

The Social Impacts of the February 6, 2023 Kahramanmaraş-Centered Earthquakes on Entrepreneurs in Türkiye^{*}

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Received: 24.02.2024, Accepted: 23.12.2025
10.5281/zenodo.18142301

Abstract

The aim of this study is to analyze the social impacts of the February 6, 2023, Kahramanmaraş-centered earthquakes on entrepreneurs and to identify the necessary strategies for their reconstruction. To explore the social impacts of the earthquakes on entrepreneurs in the region, a semi-structured interview method, a qualitative data collection tool, was employed. Due to limitations in time and resources, the research was conducted in five provinces that were both severely affected by the earthquakes and economically significant to the region: Kahramanmaraş, Adiyaman, Malatya, Gaziantep, and Hatay. In-depth interviews were carried out with presidents and representatives of the Chambers of Commerce and Industry, Chambers of Commerce, Chambers of Industry, and Commodity Exchanges across these five provinces. In total, 11 officials from various institutions were interviewed, with interviews averaging 48 minutes in duration. The qualitative analyses identified several dimensions of the social impacts of the earthquakes, including social relations, social life, health, education, housing (households), work patterns, disaster management processes, social support, migration, social structure, and collaboration. The findings highlighted disaster management processes and disruptions to social life as the most critical issues. Addressing these challenges and enabling entrepreneurs to recover to pre-disaster conditions necessitate concerted efforts and responsibilities, particularly from public institutions, non-governmental organizations (NGOs), and the entrepreneurs themselves.

^{*} This article is derived from the project titled “The Impacts of the February 6, 2023, Kahramanmaraş-Centered Earthquakes on Entrepreneurs” (Project No: 123K923), which was supported by TÜBİTAK and completed on February 6, 2024

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Key words: Entrepreneur, Social Impact, Earthquake, Reconstruction, Disaster

JEL Code: D23, L31, Q54,

1. Introduction

Natural disasters can negatively impact the growth and development processes of countries, depending on the magnitude of the disaster and the economic structure of the affected region. Although research on destructive natural disasters such as earthquakes, tsunamis, floods, and fires yields varying results, the loss of life, property, superstructure, and infrastructure caused by these disasters generates short-, medium-, and long-term adverse effects on the production, service sector, and employment structures of economies. The extent of economic loss varies based on the duration and severity of the disaster, as well as the economic conditions and institutional structure of the affected country. The earthquakes of Mw 7.7 and 7.6, which struck Kahramanmaraş on February 6, 2023, and their subsequent aftershocks, caused massive destruction and loss of life, affecting 11 provinces (Adana, Adiyaman, Diyarbakır, Elazığ, Gaziantep, Hatay, Kahramanmaraş, Kilis, Malatya, Osmaniye, and Şanlıurfa). These earthquakes, described as the "disaster of the century," had profound social and economic consequences.

In the disaster literature, greater emphasis has been placed on topics such as the impact of disasters, risk management, post-disaster recovery, and reconstruction, rather than the social consequences of disasters. While the economic effects of earthquakes are undeniable, understanding the social consequences of disasters on society is equally crucial for returning to pre-disaster conditions. Disasters disrupt daily lives and social systems, leading to the questioning of existing social and political structures. Additionally, they contribute to increased societal grievances, changes in social systems, and the emergence of instability and conflict conditions (Bhavnani, 2006). Earthquakes have profound effects on economic structures, social dynamics, and individuals' psychological well-being. In this context, investigating the social impacts of earthquakes is essential for facilitating the process of societal recovery and returning to normalcy.

The February 6, 2023, Kahramanmaraş-centered earthquakes, described as the "disaster of the century," have had multifaceted social impacts on entrepreneurs. In this context, this study aims to examine the social consequences of the February 6, 2023, Kahramanmaraş-centered earthquakes on entrepreneurship.

2. Literature Review

Natural Disasters and Entrepreneurship

AFAD (2023) defines a disaster as "an event caused by nature, technology, or human factors that leads to physical, economic, and social losses for the entire community or specific segments of it, disrupting or halting normal life and human activities, and overwhelming the affected community's coping capacity." In this context, a disaster can be briefly defined as a natural event that affects human life. The earthquakes centered in Kahramanmaraş on February 6, 2023, qualify as a disaster according to AFAD's definition.

Entrepreneurs play a crucial role in the economic growth and development of countries. Entrepreneurs drive and transform both the business world and the structure of society. The importance of entrepreneurship lies in entrepreneurs' ability to identify the needs of society, convert these needs into investments, and ultimately contribute to social welfare. As a result of investment, employment and income levels rise, leading to an increase in the well-being of individuals and, more broadly, society. From an economic perspective, entrepreneurs make significant contributions such as increasing national income, preventing unemployment, reducing income inequality, promoting development and industrialization, and closing the current account deficit (Marangoz, 2008). In this context, the investments made or to be made by entrepreneurs are particularly important in achieving economic balance prior to a disaster, such as an earthquake.

Natural disasters, such as earthquakes, can often disrupt the daily operations of a business, which in turn affects its performance. Research on natural disasters and small businesses reveals that small businesses are highly vulnerable to natural disasters (Khan and Sayem, 2013; Sydnor et al., 2017; Corey and Deitc, 2011; Mahto et al., 2022). Furthermore, it has been observed that the larger the business, the higher the likelihood of faster recovery when compared to smaller businesses. One reason for this is that small businesses have fewer financial and technical resources to reduce and cope with risks, including physical and emotional recovery aspects. Additionally, limited access to capital and the lack of geographical diversification may imply that small businesses are more likely to face long-term effects after a disaster (Fabeil et al., 2019). In this context, Cochrane (1992) highlights that the ability of small businesses to survive and succeed after a disaster is lower, making recovery and support efforts an extremely important factor.

Studies on the impact of natural disasters on entrepreneurs began in the late 1980s. The first study on this topic was conducted in the United States following the 1989 Loma Prieta earthquake. Similar studies were conducted in the United States after the 1993 Great Midwest flood, the 1994 Northridge earthquake, and the 1997 Red River flood. In addition, there are very few studies in this field within the context of both developed and developing countries (Samantha, 2018). In Türkiye, limited research has also been conducted in this area. In his study, Çolak (2020)

examined the perception of natural disasters within the Çanakkale province and its effects on entrepreneurship. Similarly, Orhan (2016) examined the preparedness of businesses for disasters. Therefore, while there are a limited number of studies in Türkiye on earthquakes and entrepreneurship in general, there has yet to be a study specifically focusing on the social impacts of earthquakes on entrepreneurs in the post-disaster reconstruction process. This constitutes one of the unique aspects of this study. A summary of the studies in the literature on the social impacts of natural disasters on entrepreneurs is presented in Table 1.

Table 1. Studies on the Social Impacts of Natural Disasters.

Author(s)	Main Dimensions	Sub-dimensions
Marangoz and Izci (2023)	Social	Communication, social life, health, education, household.
Ademola et al. (2016)	Social disruptions	Emergency operations
Bradshaw (2004)	Direct	Social infrastructure loss, Social labor
	Indirect	Migration
Sydnor et al. (2017)		Lifeline/service interruption
Tierney (1995)		Service disruptions
Stevenson et al. (2017)	Social impacts	Deterioration of social infrastructure
Aydınbaş (2023)	Socio-economic impacts	Human capital
Chang et al. (2022)		Damage to human capital
Stéphane and Valentin (2010)	Direct and indirect	Prolonged reconstruction, network effects, the triggering effect of disasters, poverty traps.

Source: Created by the authors.

The primary objectives of a successful reconstruction include restoring the social system, based on the aid provided by the government, private sector, and non-governmental organizations, to economic vitality in the shortest possible time, returning it to its pre-disaster position, regulating the income of individuals and households, regaining the lost workforce, restoring employment opportunities to their previous state, and ultimately re-establishing functionality across the entire socio-economic structure in the shortest time possible (Genç, 2021). In this process, public authorities and non-governmental organizations play significant roles, but the most crucial responsibility lies with entrepreneurs. This is because many of the tasks listed (reorganizing work, providing employment, increasing incomes, etc.) are carried out by entrepreneurs, and the socio-economic structure is revitalized by them. Therefore, it is important to study the social structure in which entrepreneurs are involved, identify the issues arising within it, and propose solutions to address these challenges.

The Social Impacts of Natural Disasters on Entrepreneurs

In recent years, devastating natural disasters that frequently occur worldwide have caused significant damage to social structures and economic development. Natural disasters disrupt ecosystems, destabilize socio-economic systems, and lead to severe imbalances between the supply and demand of social resources. In the literature, disaster management is examined in a three-stage process: pre-disaster, during and immediately after the disaster, and post-disaster (Genç, 2021; Macit, 2018; Köseoğlu, 2015). Each of these stages should be analyzed in detail, and necessary measures should be taken in a timely manner. Every year, millions of people are affected by disasters caused by natural hazards. Various social disruptions and psychological problems may arise because of natural disasters. It is generally assumed that post-disaster social support can mitigate these adverse outcomes (Shang et al., 2019), highlighting the importance of research in this area.

Natural disasters disrupt many aspects of daily life, causing significant imbalances. Most importantly, they result in the loss of human lives, thereby reducing human capital (Marangoz & İzci, 2023). Natural disasters not only lead to casualties and damage to assets but also dismantle social order and severely undermine trust among those most affected. Furthermore, natural disasters contribute to social displacement. For instance, in the 2004 hurricane in Florida, approximately 1.7 million people were forced to leave their homes due to structural damage (Ademola et al., 2016; Schilpzand, 2023).

From the perspective of elements affected and altered by disasters, it is impossible to overlook the significance of societal functionality and individuals' daily social interactions and activities at the community level. The collective efficacy of a society strengthens individuals' awareness and attitudes toward disaster preparedness during normal periods, thereby contributing to the mitigation of damage caused by future disasters. At this point, the concept of social capital comes to the forefront. Social capital is a crucial variable in the face of disasters, as it can foster spontaneous cooperation for collective action within a society. Social capital is defined as the connections among individuals—social networks—and the norms of reciprocity and trust that arise from these connections (Albrecht, 2018; Okuyama & Inaba, 2017).

In developing countries, social capital plays a central role in individuals' livelihoods. In situations where markets are dysfunctional or nonexistent, it serves as an informal insurance and credit mechanism, facilitates the diffusion of technology, and provides opportunities for human capital investments and resource redistribution (Stephane, 2021). In this regard, societies with strong social capital tend to exhibit significantly faster post-disaster recovery responses compared to others.

In addition to their economic consequences, natural disasters also have various social impacts. These disasters, which pose significant risks and exert

psychological pressure on societies, lead to unforeseen outcomes ranging from transformations in social structures to changes in individual functionality. Disaster victims experience profound shock in the aftermath of catastrophes. Entrepreneurs can play a crucial role in mitigating the various adversities people face following a disaster. Recent studies indicate that entrepreneurial activities are effective in alleviating the suffering of disaster-affected communities (Marangoz & İzci, 2023). A review of the literature presents studies on the social impacts of natural disasters on entrepreneurs (as shown in Table 1). Based on the analysis of research findings in this study, the classification presented in Table 5 has been derived. Accordingly, the social impacts of earthquakes on entrepreneurs have been examined in terms of social relations, social life, health, education, household (housing), work arrangements, disaster management processes, social support, migration, social structure, and cooperation.

The fundamental characteristic of all disasters is their profound impact on social relationships. Over time, two dynamic and conflicting processes emerge. Initially, there is a remarkable display of mutual aid and solidarity; however, as time passes, a decline in the quality of interpersonal and community relationships is observed (Kaniasty, 2020). In this context, disaster management requires all stakeholders to engage in effective and efficient communication and collaboration. Furthermore, it is crucial for these actors to be perceived as trustworthy by the communities they serve. Trust in service processes is recognized as a key factor that facilitates coordination, accelerates operations, and serves as a fundamental element of successful disaster management (Çaklı, 2020). It can be argued that this process is more easily achieved in societies with strong social capital.

Disasters cause significant and long-lasting psychological harm; however, empirical studies examining post-disaster mental health indicate that survivors demonstrate strong resilience, with only a relatively small proportion of the studied samples exhibiting severe psychological distress (Kaniasty, 2020). Conducting such studies at both the individual and societal levels can facilitate the retention of entrepreneurs in the affected region and encourage the creation of new ventures.

Disasters are destructive events that lead to severe health consequences. Developing countries are disproportionately affected due to limited resources, weak infrastructure, and inadequate disaster preparedness systems. During a disaster, there is an imbalance between the demand for healthcare services and the capacity of healthcare systems to respond to these demands. The destruction of healthcare facilities, loss of medical equipment and logistics, as well as the death and injury of healthcare personnel, can significantly weaken the ability to meet these needs (Sohrabizadeh et al., 2021). Damage to housing structures poses serious health risks both in the short and long term. Such damage, especially in disasters like earthquakes, not only threatens lives in the immediate aftermath but also serves as a potential risk factor that can negatively impact the health of survivors in the post-disaster period (Han et al., 2021). This issue can be mitigated or overcome through societal cooperation and effective coordination by public authorities.

Natural disasters have significant and adverse effects on the education sector. When such disasters damage the educational infrastructure, which serves as the foundation for human capital development, economic and social progress, as well as scientific and cultural activities, disruptions in this structure can create substantial barriers to human capital accumulation and scientific advancement (Aydinbaş, 2023). In the short term, this situation leads to the deterioration of the education system and interruptions in learning, while in the long term, it negatively impacts national development.

Regions affected by natural disasters experience population loss due to both natural causes and migration dynamics. This phenomenon manifests in both internal and international migration. According to the latest global report published by the Norwegian Refugee Council and the Internal Displacement Monitoring Centre (IDMC), approximately 53% of internally displaced persons were forced to relocate due to natural disasters (IDMC, 2023:9). Considering this data and recent earthquakes, it is anticipated that the relationship between natural disasters and migration will become increasingly significant in the coming period (Şeker, 2023). Following the "disaster of the century," the regions receiving the highest influx of migrants from the earthquake-affected areas were Ankara, Antalya, Mersin, Kayseri, and Muğla, with these five provinces collectively receiving over 500,000 migrants (Gökalp & Şikar, 2023). Migration movements during and after an earthquake constitute a process that can be managed through the collaboration of public authorities, non-governmental organizations, and citizens.

3. Methodology

Population and Sample

The number of manufacturing industry firms in the earthquake-affected provinces is provided in Table 2. Among these provinces, Gaziantep has the highest number of firms. On the other hand, according to the report by the Strategy and Budget Department of the Presidency of the Republic of Türkiye (2023), there are a total of 38 Organized Industrial Zones (OIZ) in the region. These OIZs host 4,997 firms and employ approximately 550,000 people. Of the 38 OIZs, 4 are located in Adiyaman, 6 in Kahramanmaraş, 5 in Hatay, 5 in Gaziantep, and 3 in Malatya. Additionally, there are 116 Small Industrial Sites (SIS) in the earthquake-affected region, which contain 31,127 workplaces. Of the 116 SISs, 5 are located in Adiyaman, 10 in Kahramanmaraş, 12 in Hatay, 15 in Gaziantep, and 9 in Malatya.

In this study, qualitative research techniques have been adopted. According to Gegez (2015), the findings obtained from qualitative research are exploratory in nature and are used in the definition of problems or in the formulation of hypotheses to be tested in future studies. The data obtained through qualitative interviews were analyzed using the content analysis method. According to Yıldırım and Şimşek (2000), the main purpose of content analysis is to identify the concepts and relationships that can explain the collected data. In this framework, the data were

analyzed in four stages: coding of the data, identifying themes, organizing and defining the codes and themes, and interpreting the findings.

Table 1. Number of Manufacturing Industry Firms in the Earthquake Region (2023)

Province	Large	Medium	Small	Micro	Total
Adana	28	126	886	8.308	9.378
Adiyaman	4	13	96	1.817	1.930
Diyarbakır	4	34	285	3.209	3.532
Elazığ	3	12	124	1.703	1.842
Gaziantep	152	308	1.269	11.798	13.527
Hatay	23	60	285	4.148	4.516
Kahramanmaraş	55	92	301	3.863	4.311
Kilis	-	8	26	358	392
Malatya	7	43	194	2.682	2.926
Osmaniye	6	17	71	1.467	1.561
Şanlıurfa	2	66	232	3.366	3.666
Total	314	779	3.769	42.719	47.581

Source: Presidency of Türkiye, Presidency Strategy and Budget, 2023:96.

In-Depth Interview Participants

According to Article 9 of the Law on "Chambers of Commerce and Industry," "Chambers of Commerce," "Chambers of Industry," "Chambers of Maritime Commerce," "Commodity Exchanges," and the "Union of Chambers of Commerce, Industry, Maritime Commerce, and Commodity Exchanges of Türkiye," it is stated that: "Merchants registered in the trade registry and all natural and legal persons who are considered industrialists under this Law, along with their branches and factories, are required to register with the chambers or agencies they belong to, as specified by this Law." Accordingly, merchants and producers in the relevant provinces and districts must register with these chambers, and the duties of the chambers are outlined in Article 5 of the same law. In this regard, these chambers perform many tasks and procedures on behalf of their members. In the provinces affected by the earthquake, there are Chambers of Commerce and Industry, Chambers of Industry, Chambers of Commerce, and Commodity Exchanges established according to the relevant law. According to this law and its applications, these exchanges and chambers represent the registered members (entrepreneurs) in the region where they are located. Therefore, it is crucial to obtain information from these institutions, which represent entrepreneurs, regarding the impacts of the earthquake.

In this study, conducted to investigate the social effects of the Kahramanmaraş-centered earthquakes on entrepreneurs in the region, a semi-structured interview method (qualitative data collection tool) was used as the data collection technique. In qualitative research, the interview form method is prepared to obtain the same type of information from different people by addressing similar topics. The interview form is a method developed to ensure that all dimensions and

issues related to the research problem are covered (Yıldırım & Şimşek, 2000). The interview form, created in accordance with the research objectives, was approved by the Ethics Committee of Muğla Sıtkı Koçman University. Due to time and budget constraints, the study was conducted in the five provinces most affected by the earthquake and also the most economically significant for the region (Kahramanmaraş, Adiyaman, Malatya, Gaziantep, and Hatay). In-depth interviews were conducted with the presidents/representatives of the Chambers of Commerce and Industry, Chambers of Commerce, Chambers of Industry, and Commodity Exchanges in these five provinces. The location and duration of each interview are shown in Table 3. Prior to the interviews, each participant was asked whether the interview could be recorded, and since they agreed, the interviews were recorded.

Table 3. Interview Durations and Environments

Participant	Interview Date	Duration (Minutes)	Environment
Institution 1-1 (GTB)	October 2, 2023	40	Workplace
Institution 1-2 (GTO)	October 2, 2023	35	Workplace
Institution 1-3 (GSO)	October 2, 2023	39	Workplace
Institution 2-1 (MTB)	October 3, 2023	75	Workplace
Institution 2-2 (MTSO)	October 3, 2023	53	Workplace
Institution 3-1 (ATB)	October 4, 2023	58	Workplace
Institution 3-2 (ATSO)	October 4, 2023	65	Workplace
Institution 4-1 (KTB)	October 5, 2023	33	Workplace
Institution 4-2 (KTSO)	October 5, 2023	62	Workplace
Institution 5-1 (HTSO)	October 6, 2023	29	Workplace
Institution 5-2 (HTB)	October 6, 2023	30	Workplace

Source: Created by the authors.

Development of the Qualitative Measurement Tool

The in-depth interview technique was used as the qualitative measurement tool. The purpose of conducting in-depth interviews is that it is one of the best methods for understanding others (Punch, 2005). In-depth interviews, which are the most effective and powerful method for gaining insight into individuals' perceptions, meanings, definitions, and constructions of reality, provide researchers with the advantage of flexibility. Although the questions that serve as a reference for the desired information are prepared in advance, the in-depth interview technique allows for the reorganization and discussion of questions during the interview. While the researcher initially determines questions that align with the research objectives, this type of interview also allows participants to contribute openly to the research (Şanlıer Yüksel, 2008). By evaluating participants' responses and reactions, the interview can proceed accordingly. Additionally, this approach enables the identification of potential issues beforehand and allows the researchers to enhance their interview performance (Sevim, 2010). The qualitative measurement tool was developed by the research team in alignment with the study's objectives (Table 4). Feedback on the questions was obtained from the first institution official interviewed, and based on the information provided, the flow of the questions was adjusted. However, no questions were added or removed from the semi-structured interview form approved by the ethics committee (The semi-

structured interview form was approved by Muğla Sıtkı Koçman University with the decision dated 23.05.2023, protocol number 230059, and decision number 61.). The finalized version of the interview form (Table 4) was then used in the subsequent interviews.

Table 4. Semi-structured Interview Questions

No	Question
1	Information about the interviewee (Chamber/Exchange manager)
2	Could you provide information about the short-term effects of the earthquake on entrepreneurs?
3	Could you provide information about the long-term effects of the earthquake on entrepreneurs?
4	Could you provide information about the direct effects of the earthquake on entrepreneurs?
5	Could you provide information about the indirect effects of the earthquake on entrepreneurs?
6	Which businesses were most affected by the earthquake and what were the impacts? (Micro, Small, Medium, and Large)
7	Can you evaluate the effects of the earthquake on businesses in the following categories? (Markets, Logistics, Facilities, People, Procedures, Finance, Other (suppliers, inventory, etc.))
8	What actions do you foresee for the reconstruction of entrepreneurs (to return to normal)? (Short-term, Long-term)
9	How do you think the earthquake will affect entrepreneurial activities (e.g., new businesses)?
10	What actions should be taken to recover from the earthquake's effects and for the reconstruction of entrepreneurs (to return to normal), and what are the roles and responsibilities of stakeholders? (Government, NGOs, Entrepreneurs)
11	Do you think the earthquake created new opportunities for existing and potential entrepreneurs? How has it affected entrepreneurial tendencies?
12	Was there any pre-earthquake information/training for entrepreneurs? If so, what was done?
13	Was there any information/training for entrepreneurs during the earthquake? If so, what was done?
14	Was there any information/training for entrepreneurs after the earthquake? If so, what was done?

Source: Created by the authors.

In the study, it was stated that the real names of the participants would not be used to ensure that they would not suffer any harm from the results and to uphold research ethics.

4. Findings

The data obtained from in-depth interviews were first transcribed. The researchers' notes, along with the complete statements made by the participants during the interviews, were transcribed into written form. These documents were then analyzed through cross-coding by two researchers and categorized into dimensions according to the classification presented in Table 5.

Table 5. The social dimensions and impacts of the earthquake

	Social Dimensions	Institution 1-1	Institution 1-2	Institution 1-3	Institution 2-1	Institution 2-2	Institution 3-1	Institution 3-2	Institution 4-1	Institution 4-2	Institution 5-1	Institution 5-2
1	Social Relations	✓	✓				✓				✓	
2	Social Life	✓	✓	✓	✓	✓	✓	✓	✓		✓	
3	Health	✓		✓				✓		✓	✓	✓
4	Education						✓	✓	✓	✓	✓	✓
5	Household (Housing)	✓			✓	✓	✓	✓	✓	✓		
6	Work Arrangements				✓	✓	✓	✓		✓	✓	✓
7	Disaster Management Process	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8	Social Support	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
9	Migration	✓		✓	✓		✓	✓		✓	✓	
10	Social Structure						✓		✓	✓		✓
11	Cooperation						✓	✓		✓	✓	✓

Source: Authors' calculations

As a result of the cross-coding conducted for validation purposes, the identified dimensions were reduced to those presented in Table 5, and it was observed that these dimensions aligned with those in Table 1. Consequently, in this study, the social impact of earthquakes on entrepreneurs was examined across 11 dimensions, as outlined in Table 5. Based on the analysis of data obtained from institutions (their representatives) participating in the qualitative interviews, each dimension was also evaluated at the institutional level, leading to the findings presented in Table 5. The following section presents and evaluates the findings related to these dimensions.

Social Relations: Given the significant resources that governments and non-governmental organizations (NGOs) allocate annually to repairing the social and economic damage caused by natural disasters, understanding how communities are affected by post-disaster environments is a critical issue. When a natural disaster occurs, a community inevitably undergoes profound changes. Beyond the physical destruction and economic losses, a region may experience, post-disaster conditions can also impact key components of social capital, including social norms, attitudes, trust, and reciprocity. As such, social capital can play a crucial role in mitigating the potential effects of natural disasters and supporting the economic and social recovery of affected communities (Fleming et al., 2014). By fostering stronger and more cohesive community dynamics, social capital can help societies respond more effectively to future earthquakes. Among the core elements of social capital, social ties are regarded as a critical factor in enhancing mental well-being in the aftermath of disasters (Marangoz & İzci, 2023). A participant articulates this perspective as follows:

"Every business was affected to some extent. Some experienced structural damage, with walls collapsing. Others faced workforce shortages as employees were unable to come to work, leading to production shortages. Some struggled with disruptions in natural gas and electricity supply, while others suffered human losses. Financial difficulties also emerged for some businesses. As I mentioned, the impact varied across different aspects and circumstances. There was physical damage, employees experienced psychological distress, and we encountered challenges with individuals hesitant to return to the workplace." – **Institution 1-2.**

It is anticipated that adequate support mechanisms and social networks can help reduce the prevalence of post-traumatic stress disorder and depression among individuals who have experienced trauma following disasters (Özer et al., 2003). While natural disasters are often associated with the deterioration of social relationships, some studies highlight improvements in interpersonal relationship quality. Prosocial behaviors, including the intention to help others, may become more frequent among children, adolescents, adult survivors, and society as a whole. Providing social support to others can also enhance the psychological well-being of survivors (Kaniasty, 2020). The rehabilitation of individuals (entrepreneurs) who have lost their families, loved ones, workplaces, or employees due to earthquakes requires the active involvement of multiple stakeholders, including public authorities, non-governmental organizations, and local administrators. Entrepreneurs should not be expected to resume their entrepreneurial activities until their social relationships and psychological well-being have been restored.

Social Life: Unlike other natural disasters, earthquakes typically occur without any warning, generate widespread and severe impacts, and their effects can be felt for many years. The reconstruction of affected areas and the resettlement of survivors may take a prolonged period. In the short term, earthquakes can lead to various psychiatric issues, including depression, sleep disorders, and increased substance use. They significantly diminish the quality of life for survivors (Marangoz & İzci, 2023). Participants emphasize this issue in different ways.

"No, sir, small markets have been set up in makeshift shelters, but there is no normal life. In fact, there is no such thing as social life at all." – **Institution 5-2.**

"Of course, for social life to return to its previous level, it will take 10, 20, or even 30 years for these cities." – **Institution 2-1.**

"Let me put it this way: I want to buy something, but I can't find it. Even something as simple as a phone case... Retaining white-collar workers is much more challenging compared to other occupational groups. Their primary concern is no longer just salary; their priorities have shifted to comfort and lifestyle, as reflected in the hierarchy of needs. You may be able to attract lower-tier workers by offering slightly above-average salaries, but this is not an option for them. They ask, 'Where will my child receive an education? Do you have high-quality

*educational institutions?' If these institutions were destroyed, they wouldn't come. They ask, 'If I get sick, how will I access healthcare?' Are hospitals overcrowded? Can I receive the medical treatment I need? Do you have enough hospitals? Do you have enough doctors?' If half the city is in ruins, they won't come. Beyond these concerns, they ask, 'What about my hobbies and social life? Do you have a tennis club? Horseback riding? Swimming facilities?' If these amenities don't exist, they simply won't come." – **Institution 4-1.***

Entrepreneurs investing in the region and skilled labor are leaving the area (province) due to the deterioration of their social relationships and quality of life. To prevent this, social life must return to normal as soon as possible.

Health: Hospitals represent a significant investment for every country. As a crucial component of national infrastructure, steps must be taken to enhance their resilience and safety against natural disasters. Ensuring the protection of hospitals from disaster impacts involves more than just safeguarding their physical structures. Healthcare facilities are not merely critical emergency centers; they also play a vital role in recovery, social cohesion, and economic stability (Radovic et al., 2012).

Natural disasters have a direct impact on healthcare infrastructure. In this context, fatalities and injuries resulting from disasters, as well as the social, psychological, and related effects that emerge in the aftermath, place extraordinary pressure on healthcare services and lead to increased demand (Aydınbaş, 2023). In these earthquakes, referred to as the "disaster of the century," the number of casualties has been exceptionally high, and the number of injured individuals is significantly substantial. Consequently, disaster management has become a more critical concept than ever before. The earthquake-affected region has experienced severe destruction and damage to healthcare facilities and the overall healthcare system. Participants have expressed this situation as follows:

*"The largest state hospital in Maraş has sustained severe damage and is currently unusable." – **Institution 4-1.***

*"There are no fully functioning hospitals. While a few newly built small-scale hospitals exist, such as Defne Hospital, which was recently inaugurated by our President, these facilities are limited in capacity. There is no large, fully equipped hospital available. At present, if someone falls ill, finding a doctor for treatment would be extremely difficult." – **Institution 5-2.***

The repercussions of natural disasters, such as earthquakes, persist long after the event itself. Survivors face both physical and psychological distress in the aftermath. The recent major earthquake in our country has left deep traumas on millions of people. Many survivors have reported experiencing prolonged fear of enclosed spaces, particularly at night, with some continuing to sleep in their cars. Approximately 3.3 million individuals have been displaced due to the disaster. Furthermore, injuries sustained during the event, coupled with high levels of stress, may lead to an increase in disability rates (Marangoz & İzci, 2023). This situation,

like for everyone else, affects both local entrepreneurs and those considering investing in the region, hindering their return to normal life and their ability to conduct business effectively. As stated by one participant:

"In addition, there are issues related to education and healthcare, which is why people are not returning. It is still uncertain which schools will reopen, and there are no hospitals; medical services are still being provided partially in field hospitals." – Institution 5-1.

Healthcare facilities and other health-related needs are crucial not only during the earthquake but also in the post-earthquake period (in the long term). Identifying and addressing the needs of earthquake survivors are essential for the treatment of physical injuries and the resolution of psychological issues, facilitating their return to normal life.

Education: A study conducted by Frankenberg et al. (2008) found that access to schools in regions affected by natural disasters was disrupted. It is generally expected that natural disasters will have a negative impact on school enrollment in the short term. Research by Baez and Santos (2007) revealed that the 2001 earthquake in El Salvador led to a decline in children's school enrollment rates. Similarly, the earthquake in L'Aquila, Italy, caused significant disruptions in students' daily lives, forcing many to relocate to other cities. Following the earthquake, 70% of L'Aquila University's infrastructure was rendered unusable (Di Pietro, 2018). While some evidence suggests that natural disasters, which create macroeconomic shocks, may lead to increased investments in education in relatively wealthy countries (Ferreira & Schady, 2009), studies at both national and household levels in developing countries indicate that disasters tend to reduce educational investments (Deuchert & Felfe, 2013; Di Maio & Nandi, 2013).

Like the broader education community, earthquakes have had a profound impact on the academic lives of many children and young adults. Due to the destruction caused by earthquakes, numerous public buildings and academic institutions have been severely damaged. During the 2004 Aceh tsunami, more than 44,000 students and 2,500 teachers and education staff lost their lives; additionally, 2,135 schools—including kindergartens and universities—were damaged, leaving 150,000 students without access to education (Setiadi, 2014). Similarly, the February 6, 2023, Kahramanmaraş-centered earthquakes disrupted classroom activities for approximately 7.1 million students in the affected regions—4.5 million of whom were enrolled in formal education, while the remainder participated in adult education or other educational programs. Additionally, 281,927 teachers and education personnel working in a total of 20,344 educational institutions were affected (TERRA, 2023). This disruption has had adverse effects on the regional workforce and entrepreneurship. The perspectives of participants regarding this issue are as follows:

"If a person found a job elsewhere, they took their children with them because many schools in Maraş were destroyed. Families with school-age children

moved out of the city as much as possible to meet their children's educational needs. This situation has significantly shifted the workforce from Maraş to other areas." – Institution 4-1.

"For these people to return, education is essential. Schools are not properly open. Education must come first." – Institution 5-2.

Natural disasters can impact children's education through various channels. First, they can cause health problems and loss of life within families, directly affecting children's education. Numerous studies have shown that disasters have long-term negative effects on children's health (Alderman et al., 2006; Hoddinott & Kinsey, 2001). Second, natural disasters destroy educational infrastructure such as schools and classrooms, increasing the cost of education and reducing access to it (Baez et al., 2010; Stein et al., 2003). Third, natural disasters can lead to economic losses for households. A decline in income may force parents to reduce their children's educational expenses and push children into the workforce to contribute to household income (De Janvry et al., 2006; Grootaert & Kanbur, 1995). When discussing education, it is essential to consider not only the education of children and young people but also workforce training. The disruption of educational programs has also affected labor market dynamics, creating a need for new training programs to address labor shortages. Participants' views on this issue are as follows:

"Our project, an EU-funded initiative, is designed as a training program for unemployed individuals. Our project has been approved, and we will begin training next week. We will provide education in the fields of beauty, gastronomy, and textiles, with a total of 160 trainees." – Institution 3-2.

"We aim to integrate individuals who want to participate in the economy through vocational training programs. We will provide training here and inform participants about the significant labor shortage in the region. Those who complete the training will have two options: first, they can be matched with our factories and start working; second, if they wish to establish their own businesses, we will offer them space in the incubation center next door, enabling them to launch and develop their ventures. We plan to offer both opportunities within this framework." – Institution 4-2.

The impact of the earthquake on education extends beyond the destruction of school buildings and damage to educational materials. Post-earthquake recovery efforts should also focus on the rehabilitation of students, teachers, and their families who have lost loved ones, sustained injuries, or experienced disruptions in their social relationships. This process is essential for the future development and economic growth of the country, particularly in ensuring the continuity of entrepreneurial activities.

Household (Housing): Recent research has focused on the short-term effects of natural disasters on household welfare and health (Arouri et al., 2015; Lohmann & Lechtenfeld, 2015). Baez and Santos (2008) estimated the impact of

two major earthquakes in El Salvador on rural household incomes and poverty by utilizing data from rural households collected in 1996 and 2002. Their findings revealed that these earthquakes led to a one-third reduction in household income. Similarly, Masozera et al. (2007) found that Hurricane Katrina caused severe damage to households in New Orleans and surrounding areas, regardless of income levels, economic progress, or other social factors. Additionally, Rodriguez-Oreggia et al. (2013) highlighted the negative effects of floods and droughts on human development and poverty levels in Mexico. Individuals who have lost their homes and businesses face severe economic losses, which in turn hinder the revival of entrepreneurship in disaster-affected areas. Participants describe this situation as follows:

*"Many people were forced to migrate from this region due to various reasons, including their families' educational needs and lifestyle preferences. One of the main reasons is the lack of available housing. Their homes were destroyed, and many had to relocate to other cities. Whether they are employees or employers, once they have enrolled their children in schools elsewhere, they are unlikely to return. Why? Because there is a severe shortage of housing." – **Institution 3-2.***

*"Some skilled workers say, 'I have nowhere to stay here.' Additionally, in a region experiencing continuous aftershocks, people are psychologically affected. They take their families and leave. Those who managed to find temporary shelter in other provinces after the earthquake did not return." – **Institution 2-1.***

As observed, natural disasters have significant adverse effects on households, and these effects persist in the post-earthquake period.

Social housing plays a crucial role in enhancing individuals' physical, mental, and social well-being by providing privacy, security, and a sense of belonging. The most devastating consequences of earthquakes typically manifest in the housing sector. The earthquakes centered in Kahramanmaraş led to the destruction or severe damage of thousands of detached houses and multi-story apartment buildings. While the extent of the destruction varies across provinces, the damage has been reported to be particularly concentrated in Hatay, Kahramanmaraş, Malatya, Adiyaman, and Gaziantep. It has been determined that 518,000 housing units have been completely destroyed or require demolition, 131,500 housing units have sustained partial or moderate damage, and 1,279,727 housing units have suffered minor damage. In the reconstruction process, the highest priority is initiating the rebuilding of 649,500 housing units (the total number of heavily damaged, to-be-demolished, and moderately damaged housing units) (TERRA, 2023). As stated by the participant:

"Since housing is the primary concern, commercial life must also resume alongside it. Infrastructure development must progress simultaneously. These two aspects need to be completed together. While housing reconstruction should continue, continuous incentives must also be implemented to sustain the city's

commercial activities and prevent the decline of its industrial sector." – Institution 3-2.

According to the report by the Presidency of the Republic of Türkiye Strategy and Budget Department (2023), the total cost of damages and losses in the housing sector caused by the major earthquake in our country has been estimated at 1.247 trillion TL (66 billion USD), primarily including reconstruction expenditures. This significantly increases the overall cost of living in the region, particularly in terms of housing and workplaces. The participants' statements also confirm this situation.

"I believe one of the biggest impacts after the earthquake is the significant increase in the cost of living in the city. Firstly, there is already a severe shortage of housing, which is the biggest problem. In my opinion, the first step towards normalization should be the construction of housing. Without adequate housing, even if I, as an employer, own a large factory, I cannot employ personnel because there is no place for them to live. This means I cannot convince them to come to this city. Due to the housing shortage, rental prices have skyrocketed. Now, if an employee has to pay 20,000 TL in rent, I will have to offer extremely high salaries to convince them to stay here. We are currently looking for a solution, and if we fail to find one—if the cost of living is not significantly reduced through large-scale housing construction—I believe we will experience serious losses." – Institution 2-2.

Work Arrangements: One of the most significant impacts of natural disasters is the destruction of infrastructure. Interruptions in natural gas, electricity, water, and internet services, as well as the inability to use POS devices, disrupt individuals' work routines. Additionally, in the initial days following an earthquake, security concerns arose within the city, leading to heightened anxiety among the population. As natural disasters increase uncertainty, trust relationships in professional life may also deteriorate. For instance, banks may lose confidence in their customers and businesses, and issues may arise in maintaining strong relationships with suppliers. Participants express this situation as follows.

"The earthquake did not cause significant damage to the machine, but it disrupted its alignment, thereby disturbing the production line and its rhythm. In order to restore this rhythm, it is necessary to bring in specialists from the machine's manufacturing company, often located in Italy or Germany. Since the entire region generally operates within the same industries, there is a high demand for such services, which leads to delays. Appointments are postponed by three to five months. As I mentioned, these are large-scale enterprises, and for employers, the cost of a single day of halted production amounts to hundreds of thousands of liras." – Institution 4-2.

In the aftermath of the disaster of the century, many entrepreneurs, institutions, and organizations have been forced to alter their work environments and operational structures due to the collapse or severe damage (necessitating

demolition) of buildings and workplaces. For instance, the Antakya Chamber of Commerce and Industry and the Antakya Commodity Exchange, whose buildings were destroyed in the earthquake, have continued their operations in container offices, while a pharmacist in Malatya, whose establishment was demolished, has similarly resumed business in a container (Figure 1). Likewise, numerous small-scale entrepreneurs whose workplaces were destroyed have continued their activities in container-based commercial areas (markets). Participants have expressed this situation as follows.

*"Currently, there are container markets in Adiyaman, both mixed-use and sector specific. For instance, we have allocated a specific area for construction material vendors and small-scale tradespeople. Our president has also conveyed this issue to the governor, emphasizing that many small business owners still lack even a container office and continue to face difficulties. This issue cannot be resolved merely by assembling 30 to 40 containers. While such an arrangement may work for restaurants or tailors, it is not feasible for trades such as plumbing or agricultural equipment sales, as the available space is insufficient. Therefore, larger-scale prefabricated facilities need to be urgently constructed." – **Institution 3-2.***

*"Prefabricated marketplaces have been established in such areas, in some cases through temporary expropriation if the land was privately owned rather than state property. These marketplaces have been created by consolidating land and accommodating various sectors within prefabricated structures. As you have seen, the constructed units are quite small, approximately 12 to 13 square meters in size. The primary aim is to support small businesses and local tradespeople, enabling them to sustain their daily livelihood." – **Institution 5-1.***

Figure 1. Antakya Chamber of Commerce and Industry Service Container and Container Pharmacy in Malatya.



Source: Taken by the authors

In the *Milliyet* newspaper dated September 23, 2023, a news article was published with the headline, "*A decision for remote education has been made for the four provinces affected by the Kahramanmaraş-centered earthquakes on February 6*" (Güneş, 2023), announcing that universities would conduct education remotely, as declared by the Council of Higher Education (YÖK). Similarly, some institutions and organizations, including public institutions, have carried out their activities remotely.

"A significant majority of my employees are currently outside the city. However, our sector has the advantage of being able to operate remotely. Fortunately, the experience gained during the pandemic has enhanced our adaptability to remote work and our ability to manage it effectively." – **Institution 2-2.**

With the earthquake, entrepreneurs' work environments and operational structures have also changed, requiring them to manage this transformation while simultaneously overcoming the severe challenges posed by the disaster.

Migration: Gray et al. (2014) found that the tsunami in Indonesia led to an increase in the level of migration from the affected region. Similarly, studies conducted in the context of flooding in Nepal (Banerjee et al., 2011) and hurricanes in Bangladesh (Mallick, 2014) have demonstrated that natural disasters contribute to a rise in internal migration. Natural disasters are expected to remain a significant driver of migration in the future. According to the statistics of the International Organization for Migration (IOM, 2007), it is projected that by the middle of this century, approximately 200 million people could become migrants due to environmental and disaster-related factors. The rapid growth of the global population, unplanned urbanization, climate change, and inadequate risk management in certain countries contribute to an increase in both the number of disasters and disaster-affected individuals. This increase exacerbates displacement and migration due to disasters, affecting a greater number of people. In contemporary times, migration is not always a means of relief but can instead pose significant challenges. In some cases, the population growth in migration-receiving regions, coupled with infrastructure deficiencies and lack of planning, may even lead to new disasters (Varol & Gültekin, 2016). For instance, during the Kahramanmaraş earthquakes, it was estimated that out of approximately 16 million residents in the affected region, 1.8 million became migrants, while at least 2.7 million people were displaced from their residences following the earthquakes (Şeker, 2023). Participants have expressed this situation as follows.

"Following the earthquake, approximately 700,000 people were dispersed across various cities and migrated. Our population was around 1,500,000 to 1,600,000, meaning that nearly half of it had left." – **Institution 5-1.**

"Migration occurred rapidly and abruptly, leading to a significant shift in human resources and labor force. As you would appreciate, the textile industry

relies heavily on personnel, particularly in terms of production. In my view, the textile sector was the most affected business sector following the earthquake. When a company employing thousands of workers suddenly experiences the migration of 700-800 employees, operations come to a complete halt." – Institution 3-1.

Disruptions in the provision of public services such as electricity, water supply and sanitation, fuel, transportation, and telecommunications following disasters can lead to population displacement and business closures (Zhang et al., 2004). Natural disasters also influence international migration flows (Basile et al., 2023); for instance, they may have an indirect impact through wage differentials (Beine & Parsons, 2015). Furthermore, natural disasters, which affect the social and economic structure, also lead to both voluntary and forced internal migration in the aftermath of the event. Given the extent of the earthquake's impact and the population density in the affected areas, these factors play a crucial role in determining the intensity of migration from the disaster zone (Şeker, 2023). Participants' statements indicate that this situation has been widely experienced in the region.

"Previously, during the summer months, people from villages and districts of Malatya would typically return to their hometowns for about six months to engage in apricot farming, reside there, and later move back to the city center. The city center and districts would generally attract more people due to amenities such as natural gas, social life, and children's education. However, this pattern has now reversed, leading to an opposite outcome." – Institution 2-1.

"Restoring our workplace will require a significant amount of time and financial resources. Moreover, for people to return, we must consider that they have already established a life elsewhere over the past two years. Will they be able to return? Will they even be willing to return? Bringing them back will be highly challenging. For everything to return to its previous state, urgent measures must be taken to address the housing crisis, rebuild workplaces, and reestablish business networks. Only then can reverse migration occur, drawing people back to the region. This is essential for trade to resume and for life to return to normal. As we have mentioned, entrepreneurship could then flourish, and the current gaps caused by the earthquake could create new opportunities, foster entrepreneurship and even giving rise to new professions." – Institution 1-1.

"There is no significant direct impact of the earthquake on agriculture. However, due to population migration, many fields and orchards have been abandoned and left uncultivated, requiring maintenance. This will inevitably cause difficulties in this year's agricultural production." – Institution 3-1.

Natural disasters always impact human life, abruptly altering the social and economic environment and necessitating an immediate response to the emerging crisis. Changes within the affected population depend on the nature and severity of the event, as well as various economic and cultural factors. In this context, natural

disasters negatively affect wages and compel residents to leave the affected region (Şeker, 2023). The statements of participants from the area that experienced the "disaster of the century" reflect this phenomenon.

*"Since many people have left, it is difficult to find electricians or plumbers. Due to the destruction of shops, even finding a barber is challenging, and there are very few hairdressers available—at extremely high prices. I know this firsthand because I left Elbistan. It is nearly impossible to find a cleaner, and in places like Gaziantep, for example, service prices have doubled or even tripled. Although there is a high demand for services, people cannot afford them. The situation is very difficult in this regard. Business owners have been saying that they cannot find employees to hire, and even the remaining residents struggle to find workers. As a result, prices have skyrocketed abnormally." – **Institution 1-1.***

*"In the long term, there is a significant challenge. One of the biggest shortcomings of this region is the lack of a well-trained workforce. The social life and opportunities available here cannot be compared to those offered by cities like Istanbul, Izmir, or Ankara. You train and retain skilled individuals in this region for a certain period, but inevitably, they leave. This issue is not only limited to migration to Istanbul or Ankara. As you know, there is also an ongoing trend of migration abroad. We are experiencing a brain drain." – **Institution 1-3.***

In a study conducted by Findley (1994), it was observed that drought in Mali led to increased internal migration rather than international migration. Additionally, drought influenced the composition of migrants, resulting in a higher number of women and children migrating. Finally, it altered the duration of migration, leading to more cyclical migration instead of permanent migration, particularly among poorer families.

*"Most of those who have left will not return; the majority will not come back here anymore. Even many owners of large companies have migrated and left." – **Institution 5-1.***

*"There is a migration of public officials here. While many have left, it is highly unlikely that new officials from outside will come to replace them." – **Institution 2-1.***

The migration of public officials from the earthquake-affected region, along with the reluctance of new officials to relocate, can lead to difficulties and disruptions in maintaining public order.

Natural disasters have significant impacts on human mobility, and these effects are felt at varying levels depending on individuals' demographic characteristics and socioeconomic status. The speed and duration of the threats encountered are crucial factors influencing migration patterns. For instance, in sudden-onset disasters (such as earthquakes, hurricanes, floods, and landslides), displacement is often temporary, and most individuals attempt to return to the

affected areas to rebuild their lives. In contrast, slow-onset disasters (such as drought, soil erosion, and rising temperatures) can lead to both seasonal and permanent forced migrations (Şeker, 2023). The catastrophe of the century was a rapidly occurring earthquake that affected a vast geographical area and population. In this context, an important issue that must be discussed is whether the displaced population (including skilled entrepreneurs and the workforce) will return. Participants expressed their views on this matter as follows:

“The return has been partial; with the reopening of schools, many individuals, particularly those from the civil servant sector who were unable to find suitable living and working conditions elsewhere, have returned. Specifically, out of the 700,000 individuals, approximately 400,000 have come back, while 300,000 remain outside. Both our administration and our president have exercised some initiative, urging individuals not to leave permanently. They have encouraged them by saying, Do not relocate your companies; continue your business operations there for now, but ultimately, we will return here. As a result, transporters and exporters are currently conducting their operations unofficially in those locations, but their official registrations remain with us. Therefore, there is no significant closure of companies; in other words, corporate shutdowns are not occurring. – Institution 5-1.

“During this process, individuals strive to sustain themselves and survive. If they have children, particularly those pursuing education, they have relocated elsewhere. Many have found employment in their new locations, as I have observed in my surroundings, including among my own relatives. They have moved, rented new homes for their sons or daughters, and settled in places where they found opportunities. From what I have observed, young individuals who have left are not returning in significant numbers. However, middle-aged individuals tend to express a stronger desire to return to their hometowns, and many have done so. As time passes, bringing back young entrepreneurs becomes increasingly difficult, as they establish new lives in the places they have moved to. Nevertheless, one of the major issues they face in these new locations is the lack of housing. At present, rental properties are scarce, with most buildings having been demolished or severely damaged, only about 50% remain intact. As I mentioned earlier, the most urgent issue that needs to be addressed is housing and residence. If this problem is resolved swiftly, reverse migration can occur, leading to a process of internal reconstruction. However, the housing crisis remains the most pressing challenge.” – Institution 1-1.

“Of course, they have not returned, and at this point, it is unlikely that they will. Individuals who have managed to establish themselves in their new locations, either through their own means or with the support of the local community, tend to remain. For instance, if someone was previously employed at minimum wage here and has found a similar opportunity there, they are likely to continue their lives in their new environment.” – Institution 2-1.

*“Approximately 50% of the population is expected to return. However, for this to occur, a foundational infrastructure must be established to support their reintegration. Currently, the state does not permit the reconstruction of destroyed factories, nor does it grant licenses for rebuilding. As a result, businesses are only able to construct temporary, prefabricated structures using makeshift materials such as sheet metal. For instance, if a factory has been demolished and its owner seeks to obtain a reconstruction permit, such authorization is not being granted at present. Under these circumstances, it becomes highly challenging for individuals to resume their work, as they cannot operate without the necessary facilities in place.” – **Institution 5-2.***

Entrepreneurs who have migrated from the region should be encouraged and supported to continue their entrepreneurial activities in their new locations. This is crucial for the initiation and success of new ventures. Additionally, in the long term, these entrepreneurs must be provided with incentives and support to facilitate their eventual return.

Disaster Management Process: In literature, disaster management is examined as a three-stage process: (1) the pre-disaster phase, (2) the moment of disaster and its immediate aftermath, and (3) the post-disaster phase. The primary objective of the pre-disaster phase is to prepare the community that is likely to be affected by a disaster to the greatest extent possible. This phase generally consists of three types of activities:

- i) Implementing regulations aimed at reducing the likelihood or impact of disasters,
- ii) Designing measures to mitigate the effects of disasters, such as constructing earthquake-resistant buildings, and
- iii) Establishing mechanisms to distribute the financial and social burdens of disasters, including the implementation of comprehensive insurance policies and the development of disaster plans at both national and local government levels (Genç, 2021). Regarding the pre-disaster phase of the *catastrophe of the century*, participants' perspectives are as follows:

*“It is not about preparedness; we are not prepared.” – **Institution 2-1.***

*“If we had systematically taught children about fault lines and explained their significance, we could have at least fostered a sense of collective awareness. Within the scope of occupational health and safety, such training is often presented as if it has been conducted on paper. While all companies formally comply with this requirement, in reality, its practical implementation is largely absent.” – **Institution 1-3.***

“In my opinion, the governor’s office or whatever institution is designated, whether it be AFAD or another entity must take an active role in this matter. This should not remain merely on paper; rather, a dedicated institution must be established to implement concrete measures. The process should be straightforward and practical, rather than being encumbered by excessive

procedural requirements. During an earthquake, individuals will not have the time to consult procedural guidelines to determine where to go or whom to contact. Instead, critical points of intervention must be identified in advance, and corresponding actions should be taken accordingly. Moreover, public awareness and knowledge of these procedures must be ensured. When a governor or an official is replaced, the continuity of disaster preparedness efforts must be maintained through periodic drills and training sessions. As a country, we lack sufficient experience and structured planning in this area, highlighting the urgent need for a comprehensive and sustainable disaster management strategy." – Institution 1-1.

(Pre-earthquake briefing) "No, I do not remember. I do not recall. No." – Institution 1-2.

"Perhaps AFAD was only able to reach this area on the third day. There is a saying: Earthquakes do not kill people; negligence does. We lost our lives here due to negligence, professor." – Institution 3-1.

"Approximately one year before the earthquake, AFAD had reportedly conducted a risk assessment for this area, identifying key vulnerabilities and highlighting that it posed a significant risk zone. The report was well structured, outlining the existing challenges, emphasizing the lack of designated assembly areas, and providing a detailed list of necessary actions. It concluded by assigning responsibilities to various entities recommending that the municipality take certain measures, another institution handles specific issues, and different agencies such as provincial health authorities and the Ministry of Environment and Urbanization address other concerns. However, despite the report being written, no follow-up was conducted. The responsibility was merely delegated to local authorities without ensuring implementation. As a result, none of the proposed measures were carried out, leading to extensive destruction and casualties. Additionally, transportation and access to affected areas became a severe challenge." – Institution 5-1.

In the first phase of the disaster management process, it is evident that efforts to prepare society for disasters have been insufficient. Although some initiatives have been undertaken, they appear to have remained on paper and have not been effectively translated into action.

The second phase of disaster management encompasses the moment the disaster occurs and its immediate aftermath. The response phase begins immediately after the onset of the disaster and includes all actions carried out within a period of one to two months, depending on the scale of losses and damage caused. In the literature, this phase is also referred to as the *emergency phase* (Genç, 2021). One of the most urgent service needs during natural disasters and emergencies is healthcare, including first aid, preventive, curative, and rehabilitative health services. Additionally, another significant indirect threat to public health during natural disasters is temporary food insecurity. In such periods, several measures can be taken to ensure food security, including price stabilization, food aid programs,

employment generation programs, general food distribution, supplementary nutrition programs, specialized programs for livestock farmers and nomadic herders, and integrated water and health programs (Ünsal & Atabey, 2016). Participants' perspectives on the immediate aftermath of the earthquake, also known as the *emergency phase*, are as follows:

*"Of course, the psychological impact and fear experienced by people in such situations are understandable. However, in the aftermath of the disaster, the city and its local authorities were unfortunately unable to coordinate effectively. Essential measures such as traffic management and the establishment of designated assembly points were not properly implemented. For instance, during the freezing temperatures and heavy snowfall of February, as we experienced, people struggled to survive in extreme conditions. In the immediate aftermath, many could not enter their homes after experiencing two major earthquakes. Some managed to stay in their cars, but fuel shortages were a severe issue. Others attempted to find shelter elsewhere, but access to necessities such as bread and water became increasingly difficult. These challenges highlight a critical concern: we are not adequately prepared to prevent the recurrence of such crises in future disasters, whether in this region or in other cities." – **Institution 2-1.***

*"There is no coordination. Which neighborhood or district will receive supplies, where will they be distributed from, which center will handle distribution, and what will the first response teams coordinate?" – **Institution 5-1.***

*"I believe that AFAD holds a highly significant position in disaster management. However, it seems that we had a misguided perception of AFAD prior to the earthquake. When I now reflect on the role assigned to AFAD, particularly in the first three days following the disaster, widespread concerns emerged—there was not enough heavy machinery, and people were asking, where is AFAD? Where is the state? Ultimately, AFAD is just the name of an institution. If societal awareness is not cultivated, then whether 50 heavy machines are deployed or none, the outcome remains the same. Let me illustrate even if the first 50 heavy machines had arrived on the first day, individuals armed with weapons would have seized them for their own needs, and those with financial means would have used their money to secure access. Coordination would still have been lacking, and planning would still have been insufficient. However, I must emphasize once again that disaster management is not solely AFAD's responsibility. The entire society must internalize and embrace disaster awareness under the framework of AFAD to ensure effective response and preparedness." – **Institution 1-3.***

"Coordination was a major issue. The day after the earthquake, there was utter chaos. There was no natural gas, no electricity. It was the coldest winter day in Gaziantep. People were stranded in their cars, enduring freezing temperatures, as fuel supplies ran out. There were long queues at gas stations, but no fuel was available. People were left wondering: Where should we go? What should we do? They were out in the cold, with children, the sick, the elderly, and hospitals struggling to function. Were there designated assembly areas? Could schools, as

*relatively safer structures, have been coordinated as temporary shelters? Could public buildings or single-story structures have been organized to provide heating and accommodate the affected population? One of the biggest problems in Gaziantep was the lack of bread. Do you know how many days we went without bread? There was simply nonavailable." – **Institution 1-1.***

*"On the third day, aid finally started to arrive, but by then, we had already suffered one-third if not two-thirds of our total losses within the first 24 hours. The freezing temperatures made the situation even more dire, as people remained trapped under the rubble, waiting to be rescued. If aid does not reach them within the first 24 hours, lives are lost. After the 48th hour, hope is almost entirely gone. And that is exactly when we experienced most of our losses. Why did immediate aid not arrive? Because there was no coordination." – **Institution 3-2.***

*"I am saying that the most critical need is speed. Providing aid a day after it is needed will be of no benefit to us. In fact, I emphasized this point during a meeting we attended in Istanbul. I stated that timely intervention is crucial. If there is a delay and the city succumbs to despair, even if you provide the support ten times later, it will have no meaningful impact from a psychological perspective." – **Institution 4-2.***

The situation in which participants expressed the most opinions pertains to the moment of the disaster, specifically the emergency phase. It is evident that significant challenges were experienced during and immediately after the disaster, particularly in ensuring coordination among public institutions, non-governmental organizations (NGOs), and society. This further indicates that preparatory efforts related to the issue were not conducted before the earthquake and that the public was not adequately informed or educated on the matter.

The final phase of disaster management is the post-disaster reconstruction phase, which encompasses the efforts undertaken after the initial days following the disaster until the affected region returns to normal life (Genç, 2021). Participants' statements regarding the post-disaster process are as follows:

*"People could have already rebuilt their concrete buildings, shops, and workplaces along those streets. It has been eight months, yet there are still structures that have not been demolished. The city remains covered in dust and rubble." – **Institution 4-1.***

*"These are all delays. From the second month until now—now we are in the tenth month. If you count the second month as well, it's been around eight or nine months, yet not much has been accomplished." – **Institution 2-1.***

*"AFAD is only now slowly settling into its role, in my opinion. Look how many months have passed, and it is still gradually taking shape." – **Institution 1-1.***

"Even with an optimistic estimate, returning to those days is very difficult, but perhaps life could return to a normal level within five to seven years. For example, even when you talk to debris removal workers, they say that it will take up to a year just to clear the rubble. Right now, only about fifty percent of the debris has been removed, and there is still a significant amount left to be cleared." – Institution 5-1.

It is observed that there are still significant challenges in the post-disaster phase and that the reconstruction process is progressing slowly.

Social Support: There are various psychological and social resources and processes that empower individuals to demonstrate resilience against natural disasters and successfully recover from such catastrophic events. One of the most critical aspects of these processes is the support provided to survivors in the aftermath of a disaster, as well as efforts at both the individual and societal levels to preserve and strengthen their sense of belonging to a cohesive social group or community during challenging times (Kaniasty, 2020). Therefore, it is essential for individuals affected by the earthquake to receive support from either individuals or a social group and to act collectively. As emphasized by the participants, collective action is of great importance.

"After the earthquake, as I mentioned, WhatsApp groups were created under the leadership of AFAD, and we held meetings." – Institution 1-1.

Providing social support to individuals is crucial after a natural disaster, as social relationships are often disrupted. Social support serves as a critical resource that helps people cope with the aftermath of natural disasters (Kaniasty, 2020). Therefore, in the aftermath of such events, social support is recognized as one of the most important protective factors against post-traumatic stress. Post-disaster social support can take various forms, including emotional support (e.g., empathy, companionship), informational support (e.g., information on available services or how to manage disaster-related stressors), and tangible support (e.g., financial aid, relief assistance). Each of these forms of support plays a vital role in shaping the post-disaster experience, helping survivors cope with disaster-related stressors, and protecting against negative mental health outcomes (Platt et al., 2016). It is essential to implement comprehensive support initiatives for entrepreneurs affected by the earthquake. Participants emphasize the long-term consequences of failing to provide such support.

"Are we conducting any efforts to preserve the social structure here in the next five or ten years? Honestly, we are not." – Institution 1-3.

It is evident that mutual social support and formal aid are highly prevalent in communities dealing with natural disasters. Disaster exposure, operationalized as tangible losses (e.g., property, belongings) and trauma (e.g., injury, life-threatening situations), typically determines the amount of assistance received by

survivors (Kaniasty, 2020). The relatively high rate of loss and damage associated with natural disasters often necessitates responses beyond the support provided by governments, and these responses can be slow. This delay is partially mitigated by individuals and non-profit organizations addressing the consequences and related aspects of the events. Relief organizations primarily rely on contributions, such as support for victims, physical and post-traumatic rehabilitation, and compensation for income and infrastructure loss (Berrebi et al., 2021). At this point, non-governmental organizations (NGOs) and professional associations play a crucial role in identifying and addressing local issues. Based on participant statements, it can be observed that this collaboration has been partially achieved in the region.

"One of the reasons behind Antep's story is this sense of unity and collective intelligence. A distinctive feature of Antep is its ability to act together, where collective decision-making holds great significance. Regardless of political affiliations, the municipality, the governor's office, and members of parliament come together when an issue concerning Antep arises. Of course, after witnessing the destruction in Nurdagi, Islahiye, Adiyaman, and Hatay, we became more proactive in providing aid because, in the end, we had managed to save our own lives, but the people there had entirely different needs." – **Institution 1-2.**

In disasters, it is common for individuals to support one another through a spirit of solidarity, and this phenomenon can also be observed among entrepreneurs. The sense of belonging to a place or a group plays a crucial role in forming a social identity, which in turn enhances the spirit of solidarity (Reyhanoğlu & Habiboglu, 2023). Based on participant statements, it is evident that this spirit of solidarity has been established in the earthquake-affected region.

"Our industrialists expressed their desire to establish a production facility, saying, 'We want to do this for Maraş.' I should also mention the positive aspects that Maraş did not give up after the earthquake. The city is not being abandoned." – **Institution 4-2.**

"At that point, we carried out significant efforts, and TOBB also took action. Currently, the Chambers and Commodity Exchanges Union is engaged in a housing initiative, specifically for permanent housing. With substantial financial resources and the collaboration of all chambers, a housing mobilization related to the earthquake has been launched in the region. Chambers from 11 provinces, along with other chambers and exchanges across Türkiye, have made significant contributions. There have been substantial aid efforts in terms of food, heating, and shelter. It was a well-organized initiative, but as I mentioned, the need has never ended and it still continues." – **Institution 1-2.**

In the earthquake-affected region, both societal cooperation and support, as well as public sector assistance, are crucial. To ensure a more effective and sustainable recovery process, it is essential to maintain this collaboration in the long term.

Cooperation: A study examining how the 1999 Marmara earthquakes transformed perceptions of the relationship between the state and civil society indicates that the government and political authorities were inadequate in providing access to aid services in post-disaster Türkiye. As a result, earthquake survivors experienced a loss of trust in the state and political authorities. In contrast, the role of civil society organizations expanded significantly, highlighting their growing importance. It is argued that an optimal disaster management system necessitates collaboration between the state and civil society (Çaklı, 2020). The participants' statements also reflect the significance of this collaboration and the ongoing efforts to establish it.

"Both in the short and long term, civil society organizations like ours have significant roles to play. This includes identifying financial support needs determining what is needed, in what form, and how it should be provided. Because sometimes, the state may overlook certain aspects." – Institution 3-1.

"The role of NGOs is to identify and document local issues whether they concern members, industrialists, or tradespeople in the context of commerce and industry. These issues are then compiled into reports and communicated to the relevant institutions. Was this done? Yes, it was, and we also contributed to this effort." – Institution 3-2.

"As an NGO, we compile sector-based and individual issues and requests into a structured document, submit it to the relevant institution, and follow up on the process to ensure proper action is taken." – Institution 5-1.

Natural disasters are events that severely disrupt the order and functioning of a society. In the aftermath of such disasters, it is of great strategic importance for public institutions and NGOs to collaborate in disaster management operations, particularly in emergency planning and response efforts (Nolte & Boenigk, 2011). Based on participant statements, it is evident that public-NGO cooperation has been established in the earthquake-affected region and that representatives of professional organizations are aware of the significance of this collaboration.

"An NGO's role is essentially to identify demands, such as facilitating individuals' engagement in work and determining the necessary resources for them to do so. NGOs should be able to assess the region and the individuals within it, compile an inventory, and present it to public authorities through proper reporting and planning. As I mentioned earlier, immediately after the earthquake, urgent and mandatory aid was provided, and practical short-term solutions were implemented. However, in the following stages, the distribution and management of support should be guided by reports and analyses coming from the region." – Institution 4-2.

"First and foremost, housing must be provided, followed by the reconstruction of workplaces to enable people to rebuild their livelihoods. The state

must provide support for this process; without government assistance, this region cannot recover. The people here cannot regain their footing without the backing and strength of the state. There have been ongoing discussions about designating this area as a special earthquake zone, and I believe they are justified in this demand. This region is not like other provinces; it requires greater earthquake relief and support." – Institution 5-2.

"Of course, entrepreneurs also have a role to play in this process. They need to regain their former confidence and act. While doing so, they must actively seek out resources from institutions such as NGOs like ours, public institutions, and other available sources. Simply waiting idly will not yield results, as true entrepreneurs are those who are bold, willing to take risks, and capable of turning crises into opportunities. These individuals are the ones who will help revive the region. While we often emphasize the role of public institutions and officials in reconstruction efforts, it is important to recognize that entrepreneurs also bear significant responsibilities. Their initiatives will play a crucial role in increasing the local population and reversing migration trends." – Institution 3-1.

Social Structure: Norms, values, and roles hold critical importance in the integrated disaster management process, as they serve as reference points for social actors in disaster response activities. In addition to the damage disasters inflicted on social structures, the process of rebuilding these elements through efforts rooted in values, norms, and roles constitutes a fundamental aspect of integrated disaster management. In this context, ensuring the continuity and functionality of affected social institutions is pursued through the participation of all social actors via these norms, values, and roles (Alkin, 2021). As with every natural disaster, we observe that this earthquake has also led to acts that disrupt and disturb the social structure.

"All the thieves from across Türkiye came here. Special operations officers caught a thief, and when they checked, they found out he came from Çivril district in Denizli or some other place in Adana. He came here to steal. All kinds of criminals gathered here because the houses were abandoned. People engaged in looting everywhere. Homes were empty, and inside, people had their valuables, gold, money. A relative of ours had a body inside his house, yet a thief passed by, walked around the corpse, took the safe, and left. This place became a gathering spot for all the thieves in Türkiye. Right now, even our security forces are not very effective, and we do not have much personal safety. Next to my workplace, someone set up a tent and sells drugs at night. I called the police multiple times, different units, yet no one came to check. Cars come and go at night, taking things away, there is no sense of security. This is another issue that needs to be addressed." – Institution 5-2.

"The owner of a building that has been classified as moderately damaged is trying to have it reclassified as lightly damaged." – Institution 3-1.

"There were also many people from Maraş who went on vacation. Since five-star hotels in Antalya opened their doors out of goodwill, people stayed for one, two, even two and a half months. Many are still staying in various places. However, a significant number of them also took the opportunity to vacation." – Institution 4-1.

"Currently, we are unable to find workers. One of the reasons for this is the comfortable living conditions in container cities. People say, 'I stay in a container city, and I already receive nearly the same amount as the salary I would earn working for you.' Aid keeps coming - personal donations, continuous food and clothing support from the state, and schools are reopening. Children receive complete educational kits, and in addition to this, philanthropists and our businesspeople constantly provide financial and other forms of assistance. As a result, an unintended market has emerged there, which we did not anticipate or desire." – Institution 4-2.

"He says, 'My 9-story building collapsed here, and I want to rebuild it as 9 stories. However, geological studies indicate that no more than 4 stories should be permitted in this area.' Such cases lead to legal proceedings, which inevitably prolong the process. Consequently, this situation makes it more difficult for individuals seeking to establish a new business or relocate after their workplace has been destroyed to find a suitable location." – Institution 4-2.

It is observed that the earthquake in the region has led to emerging moral issues. In this context, both individual and societal deterioration can be identified. During this process, it is the responsibility of public authorities to ensure a meticulous and fair governance approach.

5. Conclusions

Investigating the social impacts of the devastating conditions in the region following the Kahramanmaraş-centered earthquakes, along with the loss of loved ones, homes, and property, and examining the necessary measures for supporting entrepreneurs in the long term and facilitating their role in the reconstruction process, constitutes a crucial area of study.

When evaluating participants' perspectives on the social effects of the earthquakes in Kahramanmaraş collectively (Table 5), it is evident that all participants expressed opinions, primarily emphasizing disaster management processes and social life.

In the aftermath of a disaster, it is essential to recover lost workdays (particularly those of skilled, experienced, and qualified workers) or to integrate new individuals into the workforce. For entrepreneurs who have lost their workforce or for new entrepreneurs entering the market, acquiring these competencies is critical for success. Natural disasters result in injuries, disabilities, and loss of life, which negatively affect the social structure. The reconstruction of

destroyed or damaged physical buildings (such as schools, hospitals, sports facilities, and social living spaces) is essential for employing white-collar professionals and attracting qualified entrepreneurs to the region.

The quality of social relationships and communication plays a significant role in overcoming shocking events such as earthquakes. As earthquakes create life-threatening situations, losses, and destruction, emotional support is of vital importance during this process. Moreover, studies on Asian and Turkish earthquake survivors indicate a correlation between strong social relationships and optimal mental health and recovery. Other research findings further demonstrate positive associations between effective support networks, positive emotions, efficient coping strategies, and higher quality of life (Marangoz & İzci, 2023). At this point, the significance of social relationships for entrepreneurs in the post-disaster reconstruction process becomes evident. Entrepreneurs who have lost their homes, businesses, and loved ones need social support and rehabilitation to reintegrate into normal life and resume their entrepreneurial activities.

Türkiye has historically experienced devastating earthquakes due to its geographical location. In addition to causing loss of life and property, these earthquakes are believed to have psychological, social, and economic impacts on individuals, increasing their sense of insecurity. This situation may lead individuals to seek safer areas and result in forced migration to different settlements following an earthquake. Internal migration is an expected phenomenon after earthquakes in Türkiye, occurring within the same province, to other provinces, or even internationally. Such migrations can be either short-term or long-term. Moreover, individuals who relocate often encounter challenges related to cultural adaptation and integration into their new communities (Şeker, 2023). As a result of the “disaster of the century,” a significant internal migration has taken place, leading to various challenges for both the regions sending and receiving migrants. Therefore, efforts should be made to facilitate the return of those who have migrated. For those who choose not to return, their integration and acculturation into their new communities should be a subject of further research.

The “disaster of the century” has led to large-scale internal migration. Participants indicate that those who have migrated may not return, which implies a brain drain for the affected region and has significant implications for the development of entrepreneurship. Some entrepreneurs whose homes and businesses were destroyed in the earthquake zone may decide to leave, while others may move into the region to establish new businesses, creating a reverse migration effect. This reverse migration can play a crucial role in fostering entrepreneurship in the region.

To mitigate the social impact of natural disasters on entrepreneurs, disaster preparedness plans should be developed and periodically reviewed. Transitioning to business models that operate independently of physical infrastructure using digital platforms can ensure business continuity, particularly during disasters such as earthquakes or floods that damage physical infrastructure. Entrepreneurs can also

establish strong local networks to support one another in times of crisis. Moreover, entrepreneurs can implement psychosocial support programs for employees, engage in community-oriented social initiatives, and facilitate the sharing of information and resources among affected stakeholders. These strategies contribute to maintaining social cohesion, supporting recovery, and enhancing the resilience of both entrepreneurs and their communities. Businesses should maintain solidarity with suppliers, customers, and business partners to secure post-disaster support. Additionally, organizing relief and support initiatives for affected communities not only fulfills social responsibility but also benefits a company's brand image. In a country prone to earthquakes, such as Türkiye, the necessary measures in disaster management must be taken in a timely and well-coordinated manner. Conducting research in this area is of critical importance for effectively managing disasters.

Disasters such as earthquakes, which can have devastating consequences, may also create new opportunities for entrepreneurs by fostering the development of innovative solutions. Earthquakes can encourage entrepreneurs to enhance their risk management capabilities and drive technological innovation. For instance, businesses may need to construct earthquake-resistant buildings or implement additional safety measures for employees during seismic events. Moreover, new technologies, such as earthquake detection systems or damage assessment tools, could emerge as innovations within the construction sector. In the post-earthquake period, entrepreneurs can contribute to community rebuilding efforts or launch humanitarian initiatives, thus promoting social entrepreneurship (Marangoz & İzci, 2023). In this context, the role of social entrepreneurship in contributing to the reconstruction process in earthquake-affected regions is an essential topic that should be further explored.

Following the Kahramanmaraş-centered earthquakes, improving the social well-being of entrepreneurs in the affected regions can yield significant economic benefits. Enhanced social support increases entrepreneurial resilience, ensuring business continuity and sustainability. This, in turn, promotes local economic activity, attracts investment, and facilitates job creation. Strengthened entrepreneurial networks and community engagement further foster knowledge sharing and collaborative initiatives, contributing to overall regional economic recovery and growth.

The aim of this study is to qualitatively examine the social impact of the earthquakes that struck Kahramanmaraş, Türkiye, on February 6, 2023, specifically on entrepreneurs, using a qualitative research method (semi-structured interviews). Given its qualitative nature, this study serves as an exploratory analysis. Therefore, the social consequences of the earthquake, its long-term effects, and the post-disaster recovery process should be investigated further using different and more comprehensive research methodologies.

ACKNOWLEDGMENTS

This study has been supported by the Scientific and Technological Research Council of Türkiye (TÜBİTAK) under project number 123K923. We would like to express our sincere gratitude to TÜBİTAK for their support. Additionally, we would like to extend our appreciation to the Muğla Chamber of Commerce and Industry (MUTSO) and the Muğla Commodity Exchange (MTB) for their valuable contributions to the research process.

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