditional gender norms have exacerbated the difficulties of women. The fact that women's care for children, the elderly, the injured, the disabled, amputees became barriers to participation in the workforce. Support mechanisms for female entrepreneurs and workers should be strengthened. Given the limited level of benefit from existing supports, the importance of awareness/instruction mechanisms emerges.
- **Finally, the participation of various stakeholders should be valued, and inclusive and effective solutions that consider regional needs should be developed by bringing together differing perspectives.** Institutional social dialogue mechanisms should be effectively utilized in this respect. Participation and social dialogue should be ensured throughout planning, implementation and monitoring of the solutions in this respect.

Policy Recommendations:

- **Enhancing Digital Operations for Economic Recovery:** Businesses in the region have low online operational assets and capacities, highlighting a need for digitalization. This presents an opportunity for economic recovery by supporting businesses in areas such as social media use, website creation, and digital marketing. These efforts will enhance marketing skills and strategies, ultimately increasing market access for businesses. This proactive initiative can also be a tool to alleviate problems in locations such as Hatay, where distributer and supplier losses are reported at the highest prevalence.
- **Addressing Business Relocation Challenges:** Fieldwork data reveals that one in five businesses may change addresses, potentially impacting turnover and financial performance. Relocation can affect spatial capacity, market accessibility, new investments, labour force, and customer reach. The businesses located in the provinces with the highest rates of address change, namely Hatay, Maraş, and Malatya, respectively, are the most vulnerable to customer losses. Digitalization can mitigate these impacts by enhancing online presence and e-commerce participation especially in these provinces. In addition, local authorities should collaborate with businesses to analyse population mobility and reconstruction processes, aligning community and business needs to minimize economic setbacks.
- **Needs-Based Planning in the Reconstruction Phase:** he infrastructure losses and service disruptions observed in cities, proportional to the severity of destruction, have a detrimental impact on the region's access to and participation in the workforce. Given that the reconstruction process will inevitably be spread over time, particularly in cities like Hatay and Adıyaman, it is evident that this process must be managed within frameworks that prioritize these needs. Frequent power outages, limited access to clean and quality water, and weak transportation networks—some of which remain undeveloped—significantly complicate the lives of the working population. The disruption in daily life often results in income loss for SMEs, which report ongoing losses primarily due to customer decline. To ensure access to employment for the workforce and to minimize customer losses for SMEs, close collaboration between employers and local governments is essential for promoting necessary planning. Collaboration among stakeholders on spatial planning, municipal services, and creating facilitative/encouraging environments for service providers is

crucial to enhance the region's attractiveness for labor. Such efforts can contribute to sectoral development and job creation, thereby boosting the willingness of established labor to remain and contribute to recovery efforts.

- **Addressing Skilled Labour Shortages Through Generating Decent Job:** Primary challenge faced by businesses in the aftermath of the earthquakes is the labour loss. The shortage of skilled labour has become more apparent after the earthquake, necessitating proactive measures. Prioritizing vocational skills and professional development initiatives, along with employment incentives, can help address this issue and support a skilled labour force. The sectors primarily affected by this loss are Manufacturing and Utilities, and Agriculture and Natural Resources. For this purpose, long-term training and work-based learning programs with the cooperation of the industrial sector, in which customer and product losses are high, can be operated. Kahramanmaraş, the leading city in the production and export of metal kitchenware can be an important field in this regard.

- **Mobilizing responsible business conduct practices in the global supply chains which are operational in the affected region:** Agriculture, food and textile sectors in the region are closely engaged in global supply chains. Collaboration with multinational companies for improvement of decent work conditions alongside environmental sustainability throughout the recovery process should be prioritized. Social dialogue should be utilized in planning and implementation of such partnerships for responsible business conduct practices.

- **Promoting Value-Added Production and Rural Development:** Productive businesses that stand out in the region should be supported to address the problems posed by the small-scale and low value-added economy trap. The implementation of comprehensive measures aimed at fostering enhanced agricultural practices, particularly in Hatay and Adıyaman, holds the potential to instigate transformative growth within the sector. This entails the establishment of requisite facilities, provision of essential equipment, and facilitation of training initiatives tailored towards incentivizing proficient production methodologies. Such endeavours stand poised to unlock opportunities for value-added businesses within the agricultural domain. Given that agricultural products serve as the primary exports of the region, the implementation of these supportive measures will yield dual benefits: generating income and expanding employment opportunities. Furthermore, considering the protracted urban recovery process anticipated in cities ravaged by significant destruction, backing agricultural development emerges as a viable strategy. Currently, the labour force in the rural economy primarily consists of the most vulnerable groups: women and migrants. Investments in this sector are therefore valuable not only for promoting overall economic growth but also for empowering these vulnerable groups. Additionally, employing migrants will promote social cohesion, and contribute to the local economy. In this context, investments in the agricultural sector can be seen as a strategic tool for the economic and social empowerment of vulnerable groups.

- **Strengthening Union Rights and Working Conditions:** Compliance with the fundamental rights and principals at work should be closely inspected and positive steps for improving the conditions at work in line with these rights and principles should be supported by all development partners. Advocacy work should also be prioritized for five complementary components of these rights and principles framework which are freedom of association and the effective recognition of the right to collective bargaining; the elimination of all forms of forced or compulsory labour; the effective abolition of child labour; the elimination of discrimination in respect of employment and occupation; and a safe and healthy working environment. In addition, social protection coverage of the affected population should be improved through supporting formalization efforts of the enterprises.

- **Promoting Women's Labour Force Participation:** Enterprises have not taken substantial measures to enhance women's labour force participation. The existence of a qualified workforce deficit in all businesses should be considered as ground for women to be qualified and participated in the labour force. Creating jobs specifically designed for women and providing vocational skills in industry, agriculture and services should also be prioritized. Accessible care services tailored to workplace size and location are crucial. Provision of safe transportation, considering working hours and pick-up and drop-off locations, and accommodation support should also be included to ease women’s access to work. Businesses should implement diverse work models accommodating women's needs and address security concerns to boost their participation. Establishing workplace safety regulations and physical accessibility can increase productivity and female involvement. Awareness campaigns and local stakeholder support are vital for advancing these initiatives. In order to increase women's participation in the labour force, the understanding of “zero tolerance to violence” needs to be promoted.
- **Adapting Work Conditions for Psychological Well-being:** Employers should enhance employee well-being by adjusting shift schedules, implementing flexible work arrangements, and incorporating motivational strategies. These initiatives promote social cohesion, stability, and safety in the workplace. Public awareness campaigns are crucial to support mental health and reduce stigma. Collaborative efforts involving employers, governmental bodies, and mental health experts are essential for effective and sustainable support services. Psycho-social assistance should be integrated with awareness campaigns across various locations, including specialized support for those in temporary housing. In addition, trauma-informed enterprise and workforce management practices should be developed and disseminated to increase responsiveness of the employers to the needs of the traumatized employees. This kind of interventions will ease the psychological burden on workers and their social surrounding, increase productivity and decrease the risk of occupational accidents that might occur as a result of ignored trauma.
- **Disaster Preparedness and Resilience:** The earthquake-prone region necessitates integrating preparations for potential future natural disasters into the workplace culture as part of the "build back better" approach. Encouraging the development of strategic plans and emergency action plans is crucial to minimizing losses and ensuring business continuity following disasters. Skill training and awareness campaigns for the public and civil stakeholders should emphasize their roles, responsibilities, and expertise to contribute effectively to this process.
- **Developing Data Metrics for Monitoring:** Accessing official data related to the earthquake-affected region poses challenges that hinder effective tracking of its development and progress. To establish reliable longitudinal data and ensure robust monitoring, a customized method of data collection should be devised specifically for the region. Implementing monitoring systems that focus on specific indicators will also help accurately identify future needs.
- **Further Studies:** Small industrial sites and organized industrial zones, where industrial enterprises are clustered and regulated by law, are crucial areas warranting further study. Given that a significant proportion of the businesses surveyed in our study operate within the service sector, focused research on these industrial centers, where industries such as textiles, furniture, metals, and vehicle repair thrive, could provide comprehensive and deeper insights. Further studies in this field are essential for a thorough analysis of the region's economic landscape and its requirements.

Appendix

Appendix 1. Sampling Strategy and List of Selected Neighbourhoods

First Stage Survey Implementation

In the most affected areas of the provinces of Gaziantep, Hatay, Malatya, Kahramanmaraş, and Adıyaman, a total of 10 neighbourhoods have been identified across the following districts:

- Gaziantep: Central Districts: Şahinbey - Şehitkamil
- Malatya: Battalgazi and Yeşilyurt
- Kahramanmaraş: Onikişubat, Dulkadiroğlu
- Hatay: Antakya, Defne, İskenderun
- Adıyaman: Central District

The selection of districts was limited by the lack of official data at the district and neighbourhood-level on how businesses were affected by the earthquake. The absence of official data made it impossible to perform the clustering during the selection process based on official statistics. Therefore, the selection of neighbourhoods was based on discussions with economic stakeholders in the regions, as well as data on business and population densities and information obtained from the chambers.

The selection of these neighbourhoods was based on the total populations as per the Turkish Statistical Institute's (TURKSTAT) 2022 Address-Based Population Registration data, and discussions held with the Chambers of Commerce and Industry and the Chambers of Craftsmen and Artisans of the respective provinces. These discussions helped determine the neighbourhoods that best represent each district. Nine to eleven neighbourhoods with a high concentration of small and medium-sized enterprises were identified.

The process of categorizing the earthquake damage level into clusters will take place after the initial phase of data gathering is complete. This crucial step involves a detailed on-site evaluation to determine the exact proportion of businesses that have ceased operations due to the earthquake's impact. The damage assessment will be meticulously categorized into three distinct clusters based on the severity of the damage: low, medium, and high. Each cluster will reflect varying degrees of operational and structural setbacks faced by the businesses within the affected areas.

Based on the guidelines provided, the survey distribution process across cities and their respective districts and neighbourhoods follows a systematic approach to ensure equal representation and comprehensive data collection. For each city, the total number of surveys to be conducted is divided equally among the cities, with examples given as 675/5 and 2250/5, indicating that the total number of surveys is divided by the number of cities involved in the study.

The allocation of surveys to each district within a city is calculated by dividing the total number of surveys assigned to that city by the number of districts in the city. Subsequently, the number of surveys to be conducted in each neighbourhood within a district is determined by dividing the district's allocated survey count by the number of neighbourhoods in that district. This equitable distribution ensures that each neighbourhood receives a minimum of 20 screening surveys and 6 enterprise surveys, allowing for a balanced and thorough assessment of both the demographic characteristics and the business environment within each area.

This meticulous planning and distribution strategy, as outlined in the supplementary "Sampling data" (referred to as Appendix 1), is designed to capture a wide array of data across different regions, ensuring that the findings are representative of the diverse socio-economic landscapes within the cities.

The screening survey was developed in coordination with the ILO team and has been coded into LimeSurvey For detailed information regarding the screening survey, please refer to Appendix 2.

SAMPLE SIZE CALCULATION

In the research, the universe encompasses the total number of businesses in the earthquake zone, which is 174,486 according to TİSK data as of December 2023. For the survey, it's calculated that a sample size of 2,250 will adequately represent this universe with a 95% confidence level and a margin of error of ±2.05%. The formula used to determine this is based on statistical principles for calculating sample size and margin of error in surveys.

The formula is as follows:

- x=Z(c100)2×r(100−r)*x*=*Z*(100*c*)2×*r*(100−*r*)
- n=N×x((N−1)×E2+x)*n*=((*N*−1)×*E*2+*x*)*N*×*x*
- E=(N−n)×xn(N−1)*E*=*n*(*N*−1)(*N*−*n*)×*x*

In these equations:

- N*N* is the population size (174,486 businesses),
- r*r* is the fraction of responses of interest,
- Z(c100)*Z*(100*c*) is the critical value for the confidence level c*c* (95% in this case),
- n*n* is the sample size (2,250 surveys),
- E*E* is the margin of error (±2.05%).

By utilizing these formulas, the research ensures a statistically significant representation of the business population in the earthquake-affected zone, which aids in drawing accurate and reliable conclusions from the survey data.

In the study's methodology, streets within the districts of the specified provinces will be randomly selected on-site for the sampling process. This strategy employs a systematic sampling technique, which starts by choosing a random point and then proceeds to select every "n" business for participation in the research. This method ensures a uniform distribution of the sample across the designated areas. Such an approach is highly effective in urban environments where businesses are closely clustered, offering a methodical yet randomized selection process that minimizes potential biases associated with purely random or purely convenience sampling methods. This adjustment emphasizes the in-field random selection of streets to enhance the study's objectivity and representativeness.

The systematic sampling will be conducted as follows:

- **Random Selection of Streets:** Streets in the targeted districts of the focused provinces will be randomly selected. This randomness ensures that the sample is not skewed towards any particular type of street or business area.
- **Sequential Sampling of Businesses:** Starting from a randomly determined point on each street, every “n” business will be approached for participation in the survey. The interval (n) will be determined based on the total number of businesses on the street and the desired sample size, ensuring a representative cross-section.
- **Inclusion of Various Business Types:** This method allows for the inclusion of a diverse range of businesses, from small local shops to larger enterprises, ensuring a comprehensive understanding of the business landscape in the earthquake-affected areas.
- Additionally, a refusal strategy is integrated into the sampling process to account for non-responses or refusals. This strategy is crucial for maintaining the representativeness and reliability of the sample. In the event of a refusal or non-response, the following steps will be taken:
- **Immediate Replacement:** If a selected business refuses to participate or is non-responsive, the next business in the sequence (the 'n+1' business) will be approached as a replacement. This ensures that the sample size remains consistent and robust.
- **Documentation of Refusals:** All instances of refusal will be documented, including the reasons for refusal if provided. This data is valuable for understanding any patterns or biases in non-participation and for improving future research methodologies.
- **Limit on Consecutive Refusals:** If there are consecutive refusals on a particular street, the sampling may shift to an alternate randomly selected street within the same district to avoid over-representation of a specific area or type of business.

By employing systematic sampling with a well-planned refusal strategy, the research ensures that the data collected is both statistically valid and reflective of the diverse range of business experiences and perspectives in the earthquake-affected regions.

1.2. Second Stage Survey Implementation

In the first stage, businesses within the identified neighbourhoods that consent to complete the survey will be selected. A minimum of 6 businesses per neighbourhood is targeted (the minimum number of surveys for each neighbourhood was detailed in Appendix 1), totaling 135 businesses for each province. In the second stage of the research, a focus is placed on women-owned businesses with 20% of the selected businesses. This particular group, using the same statistical formulation as before, the margin of error is calculated to be 3.76%.

This margin of error, while slightly higher than the overall survey's margin, is still within an acceptable range for statistical analysis. It allows for confident conclusions to be drawn about women-owned businesses within the earthquake-affected area. The specific focus on this segment ensures that the unique challenges and perspectives of women entrepreneurs are adequately captured and understood in the study, which is crucial for developing well-rounded and inclusive recovery strategies and policies. The study will ensure the inclusion of business types operated by women and migrants, and collaboration with other actors in the region will be maintained throughout the fieldwork.

The business survey, similar to the screening survey, was devised in collaboration with the ILO team and has been coded into LimeSurvey. For an in-depth look at the screening survey, please see Appendix 3. Furthermore, for access to the specifically coded field form for the screening survey, please follow the link: https://adhoc.limequery.com/875385?lang=tr

This process ensures that the survey is methodically organized and readily accessible for implementation, facilitating the collection of valuable data in a structured manner.

Data Security and Field Controls:

- **Training for Field Workers:** Each field worker involved in the study will be required to attend one online training session conducted from Istanbul and one face-to-face training session conducted by field supervisors. This ensures that all field workers are adequately prepared and understand the study's protocols and objectives. For the interviewers training please see video: https://drive.google.com/file/d/1vbLKLg7deXMbButGj_wjesUeLbGrK-JZ/view?usp=share_link

- **Inclusion of Supervisors in Each Region:** At least one supervisor included in each regional team. The supervisor's role is to oversee the fieldwork, ensuring that all procedures are followed correctly and that data collection standards are maintained.
- **Field Supervision:** Each interviewer will be accompanied by supervisors in the field. Supervisors will monitor the interviewers throughout the fieldwork period, ensuring adherence to the research protocols and addressing any issues that may arise.
- **Phone Checks and Quality Control:** Every survey registered in the system will be subjected to telephone checks. If more than 20% of the surveys conducted by an interviewer are found to be erroneous, all the interviews conducted by that interviewer will be removed from the database, and their fieldwork will be terminated. This is a crucial step in maintaining the integrity and reliability of the data.
- **Location Data Verification:** The location data of each interview will be stored in the dataset. If the locations do not match the specified regions, the surveys will be invalidated. This step ensures that the data collected is from the intended geographical areas.
- **Periodic Data Checks:** The dataset will be downloaded at specific intervals for logic and distribution tests. Units that deviate significantly in variance tests will be subjected to further scrutiny and may be removed from the dataset if necessary. This procedure helps in identifying and correcting any inconsistencies or errors in the data.
- **Participant Information and Consent:** Each participant in the study will be informed about the research (the information and consent text will be developed in collaboration with ILO), and their

verbal consent will be obtained before starting the interview. This process ensures that all participants are aware of the study's purpose and agree to participate.

- **Protection Compliance:** All data collected will be protected according to the principles of the Personal Data Protection Law (KVKK) and Adhoc Research's Privacy Policy. This compliance ensures that all participant information is handled with the utmost confidentiality and security, maintaining the integrity of the research.

NEIGHBOURHOODS	# of Screening Survey	# of Enterprise Survey
ADIYAMAN	451	135
ADIYAMAN MERKEZ	451	135
ALTINŞEHİR MAH.	56	17
BAHÇELİEVLER MAH.	56	17
CUMHURİYET MAH.	57	17
KARAPINAR MAH.	56	16
SİTELER MAH.	56	17
SÜMEREVLER MAH.	57	17
YENİ MAH.	57	17
YEŞİLYURT MAH.	56	17
GAZİANTEP	451	135
ŞAHİNBEY	226	68
BARAK MAH.	25	8
BARIŞ MAH.	25	7
BEYDİLLİ MAH.	25	8
DENİZ MAH.	25	7
GÜNEŞ MAH.	25	8
GÜNEYKENT MAH.	26	8
KONAK MAH.	25	8
MİMAR SİNAN MAH.	25	7
ŞENYURT MAH.	25	7
ŞEHİTKAMİL	225	67
ATATÜRK MAH.	25	8
BATIKENT MAH.	25	8
BELKIZ MAH.	25	8
EYÜPSULTAN MAH.	25	7
GÜVENEVLER MAH.	25	8
KARACAOĞLAN MAH.	25	7
MEVLANA MAH.	25	7
PANCARLI MAH.	25	7
SELİMİYE MAH.	25	7
HATAY	455	135
ANTAKYA	186	55
AKASYA MAH.	21	7
AKSARAY MAH.	20	6
EKİNCİ MAH.	21	6
EMEK MAH.	20	6
KÜÇÜKDALYAN MAH.	21	6
KUZEYTEPE MAH.	20	6
ODABAŞI MAH.	21	6
SARAYKENT MAH.	21	6
ÜRGEN PAŞA MAH.	21	6
DEFNE	124	37
ARMUTLU MAH.	21	6
AŞAĞIOKÇULAR MAH.	20	6
ÇEKMECE MAH.	21	7
DURSUNLU MAH.	20	6
HARBİYE MAH.	21	6
SÜMERLER MAH.	21	6
İSKENDERUN	145	43
DENİZCİLER MAH.	21	7
İSMET İNÖNÜ MAH.	21	6
MODERNEVLER MAH.	21	6
MURADİYE MAH.	20	6
MUSTAFA KEMAL MAH.	21	6
PİRİREİS MAH.	20	6

SAKARYA MAH.	21	6
KAHRAMANMARAŞ	448	135
DULKADİROĞLU	235	71
ASLAN BEY MAH.	24	7
BAĞLARBAŞI MAH.	24	7
DOĞU KENT MAH.	24	8
DULKADİROĞLU MAH.	23	7
DURAKLI MAH.	23	7
KANUNİ MAH.	23	7
NAMIK KEMAL MAH.	24	7
YAHYA KEMAL MAH.	24	7
YAVUZ SELİM MAH.	23	7
YENİ ŞEHİR MAH.	23	7
ONİKİŞUBAT	213	64
HAYDAR BEY MAH.	24	7
HÜRRİYET MAH.	25	8
MİMAR SİNAN MAH.	24	7
PİRİ REİS MAH.	23	7
SAÇAKLIZADE MAH.	23	7
ŞEHİT ABDULLAH ÇAVUŞ MAH.	24	7
SÜLEYMANŞAH MAH.	23	7
TEKEREK MAH.	23	7
YİRMİİKİGÜN MAH.	24	7
MALATYA	445	135
BATTALGAZİ	201	62
BAŞHARIK MAH.	23	8
ÇÖŞNÜK MAH.	23	8
FIRAT MAH.	23	8
GÖZTEPE MAH.	22	6
HACI ABDİ MAH.	22	7
MERKEZ BEYDAĞI MAH.	22	6
PAŞAKÖŞKÜ MAH.	22	6
TANDOĞAN MAH.	22	6
ZAFER MAH.	22	7
YEŞİLYURT	244	73
BOSTANBAŞI MAH.	23	8
ÇİLESİZ MAH.	22	7
İNÖNÜ MAH.	22	6
KARAKAVAK MAH.	22	6
ÖZALPER MAH.	22	7
ŞEYH BAYRAM MAH.	22	6
TECDE MAH.	22	7
TURGUT ÖZAL MAH.	22	6
YAKINCA MAH.	22	6
YAVUZ SELİM MAH.	22	6
ZAVİYE MAH.	23	8

Appendix 2. Screening Survey

Consent Form

This study is being conducted by Adhoc Research and Consulting on behalf of the United Nations International Labour Organization, aiming to capture the impact of the February 6th Earthquakes on businesses in your province and to understand your expectations for the future. Your participation will provide recommendations for the targeted recovery policies for the region and will promote humane working conditions and sustainable business practices.

If you agree to the interview, you will participate in a survey that will take approximately 20 minutes. Audio recordings may be taken for data collection purposes during the study. These records will be kept for the periods mandated by the Law No. 6698 on the Protection of Personal Data and will be destroyed afterwards. All the data collected through this survey will remain confidential, only the findings of the research will be evaluated. Individual responses will not be analyzed, but the general responses of the participants will be analyzed. Your participation is completely anonymous and confidential.

Adhoc Research is the data controller for the information obtained, which will be handled in accordance with the Law No. 6698 on the Protection of Personal Data (KVKK) and will not be shared with other institutions/organizations.

Your participation in this research is completely voluntary. You have the right to refuse to participate or withdraw at any point during the interview.

There are no known risks associated with this research. Direct benefits may not be derived from participating in this study; however, your responses will help develop the economy of your region and uncover the impact of the earthquakes on business structures in your region.

I have read the information provided above. I had the opportunity to ask questions about my participation in this study and to receive additional information as requested. I voluntarily consent to participate in this research on behalf of my organization.

1-Yes
2-No (END OF SURVEY)

1. Province where the responding business is located (List):
    a. Adıyaman
    b. Gaziantep
    c. Hatay
    d. Kahramanmaraş
    e. Malatya

2. District (List): _________
3. Neighbourhood (List): _________

4. Gender (Select without asking)
    a. Female
    b. Male

5. Title of business:
6. What is your sector (NACE): (Please select proper answer and verify with the respondent)
    1) Agriculture, Forestry, and Fishing
    2) Mining and Quarrying
    3) Manufacturing Industry
    4) Electricity, Gas, Steam and Air Conditioning Production and Distribution
    5) Water Supply; Sewerage, Waste Management and Remediation Activities
    6) Construction

7) Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles
8) Transportation and Storage
9) Accommodation and Food Service Activities
10) Information and Communication
11) Financial and Insurance Activities
12) Real Estate Activities
13) Professional, Scientific, and Technical Activities
14) Administrative and Support Service Activities
15) Public Administration and Defense; Compulsory Social Security
16) Education
17) Health and Social Service Activities
18) Arts, Entertainment, Recreation, and Leisure
19) Other Service Activities
20) Other (Please specify): ________

7. Is your business operational?
    a. Yes, operational
    b. No, not operational **(END THE SURVEY)**

8. Which applies to your business:
    a. Sole proprietorship, single person
    b. 1-5 employees
    c. 6-10 employees
    d. 11-50 employees
    e. 51-250 employees

9. What was your business's turnover for the 2022 financial year? ___________ TL
10. What was your business's turnover for the 2023 financial year? ___________ TL

11. Which of the following does your business have?

	Yes	No
Tax number	1	2
Bank account	1	2
Chamber of Commerce / Industry / Craftsmen and Artisans Registry	1	2
Registration with local authorities	1	2
Social security registration (SGK)	1	2
Website	1	2
Social media accounts	1	2

12. Are there any women among the managers of your business?
    a. Yes, there are.
    b. No, there are not.

13. Does the business representative hold citizenship of the Republic of Türkiye?
    a. Yes, holds citizenship of the Republic of Türkiye
    b. No, doesn't hold citizenship of the Republic of Türkiye

Appendix 3. Business Survey

Consent Form

This study is being conducted by Adhoc Research and Consulting on behalf of the United Nations International Labour Organization, aiming to capture the impact of the February 6th Earthquakes on businesses in your province and to understand your expectations for the future. Your participation will provide recommendations for the targeted recovery policies for the region and will promote humane working conditions and sustainable business practices.

If you agree to the interview, you will participate in a survey that will take approximately 20 minutes. Audio recordings may be taken for data collection purposes during the study. These records will be kept for the periods mandated by the Law No. 6698 on the Protection of Personal Data and will be destroyed afterwards. All the data collected through this survey will remain confidential, only the findings of the research will be evaluated. Individual responses will not be analyzed, but the general responses of the participants will be analyzed. Your participation is completely anonymous and confidential.

Adhoc Research is the data controller for the information obtained, which will be handled in accordance with the Law No. 6698 on the Protection of Personal Data (KVKK) and will not be shared with other institutions/organizations.

Your participation in this research is completely voluntary. You have the right to refuse to participate or withdraw at any point during the interview.

There are no known risks associated with this research. Direct benefits may not be derived from participating in this study; however, your responses will help develop the economy of your region and uncover the impact of the earthquakes on business structures in your region.

I have read the information provided above. I had the opportunity to ask questions about my participation in this study and to receive additional information as requested. I voluntarily consent to participate in this research on behalf of my organization.

1-Yes
2-No **(END OF SURVEY)**

Business Information

14. Title of business:
15. What is your sector (NACE): (Please select proper answer and verify with the respondent)
    21) Agriculture, Forestry, and Fishing
    22) Mining and Quarrying
    23) Manufacturing Industry
    24) Electricity, Gas, Steam and Air Conditioning Production and Distribution
    25) Water Supply; Sewerage, Waste Management and Remediation Activities
    26) Construction
    27) Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles
    28) Transportation and Storage
    29) Accommodation and Food Service Activities
    30) Information and Communication
    31) Financial and Insurance Activities
    32) Real Estate Activities
    33) Professional, Scientific, and Technical Activities
    34) Administrative and Support Service Activities
    35) Public Administration and Defense; Compulsory Social Security
    36) Education
    37) Health and Social Service Activities

38) Arts, Entertainment, Recreation, and Leisure
39) Other Service Activities
40) Other (Please specify): ________

16. When was your business founded? ___________
17. What is the type of your business? (Legal Status)
    a. Public Limited Company
    b. Limited Company
    c. Sole Proprietorship
    d. Other (Please specify): _______

18. Which applies to your business:
    f. Sole proprietorship, single person
    g. 1-5 employees
    h. 6-10 employees
    i. 11-50 employees
    j. 51-250 employees

19. Province where the responding business is located (List):
    f. Adıyaman
    g. Gaziantep
    h. Hatay
    i. Kahramanmaraş
    j. Malatya

20. District (List): _________
21. Neighbourhood (List): _________

Participant Information – Ownership of Business

22. Do you hold a managerial role in the business? [If the participant has no managerial role in business, attempt to interview with a manager. If you are unable to survey with a business manager, select the "No" response and conclude the survey.]
    a. Yes
    b. No (End of the survey)

23. What is your position in the business?
    a. General Manager - Business representative in a sole proprietorship
    b. Managing partner
    c. Full-time employee in managerial position
    d. Part-time employee in managerial position
    e. Other (Please specify): ______

24. What is your year of birth?
25. Gender (Select without asking)
    c. Female
    d. Male

26. (If the participant is not a business representative or is a male business representative) Are there any women among the managers of your business?
    c. Yes, there are.
    d. No, there are not.

27. What is the highest level of school you have graduated from?
    a. Never attended education / Below primary education
    b. Primary education (Elementary - Middle School)

c. Secondary education (General High School)
d. Secondary education (Vocational High School / Religious High School)
e. Associate degree (2 years)
f. Bachelor's degree (Open education)
g. Bachelor's degree (4 years)
h. Masters
i. PhD and above

Business Official Records – Formality

28. Does your business have a finance or accounting employee?
    a. Yes, at least 1 full-time employee.
    b. Yes, at least 1 part-time employee.
    c. No, I work with a freelance accountant / financial adviser.
    d. No, there is no finance or accounting employee.

29. Do the business export?
    a. We used to before the February 6, 2023, Earthquakes, but not anymore
    b. We did before the February 6, 2023, Earthquakes, and we continue to do so
    c. We didn't before the February 6, 2023, Earthquakes, but we are now
    d. We didn't before the February 6, 2023, Earthquakes, and we are not now

30. (16=a or b) What was your annual export volume in average currency in 2022?
    _____ USD/EURO

31. (16=b or c) What was your annual export volume in average currency in 2023?
    _____ USD/EURO

32. What resources did you utilize when starting your business? (MULTIPLE CHOICE).
    [ ] Mentorships
    [ ] Public assistance or programs
    [ ] International aid and programs
    [ ] Self-research and self-planning
    [ ] Private sector supports, or investments
    [ ] Support from my surroundings (relatives, family, or friends)
    [ ] Other (Please specify): _________

33. Has your business got trade registration?
    a. No, we never applied
    b. No, we applied but have not yet been registered
    c. Yes, registered

34. Which of the following does your business have?

	Yes	No
Tax number	1	2
Bank account	1	2
Chamber of Commerce / Industry / Craftsmen and Artisans Registry	1	2
Registration with local authorities	1	2
Social security registration (SGK)	1	2
Website	1	2
Social media accounts	1	2

35. Does your business have the necessary permits related to your sector?
    a. Yes, we have.
    b. No, we don't.

36. How difficult do you find the registration processes? Please rate on a scale from 1 'Not difficult at all' to 5 'Extremely difficult'.

	1 Not difficult at all	2	3	4	5 Extremely difficult	6 Don't know
Registering the business at the Trade Registry Office	1	2	3	4	5	6
Obtaining a tax number	1	2	3	4	5	6
Opening a bank account	1	2	3	4	5	6
Registering with the Chamber of Commerce / Industry / Craftsmen and Artisans	1	2	3	4	5	6
Registering with local authorities	1	2	3	4	5	6
Making social security registration	1	2	3	4	5	6
Obtaining permits related to the sector	1	2	3	4	5	6

37. Is there a trade union organized in your business?
a. There was before the February 6 Earthquakes, now there is not.
b. There was not before the February 6 Earthquakes, there is still not.
c. There was before the February 6 Earthquakes, there still is.
d. There was not before the Earthquakes, there is now.

38. (IF 26=c or d) Does any of the organized unions at your workplace have collective bargaining authority?
a. Yes
b. No

39. Are you or your business represented in any employers' organization?
a. We were represented before the February 6 Earthquake, not anymore.
b. We were represented before the February 6 Earthquake, still are.
c. We were not represented before the February 6 Earthquake, now we are.
d. We were not represented before the February 6 Earthquake, still are not.

40. What was your business's turnover for the 2022 financial year? ___________ TL
41. What was your business's turnover for the 2023 financial year? ___________ TL

42. How many employees did your business have in the years I will read?
Please answer separately for the end of the year 2022 (December) and the end of the year 2023 (December).

	2022	2023
Full-time employee		
Part-time employee		
Piece-rate / Daily wage worker		
Seasonal employee		
Total number of employees		
Full-time female employee		
Part-time female employee		
Piece-rate / Daily wage female worker		
Seasonal female employee		
Total female employees		

43. What did your business experience during the February 6, 2023, Earthquakes?

	Yes	No
Loss of life among business employees	1	2
Permanent physical disability among business employees	1	2
Physical damage to business properties	1	2
Loss/damage of production equipment/assets	1	2
Reduction in the talent / candidate pool	1	2

Loss of products	1	2
Loss of market share	1	2
Loss of suppliers	1	2
Loss of customers	1	2
Loss of raw materials	1	2
Loss of distributors/suppliers	1	2

Supportive Factors

PRE-EARTHQUAKE

44. When you think about before the February 6, 2023, Earthquakes, how true do you think these statements are for your business? Please rate from 1 'Strongly disagree' to 5 'Strongly agree'.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Access to finance was easy for our business.	1	2	3	4	5
Access to business regulations was easy for our business.	1	2	3	4	5
Access to expertise was easy for our business.	1	2	3	4	5
Access to a skilled labour force and skills development services were easy for our business.	1	2	3	4	5
Access to employers and business organizations was easy.	1	2	3	4	5
Access to support from local governments was easy.	1	2	3	4	5
The state provided fair and equal support.	1	2	3	4	5
Access to incentives for employees (e.g., Short-Time Work Allowance, Wage Guarantee Fund) was easy.	1	2	3	4	5
Access to healthcare services for employees was easy.	1	2	3	4	5
Access to childcare and family support services was easy for employees.	1	2	3	4	5
Access to affordable housing for employees was easy.	1	2	3	4	5
The state practices were fair.	1	2	3	4	5
The state practices were implemented fairly.	1	2	3	4	5
There were stable economic policies.	1	2	3	4	5
There were stable political processes.	1	2	3	4	5
Digital tools could be effectively utilized.	1	2	3	4	5
There were fair and decent labour practices. (wages, working hours, social security, unionization, collective labour agreements, anti-discrimination, etc.)	1	2	3	4	5
There were effective occupational health and safety (OHS) mechanisms.	1	2	3	4	5

45. What were the main challenges your business faced in terms of its growth before the February 6, 2023, earthquakes? [MULTIPLE CHOICE]

[ ] Lack of sufficient financing
[ ] High interest rates
[ ] Difficulty in finding investors
[ ] Intense competition
[ ] Variability of customer demands
[ ] Difficulties in entering new markets
[ ] Production efficiency issues
[ ] Supply chain disruptions
[ ] Difficulty finding qualified personnel
[ ] Inability to develop an effective business strategy
[ ] Insufficient management and leadership skills
[ ] Challenges in adapting to innovation and technology
[ ] Rigid and variable regulatory requirements
[ ] Protection of intellectual property rights
[ ] Taxation and financial obligations
[ ] Compliance with sustainability and environmental standards
[ ] Adherence to societal expectations and responsibilities
[ ] Corporate reputation management
[ ] Challenges in building marketing and brand awareness
[ ] Difficulty in adapting to technological changes (in terms of machines, digital tools, human resources, process management)

46. Did your business have a defined strategic business plan before the February 6, 2023, earthquakes?
a. Yes
b. No

47. Does your business use digital tools for business operations?
a. Yes
b. No

48. Does your business have a policy statement on environmental sustainability?
a. Yes
b. No

49. Has your business implemented a practice regarding environmental sustainability?
a. Yes
b. No

50. Before the earthquake, did your business apply for any loans, debts, or grants?
a. Applied but did not achieve support.
b. Applied and achieved support.
c. Did not apply.

51. (IF 37=a) What were the reasons for your application being rejected? Please specify.

____

52. Outside of traditional banking options, are you exploring other sources of finance to sustain or grow your business?
a. Yes
b. No

53. If additional funding is obtained, how do you plan to use these funds? Please specify.

____

54. When considering the period after the February 6, 2023, earthquakes, in which direction did things change for your business? Please score from 1 'Much worse' to 5 'Much better'.

	Much worse	Worse	No change	Better	Much better
Access to finance for our business	1	2	3	4	5
Access to business regulations for our business	1	2	3	4	5
Access to expertise for our business	1	2	3	4	5
Access to a skilled labour force with professional knowledge	1	2	3	4	5
Access to employers and business organizations	1	2	3	4	5
Access to support from local governments	1	2	3	4	5
Fair and equal support from the state	1	2	3	4	5
Access to incentives for employees (e.g., Short-Time Work Allowance, Wage Guarantee Fund)	1	2	3	4	5
Access to healthcare services for employees	1	2	3	4	5
Access to childcare and family support services for employees	1	2	3	4	5
Access to affordable housing for employees	1	2	3	4	5
Fairness of state practices	1	2	3	4	5
Fair implementation of state practices	1	2	3	4	5
Stability of economic policies	1	2	3	4	5
Stability of political processes	1	2	3	4	5
Effective use of digital tools	1	2	3	4	5
Fair and decent labour practices	1	2	3	4	5
Existence of effective occupational health and safety (OHS) mechanisms	1	2	3	4	5

55. How did the February 6, 2023, earthquakes most negatively affect your business? Can you detail?

Impacts of Earthquake

56. 60.59. What is the impact of the earthquake on your personal psychological and mental wellbeing?

1 No impact	2	3	4	5 Extremely negatively affected'
1	2	3	4	5

57. Have you received any psychological treatment after the earthquakes?

Yes

No

58. (IF 30.4=1) What ongoing physical damages exist in your business? Please detail.

59. Did the February 6 earthquakes cause your business to move to a different address?
    a. Yes
    b. No

60. (IF 46=b) Due to the February 6 earthquakes, will you need to move from your current address?
    a. Yes
    b. No

61. Did your business receive following assistance after the earthquake? [MULTIPLE CHOICE]
    a. State resources
    b. Local government resources
    c. Private sector resources
    d. International resources
    e. Civil society resources
    f. Other (Please specify): __________

62. Did your business temporarily close as a result of the February 6 earthquakes?
    a. Yes
    b. No

63. (IF 49=a) For approximately how many days was your business closed?
______ Days

64. What factors led to a decrease in your products or services as a result of the February 6 earthquakes? [MULTIPLE CHOICE]

    [ ] Infrastructure damage
    [ ] Loss of labour force
    [ ] Supply chain disruption
    [ ] Communication breakdown with main raw material providers
    [ ] Decreased customer demand
    [ ] Failure to meet demand due to supplier capacity decrease or closure
    [ ] Logistical delays
    [ ] Financial difficulties
    [ ] Access issues (transportation, communication, etc.)
    [ ] Increased competition
    [ ] Price increase
    [ ] Decrease in production capacity
    [ ] Raw material shortages
    [ ] Decrease in marketing effectiveness
    [ ] Loss of customers
    [ ] Quality issues
    [ ] Distribution problems
    [ ] Decrease in sales points
    [ ] Lack of development of new products or services
    [ ] Management crisis
    [ ] Other (Please specify): __________
    [ ] No change

65. What are the main challenges preventing your business from returning to pre-earthquake levels of operation? [MULTIPLE CHOICE]
    [ ] Infrastructure damage
    [ ] Loss of labour force
    [ ] Supply chain disruption
    [ ] Communication breakdown with main raw material providers
    [ ] Decreased demand

[ ] Failure to meet demand due to supplier capacity decrease or closure
[ ] Logistical delays
[ ] Financial difficulties
[ ] Access issues (transportation, communication, etc.)
[ ] Increased competition
[ ] Price increase
[ ] Decrease in production capacity
[ ] Raw material shortages
[ ] Decrease in marketing effectiveness
[ ] Loss of customers
[ ] Quality issues
[ ] Distribution problems
[ ] Decrease in sales points
[ ] Lack of development of new products or services
[ ] Management crisis
[ ] Other (Please specify): __________

Labour force

66. (IF 31.1=1) How many employees lost their lives as a result of the earthquake?

____

67. Did working hours in the business change after the earthquake?
a. Yes, decreased.
b. Yes, increased.
c. No, no change.

68. Does your business have a shift system?
a. No, there wasn't one before the earthquake, and there still isn't.
b. No, there was one before the earthquake, but not now.
c. Yes, there was, and it continues with increased number of shifts.
d. Yes, there was but it continues with decreased number of shifts.
e. Yes, there wasn't one before the earthquake, but there is now.

69. How did employee wages change after the earthquake?
    a. Increased at the rate of inflation.
    b. Increased above the rate of inflation.
    c. Increased below the rate of inflation.
    d. Stayed the same.

56a. Which of the following non-wage benefits were paid to your employees in the indicated dates? (MULTIPLE CHOICE)

Benefit Item	12 months long period before the earthquakes	12 months long period after the earthquakes
Bonus payment		
Premium payments		
Commission		
Dividend		
Food benefits		
Transportation benefits		
Clothing benefits		
Coals		
Housing benefits		
Childcare benefits		
Other (Please specify)		

56b. What was the ratio of minimum wage earners among your employees for the given dates?

January 2023	Up to 25%	Up to 50%	Up to 75%	Up to %90	More than 90%
January 2024	Up to 25%	Up to 50%	Up to 75%	Up to %90	More than 90%

70. How did your labour force change after the earthquake?
    Score from 1 'Decreased significantly' to 5 'Increased significantly'.

	Decreased Significantly	Decreased	No change	Increased	Increased Significantly
	1	2	3	4	5
Number of male employees	1	2	3	4	5
Number of female employees	1	2	3	4	5
Number of skilled employees	1	2	3	4	5
Number of unskilled employees	1	2	3	4	5
Number of employees under 29 years old	1	2	3	4	5
Number of employees aged 30-49	1	2	3	4	5
Number of temporary employees	1	2	3	4	5
Number of Turkish citizen employees	1	2	3	4	5
Number of non-Turkish citizen employees	1	2	3	4	5

71. What contributions have you made to retain your employees and support their psychological, mental and physical well-being after the February 6 earthquakes? [MULTIPLE CHOICE]
    [ ] Providing accommodation
    [ ] Short-term work allowances
    [ ] Reducing working hours
    [ ] Supporting transportation to work
    [ ] Meal assistance
    [ ] Remote working
    [ ] Psychosocial therapy support
    [ ] Promoting physical activities
    [ ] Organizing motivational activities
    [ ] Offering support programs for families
    [ ] Organizing activities to increase solidarity and communication among employees
    [ ] Arranging personal development and stress management training
    [ ] Implementing flexible working arrangements
    [ ] Reallocating workloads
    [ ] Providing workplace psychological counseling services
    [ ] Conducting regular health screenings
    [ ] Assisting employees with solving problems at home
    [ ] Providing financial support
    [ ] Offering childcare services
    [ ] Other (Please specify): _________
    [ ] No contribution

72. What is the impact of the earthquake on the well-being of your employees?
Score from 1 'No impact' to 5 'Extremely negatively affected'.

1 No impact	2	3	4	5 Extremely negatively affected'
1	2	3	4	5

73. How has your current business performance changed after the earthquakes?
Score from 1 'Much worse' to 5 'Much better'.

1 Much worse	2	3	4	5 Much better
1	2	3	4	5

74. How do you evaluate the performance of your business on the items I will read?
Score from 1 'Extremely bad to 5 'Extremely good'.

	1 Extremely bad				5 Extremely good
Financial performance (revenue, cash flow, debt level)	1	2	3	4	5
Operational performance (Supply chain, Capacity, costs)	1	2	3	4	5
Customer potential (Loyalty, demand)	1	2	3	4	5
Human resources	1	2	3	4	5
Use of technology	1	2	3	4	5
Market access	1	2	3	4	5
Sustainability practices	1	2	3	4	5
Strategic planning	1	2	3	4	5
Risk management	1	2	3	4	5
Utilization of support from state or other organizations	1	2	3	4	5
Social protection and income security for employees	1	2	3	4	5
Growth vision	1	2	3	4	5
Innovative initiatives	1	2	3	4	5
New investments	1	2	3	4	5
Responsible business applications	1	2	3	4	5

75. How did the performance of your business change in the first 6 months after the earthquake?
Score from 1 'Much worse' to 5 'Much better'.

	1 Much Worse				5 Much Better
Financial performance (revenue, cash flow, debt level)	1	2	3	4	5
Operational performance (Supply chain, Capacity, costs)	1	2	3	4	5
Customer potential (Loyalty, demand)	1	2	3	4	5
Human resources	1	2	3	4	5
Use of technology	1	2	3	4	5
Market access	1	2	3	4	5
Sustainability practices	1	2	3	4	5
Strategic planning	1	2	3	4	5
Risk management	1	2	3	4	5
Utilization of support from state or other organizations	1	2	3	4	5
Social protection and income security for employees	1	2	3	4	5
Growth vision	1	2	3	4	5
Innovative initiatives	1	2	3	4	5
New investments	1	2	3	4	5
Responsible business applications	1	2	3	4	5

76. How did the performance of your business change in the second 6 months after the earthquake?
Score from 1 'Much worse' to 5 'Much better'.

	1 Much Worse				5 Much Better
Financial performance (revenue, cash flow, debt level)	1	2	3	4	5
Operational performance (Supply chain, Capacity, costs)	1	2	3	4	5
Customer potential (Loyalty, demand)	1	2	3	4	5
Human resources	1	2	3	4	5
Use of technology	1	2	3	4	5
Market access	1	2	3	4	5
Sustainability practices	1	2	3	4	5
Strategic planning	1	2	3	4	5
Risk management	1	2	3	4	5
Utilization of support from state or other organizations	1	2	3	4	5
Social protection and income security for employees	1	2	3	4	5
Growth vision	1	2	3	4	5
Innovative initiatives	1	2	3	4	5
New investments	1	2	3	4	5
Responsible business applications	1	2	3	4	5

77. What are your expectations regarding the growth of employment in your business over the next 1 year?

a. Will decrease significantly.
b. Will decrease slightly.
c. Will remain the same.
d. Will increase slightly.
e. Will increase significantly.

78. Why did you give this rating?

79. What state support do you need? (MULTIPLE OPTION)

   a. Financial Support (grants, loans, tax reliefs, subsidies)
   b. Regulatory Support (fast tracking permits, relaxation, and support on navigation in new compliance
   c. Labour force support
   d. Supply Chain support (access to information, logistical support, etc.)
   e. Technical support
   f. Mental health and wellbeing support
   g. Other (Please specify: _________)

80. Please rate the labour force support from the state or other stakeholders that you need. Score from 1 No need at all' to 5 Extremely necessary.

	1 No need at all	2	3	4	5 Extremely necessary
Vocational skill trainings	1	2	3	4	5
Recruitment assistance and employment services	1	2	3	4	5
Incentives	1	2	3	4	5
Financial support	1	2	3	4	5
Workplace consultancy services	1	2	3	4	5
In-house training programs	1	2	3	4	5
Employment incentive programs	1	2	3	4	5
Workplace diversity and inclusion training	1	2	3	4	5
Occupational health and safety trainings	1	2	3	4	5
In-house mentorship programs	1	2	3	4	5
Labour force planning consultancy	1	2	3	4	5

81. What steps did your business take for recovery after the earthquake? [MULTIPLE CHOICE]

[ ] Temporary business closure
[ ] Reducing production
[ ] Increasing production
[ ] Diversifying products
[ ] Diversifying sale channels
[ ] Changing sector
[ ] Payment terms negotiation
[ ] Negotiation with workers
[ ] Layoffs
[ ] Postponing investment
[ ] Securing financial supports
[ ] Rebuilding infrastructure
[ ] Improve emergency preparedness
[ ] Other (Please specify): _________

82. Do you recognize any business opportunities associated with the crisis caused by the earthquake?
a) Yes (Please specify): _________
b) No

83. How do you observe the recovery process after the earthquake in the province? Could you rate it on a scale of 1 to 5, where 1 is "No improvement at all" and 5 is "Significantly improved"?

1 No improvement at all	2	3	4	5 Significantly improved
1	2	3	4	5

84. In what ways did it improve?

85. What are your plans for future about your business?

86. How optimistic do you feel about the future of your business over the next 12 months? Please rate on a scale from 1 "Not optimistic at all" to 5 "Extremely optimistic".

1 Not optimistic at all	2	3	4	5 Extremely optimistic
1	2	3	4	5

87. Do you plan to invest more in the next 12 months?
a. Yes
b. No

88. In which areas do you plan to invest?

89. Do you consider closing your business in the next 24 months?
a. Yes
b. No

90. Do you consider giving up your current business and starting another one in the next 24 months?
a. Yes
b. No

91. Do you consider moving to another city and starting a business there in the next 24 months?
a. Yes
b. No

Migration and Women's Employment

92. Was your business affected by migration after the earthquake?
a. Yes
b. No

93. In what ways was it affected? Could you explain?

94. What can your business do to support reverse migration? Please elaborate.

95. What can the state do to support reverse migration? Please elaborate.

96. Have you received any supports specifically designed for women's businesses to support recovery after the earthquake? (Ask if the business owner or a partner is a woman)
a. Yes
b. No

97. (IF 83=a) What kind of support did you benefit from? Please specify

98. Have there been any changes in the distribution of roles or responsibilities based on gender since the earthquake? Please specify... (Change in women's access to managerial positions, superior roles for the blue-collar women workers -i.e. promotion of a machine operator/worker woman up to a foreperson, etc.)

99. Which of the following apply to the women employees in your enterprise after the earthquake?
[ ] Less women are employed in technical positions
[ ] Less women employed in managerial positions after the earthquake
[ ] Working hours of women were declined
[ ] Increase of women's demands for financial and in-kind contribution for the care responsibilities such as child, elderly and disabled care

100. Did you provide any support specifically for the safety and accommodation needs of female workers affected by earthquakes?
a. Yes
b. No

101. Did you implement support services such as counseling or flexible working arrangements specifically for female workers affected by earthquakes?
a. Yes
b. No

102. In your opinion, what difficulties are your female workers facing more than men after the earthquakes?

103. Did you make any changes to workplace policies to support female workers after the earthquakes?
a. Yes
b. No

104. (If yes) What did you do?

105. Are you aware of any initiatives intended to increase or implemented to increase economic opportunities for female workers after the earthquakes?
a. Yes
b. No

106. (If yes) What are they?

107. Do you have any other issues that you consider necessary to raise that is not covered in this questionnaire.

Appendix 5. List of Stakeholders Accessed (Stakeholder Pool)

Stakeholder	Province	Scope
KOSGEB-SME Development Department	Ankara	National
Ministry of Technology and Industry - Local and Rural Development Coordination Department	Ankara	National
TİSK (Confederation of Turkish Employers' Associations)	Ankara	National
ASAM- Association for Social Development and Aid Mobilization	Ankara	National
TÜSİAD-Turkish Industry & Business Association	İstanbul	National
Union of Municipalities of Türkiye	Ankara	National
Development Workshop	Ankara	National
Support to Life	İstanbul	National
Sabancı Foundation	İstanbul	National
Koç Foundation	İstanbul	National
İnogar Cooperative	İstanbul	National
EBRD	İstanbul	National
Support Foundation for Civil Society	İstanbul	National
Turkish Entrepreneurship Foundation (GİRVAK)	İstanbul	National
UINDP- Inclusive and Sustainable Growth Portfolio Manager (Public Policies and Inequalities)	Ankara	National
TEPAV -The Economic Policy Research Foundation of Türkiye	Ankara	National
Ministry of Commerce - General Directorate of Exports - SME and Clustering Supports Department	Ankara	National
European Investment Bank	Ankara	National
TMMOB- Union of Chambers of Turkish Engineers and Architects	Ankara	National
MÜSİAD- Independent Industrialists' and Businessmen's Association	İstanbul	National
ILbank- Gaziantep Regional Directorate	Gaziantep	National
DİSK- Confederation of Revolutionary Trade Unions	İstanbul	National
Dev-Yapı-İş- Revolutionary Union of Structure, Construction and Road Workers	İstanbul	National
KEDV- Foundation for the Support of Women’s Work	İstanbul	National
UNDP WOMEN	Ankara	National
WEPS /UN	Ankara	National
Gaziantep Metropolitan Municipality - Nurdağı Post-Disaster Recovery Department	Gaziantep	Local
Gaziantep Metropolitan Municipality - İslahiye Post-Disaster Recovery Department	Gaziantep	Local
Gaziantep Provincial Directorate of Labour and Employment	Gaziantep	Local
İŞKUR (Turkish Employment Agency) - Department of Employment Services	Gaziantep	Local
SGK Gaziantep Provincial Directorate - Şahinbey Social Security Center	Gaziantep	Local
KOSGEB Gaziantep Provincial Directorate	Gaziantep	Local
DİSK Gaziantep Regional Representative	Gaziantep	Local
Gaziantep Chamber of Tradesmen and Craftsmen Union	Gaziantep	Local
SGK Gaziantep Provincial Directorate - Şehitkamil Social Security Center	Gaziantep	Local
Gaziantep Provincial Directorate of Agriculture and Forestry - Rural Development and Organization Branch	Gaziantep	Local
Gaziantep Şehitkamil District Governorship	Gaziantep	Local
Gaziantep Governorship - Investment Monitoring and Coordination Directorate	Gaziantep	Local
Gaziantep Organized Industrial Zone Directorate	Gaziantep	Local
Southeastern Anatolia Exporters' Association - Gaziantep Free Zone Liaison Office	Gaziantep	Local
Gaziantep Chamber of Industry	Gaziantep	Local
TMMOB Chamber of Architects Gaziantep Branch	Gaziantep	Local
TMMOB Chamber of Architects Gaziantep Branch	Gaziantep	Local
Silk Road Development Agency (Adıyaman and Gaziantep Investment Support Office)	Gaziantep	Local
Gaziantep Provincial Disaster and Emergency Directorate -AFAD	Gaziantep	Local
KAMER–Women's Center Education Production Consultation and Solidarity Foundation	Gaziantep	Local
Zeugma Women's Cooperative	Gaziantep	Local
ASAM Gaziantep Şahinbey Representative Office	Gaziantep	Local
Gaziantep Young Businessmen Association	Gaziantep	Local
GÜNSİFED Southeastern Industry and Business World Federation	Gaziantep	Local
Association for Supporting Women Entrepreneurs (KAGIDEM)	Gaziantep	Local
Gaziantep Textile Industrial Employers' Association	Gaziantep	Local

Gaziantep Chamber of Commerce	Gaziantep	Local
T.C. Gaziantep Governorship Immigration Administration	Gaziantep	Local
Kahramanmaraş Governorship (Investment Monitoring and Coordination Directorate)	Kahramanmaraş	Local
Dulkadiroglu District Governorship	Kahramanmaraş	Local
SGK-Kahramanmaraş Provincial Directorate	Kahramanmaraş	Local
Kahramanmaraş Provincial Directorate of Labour and Employment	Kahramanmaraş	Local
KOSGEB Kahramanmaraş Directorate	Kahramanmaraş	Local
Kahramanmaraş Chamber of Commerce and Industry - KMTSO	Kahramanmaraş	Local
Eastern Mediterranean Development Agency-Kahramanmaraş Investment Support Office	Kahramanmaraş	Local
Southeastern Anatolia Exporters' Association-Kahramanmaraş Liaison Office	Kahramanmaraş	Local
Kahramanmaraş Chamber of Tradesmen and Craftsmen Union	Kahramanmaraş	Local
TOBB Women Entrepreneurs Board Kahramanmaraş Branch	Kahramanmaraş	Local
Kahramanmaraş Provincial Directorate of Disaster and Emergency	Kahramanmaraş	Local
KASİAD, Kahramanmaraş Industrialists' and Businessmen's Association	Kahramanmaraş	Local
Onikişubat Governorship	Kahramanmaraş	Local
Ministry of Agriculture and Forestry - Kahramanmaraş Rural Development and Organization Branch Directorate	Kahramanmaraş	Local
Kahramanmaraş Organized Industrial Zone Directorate	Kahramanmaraş	Local
Chamber of Civil Engineers Kahramanmaraş Representative Office	Kahramanmaraş	Local
Commodity Exchange of Kahramanmaraş	Kahramanmaraş	Local
Onikişubat Municipality	Kahramanmaraş	Local
Kahramanmaraş Provincial Directorate of Environment and Urbanism	Kahramanmaraş	Local
Antakya Chamber of Commerce and Industry	Hatay	Local
Commodity Exchange of Antakya	Hatay	Local
Hatay Women Entrepreneurs Association	Hatay	Local
Hatay Chamber of Tradesmen and Craftsmen Union	Hatay	Local
Hatay Metropolitan Municipality	Hatay	Local
Eastern Mediterranean Development Agency (Hatay Investment Support Office)	Hatay	Local
Hatay Governorship Investment Monitoring and Coordination Directorate	Hatay	Local
SGK Hatay Provincial Directorate of Social Security	Hatay	Local
Hatay Young Businesspeople Association	Hatay	Local
İŞKUR Hatay	Hatay	Local
Ministry of Agriculture and Forestry Hatay Provincial Directorate of Agriculture and Forestry - Rural Development and Organization Branch Directorate	Hatay	Local
Defne Women’s Agricultural Cooperative	Hatay	Local
General Secretariat of the Mediterranean Exporters' Association	Hatay	Local
Chamber of Civil Engineers Hatay Branch	Hatay	Local
Mediterranean Exporters' Associations-Iskenderun	Hatay	Local
Iskenderun Organized Industrial Zone Directorate	Hatay	Local
Iskenderun Chamber of Commerce and Industry	Hatay	Local
TOBB Women Entrepreneurs Board Hatay Branch	Hatay	Local
KOSGEB Hatay Provincial Directorate	Hatay	Local
T.R. UAB Iskenderun Regional Port Authority	Hatay	Local
S.S. Iskenderun Producing Golden Hands Women's Initiative Production and Management Cooperative	Hatay	Local
Defne Harbiye Chamber of Tradesmen and Small Craftsmen	Hatay	Local
Defne Women's Agricultural Cooperative	Hatay	Local
Defne District Governorship	Hatay	Local
Defne Municipality	Hatay	Local
Antakya Organized Industrial Zone Directorate	Hatay	Local
Adıyaman Governorship	Adıyaman	Local
Adıyaman Governorship - Investment Monitoring and Coordination Directorate - Investment Monitoring Directorate	Adıyaman	Local
Adıyaman Municipality	Adıyaman	Local
SGK Adıyaman Provincial Directorate	Adıyaman	Local
Social Security Provincial Director	Adıyaman	Local
Adıyaman Labour and Employment Agency Provincial Directorate	Adıyaman	Local
Ministry of Agriculture and Forestry Adıyaman Provincial Directorate of Agriculture and Forestry. Rural Development and Organization Branch Directorate.	Adıyaman	Local
KOSGEB Adıyaman Provincial Directorate - SME Development Department	Adıyaman	Local
Adıyaman Chamber of Commerce and Industry	Adıyaman	Local

TOBB Women Entrepreneurs Board Adıyaman Branch	Adıyaman	Local
Petrol-İş- Turkish Petroleum Chemical Rubber Workers Union	Adıyaman	Local
Adıyaman Organized Industrial Region Directorate	Adıyaman	Local
Southeastern Anatolia Exporters' Association-Adıyaman Office	Adıyaman	Local
Adıyaman Chamber of Tradesmen and Craftsmen Union	Adıyaman	Local
TMMOB Adıyaman Provincial Representation	Adıyaman	Local
İpekyolu Development Agency (Adıyaman Investment Support Office)	Adıyaman	Local
AFAD Adıyaman - Adıyaman Provincial Disaster and Emergency Directorate	Adıyaman	Local
Bethesna Women's Enterprise Production and Business Cooperative	Adıyaman	Local
MÜSİAD Adıyaman Branch	Adıyaman	Local
TEKSİF- Turkish Textile, Knitting, Clothing and Leather Industry Workers Union	Adıyaman	Local
Malatya Provincial Directorate of Social Security	Malatya	Local
Malatya Chamber of Commerce and Industry	Malatya	Local
TOBB Women Entrepreneurs Board Malatya Branch	Malatya	Local
Malatya Businesswomen Association (MAİKAD)	Malatya	Local
Malatya Industrialists and Businessmen Association	Malatya	Local
Malatya Governorship (Investment Monitoring and Coordination Directorate)	Malatya	Local
Malatya Metropolitan Municipality	Malatya	Local
Yeşilyurt District Governorship	Malatya	Local
SGK Malatya Provincial Directorate	Malatya	Local
Malatya 1st Organized Industrial Zone Directorate	Malatya	Local
Malatya Union of Chambers of Tradesmen and Craftsmen	Malatya	Local
AFAD-Malatya	Malatya	Local
Battalgazi District Governorship ı	Malatya	Local
SGK Malatya Provincial Directorate - Beydağı District SGK	Malatya	Local
Fırat Development Agency (Malatya Investment Support Office)	Malatya	Local
Fırat Industry and Business Federation (FIRATSIFED)	Malatya	Local
Southeastern Anatolia Exporters' Association - Malatya Liaison Office	Malatya	Local
TMMOB- Provincial Coordination Board	Malatya	Local
Heart of Battalgazi Women's Cooperative	Malatya	Local

Appendix 6. List of Included Stakeholders

Stakeholder	Category
TEPAV	NGO
İNOGAR	NGO
TOBB Women Entrepreneurs Board Hatay Branch	Professional Organization
East Mediterranean Development Agency - Hatay Coordinator	Public
KOSGEB Hatay Provincial Director	Public
Antakya Chamber of Commerce	Professional Organization
Kahramanmaraş Chamber of Commerce Secretary-General	Professional Organization
Kahramanmaraş Directorate of Environment and Urban Planning	Public
KOSGEB Kahramanmaraş Provincial Directorate	Public
IMO Kahramanmaraş	Professional Organization
Gaziantep İŞKUR	Public
KOSGEB Gaziantep Provincial Directorate	Public
İpekyolu Development Agency - Gaziantep	Public
KOSGEB Headquarters	Public
EBRD (European Bank for Reconstruction and Development)	Private Sector - International
European Investment Bank	Private Sector - International
Malatya Chamber of Commerce and Industry	Professional Organization
Fırat Development Agency (Malatya Investment Support Office)	Public
KOSGEB Malatya	Public
Malatya Union of Chambers of Craftsmen and Artisans	Professional Organization
Malatya Businesswomen's Association	NGO
Southeast Anatolia Exporters' Associations - Malatya Contact Office	Professional Organization
AFAD Adıyaman	Public
Adıyaman Directorate of Agriculture	Public
MÜSİAD Adıyaman	Professional Organization
İpekyolu Development Agency (Adıyaman Investment Support Office)	Public
Adıyaman Union of Chambers of Craftsmen and Artisans	Public
Petrol-İş Union Adıyaman Branch	Union
KOSGEB Adıyaman	Public
TEKSİF- Turkish Textile, Knitting, Clothing and Leather Industry Workers Union Adıyaman **Branch**	Professional Organization
Adıyaman Organized Industrial Zone President / Textile Sector Representative	Private Sector
Adıyaman Chamber of Commerce and Industry	Professional Organization
Turkish Women Entrepreneurs Association	NGO
Kahramanmaraş Copper Artisans Chamber	Professional Organization
Kahramanmaraş Chamber of Craftsmen and Artisans	Professional Organization
Habitat Association	NGO
Revolutionary Union of Structure, Construction and Road Workers	Union
Defne Women's Agricultural Cooperative	Cooperative

Appendix 7. In-Depth Interview Flow

Consent Form

This study is being conducted by Adhoc Research and Consulting on behalf of the United Nations International Labour Organization (ILO), aiming to capture the impact of the February 6th Earthquakes on businesses in your province and to understand your expectations for the future. Your participation will provide recommendations for the targeted recovery policies for the region and will promote humane working conditions and sustainable business practices.

If you agree to the be part of the research, you will participate in an in-depth interview that will take approximately 60 minutes. Audio recordings will be taken for data collection purposes during the study. These records will be kept for the periods mandated by the Law No. 6698 on the Protection of Personal Data and will be destroyed afterwards. All the data collected through this interview will remain confidential, only the findings of the research will be evaluated. Individual responses will not be analyzed, but the general responses of the participants will be analyzed. Your participation is completely anonymous and confidential.

Adhoc Research is the data controller for the information obtained, which will be handled in accordance with the Law No. 6698 on the Protection of Personal Data (KVKK) and will not be shared with other institutions/organizations.

Your participation in this research is completely voluntary. You have the right to refuse to participate or withdraw at any point during the interview.

There are no known risks associated with this research. Direct benefits may not be derived from participating in this study; however, your responses will help develop the economy of your region and uncover the impact of the earthquakes on business structures in your region.

I have read the information provided above. I had the opportunity to ask questions about my participation in this study and to receive additional information as requested. I voluntarily consent to participate in this research on behalf of my organization.

1-Yes

2-No **(END OF INTERVIEW)**

1. Can you introduce yourself?
    a. Your first name, last name?
    b. How long have you been in this area? What roles have you occupied in this region?

Now, I will ask you for evaluations regarding the region's economy. We will talk about the sectors in which the region is economically strong, weak, or has potential.

2. Before the February 2023 earthquakes, how was your city/region's economy different from other areas?
    a. What were the economic strengths?
    b. What were the economic weaknesses?
    c. What were the potential opportunities?

3. What were the obstacles to economic development in the region?

4. Which sectors does the region excel in? What are the strong industries? Why these sectors?
    a. Are there any sectors that could be strong but are not adequately served?

5. What kind of problems do businesses in your area have, independent of the earthquake?

Now, I will ask you to evaluate the businesses in your area from different perspectives before the earthquake.

6. What were the working conditions of businesses in the region before the earthquake?

a. Regarding formality / informality
b. In terms of wages
c. In terms of working hours
d. In terms of benefits
e. In terms of transportation
f. In terms of occupational health and safety
g. In terms of access to health services
h. In terms of housing
i. For women
j. For immigrants, refugees, and asylum seekers

7. Which sectors employed more informal workers?

a. What was the general profile of the workers in these companies?
b. Which sectors housed more formal employees?

8. So, how were the relationships between businesses and other actors?

a. With the public sector
b. With civil society
c. With financial providers

9. How was the businesses' access to markets before the earthquake? Which sector could access which markets? Which sector was at a disadvantage in terms of market access?

10. How was the access to raw material supply before the earthquake? Which sector could access which raw material more easily? Which sector was at a disadvantage in terms of access to raw materials?

Now, I will ask you questions about the effects of the February 6th earthquakes. Considering the economy of your region, can you evaluate to what extent different businesses were exposed to the effects?

11. What were the psychological impacts of the February 6, 2023, Earthquake in the region?

- How were businesses in the region affected by physical damage due to the earthquake? Which businesses were affected and to what extent?
  - How did they cope with it?
- What problems did those who had to move to another address face?
- What did the businesses that had to suspend their operations do?
  - Could they start again?

12. Now, I will ask you to assess the following sectors. How do you think these sectors were affected by the earthquake?

a. How was the service sector affected? Which businesses were the most affected, and in what ways?
b. The manufacturing sector? Which businesses were the most affected, and in what ways?
c. Agriculture/livestock? Which producers were the most affected and in what ways?

13. What factors caused a decrease/disruption in economic activities due to the earthquake across the city?
    - What kind of effects were experienced on the market?
    - What kind of effects were experienced on the supply chain?
    - What kind of effects were experienced regarding the financial needs of the businesses?
    - What kind of effects were experienced regarding human resources? Regarding expertise?
    - Regarding infrastructure

14. What is your expectation for employment status in the next year?
- Why?

15. From whom do you expect support and in which areas?
    - What can public administration do?
    - What can the private sector do?
    - What can international organizations do?
    - What can civil society do?
    - What can local governments do?

16. How do you observe the post-earthquake recovery process throughout the province?
    a. How has it improved?
    b. How optimistic are you about the state of working life over the next 12 months?

17. Was the business world in your province affected by post-earthquake migrations?
- If so, in what direction?

18. What do you think can be done to support reverse migration?
- What can public administration do?
- What can the private sector do?
- What can international organizations do?
- What can civil society do?
- What can local governments do?

19. How do you evaluate the level of entrepreneurship in your region?
    a. What is the level of entrepreneurship in your province, in your opinion?
    b. What factors support entrepreneurship?
    c. What factors are barriers to entrepreneurship in the region?

20. Lastly, following the earthquake, how were female entrepreneurs/female workers affected differently than men?
    a. In terms of formality - informality
    b. In terms of wages and rights
    c. In terms of working conditions/hours
    d. In terms of access to resources

21. Would you like to add anything else to our conversation?

British Embassy
Ankara