



International
Labour
Organization

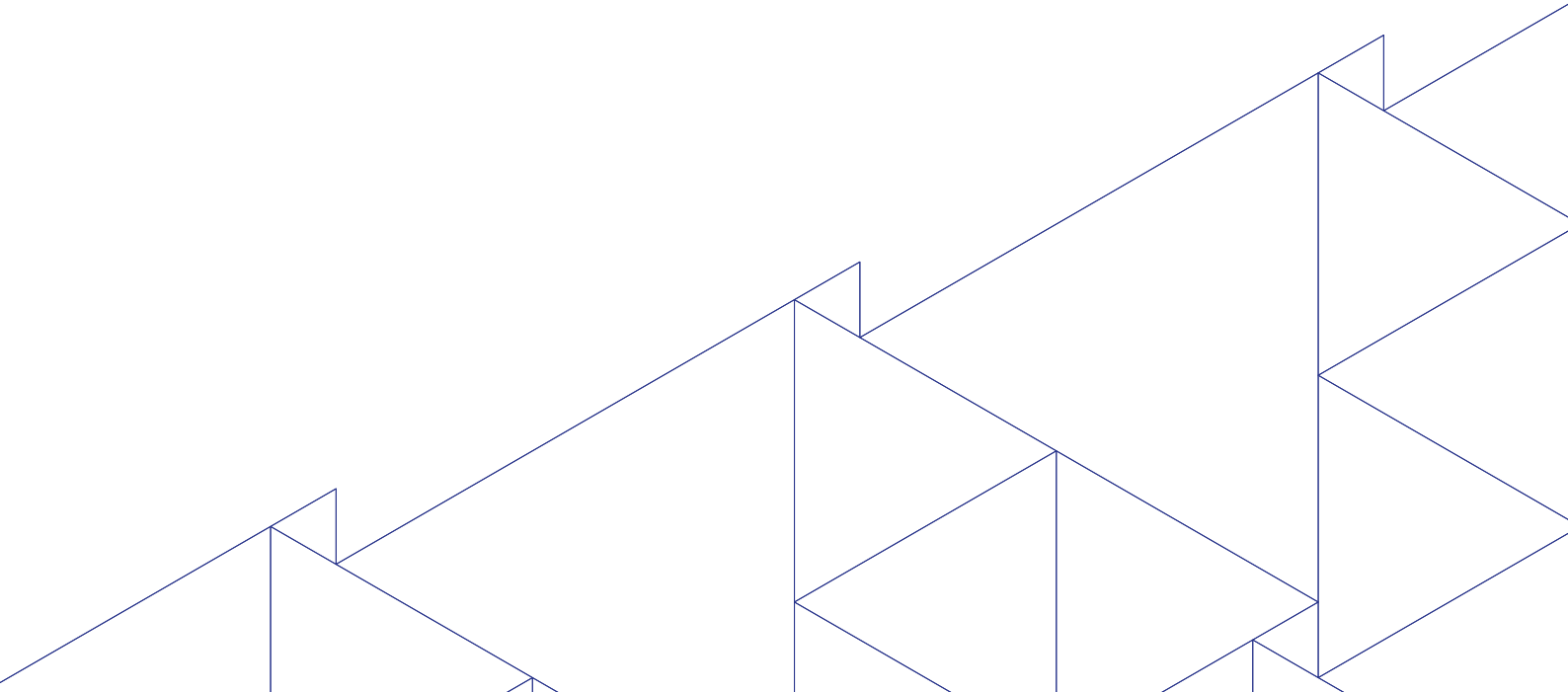
► Assessing the Local Labour Market Dynamics and Skills Needs Following the Earthquakes in Türkiye





International
Labour
Organization

► Assessing the Local Labour Market Dynamics and Skills Needs Following the Earthquakes in Türkiye



Copyright © International Labour Organization 2023

First published 2023



This is an open access work distributed under the Creative Commons Attribution 4.0 International License (<https://creativecommons.org/licenses/by/4.0/>). Users can reuse, share, adapt and build upon the original work, as detailed in the License. The ILO must be clearly credited as the owner of the original work. The use of the emblem of the ILO is not permitted in connection with users' work.

Attribution – The work must be cited as follows: [Gizem Karslı Varol, Assessing the local labour market dynamics and skills needs following the earthquakes in Türkiye, Ankara: International Labour Office, 2023]

Translations – In case of a translation of this work, the following disclaimer must be added along with the attribution: This translation was not created by the International Labour Organization (ILO) and should not be considered an official ILO translation. The ILO is not responsible for the content or accuracy of this translation.

Adaptations – In case of an adaptation of this work, the following disclaimer must be added along with the attribution: This is an adaptation of an original work by the International Labour Organization (ILO). Responsibility for the views and opinions expressed in the adaptation rests solely with the author or authors of the adaptation and are not endorsed by the ILO.

This CC license does not apply to non-ILO copyright materials included in this publication. If the material is attributed to a third party, the user of such material is solely responsible for clearing the rights with the right holder.

Any dispute arising under this license that cannot be settled amicably shall be referred to arbitration in accordance with the Arbitration Rules of the United Nations Commission on International Trade Law (UNCITRAL). The parties shall be bound by any arbitration award rendered as a result of such arbitration as the final adjudication of such a dispute.

All queries on rights and licensing should be addressed to the ILO Publishing Unit (Rights and Licensing), 1211 Geneva 22, Switzerland, or by email to rights@ilo.org.

ISBN 9789220391990 (web PDF)

Also available in Turkish: Türkiye'deki Depremlerin Ardından Yerel İşgücü Piyasası Dinamiklerinin ve Beceri İhtiyaçlarının Değerlendirilmesi, ISBN 9789220392003 (web PDF)

The designations employed in ILO publications, which are in conformity with United Nations practice, and the presentation of material therein do not imply the expression of any opinion whatsoever on the part of the ILO concerning the legal status of any country, area or territory or of its authorities, or concerning the delimitation of its frontiers.

The responsibility for opinions expressed in signed articles, studies and other contributions rests solely with their authors, and publication does not constitute an endorsement by the ILO of the opinions expressed in them.

Reference to names of firms and commercial products and processes does not imply their endorsement by the ILO, and any failure to mention a particular firm, commercial product or process is not a sign of disapproval.

Information on ILO publications and digital products can be found at: www.ilo.org/publns.

This report was prepared under the “Project on Promoting Resilience and Social Cohesion through Decent Livelihood Opportunities” financed by the government of the United States of America.

Printed in Türkiye

ACKNOWLEDGEMENTS

Authors

Dr. Zafer Ganioğlu, Sociologist

Dr. Nazlı Şenses Özcan, Political Scientist

Ezgi Çelenk, Researcher and Data Analyst

Ekrem Cünedioğlu, Researcher and Strategy Consultant

Technical oversight and guidance

Gizem Karslı, Employment and Education Officer (karsli@ilo.org)

July 2023

DISCLAIMER

This research is conducted under the project “Decent Work Opportunities for Refugees and Host Communities in Turkey”, funded by the State Department of the United States of America, Bureau of Population, Refugees, and Migration

▶ TABLE OF CONTENTS

▶ Abbreviations	4
▶ Executive Summary	6
▶ 1. Introduction	10
1.1. Skills needs assessments and involved institutions in Türkiye	11
1.2. The role of rapid skills needs assessment in the recovery	12
1.3. Scope of the study	13
▶ 2. Magnitude of the earthquakes disaster and immediate effects	14
2.1. Affected regions and population	15
2.2. Emergency response activities	15
2.3. Loss of life and injuries	16
2.4. Destruction of critical infrastructure	16
2.5. Destruction in housing stock	17
2.6. Destruction in production centres and workplaces	18
2.7. Estimation of the economic damage	18
▶ 3. Economic analysis of the earthquakes region	20
3.1. Employment	21
3.2. Refugees in employment	27
3.2.1. Refugees in the labour market	28
3.2.2. Refugee women in employment	29
▶ 4. Summary of research methodology	31
4.1. Selection criteria for narrowing down study locations and sectors	32
4.1.1. Economic profile of Hatay	33
4.1.2. Economic profile of Kahramanmaraş	34
4.1.3. Agriculture sector in the region	35
4.1.4. Construction sector in the region	35
4.2. Field study summary	36
4.2.1. List of institutions and organisations participated in the study	37

► 5. Research findings	39
5.1. Priorities in partner endeavours	40
5.2. Scenery in Kahramanmaraş and Hatay provinces	41
5.3. Agriculture sector	43
5.3.1. Labour profile in agriculture and change after disaster	45
5.3.2. Refugee labour in agriculture	46
5.3.3. Skills need in agriculture sector	47
5.4. Construction sector	49
5.4.1. Labour profile in construction and change after disaster	51
5.4.2. Refugee labour in construction	53
5.4.3. Skills need in construction and related sectors	54
► 6. Concluding remarks and policy suggestions	56
6.1. Policy suggestions	58
6.1.1. Measures to ensure decent living conditions	59
6.1.2. Increasing motivation to do business and work	61
6.1.3. Skills training and employment	62
6.2. Employment of women and people with disabilities	63
6.3. Refugees	64
6.4. Green transformation and green jobs	65
6.5. Social assistance allocation	65
6.6. Seasonal labour	65

► List of figures

► Figure 3.1. ISCO-08 skill level distribution of jobholders by region (% , 2021)	26
► Figure 3.2. ISCO-08 skill level distribution of jobseekers by region (% , 2021)	26

► List of tables

► Table 2.1. Number of damaged dwellings by province and type of damage (As of 6 March 2023)	17
► Table 2.2. Estimated economic losses from the earthquakes by different organisations	18
► Table 2.3 World Bank estimated direct damages by sector and province (US\$ Mn)	19
► Table 3.1. Main labour force indicators (2022, %)	22
► Table 3.2. Informal employment rate (2021, %)	23
► Table 3.3 Distribution of 4/a insured manufacturing employment by technology intensity classes (% , 2021)	24
► Table 3.4. Distribution of 4/a insured services employment by knowledge intensity classes (% , 2021)	25

► Abbreviations

► SuTP	Syrians Under Temporary Protection
► ALMP	Active Labour Market Policies
► NGO	Non-governmental organisation
► MBS	Occupational Information System
► UMSS	National Qualifications Framework
► MYK	Vocational Qualification Authority
► İŞKUR	Turkish Employment Agency
► EP	Vocational Training Courses
► MRM	Vocational Rehabilitation Centres
► OHS	Occupational Health and Safety
► ÇASGEM	Social Security Training and Research
► EIIP	Employment-Intensive Investment Programme
► Apindo	Indonesian Employers' Association
► SEWA	Self- Employment Women Association
► SBB	Presidency's Strategy and Budget Department
► OHAL	Presidential memorandum regarding the state of emergency
► AFAD	Disaster and Emergency Management Presidency
► TURKONFED	Turkish Enterprise and Business Confederation
► BOTAŞ	Petroleum Pipeline Corporation
► TEPAV	Economic Policy Research Foundation of Türkiye
► SGK	Social Security Institution
► NUTS	Nomenclature of territorial units for statistics
► TURKSTAT	Turkish Statistical Institute

► TİM	Türkiye Exporters Assembly
► R&D	Research and Development
► ISCO-08	The International Standard Classification of Occupations 2008
► GİB	Presidency of Migration Management
► UNHCR	United Nations High Commissioner for Refugees
► NEET	Neither in Employment nor in Education or Training
► GBV	Gender-Based Violence
► TÜİK	Turkish Statistical Institute
► NACE	Statistical Classification of Economic Activities in the European Community
► Tarım-İş Sendikası	Turkish Forestry, Land Irrigation, Agriculture and Agricultural Industry Workers' Union
► İnşaat Sen	Construction Workers' Union
► İNTES	Turkish Employers' Association of Construction Industries
► Livane Tarım	Livane Agricultural Engineering and Consulting Limited Company
► Dev-Yapı İş Sendikası	Progressive Trade Union of Building, Construction and Road Workers
► İYİ-Sen	Construction and Construction Workers' Union
► MEKSA	Vocational Education and Small Industry Support Foundation
► TMMOB	Union of Chambers of Turkish Engineers and Architects
► MOBSAN	Antakya Furniture Specialized Industrial Site
► TOKİ	Mass Housing Development Administration
► INGO	International Non-Governmental Organisation
► EU	European Union
► GDP	Gross Domestic Product

► EXECUTIVE SUMMARY

The Objective of the Study

On February 6, 2023, the south-eastern provinces of Türkiye faced a difficult series of events beginning with a powerful 7.8 magnitude earthquake early in the morning, followed by a second 7.5 magnitude quake just nine hours later, and finally, a 6.4 magnitude quake on February 20, primarily affecting the Defne district. 11 provinces were immediately impacted. As of the end of April 2023, the verified mortality toll was 50,783 in Türkiye, over 7,000 of which were Syrians under Temporary Protection.

As the emergency response activities have started and continued the ILO has taken a step to understand the current state of labour market dynamics and skills needs in the region and conducted this assessment, which aims to:

1. inform the design of activation programmes for a well-equipped labour force that will play a key role in building back better,
2. identify sectors that are likely to grow to ensure smooth and rapid recovery while creating decent jobs,
3. scrutinise occupations and skills that will be in demand by these sectors in the medium and long term.

Following a thorough desk review and initial discussions with key stakeholders, Kahramanmaraş and Hatay were chosen as the research locations, with agriculture and construction identified as the sectors. Although the study acknowledges the critical role of the manufacturing sector and encourages further research in this area, it places a higher priority on the construction and agriculture sectors due to their anticipated contributions to the recovery processes.

Methodology

The findings of the research were gathered by three main strategies: (1) An extensive desk review, which is based on extant research reports and assessments of academia, civil society, international organisations, and state institutions, was conducted to depict (the pre- and post-earthquake) labour market conditions of the region. Additionally, reports on skills anticipation, skills mismatch, and job creation programs in various other post-disaster contexts were reviewed, together with reports depicting good practices from other countries with similar socio-economic dynamics. (2) Key informant interviews were conducted in the form of 15 online semi-structured interviews with experts from state bureaucracy, employer organisations, labour unions, and NGO representatives in order to explore the immediate changes in labour demand and the essential skill needs in the post-disaster period. While selecting the participants of the interviews, a balance was sought between regional representation and national expertise as well as sectoral equivalence. (3) Two main focus group discussions and a smaller extra focus group with the İŞKUR experts were held in order to gain a better understanding of the research topic. ILO reference documents were utilised to inform the design of the questionnaires, interview protocols, and discussion guides.

The field visit, interviews and focus groups were conducted between March 25 and April 10, 2023, with the participation of 43 interviewees from various organisations.

Sectoral And Labour Market Overview of The Region

According to data from the Turkish Presidency's Strategy and Budget Department, the earthquake-stricken region generates 9.8% of the country's GDP, composed of 8.6% agriculture, 30.5% industry, 5.2% construction, 45.2% services, and 10.6% tax subsidies.

Delving specifically into the agriculture and construction sectors, the region exhibits unique characteristics: it encompasses 16% of Türkiye's agricultural land, contributing roughly 20% of the nation's total crop production. It is home to 70 thousand farmers and companies and contributes one-fifth of the nation's total agricultural and forestry product exports. The region's employment rate in agriculture stands at 20.6%, with a higher rate of 36.8% for women's employment within the sector. Prior to the earthquake, the construction sector held a relatively marginal position; however, in the aftermath, there is significant labour demand for debris removal, demolition, and reconstruction projects.

Analysis of the 2022 TURKSTAT data suggests that the region has a low labour force participation rate and high unemployment. Informal employment is widespread, amounting to 37.9% overall; this figure jumps to 89.0% within the agriculture sector and sits at 33.7% in the construction sector (based on calculations from the 2021 TURKSTAT household labour force survey). Moreover, there is a significant presence of refugee labour in the region, with nearly half of the Syrians under Temporary Protection Status (SuTP) registered there. Predominantly, this refugee labour force is employed within the informal sector.

Key Findings Regarding Labour Market Conditions

- ▶ The main endeavour in the region still involved emergency response activities (such as search and rescue activities, relocation of earthquake victims, and meeting basic needs of those who stayed in the region) as the research was conducted.
- ▶ Although there are various economic analyses of the earthquake by the government, there has not yet a clear plan for addressing the labour supply needs.
- ▶ Employers focus on reactivating production processes with a specific focus on access to the production inputs.
- ▶ Labour unions have not yet devised a workforce development strategy, and this level will be reached upon the restoration of production operations in the region.
- ▶ Non-governmental organisations working for refugees are mostly concentrating their efforts on humanitarian support. Integration projects have paused, and emergency response activities for refugees have been (re)activated.
- ▶ It is evident that in all sectors, there is a primary demand for unskilled and low-skilled labour. After fulfilling the demand for low-skilled labour, should the focus shift towards sectors that necessitate semi or high-skilled labour.
- ▶ Emigration is a serious problem triggering labour shortage. There are no economic or social incentives to encourage them to return, apart from their personal ties to the places they used to live in.
- ▶ To serve the purpose of building back better and facilitating the return of affected populations back home, it is crucial to make significant progress in attending to the main problem areas that led to emigration. These include addressing housing shortages and ensuring the restoration of essential public services, as well as revitalising urban life and facilities.

- It is observed that occupational health and safety measures are largely ignored in demolition and debris removal works in the region. Post-disaster asbestos and silica emissions are among the important health risks.
- As there is the possibility of dual or multiple employment due to high costs of living, there is a great risk of occupational accidents resulting from over working.
- A significant amount of farmers lost livestock and/or crops in the fields, left with damaged equipment and land. As a result, farmlands lost value as a production capital. Farmers may be forced to sell their holdings for less than they are worth in the near future.
- The earthquake region is to a certain extent an expertise region in agricultural production. Hence, there is a need for training for even low-skilled jobs. Due to this fact, seasonal workers from outside the region may not suffice to meet the labour need without a targeted selection and guidance perspective to involve those who have the necessary skills.
- Meeting the labour demands in the region's construction sector is an immense challenge due to the high requirements for both labour and skills. Even prior to the earthquake, the region lacked the capacity to fulfil the labour needs associated with the expected expansion of the sector. Thus, there is a need for temporary workers from outside the region, even if successful return migration of the local workforce is achieved.
- Women workers are expected to experience greater difficulties in the region especially in terms of personal hygiene. There is no facility in the region to support women to relieve them of especially childcare responsibilities.
- Although there are findings indicating that resistance against refugee labour is decreasing, refugees are still seen as cheap labour sources in the relevant sectors.
- Agriculture and construction are sectors that have very limited opportunities for employment of people with disabilities. There is a significant lack of data concerning the current conditions of workers with disabilities in the region.
- Despite the lack of necessary regulations and the level of technological capacity necessitating the IT, agriculture and construction sectors have potential for green transformation.
- Seasonal workers do not prefer the earthquake region as there are job opportunities all around the country with better working and living conditions.

Key Suggestions for Design of Active Labour Market Policies

- Accurate skills assessment in the earthquake-affected region proves challenging, given the severe labour shortage, loss of production capital, issues with production inputs, decline in demand, particularly in manufacturing, disrupted production cycles, and lack of a conducive business planning environment. A sector-based priority list for swift, sustainable recovery is necessary. As part of this, Active Labour Market Policies should first address assessing the labour needs that will kickstart production processes.
- Initially, ALMPs should aim to formally employ unskilled individuals in sectors like agriculture and construction while also providing on-the-job training for specific skills. The urgency stems from various factors, including the necessity of unskilled labour to resume production processes, the sectors' trend towards informal employment, employers' inability to afford high costs of formal labour, and the potential of employing a substantial proportion of disadvantaged groups, such as women and refugees, who are often viewed as a cheap labour source.

- ▶ In the short term, addressing housing shortages is crucial to attracting the necessary labour force to the area, whether through return migration or from a new labour supply. Skills needed for assembling prefabricated buildings should be the initial focus of ALMPs, particularly those needed for foldable prefabricated structures, as these jobs are more sustainable.
- ▶ In both agriculture and construction sectors, on-the-job training is preferred, as many of the required skills are practical and better learned through hands-on experience.
- ▶ In agriculture, there is a significant need for labour in tasks such as gathering, collecting, harvesting, hoeing, and pruning. Even though these seem to be generic skills, the training should focus on the specific produce of the region, considering the subtle differences between provinces.
- ▶ The livestock sector requires basic skills like ration preparation, nail cutting, dehorning, proper milking, shearing, and animal grazing. Driving, especially for transporting seasonal workers, is another significant requirement.
- ▶ In addition to these specific skills, there is a substantial need for unskilled labour in tasks like crate carrying in agriculture. Refugees could be employed in these roles with higher probabilities.
- ▶ There is a notable shortage of labour in storage, marketing, and sales fields. Training in these areas is crucial, not only because they are vital for sustainable production, but also because these roles could likely include women and people with disabilities.
- ▶ In the construction sector, key specializations such as moulders, tunnel moulders, iron binders, masons, insulators, and fine works artisans, including plasterers, painters, and tile workers, must be filled first. These roles need properly trained individuals to prevent future destruction in the earthquake zone.
- ▶ Finishing work in construction is crucial as artisans will be needed for new constructions and for repairing slightly or moderately damaged buildings. These jobs can potentially suit women in the sector. Female artisans could be trained, providing sustainable employment for future repair jobs in the region.
- ▶ In construction, basic plumbing and electrical installation works, along with furniture and textile support sectors, are also areas where considerable skill need is evident. These should be prioritized as they also help in turning prefabricated buildings into liveable spaces for the workforce.
- ▶ Given the capital losses and lack of a favourable business planning environment, activation programmes should include incentives that not only focus on labour supply but also consider cash supports or wage subsidies. To replace the lost capital and resume production, state institutions, employer organisations, international nongovernmental organisation with a global network, supranational organisations like the European Union should collaborate.

▶ 1

INTRODUCTION

On the morning of February 6, 2023, Türkiye faced one of the worst tragedies in its history. The Kahramanmaraş-centred earthquakes wreaked havoc on a large population spread across a big geographic area. Unfortunately, completely comprehending the scope of the devastation and healing the wounds will take a long time. When the loss of life, injuries, losses, destruction in homes, workplaces, and production centres, damage to infrastructure, and economic, social, and psychological effects are considered, the earthquake, which affected 11 provinces in a narrow framework and the entire country in the context of its expanded effects, caused great wounds.



As a result of the earthquake's devastation, life in a large geography of Türkiye, which has a high economic development potential and is distinguished by its historical and cultural legacy, has nearly come to a halt. Healing these wounds can only be achievable in the medium and long term if the public, private sector, national and international organisations work together. Of course, the destruction experienced in all aspects of life manifested itself in the working life. In a region where high unemployment, informality and poverty were already prevalent both for the host communities and the refugees,¹ the earthquakes have further aggravated the situation.

The International Labour Organization in Türkiye, in collaboration with public institutions, social partners, and the UN, has promptly addressed the urgent requirements of impacted communities following the destructive earthquakes in eastern Türkiye. Presently, it mobilises its resources and technical expertise to create and contribute to employment prospects, quality jobs, and foster skill development among the affected communities. In line with these efforts, this assessment aims to (a) inform design of activation programmes for a well-equipped labour force that will play a key role in building back better, (b) identify sectors that are likely to grow for ensuring smooth and rapid recovery while creating decent jobs, (c) identify occupations and skills that will be in demand by these sectors in the medium and long term. Though the study was originally designed as a comprehensive skills anticipation study as defined above, after the earthquakes, its objective has been redefined to address the possible information gaps for recovery efforts, specifically emphasizing labour force need.

1.1. Skills Needs Assessments and Involved Institutions in Türkiye

In the Guidance Note for Anticipating and Matching Skills and Jobs (2015), the ILO defines skills anticipation as follows:

Skills anticipation is a strategic and systematic process through which labour market actors identify and prepare to meet future skills need, thus helping to avoid potential gaps between skills demand and supply. Skills anticipation enables training providers, young people, policymakers, employers and workers to make better educational and training choices, and through institutional mechanisms and information resources leads to improved use of skills and, human capital development.

Türkiye already has a sizable skills disparity in many industries, which is impeding the country's ability to expand its economy and improve the lives of its citizens. The education system is one of the main causes of the skills mismatch in the Turkish job market. Vocational and technical education and training providers are not prioritised in Türkiye's educational structure, limiting their access to financial resources to improve their curricula and training material in parallel to the automation and technological advancement and reducing their chances to attract more students and trainees. At this point, the poor working conditions and wage schemes that are far from meeting the expectations of the potential blue and grey collar workforce should also be noted. As a consequence, many industries are experiencing a qualified labour shortage. The mismatch between the workforce's knowledge and abilities and what is required by new technologies and innovations in the industry is also getting wider as a result of modernization and technical breakthroughs in many sectors. Governments, businesses, relevant nongovernmental actors and social partners need to work in collaboration to develop education and training policy and programs, focusing on skills development, upskilling and reskilling aspects that can help employees acquire new skills and adjust to new technologies to solve the skills mismatch issue in Türkiye.

In order to ensure that the education and training systems are in line with the needs and expectations of the labour market, skills anticipation studies are being implemented in Türkiye with the goal of identifying the present and future skill demands of the labour market. These initiatives are crucial for fostering economic development, lowering unemployment rates, and ensuring that employees possess the competencies required to satisfy labour market demands.

¹ This report refers to SuTP and the holders/applicants of international protection as refugees. However, since the region includes large numbers of SuTP as opposed to holders/applicants of international protection, refugee reference mainly refers to the Syrian population in the region. Nevertheless, when it is necessary, SuTP rather than refugees are specifically stated.

The Occupational Information System (Meslek Bilgi Sistemi or MBS) is one of Türkiye's most important initiatives for predicting abilities. MBS is a web-based tool that offers details on work descriptions, career routes, and the state of the labour market for various professions. The method is intended to assist students, employment advisors, and job seekers in making informed choices about their future professional routes.

The National Qualifications Framework (Ulusal Meslek Sınıflama Sistemi or UMSS), which seeks to create a uniform structure for professional education and training, is another important initiative by Vocational Qualification Authority (Mesleki Yeterlilik Kurumu or MYK). MYK's mission is to establish and operate a quality-assured National Qualifications System which describes and recognizes the qualifications in cooperation with the stakeholders. In this regard, the UMSS determines the knowledge, skills, and competencies needed for various professions and makes sure that the education and training programs adhere to these criteria.

The Turkish Employment Agency (Türkiye İş Kurumu or İŞKUR), through a number of activation programmes that include but are not limited to on-the-job training programmes (İşbaşı Eğitim Programları), public work programmes (Toplum Yararına Çalışma) and the Vocational Rehabilitation Centres (Mesleki Rehabilitasyon Merkezleri or MRM), plays a critical role in the anticipation of skills and delivery of programme to meet required skills. While MRM gives occupational training and rehabilitation services to people with disabilities, work-based learning programmes offer training and work experience to unemployed or the underemployed.

Although mainly focusing on occupational health and safety (OHS), Centre for Labour and Social Security Training and Research (Çalışma ve Sosyal Güvenlik Eğitim ve Araştırma Merkezi or ÇASGEM) has also projects focusing on skills anticipation and development such as Identification of Training Needs in the Labour Market Research Project. Along with the core OHS training programmes, ÇASGEM has various training programs on professional skills and social skills in work life. ÇASGEM also has a lifelong learning program in cooperation with OSTİM University.

1.2. The Role of Rapid Skills Needs Assessment in the Recovery

In addition to having a significant economic impact where they occurred, the sequence of large earthquakes that struck Kahramanmaraş and Hatay also changed the makeup of the labour market. The demand for labour and labour supply profile also changed as a result of the region's economy deviating from its normal path, possible industry shifts, and immediate requirements for the recovery and reconstruction efforts. In this framework, determining the sectors and the corresponding labour demand in the region in the short, medium and long term gained critical importance, along with the corresponding education, training and employment policies, in closing the labour force gap and in the design of the recovery interventions that include temporary employment programmes.

Following the earthquake disaster, the ILO aims to have a clear grasp of the skills that will be needed for the recovery phase. The active labour market policies (ALMPs) that will be implemented in the earthquake regions or address the needs in the region, are expected to benefit from the rapid skills need assessment study. Temporary Employment Programmes such as the cash work programme are among those that are expected to immediately utilise the findings of the assessment. These programmes provide temporary employment to the most vulnerable segments of the population in food insecure, disaster-affected, or post-conflict environments. In addition, work-based learning programmes are expected to benefit from the findings of this study.

Finally, this study intends to provide evidence-base for ILO's employment-intensive investments programmes (EIIPs) that link infrastructure development with job creation, poverty reduction, and local economic and social development. Through EIIPs, ILO utilises local labour force and resources, to promote local industrial development, increase the capacity of local institutions, and support affected communities' income generation and access to employment.

Similar studies and ALMPs have been carried out by the ILO in post-disaster settings in nations with comparable socioeconomic development levels. ILO implemented recovery programmes following the earthquakes in the Indian Ocean in 2004, measuring 9.1-9.3 on the Richter scale, and the consequent tsunami that killed more than 230,000 people in 14 countries. It was calculated that more than 600,000 people lost their livelihoods in Indonesia, the country most affected by the earthquakes. After this disaster, the ILO in collaboration with the Indonesian Employers' Association (Apindo) conducted a rapid impact assessment study in the Aceh region. In this study, the effects of the disaster on human resources, infrastructure and economic activity were measured and strategies for recovery were determined (ILO, 2006b). The objectives guided the Aceh programme were getting people back to work, empowering the socially disadvantaged and helping economies recover. The ILO carried out projects that provide employment services, vocational and skills training, enterprise development and microfinance support, labour-based infrastructure rehabilitation, child labour prevention, and local economic recovery and development.

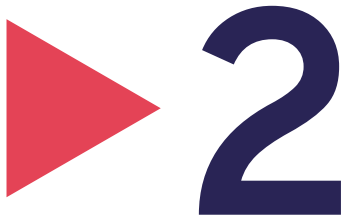
Another relevant example could be the case of Chile that was hit by an earthquake in 2010 measuring 8.8 on the Richter scale with a consequent tsunami, which estimated to kill at least 521 people, left more than 800,000 people homeless, and affected more than 1.8 million people. The economic loss caused by the disaster was estimated to be about 30 billion USD, which corresponds to 18% of Chile's 2009 GDP. The ILO conducted a rapid assessment of employment and livelihoods after the disaster, surveying 4,150 employers in 41 municipalities and interviewing 300 stakeholders. Within the scope of the "Reconstruction with Employment" project initiated after the disaster, the ILO measured the employment effects of the disaster, identified the most affected areas of activity and response areas, and created the necessary conditions for local and focused initiatives (ILO, 2012).

In India, the ILO and the Self-Employment Women Association (SEWA) collaborated to establish a pilot initiative for 10 villages, focusing mostly on women craftsmen, in response to Gujarat earthquake of 2001 in India that damaged over a million homes and killed almost 20,000 people. After the significant earthquake in 2001, its main goals were to train people in skills that can be utilised in labour-intensive interventions for earthquake-resistant construction as well as routine maintenance and repairs. It featured a paradigm for women's participation in housing and other issues in the community. The project placed a strong emphasis on developing numerous skills to provide occupational diversification as a key for risk mitigation. Women could fulfil a variety of task and generate income thanks to this empowering strategy (ILO, 2003).

1.3. Scope of the Study

A rapid skills need assessment study in accordance with the framework and goals outlined above was conducted. Prior to the fieldwork, an extensive desk review was done on available research and assessments on skills anticipation, skills mismatch, and ALMPs implemented/relevant for recovery contexts, and good practices from countries with similar socioeconomic dynamics that could be implemented in Türkiye. The desk review included the recent reports published by stakeholders and independent researchers following the earthquake, like Türkiye Earthquakes Recovery and Reconstruction Assessment report (TERRA) commissioned by Turkish Presidency's Strategy and Budget Department (SBB) with the support of The World Bank, United Nations Development Programme (UNDP), United Nations, and European Union.

The assessment was based on primary data collected through interviews and focus group discussions with social partners, sector representatives, and experts, as well as a review and analysis of available reports and examinations focusing on the affected region and communities in which refugees live. The study paid particular attention to the employment prospects of women, refugee populations, people with disabilities. In addition, emerging green job opportunities in the market is assessed. In addition to the nongovernmental actors participated in the data collection processes, the ILO's tripartite structure, which brings together government, employer, and worker representatives, was strictly adhered to.



MAGNITUDE OF THE EARTHQUAKES DISASTER AND IMMEDIATE EFFECTS

On February 6, 2023, the south-eastern provinces of Türkiye faced a difficult series of events beginning with a powerful 7.8 magnitude earthquake early in the morning, followed by a second 7.5 magnitude quake just nine hours later, and finally, a 6.4 magnitude quake on February 20, primarily affecting the Defne district. In some areas of Antakya district of Hatay Province, the earthquake's highest Mercalli strength was XII (Extreme). At 13:24, a second earthquake with a magnitude of 7.7 struck, this one located 95 kilometres to the north-northeast of the first one.



Immediately after the disaster, there were reports of tens of thousands of deaths and extensive destruction. Since the Erzincan earthquake in 1939, the disaster is the biggest to have struck Türkiye. Following the North Anatolia earthquake in 1668, it is collectively the second-strongest earthquake ever to be documented in the history of the country. The quake is one of the strongest ever documented in the Levant, and accounts indicate that it was felt as far away as Egypt and the Turkish shore of the Black Sea.

As of April 18th, evening, according to the Boğaziçi University, Kandilli Observatory and Earthquakes Research Institute, there were more than 22,750 tremors, and shallow strike-slip faulting was identified as the cause of the seismic series. In the affected region, on February 20, 2023, another independent earthquake with a magnitude of 6.4 centred in Defne district of Hatay province occurred. This earthquake was followed by many aftershocks, the largest of which was of 5.8 magnitude.

2.1. Affected Regions and Population

Over an area of about 350,000 km², roughly the size of Germany, the earthquakes caused significant devastation. Over 15.6 million individuals (including 1.7 million SuTP), or approximately 16% of Türkiye's population, were reportedly impacted. The study estimates that non-Syrian refugees have also been impacted. However, there is no available data in this regard. Immediately impacted provinces were Kahramanmaraş, Hatay, Gaziantep, Osmaniye, Malatya, Adana, Diyarbakır, Şanlıurfa, Adıyaman, and Kilis. On February 9, 2023, the General Assembly of the Grand National Assembly of Türkiye accepted the Presidential memorandum regarding the state of emergency (OHAL) decision covering 10 provinces affected by the earthquakes announced by President Recep Tayyip Erdoğan and published in the Official Gazette.

Along with the 10 provinces that were indicated, Elazığ province was also declared as Area of Disaster Affecting General Life, by Disaster and Emergency Management Presidency (AFAD). Furthermore, following damage assessment studies, AFAD has determined that there are buildings that are slightly, moderately or heavily damaged in some settlements in Bingöl, Kayseri, Mardin, Tunceli, Niğde and Batman. For this reason, on April 3, 2024, the settlements where the damaged buildings were located in the mentioned provinces were also included in the disaster zone.

2.2. Emergency Response Activities

According to the initial response plans of AFAD for each province in the earthquake region, the staff and technical equipment in the neighbouring provinces were designated for immediate emergency response. Since the earthquakes affected a very large area at the same time, there were delays and disruptions in the implementation of the rescue efforts as planned. Also, damage in transportation infrastructure, winter weather conditions, and communication breakdowns made the rescue and aid operation more difficult. A 60,000 search and rescue team, 5,000 medical personnel, and 30,000 volunteers were all managed by the AFAD despite delays in coordination, equipment delivery, and resource distribution. Over 7,000 people from 88 different nations took part in the rescue operation in answer to Türkiye's plea for foreign help. According to the data provided by the SBB, to quickly provide all services, a total of 271,060 people has been dispatched to the area, including volunteers, state employees, members of NGOs, and foreign search and rescue specialists.

2.3. Loss of Life and Injuries

The verified mortality toll as of the end of April 2023, was 50,783, with more than 7,000 of which were refugees (AA, 2023b). In order to bury the vast majority of the deceased, mass graves were made. According to the information that the AFAD President Yunus Sezer shared at the Parliamentary Earthquakes Research Commission, the number of injured was over 100 thousand (TRT Haber, 2023). Since the earthquakes in Antioch, Türkiye, in 526, this earthquake has killed more people than any other natural catastrophe in contemporary Turkish history. Since the Aleppo earthquake in 1822, it is also the deadliest earthquake to have struck modern-day Syria. It is the fifth deadliest global disaster of the twenty-first century and the bloodiest since the 2010 Haiti earthquake. As the health infrastructure in the earthquake region was severely damaged, most of the injured were taken to different metropolitan regions of the country for treatment after the first intervention.

2.4. Destruction of Critical Infrastructure

Turkish Enterprise and Business Confederation (TURKONFED) summarised the infrastructure damage caused by the earthquakes under seven categories, namely, transportation, electricity, natural gas, oil lines, communication network, hospitals, and schools (TURKONFED, 2023). According to TURKONFED's assessment report, roads developed wide cracks due to the earthquakes. Many collapses occurred on the roads, especially in Gaziantep, Hatay, Gaziantep-Osmaniye, Adıyaman-Çelikhan roads. While repairs were ongoing, road infrastructures needed to be rebuilt at some points. Flight delays occurred resulting from the splitting and lifting of the runway at Hatay Airport. On February 6 at 17:00, a huge fire at İskenderun port was recorded. It is believed that a container filled with flammable industrial oil triggered the fire, necessitating the closure of the port and the redirection of numerous ships. The Mersin-Adana-Osmaniye-Narlı, Toprakkale-İskenderun, Fevzipaşa-İslahiye, Köprüağzı-Kahramanmaraş, Nizip-Gaziantep-Narlı, Narlı-Malatya, Çetinkaya-Malatya, Malatya-Elazığ, and Malatya-Yolçatı-Diyarbakır sections of the railway network suffered damage by the earthquake, due to tunnel cave-ins, subsidence of tracks, stone and rock falls, and structural damage on bridges (SBB, 2023).

In many of the earthquake-affected areas, electricity transformer points were destroyed, and the energy delivery network was severely injured in some places. The re-commissioning of transformer and grid infrastructure is anticipated to require a considerable amount of time. Although the major energy transfer infrastructure and lines have been free of issues, distribution issues still exist in a few districts and provincial capitals in the interior cities. Due to infrastructure reconstruction, there are frequent daytime power outages, particularly in Hatay and Kahramanmaraş.

As a result of the earthquake, natural gas pipes exploded, and Petroleum Pipeline Corporation (BOTAŞ) swiftly stopped the flow of gas to Gaziantep, Hatay, and Kahramanmaraş. The ministry reported that there were breaks and ruptures in BOTAŞ's major power lines, and that aftershocks in the fixed regions had caused the damage to return. The controlled and limited natural gas flows to the metropolitan areas of Adıyaman, Gaziantep, and Kahramanmaraş had begun. Natural gas was supplied to the city entrance stations in Hatay's Kırıkkhan neighbourhood and city centre in mid-February.

The oil flow was halted following the disaster for the purpose of examination to rule out any damage to the oil lines, according to information provided by BOTAŞ. As a result of the studies, it was determined that there was no damage or leakage, and the oil flow was then resumed on the evening of February 7th.

There were 11.5 million mobile users in the region. Telecommunication services were severely disrupted in the disaster area. 190 mobile stations and 3,485 generators were urgently sent to the area by the operators to meet the region's needs, according to a statement from the Association of

Mobile Telecommunication Operators, of which Turkcell, Türk Telekom, and Vodafone are members. Most disturbances still occur in towns and districts both for landlines and mobile communication.

Iskenderun State Hospital's Block A, whose earthquake resilience assessment was negative in 2012, was being used for intensive care services, and was destroyed by the earthquakes. In Hatay Province, private hospitals were also destroyed or suffered long-term harm, in addition to the two state hospitals that were ruined. The need for hospitals and medical personnel is acknowledged in the field, despite the fact that the formal authorities have not yet disclosed the extent of the need.

The Ministry of National Education postponed the opening date of all schools in 81 provinces after the semester break. The schools in 71 provinces were opened on February 20, 2023. It has been announced that students studying in 10 provinces affected by the earthquakes will be able to transfer to the provinces they want. As of mid-February, the Minister of Education announced that 24 schools in the region had collapsed, and 83 schools were heavily damaged. Damage assessment process still continues. As of April 4, education has been started in all province centres and in all districts.

The water and sanitation systems have also sustained major damage, according to the data provided by SBB (2023), however the precise extent of the damage is yet unknown because a sizable portion of the infrastructure is underground. Early evaluations revealed damage to 22 water tanks, two water treatment facilities, 23 water reservoirs, seven wastewater treatment facilities, and around 500 km of potable water supply lines as well as over 2000 km of sewer network.

2.5. Destruction in Housing Stock

According to SBB data, about 35,000 buildings - including nearly 100,000 detached units - have collapsed, and about 17,500 buildings - including more than 60 thousand detached units - need to be demolished immediately. Another 180 thousand buildings consisting of almost 500 thousand detached units were severely damaged. The International Organization for Migration believes that roughly 2.7 million people lost their homes, whereas SBB (2023) calculates that 2,273,551 persons were directly affected by housing issues as a result of the earthquakes.

►Table 2.1. Number of damaged dwellings by province and type of damage (As of March 6, 2023)

Province	Devastated or heavy damaged	Moderate damaged	Total number of dwellings (2021)	Share of devastated, heavy damaged or moderate damaged dwellings in total dwellings (%)
Adıyaman	56256	18715	216744	34.59
Hatay	215255	25957	847380	28.47
Malatya	71519	12801	345536	24.4
Kahramanmaraş	99326	17887	481362	24.35
Elazığ	10156	15220	292406	8.68
Osmaniye	16111	4122	243436	8.31
Gaziantep	29155	20251	893558	5.53
Kilis	2514	1303	74976	5.09
Diyarbakır	8602	11209	563295	3.52
Şanlıurfa	6163	6041	718063	1.7
Adana	2952	11768	972561	1.51

Source: Presidency of Strategy and Budget (2023).

2.6. Destruction in Production Centres and Workplaces

According to estimates from the Ministry of Industry and Technology based on survey data, the earthquakes harmed around 150 thousand businesses (SBB, 2023). Two-thirds of these are in the provinces of Kahramanmaraş and Hatay. Building damage affected over 60 thousand businesses, while infrastructure destruction affected approximately 22 thousand businesses. The number of companies that suffered machinery and stock damage are 37,610 and 36,970, respectively. While small companies consist of most of the businesses that suffered damage, large enterprises faced more financial harm.

Using the Ministry of Environment, Urbanization and Climate Change damage assessment report, as of 6 March 2023, SBB has stated that the number of destroyed or severely damaged barns due to the earthquakes was 14,314 and the number of business houses damaged was 94,217.

The earthquakes had no effect on the industrial zones of Gaziantep, Kilis, Adana, Diyarbakır, and Malatya. However, some factories in Kahramanmaraş were severely damaged. Small Industrial Site in Hatay province's Antakya district collapsed. Minor damage was sustained by a few enterprises in the Organized Industrial Zone.

2.7. Estimation of the Economic Damage

SBB has estimated 103.6 billion USD total economic cost for Kahramanmaraş and Hatay earthquakes. Focusing on direct costs of damage to physical structures, previous reports have estimated less damage, varying from 20 to 34 billion USD. Also, the real extent of damage has become clearer and larger as time progresses.

► Table 2.2. Estimated economic losses from the earthquakes by different organisations

Organisation	Date of publication	Scope of costs	Estimated economic losses (USD Bn)
Turkish Enterprise and Business Confederation (TÜRKONFED)	10.Feb	Damage to physical structures, costs of business interruption and loss of GDP	84
Verisk	14.Feb	Damage to physical structures and their contents and loss of use coverages such as business interruption	>20
Karen Clark & Co.	16.Feb	Damage to physical structures and their contents and loss of use coverages such as business interruption	20
JPMorgan	16.Feb	Direct costs from the destruction of physical structures	25
World Bank	27.Feb	Direct damages (residential buildings, non-residential buildings, infrastructure)	34.2
Economic Policy Research Foundation of Türkiye (TEPAV)	28.Feb	Estimated 5-years financing expenses covering costs of reconstruction, property losses, household and employment supports, temporary sheltering	147
Presidency of Strategy and Budget	17.Mar	Emergency expenditure, damage to public and private physical structures and their contents, cost of wreck removal, damage to motor vehicles, insurance costs and income losses due to business interruption	103.6

Sources: Gunasekera et al. (2023), Presidency of Strategy and Budget (2023), Özüdoğru (2023), TÜRKONFED (2023).

According to a policy paper from the Economic Policy Research Foundation of Türkiye (TEPAV) that was released on February 28th, disaster-related financial demands would be covered in 5 years. Prior to the normalisation, TEPAV predicted that household and employment support would be necessary for at least three years and will cost 20 billion USD. The same analysis also estimated that the earthquakes would require 147 billion USD in financing over the course of five years, with building expenditures accounting for almost 60% of that amount.

The damage data presented by the World Bank in province and sector details shows that the largest amount of damage was experienced in Hatay and Kahramanmaraş. 53.5% of the estimated direct damage is in these two provinces (table 3). However, when the share of collapsed, heavily damaged or moderately damaged buildings in the total number of buildings is examined, it is seen that the provinces with the highest damage density are Adıyaman (34.6%), Hatay (28.5%), Malatya (24.4%) and Kahramanmaraş (24.4%).

►Table 2.3. World Bank estimated direct damages by sector and province (USD Mn)

Province	Residential	Non-residential	Infrastructure	Total
Hatay	6601	3516	2331	12448
Kahramanmaraş	3182	1609	1040	5831
Gaziantep	2285	1516	1066	4867
Malatya	1493	660	450	2603
Adıyaman	1190	525	295	2010
Adana	915	475	394	1784
Diyarbakır	883	518	315	1716
Osmaniye	654	453	251	1358
Şanlıurfa	447	273	137	857
Other	171	48	67	286
Elazığ	127	61	52	240
Kilis	88	37	26	151

Source: Gunasekera et al. (2023).

Considering how the earthquakes would affect growth, TEPAV predicted that GDP growth in 2023 would be 3%, 1.2 percentage points less than the baseline forecast of 4.2%. SBB also presented a similar outcome and claimed that it anticipates 1-1.4 points of negative impact on 2023 growth, with an output loss estimate of 6.9 billion USD.

The effects of the disaster on the labour market are presented in the study published by the ILO in March 2023. This study estimated a 16% loss in working hours compared to total working hours of the region in 2021. This loss is equivalent to the work done by 657,147 full-time workers. In the same study, it was estimated that there was a decrease of approximately 150 million US Dollars in labour income every month as the current situation in the region continued.

▶ 3

ECONOMIC ANALYSIS OF THE EARTHQUAKE REGION

According to SBB data, 9.8% of the nation's GDP is produced in the earthquake-affected area. The region's per capita national income level is much lower than the national average. The regional GDP is made up of 8.6% agriculture, 30.5% industry, 5.2% construction, 45.2% services, and 10.6% tax subsidies. The industry and service sectors account for the vast majority of production activity in the region. According to Social Security Institution (SGK) figures for the provinces where force majeure has been declared, 1.9 million persons are covered by 4/a mandatory insurance and approximately 428,000 by 4/b mandatory insurance, amounting for 11.2% of all insured workers.



16% of Türkiye's agricultural acreage is located in this area. This area produces about 20% of Türkiye's total crop output. There are 270 thousand farmers and companies that have registered. Additionally, one-fifth of Türkiye's total exports of agricultural and forestry products come from these regions.

Agriculture production in the region has a large share in the country's total production. The construction sector did not hold a significant position prior to the disaster as the region's overall share of the construction sector is less than 9%. However, there will be a large need for labour in the sector due to the debris removal, demolition, and reconstruction projects to be carried out after the earthquakes.

3.1. Employment

Looking at the split of employment in the region by activity, it is clear that employment is concentrated in low-skilled jobs in agriculture, trade, textiles, and food product manufacture. Before the earthquakes, agriculture was one of the leading sectors in the region, providing employment opportunities for a significant portion of the population.

11 provinces in the disaster area are represented by 5 regions (TR62, TR63, TRB1, TRC1, TRC2) in the NUTS level 2 classification. There are 14 provinces in these 5 regions. According to TURKSTAT 2022 data, these 14 provinces constitute 17.8% of Türkiye's population aged 15+, 16.3% of the workforce and 16% of employment. While the employment rate in 2022 is 47.5%, the unemployment rate is 10.4% and the labour force participation rate is 53.1% throughout Türkiye, the same rates are 42.8%, 11.9% and 48.6% for the total of these 5 regions, respectively. In short, the disaster area is a region where both labour force participation is low, and unemployment is high (TURKSTAT, 2023a).

TÜRKİYE 2022



► Table 3.1.. Main labour force indicators (2022, %)

Region	Gender	Labour force participation rate	Employment rate	Unemployment rate
TR62 (Adana, Mersin)	Total	52.1	45.7	12.3
TR63 (Hatay, Kahramanmaraş, Osmaniye)	Total	49.6	42.4	14.6
TRB1 (Malatya, Elazığ, Bingöl, Tunceli)	Total	48.0	44.1	8.1
TRC1 (Gaziantep, Adıyaman, Kilis)	Total	49.7	44.4	10.7
TRC2 (Şanlıurfa, Diyarbakır)	Total	42.5	37.7	11.5
Region Total	Total	48.6	42.8	11.9
Türkiye	Total	53.1	47.5	10.4
TR62 (Adana, Mersin)	Female	33.4	27.8	16.9
TR63 (Hatay, Kahramanmaraş, Osmaniye)	Female	30.9	24.5	20.7
TRB1 (Malatya, Elazığ, Bingöl, Tunceli)	Female	29.7	26.3	11.3
TRC1 (Gaziantep, Adıyaman, Kilis)	Female	26.0	22.6	13.2
TRC2 (Şanlıurfa, Diyarbakır)	Female	20.4	19.0	6.6
Region Total	Female	28.3	24.1	14.8
Türkiye	Female	35.1	30.4	13.4

Source: TURKSTAT (2023a).

The provinces with the lowest labour force participation in the disaster area are Şanlıurfa and Diyarbakır. The labour force participation rate in the TRC2 region, which includes these provinces, is 42.5%, which is the second lowest labour force participation rate among the 26 regions in Türkiye. The TR63 region (Hatay, Kahramanmaraş, Osmaniye), where the unemployment rate is 14.6%, is the third region with the highest unemployment in the country. The female unemployment rate, which is 20.7% in the TR63 region, is well above the country average of 13.4%.

While 15.8% of Türkiye's 2022 employment is in agriculture, the same rate is 20.6% in the disaster area. The reason for the concentration in agricultural employment is the TRC2, TRB1 and TR63 regions, where the share of agriculture in employment is 28.8%, 28.1% and 18.2%, respectively. While 20.6% of women's employment in the country is realised in the agricultural sector, the same rate is 36.8% in the disaster areas TRB1 (Malatya, Elazığ, Bingöl and Tunceli) and TRC2 (Şanlıurfa and Diyarbakır).

In the relatively more industrialised provinces of the disaster area, the share of regular and casual employees in total employment is high. While 70.52% of Türkiye's employment in 2022 consists of regular and casual employees, the same rate is 71.97% in TR62, 70.56% in TR63, 69.74% in TRC1, 68.93% in TRC2, and 59.20% in TRB1.

►Table 3.2. Informal employment rate (2021, %)

Region	Total	Agriculture	Construction	Other sectors
TR62 (Adana, Mersin)	38.4	84.5	35.0	27.0
TR63 (Hatay, Kahramanmaraş, Osmaniye)	37.9	89.0	33.7	24.6
TRB1 (Malatya, Elazığ, Bingöl, Tunceli)	41.8	95.0	27.5	19.3
TRC1 (Gaziantep, Adıyaman, Kilis)	33.8	83.8	43.7	20.1
TRC2 (Şanlıurfa, Diyarbakır)	44.3	89.2	31.4	21.6
Region Total	39.0	88.1	34.3	23.4
Türkiye	29.0	84.6	31.9	16.3

Source: Authors' calculation based on TURKSTAT (2022a).

Informal employment is also common in the disaster area. According to the calculation the study made using the 2021 Household Labour Force Survey of TURKSTAT, while the unregistered employment rate is 29% throughout the country, this rate is 39% in the disaster area. Especially in TRB1 and TRC2 regions, the unregistered employment rate of 41.8% and 44.3%, respectively, is quite high. In the TR63 region, which this study specifically focuses on, the informal employment rate is 37.9% in total, 89.0% in the agriculture sector, 33.7% in the construction sector, and 24.6% in other sectors (TURKSTAT, 2022a). The ILO (2023) estimates 16% loss in working hours in the affected region, and 39.6% of this loss includes informal workers.

According to the Social Security Institution's 2021 data, the provinces with the highest manufacturing share in registered employment in the disaster area are Gaziantep and Kahramanmaraş. Manufacturing sector employment is generally clustered in low and medium low technology intensive sectors both in these two provinces and in other disaster area provinces. The provinces where the medium-high and high-technology-intensive sectors have the largest share in manufacturing employment are Adana with 18.1% and Hatay with 13.1%. However, these two levels are behind the Türkiye average of 20.4% (Social Security Institution, 2022).

►Table 3.3. Distribution of 4/a² insured manufacturing employment by technology intensity classes (% , 2021)

Province/Region	Share of manufacturing in total 4a registered employment	Distribution of manufacturing employment			
	Low	Low	Medium low	Medium high	High
Adana	26.74	54.81	27.13	17.32	0.73
Adıyaman	28.48	86.37	11.27	1.85	0.52
Diyarbakır	15.89	66.41	25.83	6.54	1.22
Elazığ	14.51	52.17	43.39	4.14	0.30
Gaziantep	40.68	77.18	15.90	6.63	0.29
Hatay	19.56	26.67	60.21	13.02	0.10
Malatya	31.42	84.75	11.58	3.58	0.10
Kahramanmaraş	40.33	79.16	18.80	1.99	0.05
Şanlıurfa	16.88	70.40	20.92	6.49	2.19
Kilis	17.91	64.59	27.75	7.60	0.06
Osmaniye	32.81	46.64	45.60	7.75	0.01
Region Total	27.97	67.44	24.10	7.99	0.47
Türkiye	27.51	50.88	28.70	18.34	2.08

Source: Authors' calculation based on Social Security Institution (2022) and Eurostat (2015).

In the services sector, it is observed that the provinces of the disaster area lag behind the country average in sectors that require high technology knowledge intensity. The share of high-technology service sectors such as Research & Development (R&D), computer programming, and information services in 4a-registered service employment in the provinces of the region, excluding Elazığ, is below the Türkiye average of 2.51%. However, the share of sectors with low information density in total service employment in most provinces is also below the Türkiye average.

2 Workers who are employed under a contract by one or more employers are called 4/a insured according to Law No. 5510.

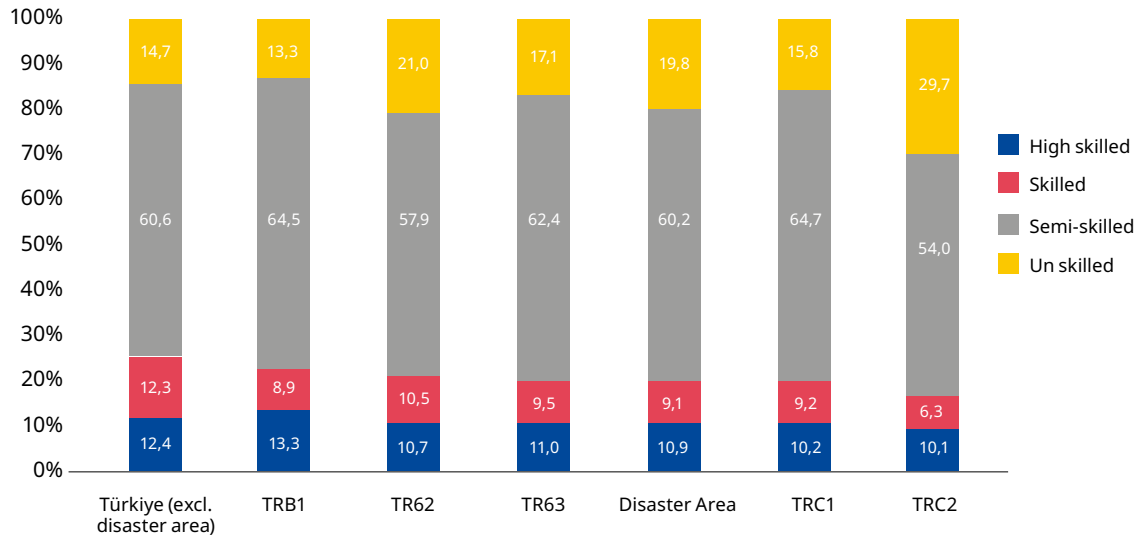
►Table 3.4. Distribution of 4/a insured services employment by knowledge intensity classes (% , 2021)

Province/Region	Share of services in total 4a registered employment	Distribution of services employment		
	Less knowledge intensive	Less knowledge intensive	Knowledge intensive	High technology knowledge intensive
Adana	58.27	63.76	35.29	0.95
Adıyaman	50.12	60.29	39.21	0.50
Diyarbakır	65.74	55.04	44.09	0.87
Elazığ	58.33	52.34	45.03	2.64
Gaziantep	47.34	59.43	39.84	0.73
Hatay	66.35	66.53	33.10	0.37
Malatya	52.18	58.69	39.90	1.41
Kahramanmaraş	42.31	58.52	40.22	1.26
Şanlıurfa	67.20	54.56	44.92	0.52
Kilis	58.18	48.79	50.94	0.27
Osmaniye	50.10	59.34	40.10	0.56
Region Total	56.00	59.56	39.56	0.88
Türkiye	58.88	62.95	34.54	2.51

Source: Authors' calculation based on Social Security Institution (2022) and Eurostat (2015).

The International Standard Classification of Occupations 2008 (ISCO-08) is a four-level hierarchically structured classification that allows all jobs in the world to be classified into 436-unit groups. Using ISCO-08's ten major groups the occupation's skill level can be coded in four categories: Unskilled (major group 9), semi-skilled (major groups 0 and 4 to 8), skilled (major groups 1 and 3) and highly skilled (major group 2). Using the TURKSTAT Household Labour Force Survey, the skill level distribution of the employed people in the region was examined. In general, jobs in the disaster area seem to require lower skills than those in the rest of the country. 14.7% of jobs outside the region are highly skilled and 60.6% are skilled jobs. Before the disaster, 10.9% of the jobs in the disaster area were in the highly skilled category and 9.1% were in the skilled category. Job intensity requiring high skill in the disaster area is seen mostly in TRB1. However, TRB1 has 1.89% of the skilled jobs in Türkiye. Whereas 4.21% and 2.85% of jobs requiring skills are in TR62 and TR63, respectively.

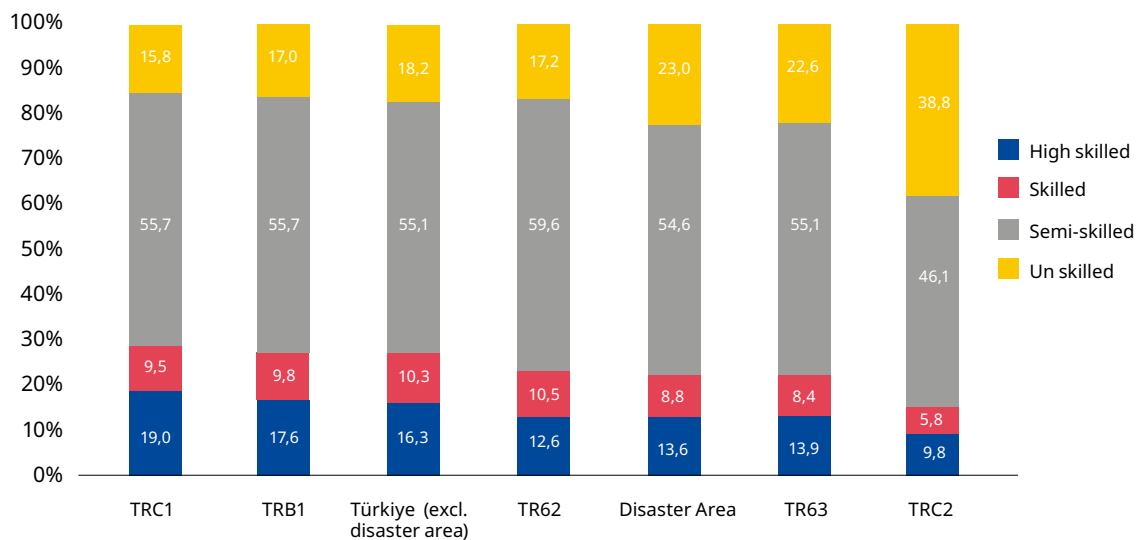
► Figure 3.1. ISCO-08 skill level distribution of jobholders by region (% , 2021)



source: Authors' calculation based on TURKSTAT (2022a) and ILO (2006a).

Upon analyzing the skill density of the jobs sought by job seekers, it becomes evident that there is a greater emphasis on high skill levels. While 10.9% of the current jobs in the disaster area are jobs that require high skills, 13.6% of job seekers in the region state that they are looking for jobs that require high skills, according to TURKSTAT data. A similar situation applies in the rest of Türkiye. 12.4% of the jobs outside the disaster area and 16.3% of the jobs sought are in the highly skilled category.

► Figure 3.2. ISCO-08 skill level distribution of jobseekers by region (% , 2021)



source: Authors' calculation based on TURKSTAT (2022a) and ILO (2006a).

3.2. Refugees in Employment

Almost half of the SuTP are registered in the region and has been directly affected by the earthquakes (Sert, Daniş, Sevinin 2023). Based on the official data provided by the Presidency of Migration Management (Göç İdaresi Başkanlığı or GİB), in Hatay 354,648 SuTP (17,51% of all people living in the city) and in Kahramanmaraş 91,640 SuTP (7,26% of all people living in the city) were registered as of 2 February 2023 right before the earthquakes.³ The recent numbers (on 13 April 2023) are 331,844 (16,45%) and 90,553 (7,14%) respectively (GİB, 2023). Thus, it is important to analyse the current condition of refugees in the region and to find out their needs, especially in the labour market.

Refugees who seek international protection in Türkiye are mainly from four countries of origin that are Syria, Afghanistan, Iraq, and Iran. Ukraine also has emerged as a main origin country of people who applied for international protection in Türkiye. According to UNHCR Türkiye the number of SuTP was 3.6 million whereas the number of other refugees and asylum seekers under international protection were 318 thousand in mid-2022 (UNHCR Türkiye, 2023). Therefore, the main refugee population of Türkiye are coming from the Syrian Arab Republic and as indicated before almost half of this population has been residing in the region affected by the earthquakes of February 6.

The gender composition of SuTP reflects an imbalance where men outnumber women (ca. 54% vs. 46%). This imbalance grows especially within the 15-29 age group. Men are fewer than women only in the age group of 55 and above (Erdoğan & Çorabatır, 2019).

The population of SuTP in the age group of 15-64 years who can actively work is approximately 2 million. Almost 1.5 million SuTP are either in the 0-14 or 65+ age group; however around 500 thousand SuTP are over 40. Therefore, there is a fairly young population of SuTP of whom 85% are under the age of 40 (Erdoğan & Çorabatır, 2019, 10).

Most SuTP children are not enrolled in schools. Only ca. 30% of girls are at school whereas this number is 86,8% for Turkish girls. This gap is bigger across boys: Only ca. 13% of boys younger than 15 years are enrolled in schools that is around 88% across Turkish boys (Caro, 2020, 11). Existing research depicts that most of these children work in the informal market in Türkiye. As an illustration, Caro (2020) found that 66% of 15-year-old boys are in employment, which is the highest number in the world for the employment of 15-year-old children.

SuTP are commonly residing in poor, working class neighbourhoods which have turned into migrant ghettos. For example, especially in Antep, Urfa, Kilis, and Hatay together with working-class neighbourhoods, also old houses and historical neighbourhoods have emerged as their residential areas as former residents of these neighbourhoods had moved into exurbs. These poor neighbourhoods are also the ones where the Covid-19 pandemic hit the worst (Tarlan, 2020).

Life after earthquakes is also difficult for the refugee population. Similar to Turkish citizens, refugees also lost their existing jobs after the earthquakes. Some have moved out to other parts of Türkiye. Others remained in the region. However, refugees' internal mobility in Türkiye is constrained by certain administrative rules regulating their residence in Türkiye. In relation to that, after the earthquakes, the travel permission for refugees (international protection and temporary protection status holders) have been redesigned by GİB in a way to enable refugees' internal travel. In practice, GİB recommended that refugees should go to the cities and/or to their relatives' homes where they can meet their fundamental needs. If they have no opportunity for residence in another city, GİB recommended that they should not leave their cities. GİB also announced that refugees would not be eligible for public services for residence and other needs outside of the earthquake region.

³ The data on Presidency of Migration Management (GİB) website (<https://www.goc.gov.tr/gecici-koruma5638>) has been updated on 13 April 2023. So, the TPS numbers showing the condition before the earthquakes are not available anymore.

Similarly, civil society organizations were not allowed to provide services to refugees outside of the region. Finally, it was announced right after the earthquakes that refugees were not allowed in the (free of charge) evacuations provided by Turkish Airlines from the region to other parts of Türkiye (Sert, Daniş, Sevinin, 2023; Birgün, 2023). During the field research, one of the participants anticipated that those refugees who left the region after the earthquakes would not move back. However, the informant also noted that there is no accurate data on how many refugees (that is, namely, SuTP) had moved to other regions of Türkiye after the earthquakes. The participant stated that most probably, around 60 thousand SuTP had moved back voluntarily to their relatives' homes in Syria at least to recover from the shock of the earthquakes. Minister of National Defense, Hulusi Akar confirmed this figure as of March 27, 2023 (AA, 2023a).

3.2.1. Refugees in the Labour Market

Around 80% of the refugees are employed in low-skill and informal jobs in trade, construction and manufacturing. The textile, garments, leather, and shoe industry are the most common employment areas for refugees. Other sectors where refugees work include woodworking, agriculture, domestic work, portage, shepherding, and collecting solid waste. Specific for the construction sector, it is claimed that the sector survived in Türkiye as a result of new and cheap labour of refugees in the past 6-7 years (Caro, 2020; Tarlan, 2020).

Research conducted in 2018 in Gaziantep (Düztepe and Tepebaşı neighbourhoods) with women SuTP (13 Arabs, 5 Turkmens, 3 Kurds) who do piecemeal work at home depicts that the piecemeal work includes tasks, such as cracking peanuts-walnuts-almonds, garnishing-cleaning-boxing shoes, packaging, and stitching/decorating t-shirts, sweaters (Uçar, 2020).

The quotation, below from a research conducted five years ago yet remain relevant provides an example in terms of self-employment of refugees in the region under consideration, with reference to an ILO supported Syria desk:



The number of Syrian-owned firms in Gaziantep has reached over 700, accounting for 17% of the total number of businesses, upon the introduction of a Syria desk at the Gaziantep Chamber of Commerce in July 2016 to ensure full utilisation of services available to these businesses. Yet, in Şanlıurfa, a major border city hosting the second largest refugee population in Türkiye, the local authorities reproach the lower contribution of refugees in economic terms... (İçduygu & Diker, 2017, 27-28)

Further research is in need in order to depict labour market dynamics specific for the region that should analyse among others sectoral characteristics, self-employment, women's participation, child labour... As most of refugee labour is informal, it is difficult to collect labour data depicting the employment of refugees across different sectors and in different regions of Türkiye in a systematic comparative manner, although the ILO in Türkiye has reports in this regard to overcome this difficulty. For example, an ILO report of Karadeniz (2023) provides the sectors where refugees are employed the most, based on the surveys conducted with job inspectors. However, most of the existing research analyses refugee labour based on qualitative data from separate regions and for specific sectors. This research also provides qualitative data on refugee labour and develops our understanding specific for the region where almost half of the refugee population live. The research aims to contribute to the filling of this gap in the literature specifically for the region and for the two sectors of agriculture and construction, and analyses labour market situation of refugees after the earthquakes.

Another research, which specifically analysed the condition of refugees in the earthquake-affected cities, reveals that immediately after the earthquakes, as a result of the outward mobility of the local population, there was a shortage of labour to work in the repair and reconstruction of the buildings. Thus, it is anticipated that the region would receive inward mobility of cheap labour who would work especially in the construction sector (Sert, Daniş, Sevinin, 2023, 8). Therefore, precarious refugee labour carries the potential to be highly employed especially in the construction sector. Thus, it is important to create processes where decent work conditions could actually be realised for all workers in the sector.

3.2.2. Refugee Women in Employment

Where 70% of refugee men are in employment it is only 11% of women (of 15-65 age group) who are in the labour market. Research shows that the possible factors contributing to the lower number of women in employment are: (1) cultural factors, (2) informal sectors' conditions which women with disabilities from their domestic responsibilities at home, (3) higher number of children per household that should be taken care of. As a result, the highest number of NEET (neither in employment nor in education or training) for women in the world is across refugee women in Türkiye (82% in 2017). This number is 19,6% for men (Caro, 2020).

It is mainly the food and agriculture sector where refugee women are employed in Türkiye. Existing research put forward that most of the refugee women did not work at home before moving to Türkiye, and once in Türkiye they had begun to work only as "casual labour" in the food and agriculture sector. "Their working hours tend to be long, and their wages are lower than those of men. Furthermore, women handle the majority of domestic tasks, including food preparation and childcare, which poses an additional obstacle to building their integration and self-reliance" (FAO, 2022, 8).

Field research conducted in Sultanbeyli, Hatay and Ankara in 2018, reports that "Syrian women respondents generally felt positive about seeking employment, while Syrian men felt strongly against this idea. Women reported that the risk of gender-based violence (GBV), especially sexual harassment, represented a real threat at workplaces, especially when they spoke no Turkish" (DSP and IGAM, 2019, 4). This tells us that the causes of higher numbers of unemployment among

refugee women includes complex dynamics which also involves gender-based violence present in the local community.

The number of (adult) women enrolled in (language and occupational) training courses offered by public bodies outnumber men with 60% (Caro 2020). This may be relevant with the aforementioned finding relating to women being positive about being employed but restrained by men at home and/or gender-based violence in the public sphere. Another data supporting the finding that women are inclined to training courses and hence to be in employment is depicted in FAO's "Syrian Refugee Resilience Plan 2022–2023". It is indicated that "by the end of 2021, 100% of agrifood vocational training courses were completed, with women accounting for a majority of trainees (62%, 37 of the total)." The same report states that:

In order to encourage female participation in vocational and language training, FAO provided support for childcare services. However, due to the COVID-19 pandemic, some female beneficiaries understandably preferred not to leave their children at the provided childcare facilities. Ultimately, 48 women beneficiaries (36 girl children and 30 boy children) benefited from childcare services in Hatay, Kahramanmaraş, Kilis, Manisa, and Sanliurfa provinces. ... The lack of childcare facilities represents an additional obstacle to women's ability to actively engage in the agriculture sector (FAO 2022, 34).

A study conducted after the earthquakes to analyse the needs of women entrepreneurs in the region revealed that 70% of the women entrepreneurs' care obligations towards children, elderly, and people with disabilities have increased. Thus, in parallel with the previous research relating to the condition of refugee women before the earthquakes, developing and/or improving care facilities in order to increase employment of women emerged as a critical need which immensely increased right after the earthquakes (Kagider and UN Women, 2023).

▶ 4

SUMMARY OF RESEARCH METHODOLOGY

Within the scope of the study, a comprehensive review of existing literature, reports, and assessments focusing on the affected region and communities was done. Also reports focusing on skills anticipation, skills mismatch, and job creation programs in post-disaster contexts were reviewed. The desk review also covered good practices from other countries with similar socio-economic dynamics. Lastly, the ILO's reference documents on skills need assessment and anticipation were examined to inform the questionnaires, interview protocols, and discussion guides.



In-depth interviews and focus groups with key informants from social partners, government agencies, and other relevant stakeholders involved in post-disaster recovery and job creation programs were done. The interviews were conducted using a semi-structured questionnaire and covered topics related to skills needs assessment, skills mismatch, and job creation programs as well as the information concerning the focus locations and sectors.

In order to overcome the post-traumatic psychological problems that might affect the research findings and create unexpected biases, focus groups were given special importance due to their capacity to create a warm and safe environment for the participants. Also, the researchers conducting the interviews and the fieldwork have received psychological training on application of research techniques in post-disaster environments. The online interviews and focus group discussions were supplemented with field visits and face-to-face interviews to have a comparative perspective to avoid methodological bias.

4.1. Selection Criteria for Narrowing Down Study Locations and Sectors

Following a comprehensive desk review and in-depth discussions with ILO officers, the provinces of Kahramanmaraş and Hatay were selected as the research locations. These provinces were prioritized due to the significant impact of earthquakes and the higher concentration of refugees, who are among the target groups of the study. Additionally, the selection took into account the implementation of ILO's Refugee Response Programme in these provinces, as well as their substantial employment contribution in the disaster region. With similar levels of labour force participation and employment rates to the regional average and higher unemployment rates compared to the rest of the disaster region, Hatay and Kahramanmaraş provide ample opportunity for the implementation of ALMPs. During the field research, a state representative highlighted the unique aspect of this region compared to other parts of Türkiye, as nearly half of the Syrian refugees reside here, resulting in an increased availability of "cheap labour." With a combined population of over 400,000 Syrian refugees, many of whom are employed in the sectors under consideration, Hatay and Kahramanmaraş were considered ideal areas for this study.

Selecting agriculture and construction as the two main sectors to focus on in the study is justified by their significance in the region's economy and their potential to contribute to the recovery and reconstruction efforts in the aftermath of the earthquakes. Before the earthquake, agriculture was a prominent sector in the region, providing employment opportunities for a significant portion of the population. Although a sizable segment of the employment in agriculture was atypical and informal, it is still a sector that has a potential for formal employment capacity. After the earthquake, as some of the agricultural areas were damaged or destroyed, the sector was hit in terms of labour force supply due to fatalities, injuries, and migration, and farmers and other workers in the sector are facing significant challenges in recovering from the disaster especially due to loss of livestock and damage to barns, machinery, and production equipment. Therefore, identifying the immediate and short-term skills and resource needs in the agriculture sector is crucial for the recovery and reconstruction efforts in the region. Agriculture sector is also critical as it is a strategic sector, and it is vital for the food security of the region and the country.

On the other hand, after the earthquake, construction will become a leading sector for a while, as there is need to rebuild and repair after the destruction. The disaster caused severe damage to buildings, roads, bridges, and other infrastructure, requiring extensive fixes and reconstruction. Considering that the renewal of the damaged infrastructure is essential for all sectors, it should not be ignored that the construction sector will contribute to the economy and restructuring of the region far beyond its normal economic triggering and multiplying effect. Construction sector will be accompanied by furniture and textile sectors with the completion of the first cycle of buildings.

Additionally, the construction sector's demand for building materials creates business opportunities for local suppliers and manufacturers in the agriculture sector.

The agriculture and construction sectors are also interlinked, as many small farmers and seasonal workers in agriculture in the region rely on construction work during the off-season to supplement their income. Therefore, along with agriculture, identifying the immediate and short-term skills needed in the construction sector is also essential for the recovery and reconstruction efforts in the region.

Finally, the study aims to identify the skills needs of underrepresented groups in the agriculture and construction sectors and recommend targeted activation programs and support to ensure their meaningful participation in the workforce, with a particular focus on women and people with disabilities. In addition, it aims to recognize the potential of green jobs in the recovery efforts and provide insights to design activation programs that contribute to sustainable development, environmental conservation, and social equity.

4.1.1. Economic Profile of Hatay

Hatay constitutes 1.4% of the Turkish economy in 2021. 37.49% of the gross added value created by the province is created by industry, 5.97% by agriculture, 3.86% by construction, and 52.68% by services sectors. Considering that the industrial sector constitutes 29.13% of the added value created throughout Türkiye, it is concluded that Hatay is an industry-intensive province. The manufacturing industry constitutes 88.4% of the industrial added value created by Hatay. When a 3-star analysis is applied using the net sales data of the sectors in 2020 to examine the clustering structure in the province in particular, it is seen that the province is clustered in the basic metals and fabricated metal products sub-sectors. When the same analysis is applied to all sectors using NACE classification 2-digit employment data, it is seen that there is a clustering in the construction and road transport sectors as well as the basic metals sector (TURKSTAT, 2022b).

While the Turkish economy grew by 11.4% in 2021, the Hatay economy grew by 18.3%. In the same period, Hatay contributed 0.2 points to Türkiye's growth. With this performance in 2021, Hatay became the fifth fastest growing province among 81 provinces and the eleventh province that contributed the most to growth (TURKSTAT, 2022b).

Hatay, which is the tenth most exporting province according to Turkish Exporters Assembly (TİM) 2022 data, realised 1.57% of Türkiye's total exports. The steel sector accounted for 57.9% of Hatay's exports in 2022, and the fresh fruit and vegetable sector made 13.5%. Although olive and olive oil exports constitute 1.55% of the total exports of the province, 11.1% of Türkiye's exports in this sector are made by Hatay. Although there is a dominance of the metal sector in the industry of the province and in the export of goods, there is also a density of herbal products in the province, since herbal products have a share of 9.6% in Türkiye's exports and 19.7% in Hatay's exports (Turkish Exporters Assembly, 2023).

Hatay's per capita income is below the national average. Hatay's per capita income of 6,785 USD in 2021 corresponds to 70.7% of the national income per capita in Türkiye. It is the fortieth province with the highest per capita income among 81 provinces (TURKSTAT, 2022b). TR63 region, to which the province is affiliated, is the fifth region with the highest poverty rate among 26 regions in Türkiye. While the rate of those with an income below half of the median per capita income in the TR63 region is 11.2% according to 2021 data, the same rate becomes 27% when Türkiye's median per capita income is used as the threshold value. The TR63 region has a Gini score of 0.38, calculated according to household disposable income, making it the 13th region with the highest income inequality among the 26 regions in Türkiye (TURKSTAT, 2023f).

In Hatay, the socioeconomic development differences within the province are also noteworthy. Antakya, which was the most developed district of the province before the disaster, is the 108th most developed district among 977 districts in Türkiye, while Altınözü is the 921st most developed district. Districts such as Reyhanlı, which were relatively less affected by the earthquake, were at a low socioeconomic development level, while districts such as Antakya and Iskenderun were at a high level of development. The clustering of the population remaining in the region after the earthquakes in the socioeconomically backward districts has generally reduced the quality of life of the province (Republic of Türkiye Ministry of Industry and Technology, 2022).

4.1.2. Economic Profile of Kahramanmaraş

Kahramanmaraş constitutes 0.87% of the Turkish economy in 2021. 45.31% of the gross added value created by the province is created by industry, 9.93% by agriculture, 5.35% by construction and 39.4% by services sectors. Kahramanmaraş is the 11th most industrially intensive province of Türkiye and is one of the 22 provinces with both industrial and agricultural density above the country average. When a 3-star analysis is applied using the net sales data of the sub-sectors in 2020 to examine the clustering structure in the province in the manufacturing sector, it is seen that the province is clustered in the sub-sectors of textile, paper and paper products and fabricated metal products. When the same analysis is applied to all sectors using NACE classification 2-digit employment data, it is seen that there is a clustering in the sub-sectors of construction, electricity generation and distribution, and postal-courier activities as well as the sub-sectors of textile and fabricated metal products (TURSTAT, 2022b).

While the Turkish economy grew by 11.4% in 2021, Kahramanmaraş's economy grew by 5.6%. In the same period, Kahramanmaraş contributed 0.05 points to Türkiye's growth. With this low growth performance in 2021, Kahramanmaraş became the fifty-second fastest growing province among 81 provinces and the twenty-eighth province that contributed the most to growth (TURSTAT, 2022b).

Kahramanmaraş, which is the seventeenth most exporting province according to TİM's 2022 data, realised 0.65% of Türkiye's total exports. 59.3% of Kahramanmaraş's exports in 2022 were realised by the textile sector, and 14.8% by the ferrous and non-ferrous metals sector. While exports of furniture, paper and forestry products constitute 7.96% of the total exports of the province, 1.38% of Türkiye's exports in this sector are made by Kahramanmaraş. The textile value chain is dominant in the industry and export of goods in the province. While the textile and ready-made clothing sectors account for 68% of the province's total exports, the same rate is 13.9% for Türkiye's total exports (Turkish Exporters Assembly, 2023).

Kahramanmaraş's per capita income is below the national average. Kahramanmaraş's per capita income of 5997 USD in 2021 corresponds to 62.5% of the national income per capita in Türkiye, and Kahramanmaraş is the 51st province with the highest per capita income among 81 provinces (TURKSTAT, 2022b). Kahramanmaraş is located in TR63 region together with Hatay. As stated in the previous section, TR63 is a region where the poverty rate is high and income inequality is below the national average but still high.

There are also intra-provincial socioeconomic development differences in Kahramanmaraş. Onikisubat, which was the most developed district of the province before the disaster, is the 182nd most developed district among 977 districts in Türkiye, while Ekinözü is the 885th most developed district. While 3 of the 11 districts in the province are among the 300 most developed districts, the other 8 districts are not among the top 500 in terms of development (Republic of Türkiye Ministry of Industry and Technology, 2022).

4.1.3 Agriculture Sector in the Region

According to 2021 TURKSTAT data, the TR63 region contributes 3.36%, Kahramanmaraş 1.39% and Hatay 1.35% to the agricultural added value in Türkiye (TURKSTAT, 2022b). 3.88% of 2022 agricultural employment in Türkiye is in the TR63 region (TURKSTAT, 2023a). The fact that the share in employment is higher than the share in the created added value indicates an agricultural productivity problem in the region. As a matter of fact, while the value added per employee in the agricultural sector in 2021 is 81,206 TL at current prices in Türkiye, it is 71,460 TL in the TR63 region. While TR63 is the 14th region that creates the most added value in the agricultural sector, it ranks 17th in the agricultural productivity ranking.

Kahramanmaraş, which provides 1.29% of Türkiye's total agricultural production in 2020, and Hatay, which provides 1.15%, are the 24th and 27th provinces, respectively, with the highest agricultural production among 81 provinces. Plant production constitutes 44.7% of the total agricultural production in Türkiye, live animals 35.5%, and animal products 19.8%, while plant production constitutes 52.1% in Kahramanmaraş's and 67.2% in Hatay's agricultural production. These data show that Hatay and Kahramanmaraş are focused on plant production.

As of 2021, 2.28% of the total plant production in Türkiye takes place in Hatay and 1.74% in Kahramanmaraş. However, the share of Hatay in the country's plant production has been in a decreasing trend since 2007. While the average share of Hatay from the total plant production was 3.1% in the 1995-2007 period, this rate decreased to 2.4% in the 2008-2021 period. This is not the case in Kahramanmaraş. The share of Kahramanmaraş in the plant production of the country in 2021 is at the historical maximum level, and the long-term average share of the province is around 1.6% (TURKSTAT, 2023b).

Türkiye experienced rapid loss of agricultural land in the early 2000s due to sudden urbanisation and industrialization. In the 2002-2021 period, the total arable area of the country decreased by 16.8% and the cultivated area decreased by 10.4%. In the same period, the cultivated area loss was 36.5% in Hatay and 27.1% in Kahramanmaraş and 5% of the total cultivated area loss in Türkiye occurred only in these two provinces. One of the important reasons for the loss of plant production value in Hatay is the loss of agricultural land (TURKSTAT, 2023b).

On the other hand, while there has been a decrease in the area planted in the region, there has been an increase in the area of perennial plants, as is the case throughout the country. While the total area of perennial plants increased by 34.3% in Türkiye during the 2002-2021 period, it increased by 67.3% in Hatay and by 45.8% in Kahramanmaraş. Fruit, beverage and spice crops and olives made the biggest contribution to this increase. While the area of fruit, beverage and spice plants increased by 51.8% in the 2002-2021 period, 5.52% of this increase was realized in Hatay and Kahramanmaraş. In the same period, 7.5% of the 43.4% increase in olive areas across the country was realized in Hatay and 3.1% in Kahramanmaraş (TURKSTAT, 2023b).

Although agricultural activity in the region is mainly plant production oriented, it also has a significant weight in animal production throughout the country. According to TUIK 2022 data, 0.83% of the cattle livestock in Türkiye is in Hatay and 1.26% is in Kahramanmaraş; 0.99% of the sheep and goat stock is in Hatay and 1.87% is in Kahramanmaraş (TURKSTAT, 2023c). A loss of animal stock was experienced with the first effect of the disaster, as well as a significant loss of animals due to the impossibility of post-disaster care).

4.1.4. Construction Sector in the Region

The TR63 region constitutes 2.04% of the total construction value added in the country (TURKSTAT, 2022b) and 3.37% of the construction employment (TURKSTAT, 2023a). While the added value per employee of the construction sector in Türkiye is 206,597 TL in 2021 at current prices, the same

value is 125,778 TL in the TR63 region. The main reason for this situation is that housing prices vary greatly between provinces. As a matter of fact, the added value of the construction sector per employee in Istanbul is 412,720 TL in 2021. The country's average value added per employee in the construction sector is 166,938 TL, excluding Istanbul, and 147,050 TL, excluding the three big metropolises (Istanbul, Ankara and İzmir). Therefore, the construction sector productivity of the TR63 region is low due to the fact that the housing prices in the region are below the national average.

In terms of the annual increase in house prices, the TR63 region showed a trend slightly above the national average until September 2021. After September 2021, housing prices started to increase rapidly throughout the country. As of September 2022, the annual increase in housing prices reached to 189.1% in Türkiye and 156.8% in the TR63 region, according to Central Bank of the Republic of Türkiye (Türkiye Cumhuriyet Merkez Bankası or TCMB) data. Due to the base effect that started after this date, the annual housing price increase decreased to 153.1% across the country and to 122.6% in the TR63 region in January 2023 (CBRT, 2023).

In Türkiye, 1.75 houses were sold per 100 inhabitants in 2022. The same rate is 1.38 in Hatay and 1.41 in Kahramanmaraş. While the sales of houses per 100 people in Hatay were 1.02 in 2013, it increased to 1.52 in 2020 and then entered a decreasing trend. In Kahramanmaraş, on the other hand, the residential sales density, which had an increasing trend in the 2013-2018 period, showed a slightly decreasing trend after 2018. In the 2013-2022 period, 1.53% of the house sales in Türkiye were made in Hatay and 1.06% in Kahramanmaraş, while the share of mortgage sales in house sales was 29.2% throughout the country, the same rate was 25.7% in both. The share of mortgage sales in total house sales decreased to 18.9% in Türkiye, 17.5% in Hatay and 19.7% in Kahramanmaraş in 2022, especially due to the high housing price increases after 2020 and the tightening trend in housing loans (TURKSTAT, 2023d).

The number of buildings with construction permits in Hatay rose up to 2,688 (2.2% of the total number of construction permits in the country) in 2014, after which it started to decline and reached 1,115 in 2022 (1.26% of the total construction permits). In Kahramanmaraş, on the other hand, the number of buildings for which construction permits were granted, which was 546 in 2002, increased to 1,952 in 2017 and decreased to 1,183 in 2022. The number of houses for which building permits were issued in 2022 is 8,116 in Hatay and 7,500 in Kahramanmaraş. Considering that the number of houses destroyed or to be demolished due to the disaster according to the 6 March data is 215,255 in Hatay and 99,326 in Kahramanmaraş, it is concluded that the current capacity of the construction sector in the two provinces is not sufficient for reconstruction. In the 2002-2022 period, the total number of houses for which building permits were issued in Hatay is 211,838. In Kahramanmaraş, building permits have been issued for 102,456 houses in the last 9 years (TURKSTAT, 2023e).

4.2. Field Study Summary

15 online semi-structured interviews were done with the participation of government, employer organizations, trade unions, and NGO officials and experts to reveal the immediate changes in labour demand and the essential skill needs in the post-disaster period. The balance between regional representation and national expertise as well as sectoral equivalence, was sought. Two main focus group discussions and a smaller extra focus group with the İŞKUR experts were used along with individual interviews, to gain a better understanding of the research topic and to strengthen the validity of the research findings. In the aftermath of the disaster, focus groups were used to supplement one-on-one interviews for a variety of purposes. Group talks provided more extensive discussions and a broader spectrum of opinions by allowing participants to build on each other's remarks and experiences. Despite the participants being primarily professionals with institutional duties and responsibilities, the focus group study setting was deemed more favorable than interviews due to its ability to address the limitations arising from the psychological effects

of the post-disaster conditions. Given the time constraints, focus groups were also more effective than individual interviews in collecting data from several participants in single sessions. The data collection was done between March 25 and April 10, 2023.

The major problem with online research was the occasional technical issues experienced such as Internet connectivity problems or software malfunctions. To prevent these problems from leading to interruptions in the interview or focus group the research team helped the participants via dedicated personnel dealing with all the technical issues. Moreover, the participants were provided Internet access and necessary technical equipment, need be. As online interviews and focus groups may lack non-verbal communication cues, such as body language, which may limit the depth of the information collected, two members of the research team visited the selected provinces along with Adana district to have a better grasp of the context and the regional atmosphere and conducted extra 10 physical interviews to have a reference point for overcoming the possible methodological bias. During the field trip, two participants who could not attend the allocated focus group sessions due to power cuts were also interviewed in a face-to-face setting.

4.2.1. List of Institutions and Organisations Participated in the Study

A total of 43 individuals from various institutions and organizations contributed the study and provided information, data, and expertise. The following are lists of the represented institutional bodies, organized by research technique.

► Online Semi-Structured Interviews

- Republic Of Türkiye Ministry of Labour and Social Security
- Directorate General for International Labour Force (Türkiye Cumhuriyeti Çalışma ve Sosyal Güvenlik Bakanlığı, Uluslararası İşgücü Genel Müdürlüğü)
- The Turkish Forestry, Land Irrigation, Agriculture and Agricultural Industry Workers' Union Adana Branch (Tarım-İş Sendikası Adana Şubesi)
- Construction Workers' Union (İnşaat Sen)
- United Agriculture and Forestry Workers' Union (Birleşik Tarım Orman İşçileri Sendikası)
- Turkish Confederation Employer Association (Türkiye İşveren Sendikaları Konfederasyonu)
- The Turkish Employers' Association of Construction Industries (İNTES, Türkiye İnşaat Sanayicileri İşveren Sendikası)
- Young Lives Foundation (Genç Hayat Vakfı)
- Pikolo Association (Pikolo Eğitim Kültür Gençlik ve Spor Kulübü Derneği)
- Türk Kızılay
- Umut-Sen
- TMMOB Chamber of Civil Engineers (İnşaat Mühendisleri Odası)
- Federation of Occupational Health and Safety Associations (İş Sağlığı ve Güvenliği Dernekleri Federasyonu)
- Republic of Türkiye Vocational Qualification Authority (Mesleki Yeterlilik Kurumu)
- Hatay Provincial Directorate of Republic of Türkiye Ministry of Environment, Urbanization and Climate Change (Çevre ve Şehircilik Bakanlığı Hatay İl Müdürlüğü)
- The Association of Construction and Women (İnşaat ve Kadın Derneği)

► Focus Group Discussions

- Hatay Provincial Directorate of Turkish Employment Agency (Hatay İŞKUR İl Müdürlüğü)
- Republic Of Türkiye Ministry of Agriculture and Forestry East Mediterranean Transitional Zone Agricultural Research Institute (Doğu Akdeniz Geçit Kuşağı Tarımsal Araştırmalar Enstitüsü)
- Hatay Provincial Chamber of Agriculture (Hatay İl Ziraat Odası)
- Agriculture and Forestry Trade Union (Tarım Orman İş Sendikası)
- Association of Equality Research (Eşitlik Araştırmaları ve Toplumsal Uygulamaları Derneği)
- The Chamber of Agricultural Engineers (Ziraat Mühendisleri Odası)
- Kahramanmaraş Provincial Directorate of Turkish Employment Agency (Kahramanmaraş İŞKUR İl Müdürlüğü)
- Hatay Provincial Chamber of Construction Artisans and Craftsmen (Hatay İnşaatçılar Esnaf ve Sanatkarlar Odası)
- Progressive Trade Union of Building, Construction and Road Workers (Dev Yapı İş Sendikası)
- The Construction and Construction Workers' Union (İYİ-Sen)
- The Vocational Education and Small Industry Support Foundation (MEKSA, Mesleki Eğitim ve Küçük Sanayii Destekleme Vakfı)
- TMMOB Chamber of Architects Kahramanmaraş Branch (Kahramanmaraş Mimarlar Odası)
- Turkish Employment Agency (İŞKUR Genel Müdürlüğü)

► Face-to-Face Interviews

- Adana Farmers' Association (Adana Çiftçiler Birliği)
- Adana Yüreğir Provincial Chamber of Agriculture (Adana Yüreğir Ziraat Odası)
- Adana Metropolitan Municipality, Agricultural Services Department (Adana Büyükşehir Belediyesi Tarımsal Hizmetler Daire Başkanlığı)
- Adana Chamber of Industry (Adana Sanayi Odası)
- Kahramanmaraş Metropolitan Municipality, Agricultural Services Department (Kahramanmaraş Büyükşehir Belediyesi Tarımsal Hizmetler Şube Müdürlüğü)
- Kahramanmaraş Provincial Chamber of Agriculture (Kahramanmaraş Ziraat Odası)
- Kahramanmaraş Metropolitan Municipality Department of Foreign Relations (Kahramanmaraş Büyükşehir Belediyesi Dış İlişkiler Daire Başkanlığı)
- Republic of Türkiye Ministry of Agriculture and Forestry Kahramanmaraş Directorate of Provincial Agriculture and Forestry (Kahramanmaraş Valiliği İl Tarım ve Orman Müdürlüğü)
- The Antakya Chamber of Commerce and Industry (Antakya Ticaret ve Sanayi Odası)
- The District Governor of Hatay for Tradespersons (Hatay Valiliği, Esnaftan Sorumlu Kaymakam)
- The Vice Provincial Governor of Hatay for Labour (Hatay Valiliği, İşgücünden Sorumlu Vali Yardımcısı)
- Antakya Furniture Specialized Industrial Site (Antakya Mobilyacılar İhtisas Sanayi Sitesi, MOBSAN)
- Hatay Metropolitan Municipality Department of Parks, Gardens, and Green Areas (Hatay Büyükşehir Belediyesi Park Bahçe ve Yeşil Alanlar Daire Başkanlığı)

▶ 5

RESEARCH FINDINGS

The research findings, which concentrate on the agriculture and construction sectors as well as the provinces of Kahramanmaraş and Hatay, encompass the information derived from both the desk review and fieldwork. However, the study also takes into account the requirements of diverse sectors and provinces that were identified during the research process, alongside offering national policy recommendations.



5.1. Priorities in Partner Endeavours

According to interviews and focus group discussions, the majority of the interventions by public authorities in the period following the earthquake disaster focused on search and rescue activities, relocation of the affected population, and meeting the basic needs of those who stayed in the region, such as food, hygiene conditions, shelter, reintroducing city services, and public services, and identifying and assessing the earthquake's short, medium, and long-term effects. Although various state organizations have conducted economic analyses of the earthquakes, there has yet to be a clear plan provided by the government focused on labour supply, to allow recovery of the local labour markets.

Employer representatives, particularly those who live in the region, have their sights on reactivating production processes. To that end, they primarily focus on the needs of their organizations' members and attempt to meet the requirements of their members with assistance from beyond the earthquake zone. In this regard, one of the primary issues they are attempting is ensuring access to the production inputs. These issues are exacerbated by a labour shortage, which will be further scrutinised in the sectoral analysis.

Trade unions and other associations have been actively involved in the immediate search and rescue and humanitarian efforts. For the next phases of the recovery, they set their primary goal as protecting the fundamental rights of employees. It appears that trade unions have not yet devised a capacity that can focus on the labour force needed in the region. This level of engagement seems to be reached upon the restoration of production operations in the region.

Non-governmental organisations working for refugees are also concentrating their efforts in humanitarian support after the earthquakes. Their priority fields of actions are determining the region's current state and meeting the immediate needs of refugees. It is noteworthy that they grapple with potential issues of discrimination while striving to meet the needs of refugees. They primarily focus on

ensuring all efforts of both public authorities and the nongovernmental actors reaching to the people who need assistance the most, providing accurate data, and improving coordination to guarantee better use of available resources.

Metropolitan and district municipalities also played an important role in search and rescue efforts and will have critical role in the reconstruction of life in the region. Immediately after the earthquake, municipalities from all around Türkiye directed search and rescue teams and construction equipment to the cities affected by the earthquake. Trucks providing drinking and potable water, generators for lighting, heaters and fuel, mobile sanitation facilities, internet-satellite communication tools, both fixed and mobile kitchens, food items, clothing, garbage containers, and hygiene materials were delivered. Furthermore, items used in funeral services, construction materials, and fuel oil were also dispatched to these areas. Municipalities, especially in Hatay and Kahramanmaraş, carried out water connections and infrastructure work in earthquake zones. Municipalities continue to take part in the establishment of container cities with the teams and equipment they direct to the region. In addition, in order to support the recovery of the local labour markets and provide guidance to the local labour force, Istanbul Metropolitan Municipality established a mobile employment office, which is an extension of their regional employment offices.

Municipalities of the earthquake-affected region, on the other hand, focused on providing various supports including, shelter and improving the infrastructure. For example, Hatay Metropolitan Municipality, in cooperation with the private sector partners, completed the construction of 60 prefabricated houses in March and delivered them to those in need. Kahramanmaraş Metropolitan Municipality has organized seminars on psycho-social support in post disaster atmosphere. In order to support the local producers, the Mayor of Hatay Metropolitan Municipality announced that they would sell fertilizer at the cost of production to support the farmers. In addition, cooperation meetings are held with UNDP to invest in infrastructure services and develop

support mechanisms especially for women, children, elderly, and persons with disabilities. It also put efforts in job creation in the region by signing cooperation agreements with the private sector. Gaziantep Metropolitan Municipality, on the other hand, has announced that it will establish business workshops to support the employment of young people and women in the living centres established in the region (TDBB, 2023).

5.2. Scenery in Kahramanmaraş and Hatay Provinces

The level of destruction in the province centre of Hatay, Antakya district, is almost unprecedented in the history of Türkiye. Although Antakya tries to heal the wounds and to rise again, it would not be wrong to say that the old state of the city, as it is known, has disappeared. The city, which once stood out with its richness, multiculturalism, experience of living together, and cultural heritage, now presents the image of a demolition and construction site. It should be noted that urban life is at a standstill due to the magnitude and prevalence of the destruction in the city. Those who do not leave the city are either the relatively wealthy segments who have an economic presence in the city and want to protect them, or the poorest segments who do not have the option to leave, and refugees are in the latter category to a large extent.

The problem of accommodation in the city is still not resolved. Aside from the need for prefabricated housing, there is still a partial need for tents. In the early days of the post-disaster period, goods and services were supplied from the relatively less damaged neighbouring districts of Hatay province. After two months since the earthquake, basic needs in the city are mostly met with aid coming from outside the city. It seems that it will not be possible for a while to shop, eat out, and drink in the ordinary course of life. In order to provide these basic city facilities, the governor's office has established areas consisting of 50 small wooden structures in three different locations in order to enable the tradespersons

whose workplaces were destroyed. Although it is stated that the number of these areas will be increased, the services offered at this stage are very limited and not sufficient. It is not possible to say that there is an environment where the people of Antakya who migrated from the city can return. No trend in this direction is observed. It is imperative that the restructuring and construction process be carried out very carefully, taking into account the old texture and demography of the city in order to keep the urban culture alive and the ties of those who left the city are not completely cut off. Most of the partners interviewed in the city state that they are concerned about the deterioration of the unique demographics of the city.

According to public officials, it is expected that the city's debris removal operation would be done first, followed by the work on buildings that require immediate demolition, and then, gradually the seriously damaged buildings will be torn down. Simultaneously, it is planned to increase the number of prefabricated buildings and to start the construction of permanent residences. The priority is housing. Mass housing construction is envisaged in 13 new areas in the city along with the current settlements. It is stated that the number of these areas may increase. It is underlined that infrastructure works in these regions will be carried out by local governments and additional resources should be allocated for this. Although the houses are planned to be completed within a year, it is understood from the current situation in the city that this is not possible. A construction program that will reach one-third of the entire destruction in the first year is planned for workplace reconstruction. It is projected that it will take four to five years to rebuild and give over all the demolished workplaces to the beneficiaries.

The dust created by the demolition and subsequent debris removal creates a great risk for health, since a significant part of the destroyed buildings in the city are old buildings. The people of the city are largely unaware of the health problems that asbestos and silica emissions will cause in the medium term. Those with knowledge are also not in a position to prioritise this issue because they are focused more on basic needs. Almost

no one, including workers and volunteers taking part in the recovery efforts, uses even a standard mask, despite the need for the use of N95 masks under current conditions. Unfortunately, there is no awareness to this respect and when its necessity is indicated, people in the region state that they have much more urgent survival needs that prevent them to focus on mid-term health risks.

Contrary to Hatay, it is possible to say that despite the great destruction experienced in Kahramanmaraş, urban life continues in the province centre, albeit partially. The low level of destruction in the foothills of the city, where new settlements were concentrated, makes it possible to provide some basic services in the city. In the city centre, there are places where there has been limited destruction in public buildings and workplaces. This allows the time to return to normal to be less than Hatay. There are some open shops, cafes and restaurants in the city.

The debris removal work is largely completed. However, in the city centre, especially in some of the side streets, vehicle traffic can be partially ensured due to demolition works and debris spilled on the roads. It is seen in the field that some of the property owners deal with debris removal by themselves. So, this means that they move their debris to uncontrolled areas. The main motivation behind this trend was not waiting for the state initiatives and to prevent iron and other valuable materials in the debris to be seized by public authorities.

Similar to the Hatay, the people of the Kahramanmaraş city are either unaware or do not pay attention to the possible health problems caused by the destruction experienced in the earthquakes and the existing debris removal works. Mask use is very limited. The planning for the construction of permanent residences in the city is the same as in all earthquake zones. The residences are expected to be completed within a year. However, those living in the city do not find the implementation of this plan realistic in the expressed time.

The psychological trauma caused by the earthquakes is far below the expected level in both cities. It is understood that earthquake

survivors have postponed the pain they have experienced since the first day of the disaster and are trying to survive by focusing on covering their basic needs. It is expected that psychological problems will emerge once the physical conditions return to normal.

►► We have been through a major disaster. We suffered a lot. The psychological difficulties generated by today's misery do not appear because we are trying to survive. However, when life returns to normal here in 6 months or a year, we will look back and realise what we went through and how much sorrow we endured. The primary need will thereafter be for psychological support. This does not imply that we are able to think correctly today. Perhaps we are thinking incorrectly and making wrong decisions as a result of the earthquake's psychology, but for the moment we are unaware of it.

Employer Organisation Representative,
Kahramanmaraş

Kahramanmaraş has a lower rate of emigration than Antakya. Returns began to be seen throughout the month of Ramadan. However, practically all returnees are city residents who own property. It is believed that the majority of people who lived in the city prior to the earthquakes and were living in the rented houses did not return and will not return in the near future.

Although the practice of living with earthquakes has begun to emerge in both metropolitan centres, the fear persists. Almost none of the individuals whose houses remained undamaged and were declared as safe have been able to return to them, particularly in Antakya. The number of people settling in

undamaged buildings in Kahramanmaraş is growing by the day. However, there are still some interruptions in infrastructure services in these houses.

5.3. Agriculture Sector

Following the earthquake, agricultural output in the region came to a halt. However, this is due in part to the earthquake's impacts and in part to meteorological conditions that make agricultural activities not ideal. It appears that the actual amount of agricultural production reinitiation in the region will be determined after the Ramadan holiday. Although it is known that small-scale farmers continue to produce some types of crops, big farms who depend on paid labour are still inactive.

In the first few weeks following the earthquake, there were great difficulties in providing production inputs. The destruction of the warehouses in the region during the earthquake, the burning of the production inputs in the warehouses, especially the fertilisers, or them becoming unusable, caused the production activities to be disrupted. These problems have been overcome, albeit belatedly, with the support of the local governments of big cities and the chambers of agriculture in other provinces. The region still needs external support in the supply of animal feed, fertilisers, pesticides, seeds and seedlings.

It is observed that there are splits, collapses and slips in some agricultural lands, especially around the fault lines. This physical damage has a limited effect on agricultural production. However, as a significant amount of the farmers lost their crops in the fields, their homes, their machinery, their technical equipment, and their livestock, farmlands as a production capital lost value. Farmers may be forced to sell their holdings for less than they are worth in the near future. Critical damage to agricultural machinery and technical equipment is reported. It should be mentioned that in the region, a large proportion of these means of production were uninsured. The earthquakes caused the destruction of more than 11 thousand barns. Although the number of dead animals was not at a scale to disrupt

livestock production, it is seen that serious problems have started to be experienced in production due to other factors caused by the earthquakes. At first, the risk of disease arose due to the problems experienced in removing the corpses of dead animals at the right time and with the right methods. Due to the sales made out of necessity due to earthquake conditions, there has been a decrease in the number of animals far beyond the loss of animals. As the farmers did not have anything of worth to sell after the serious destruction of their barns, machinery, and technical equipment, they were only left with their livestock.

While 350 tons of milk was collected in the region, the amount of milk collection decreased to 90 tons after the earthquakes. Again, there is a serious decrease in the number of livestock in the region, not because of deaths, but because of sales. More importantly, there is a large number of animals that have to be slaughtered due to udder diseases resulting from the inability to milk dairy animals, and this also applies to sheep and goats.

Agriculture Expert, Ankara

Another reason why the farmers were forced to sell their animals was that they could not find fodder. During the period when feed delivery was disrupted in the region, despite external support, the amount of feed available was insufficient to feed the animals, therefore farmers who could not find feed sold their animals. Traders bought these animals for one third of their worth and the farmers had to sell them in need of money. The farmers lost their livestock capital. As a result of this trend, there appears to be a dramatic decrease also in milk production.

■ We can say that there was not enough support in terms of both financing and access to animal feed. Because with the support provided, an animal could only be fed for 35 days on average. This was not enough, and the farmers slaughtered or sold their animals. Livestock production was severely damaged.

Agriculture Expert, Hatay

Although it appears that all of this damage might be repaired with careful planning and implementation of assistance programs, the fundamental issue in the agriculture industry is that the workforce has left the region. The lack of unskilled or low-skilled labour force, which is needed at this stage of production, prevents many farmers from producing. There is insufficient labour to fertilise and spray even cultivated crops.

■ At this stage, we do not have a workforce and we do not have a social psychology to think about the workforce. People have not been able to solve the housing problem. They have lost their relatives. Each one scattered elsewhere. Nobody cares what happens in the field. People sold what they had. They sold their product if they had it, they sold their animals, they sold their savings and gold. Hence neither for Hatay nor Kahramanmaraş we have a labour force to continue production. Food costs will rise by more than 15% if we lose half of our production capacity in the earthquake zone.

Agriculture Expert, Ankara

The wage levels of the current workforce in the region have increased considerably. Compared to the pre-earthquakes rates, the participants indicate that there is a nearly 100% increase in wages, while varying in different districts. Despite this, it does not seem possible to find workers even with high wages. Rising labour costs and difficulties in accessing production inputs are likely to cause many farmers to go out of production, at least for this year. Employer groups in the region are unable to carry out any production planning activity at this stage. They are focused on resolving producer demands under present conditions and ensuring equitable distribution of aid to the region.

Irrigation is anticipated to become a significant problem in the near future following the earthquakes. It is not immediate for most of the areas as of now where the precipitation is sufficient. However, it is stated that there are problems in obtaining water from both wells and dams which are primary sources of water for agriculture in the hot season.

■ Well water used to be pumped with electricity in Kahramanmaraş, especially in villages in the plains. There is a problem with the electrical installations and many of these electrical installations are still untested. There is heavy rain in Maraş these days, water will not be needed immediately, but we will need this water in the near future. More worrying than that, some of these wells are drying up.

**State Institution Representative,
Kahramanmaraş**

The potential damage has not been determined yet. If the necessary inspections and improvements are not made immediately, the agricultural lands in the region are at risk of facing drought in the coming months when the precipitation decreases.

■ The Asi river Yarseli dam, which irrigates 100-150 thousand acres of land, is a dam that is filled with 17 high-diameter electro pumps. At the moment, water cannot be supplied because there is little rainfall and there is no electricity. Also, farmers have their own deep wells. These deep wells were badly damaged by the earthquake, and most of them are unusable. If these are not used, there will be water shortages in the Reyhanlı-Kumlu regions. There is no life without water.

Agriculture Expert, Hatay

Organised access to the market was considered as one of the main problem areas for the agricultural sector in the earthquakes region: The small-scale producers and family farms used to sell their produce at the local markets in city and town centres as they do not have a capacity to attract tradespersons, or they are not members of cooperatives. After the earthquake, market access issues deepened even more as the local markets did not operate for a long time and that issue seems to persist. Many cases are reported where individual farmers were unable to sell their products. In particular, it is frequently encountered that milk producers are left with their milk due to issues of access to the market.

5.3.1. Labour Profile in Agriculture and Change After Disaster

In the region, the share of the agricultural sector in employment is higher than its share in production, as is the case throughout the country. It is also seen that small family businesses are widespread in agricultural production and the employment of unpaid family workers is intense. Female employment is more in the form of unpaid domestic labour. In wage-labour production, employment is mostly made with unskilled and low-skilled workers. Seasonal work, casual work, and precarious or uninsured work are quite common. These atypical working styles are more common in immigrants. It is understood that immigrants work for lower wages than Turkish citizens.

According to both employer and worker organisations, among the population relocated from the city were skilled and unskilled paid labourers in the agricultural sector. It is widely assumed that the skilled labour force migrated to other locations more in proportion compared to the unskilled labour force. On the other hand, the unskilled labourers who have left for other cities are more in numbers.

■ Agricultural labourers are largely unskilled workers. They live on low wages and on a daily basis. There is no need for them to stay within the current conditions of the city. Agricultural activities with paid labour are now widespread throughout the country. Wherever they go, they can find a job. There is no life for them here. Even though wages have risen, prices have risen even more. Rents are too high. There is no place to live even if they can afford it. In prefabs and tents, priority is given to the property owners. What will they do if they stay here?

Employer Organisation Representative,
Kahramanmaraş

For the upcoming production cycle in agriculture, a reverse migration trend for waged labourers is not expected. Despite the increased pay, the current living conditions in the city, lack of housing opportunities, interruption of public services, possible health issues that may emerge due to debris removal, and high cost of living are counted as barriers to workers' return. Those who have left are expected to return only after a time of normalisation and with government assistance in wages and other benefits.

Life here must return to normal before they can return. The issue of accommodation must be resolved. In the city, public services are not properly provided. They will not be able to bring their families. Will they bring their families to the tent to sleep? Face-to-face education is not sufficient yet. What will their children do here if they come back? Perhaps, if the government declares a specific minimum wage for the region and makes it an attraction centre with dedicated subsidies, they may return at least temporarily.

Employer Organisation Representative, Hatay

The lack of motivation to work is a major concern for people who have remained in the city. The psychological state generated by the destruction makes agricultural employees less inclined to work. This is also enhanced by the current living conditions provided by social aids, which include food, shelter, clothing, and assistance with everyday duties. Workers who do not have the incentive to work can sustain their lives for a while by the social assistance they receive.

Another very critical problem that draws attention in terms of the workforce remaining in the region is that since agricultural

production is a collective business and there is a clear division of labour even in family farming, the need to replace the lost population and the expertise of the population that has lost the capacity to do business has emerged. It is known that in the region mostly heavy and primary skills-requiring work is done by men, and more secondary work that requires skill is done by women. For example, while men deal with the pruning, bending, thinning, harvesting, and handling of fruits, women work in juice and jam production. Or, while men deal with animal husbandry and nutrition, women do the milking. Due to this division of labour in production units with population and working capacity loss, disruption of the entire production process occurred.

5.3.2. Refugee Labour in Agriculture

Before the earthquakes, refugee labour was densely concentrated in the agricultural sector, although it was largely informal. As put forward by a state representative, cheap labour supply of refugees is common in agriculture, which has resulted in a situation of increased competition and lower wages. They are a significant part of agricultural production in Hatay. Also, for Kahramanmaraş, they pulled the workload of the sector. However, one of the respondents noted for Kahramanmaraş that as the economic crisis deepened in the county with high levels of inflation, refugee labour had started to leave the sector. Unfortunately, there is no data on the details of the inclined sectors. This is also related to the kinds of work refugees perform in the sector. The research findings show that refugees perform unskilled labour mainly in seasonal agricultural work. A state representative highlighted that as the seasonal agricultural work is exempt from work permit this creates a certain degree of formal employment. Nevertheless, the representative emphasised that most of the seasonal agricultural work is informal. One of the NGO representatives explained the nature of seasonal agricultural work as a type of labour which provides very low wages and bad working conditions and where there is no need for either skill or training. So, people work in these kinds of conditions only for survival.

In line with this finding another agriculture expert noted that agricultural production in the region requires certain specialisations, which refugees lack. So, refugee labour in agriculture was not vital in terms of production but this the only remark disregarding the role of refugees in agricultural production in the research. However, field research clearly puts forward that refugees work during harvest and also after but mainly in seasonal work requiring no skill or training. In addition to that they also work in packaging of agricultural goods and also as porters in their transportation.

Another important remark from the field research is made on the role of intermediaries, people who bring together employer and the worker and who is referred by various names in various regions such as “elçi” or “çavuş” are very critical in meeting the labour needs of the sector and hence replacing refugee labour to various kinds of jobs in the agriculture sector. A state representative notes that with the arrival of SuTP, local workers have now turned into agriculture intermediaries, and refugees are mostly working in informal jobs with low wages and no decent work conditions.

When it comes to the condition of women, they heavily take part in agricultural production especially in family business as in greenhouse production. Refugee women are also heavily present in seasonal agricultural work. This is also the case for refugee children, who work in family businesses.

After the earthquake, field research shows that there is labour shortage including among the refugee population. In other words, there is a lack of available unskilled refugee labour as well, exacerbating the overall labour shortage in the aftermath of the earthquake. The study shows that a new job has emerged for refugees in the region: Refugees, who have also been significantly impacted by the earthquakes, are being employed as porters to transport various goods from the damaged buildings. They risk their lives by accepting these jobs to meet their basic needs. One of the respondents stated that previously unskilled agricultural labour now works as porters after the earthquakes. Presumably, it was primarily male labourers who transitioned from unskilled agricultural work to employment as porters. Women, on

the other hand, lost their jobs in agricultural production and did not replace it as a practical porter-like job similar to men as an immediate survival reaction. So, it is unknown so far how they meet their needs.

On the other hand, it may be too early to comprehensively analyze the impact of earthquakes on the agricultural sector. For instance, an intriguing observation was shared by an NGO representative who is in direct contact with refugee families. This representative indicated that some families, who had not previously engaged in seasonal agricultural work prior to the earthquake, have now opted to participate in this type of work in Hatay. Hatay is known for its diverse agricultural yield that continues throughout the entire year. So, they could remain in their own tents and earn a living. Also, another information provided by the NGO respondent is that they observe in Hatay that local employers of small-scale agricultural business, who used to be reluctant towards hiring refugees, now do not make a distinction between local and refugee labour. This situation may lead to an increased competition between local and refugee labour. However, the NGO respondent highlights that this information is based on unsystematic observations rather than systematic data. Thus, it shows us possible tendencies which may emerge in the agricultural sector in the future.

5.3.3. Skills Need in Agriculture Sector

Considering the fundamental characteristics of the agricultural sector and the current scenario delineated by informant inputs, it becomes evident that there is a pronounced demand for low skilled labour. Based on observations, it appears that only after fulfilling the demand for low-skilled labour, should the focus shift towards sectors that necessitate semi or high skilled labour, such as the operation of specialized machinery. The production cycle in agriculture mostly starts with the low-skilled or unskilled labour input. The need for skilled labour comes in the later stages. Moreover, currently, high-skilled machine operators are not a priority because the existing machine

stock is also severely damaged. After this damage is eliminated and the needs are met, the need for labour will become evident in this area as well. There are also issues in the region with the repair of technical equipment damaged by the earthquakes. The repair charges are prohibitively expensive. There are also issues with component and parts supply.

■ Yesterday, I talked to a farmer I used to work with as an agricultural consultant in the Pazarcık region. The farmer had a remarkable complaint. He stated that high prices for the repair of technical equipment were not important for him. He said that he could not find a place to get it done, even if he paid for it. Because it was not possible to find a repairman in the industry zone.

Kahramanmaraş, State Institution Representative

As indicated before, the earthquake region is to a certain extent an expertise region in agricultural production. There is significant labour need in gathering, collecting, harvesting, hoeing, and pruning. There is also a need for unskilled labour for jobs like crate carrying. The latter was mostly the jobs that refugees were more actively employed compared to the prior list of low-skilled jobs.

The contribution of intermediary actors seems to be important for the classification of the low-skilled workforce and matching the workers with the appropriate jobs. Since the agricultural sector is largely informal, institutional information, guidance and management in this area is very limited. Intermediaries, commonly referred to as 'çavuş', may significantly influence ALMPs implemented in the region. Serving as crucial facilitators between producers and workers, these intermediaries ensure that producers have access to a skilled labour force tailored to their requirements. Due to their role, they

possess extensive knowledge of the specific skills necessary for the production process. Additionally, they play a substantial part in standardizing daily wage rates.

Since the fertiliser and pesticide application of the crops cultivated in the earthquake zone cannot be carried out to a large extent, soon sunn pest and ferrugo outbreaks are anticipated. In order to prevent these outbreaks, plant protection personnel could be trained and employed in the region. The use of drones in the agricultural sector is becoming widespread both to reduce the risk of workers' exposure to chemicals and the excessive use of chemicals. In this context, in the disaster area, which is already under the risk of dangerous substances, in the short term, the competence of spraying and fertilizing with unmanned aerial vehicles could be developed. To this end, ALMPs can focus on agricultural drone operator training in the region in cooperation with the General Directorate of Civil Aviation.

Following the earthquakes in the agricultural sector, there is also a significant shortage of labour in the fields of storage, marketing and sales. Training the workforce in these areas is also of great importance. The ALMPs focusing on major skill set required for the core production lines should as well include these support inputs and train the needed labour force for the lacking skills.

An important problem in the region will be experienced in the field of occupational health and safety. Although there has been an increase in wages, paid labourers in the region will start working in more than one job, as the labour shortage makes it possible. Most of these people will be working in the agriculture sector and other industries at the same time. Long working hours will increase work accident risks that will endanger workers' safety and create extra health costs in the region.

■ An employee will work as an agricultural worker during the day, and at night, for example, in an olive oil factory. The stress and fatigue caused by this will return to us as work accidents and diseases later on. This type of work should be paid attention to. The state must provide training to employees on occupational health and safety.

Trade union Representative, Ankara

Post-disaster asbestos and silica emissions are also among the important health risks. While the inhalation of asbestos fibres and silica particles poses a serious risk to the people of the region, the risk of these particles adhering to plant products also creates a risk in the agriculture-health axis. It is especially important to train the workforce that will work in the field of plant production against this risk.

Following the earthquake, an intriguing pattern toward İŞKUR registration appeared. Prior to the disaster, employed agricultural labourers were less likely to register to İŞKUR unemployment database due to improved working conditions and compensation under their previous work arrangements. However, following the earthquake, agricultural sector workers who wanted to relocate to other cities began enrolling in İŞKUR unemployment database to seek jobs in other regions. Although this trend increases the labour shortage in the earthquake region, it also has a critical positive effect since it boosts the formal employment opportunities for labourers. Furthermore, because these labourers who have migrated out of the region are recorded in the İŞKUR system, it is simple to engage them in initiatives that will improve their chances of returning.

■ According to our research, people working in plain villages, as a result of the earthquakes are currently applying to İŞKUR and expressing their wish to work in different regions. Before the earthquake, the situation was like this: Doing labour in the field was more advantageous, as hourly wages, and daily wages were all higher than the wages ordinarily provided by İŞKUR jobs. Many agricultural employees preferred their current jobs to those offered by İŞKUR. Following the earthquake, people are attempting to find work in various provinces, particularly through İŞKUR. As a result, there is a labour shortage in the agriculture sector.

İŞKUR Representative, Ankara

Given that women's employment in the sector often takes the form of domestic labour, there seems to be no traditional barriers preventing women from participating in ALMPs. However, it should not be overlooked that women who will come to the region, especially as seasonal agricultural workers, will be more affected by the current negative living conditions of the region. They will experience greater difficulties, especially in terms of personal hygiene. More crucially, there is currently no facility in the region to institutionally support female labourers to relieve them of childcare responsibilities traditionally placed on them.

5.4. Construction Sector

Most of the construction work in the earthquake zone is currently focused on debris removal and the building of temporary settlements. Removal and dumping of the wreckage are carried out through tenders on

the one hand, and private entrepreneurs get direct contracts from the private property owners on the other. Some of the participants indicated that a noteworthy share of the property owners hire private companies for the dumping of wreckages and removal of debris. So, it is not a hundred percent state allocated and controlled work. Hence, in debris separation processes and paving, part of the process takes place outside of central control. Moreover, as the capacity of local governments are hindered due to the earthquakes and overwhelming recovery efforts, these processes could not be easily regulated and controlled by municipalities either.

A large part of Türkiye's construction equipment and logistics vehicles capacity has gone to the region. At the present stage, it is seen that the need for prefabricated buildings can be met at a very limited level.

■ ■ As employers' organisations, we have sent almost all of the construction equipment we have to the region. These machines work in both debris removal and demolition processes. While trucks are heavily used in the rubble transport business, they also carry prefabricated structures and other needs to the region. The number of containers that only one truck can carry is two. Even if there is no problem in container production, there is a problem in transportation to the region. As long as there is no assembly or production in the region, this process seems to take longer. Only 30% of the prefabricated building needs in the region have been met.

**Employer Organisation Representative,
İstanbul**

Although the region resembles a massive construction site in general, construction activities will hike with the demolition of urgent buildings, the demolition of heavily damaged buildings, the start of new constructions, and the addition of consolidation works of moderately and slightly damaged buildings to the process. It is foreseen that in the region an unprecedented construction activity will be carried out in the history of Türkiye.

As in the agricultural sector, there is a significant increase in wages in all sub-fields of construction in the region. It is almost impossible to find a master even for simple repairs. The work schedule of the rare masters remaining in the region is almost full for a period of 9-10 months.

As a result of Housing Development Administration of the Republic of Türkiye's (Toplu Konut İdaresi Başkanlığı or TOKİ) tenders, a major portion of the region's construction activities will be carried out by enterprises from outside the territory. So far, more than fifty contracts have been issued as part of the recovery effort in the earthquake zone. The companies that won the tenders are well-known firms that have previously been the contractors of public tenders at the national level.

It is observed that occupational health and safety measures are largely ignored in demolition and debris removal works in the region. The measures for containment in the working areas, control of the occupational health and safety equipment of the employees, control of the harmful chemicals that arise as a result of the demolition, and the use of the necessary equipment to protect against the negative effects of these are very weak. Experts indicate that the construction of new buildings in the regions should be started at least one year after the earthquakes to ensure both building safety and occupational health and security.

■ Scientists warn about the need for waiting a year. Geology professors indicate this. Aftershocks will continue for a year. Therefore, when earthquakes occur, underground waterways also change. If due to the aftershocks groundwater is channelled to another location, ground surveys results will be invalid. Therefore, ground changes should be monitored for a year for security reasons. In this period planning must be done.

Health and Safety Expert, Ankara

Employer representatives in the region report a considerable decline in product demand, particularly in construction-related businesses such as the furniture industry and textile. The fundamental reason for the decline in demand is a lack of trust in the sustainability of product delivery, as well as a global economic recession. Customers of businesses in the earthquake zone are concerned about not receiving the products they were pledged to get in exchange for the down payment they have made.

■ Customers have little faith in the region's manufacturers. They believe the region is experiencing issues in accessing raw material, logistics services, and ensuring production continuity. They are hesitant to send a deposit. Many regional producers are promoting and advertising on social media by capturing live videos of the items' creation, storage, and shipping operations. In this approach, they hope to reassure their customers by demonstrating that production is ongoing.

Employer Organisation Representative, Hatay

5.4.1. Labour Profile in Construction and Change After Disaster

It was seen that there was a labour shortage in the construction sector throughout the country even before the earthquakes. With the earthquake, all the opportunities of the sector are focused on the region. It was already impossible for the existing workforce to meet the needs of construction activities in the region. There was also a significant decrease in labour supply due to emigration from the region. It appears unfeasible to address this situation with an external labour force. For each fundamental aspect of construction, the demand for labour and skilled workers is exceptionally high.

■ There was a shortage of semi and high-skilled labour in the construction sector throughout Türkiye, even before the earthquakes. The earthquakes increased this need at the country level due to new constructions. There will be a labour shortage in the construction industry for a long time. Investments made in the labour force specific to the region will contribute at the country level.

Employer Organisation Representative, İstanbul

The significant increase in labour cost in the region is known. Unlike the agriculture sector, employers have the relative capacity to meet the labour cost in the construction sector. Because most of the construction activities in the region will be realised through public tenders, the said cost is calculated within the total cost of the projects. However, the fact that the labour cost can be covered does not make it possible to guarantee the said labour force. Because, not only in the region, but also in the whole country, the labour shortage has reached the highest levels.

Since TOKİ contractors, who will carry out construction activities, will come to the region with their own teams, it is expected that the labour demand will be met from outside the region. However, it is clear that this will not be easy due to the limited labour supply. This situation can be solved at the local level and create employment in the region by providing the necessary skills through training. It is expected that refugee labour would be employed largely in the sector, although refugees have also emigrated to other regions of Türkiye after the earthquakes. It is important to track the conditions in which refugees will be employed and provide systematic support for their access to decent work conditions.

Large companies appear more equipped to solve the housing issues of the incoming labour force in the region. They can do this by setting up prefabricated structures at construction sites, a solution seemingly more feasible than those available in the agricultural sector. However, the problem here is the bottleneck experienced in the transportation of prefabricated buildings to the region. Therefore, it is not possible to bring prefabricated buildings to the region to meet the needs of the existing logistics capacity. Assembly and production are required in the region and for these activities there is also a need for labour force supply.

The labour force problem is also high in other the sub-sectors of construction in the region. Although there was no major destruction in the production areas, production could not start at full capacity due to the lack of labour force. The fact that production has not started completely creates a problem in determining the level of labour force needed in the new situation after the earthquakes. Many employers refrain from making production plans because they do not have the practice of doing business in post-earthquakes conditions. They want to wait and fully grasp the new context. The psychological impact of earthquakes, which can impair sound thinking and planning, also significantly contributes to a state of inaction. Employers still do not have precise information about the new demand level and post-earthquakes production capacity. Therefore, they are not able to clearly define their workforce needs.

There is a widespread belief that the support and incentives provided by the employers in the locations where earthquake affected populations went make it difficult for them to return as their current living and work conditions are a lot better than the potential conditions in the earthquake region. It appears that emigrants will find it difficult to return, as huge corporations provide high-paying jobs that will provide a sustainable life in their new locations. In short, when the current conditions of the workforce leaving the earthquake zone and the potential conditions in the region are compared, it is understood that there is no incentive that will enable them to return apart from their personal ties to the cities they used to live in.

Despite the fact that wages have significantly increased due to the labour shortage in the area since the construction industry consists of highly demanding and hazardous jobs, there is a trend of the way out of the sector for alternatives for better and decent employment in different sectors. When construction employees lack a meaningful wage, comfortable working and living conditions, they swiftly switch industries. From the perspective of relatively qualified labour, this shift is not intended for other industries but rather for international construction career chances.

►► The profile of expatriates is one of the key markers of the trend of emigration abroad in skilled labourers. The majority of Turkish construction employees abroad are electricians. They must leave since doing so will result in greater pay, healthier food, a safer working environment, and better accommodations. If they are unable to achieve these chances abroad, they switch industries and at least get similar living and working conditions with less heavy labour.

Trade union Representative, Ankara

Last but not least, regarding the OHS, construction is known to be a risky sector. One of the participants in the study indicated that to prevent accidents in the sector, each and every employee should be trained almost to the level of being an OHS expert. The earthquakes have increased the risks in the sector more than ever. As the need for labour reached an unprecedented level, the soft skills of the employees are not prioritised. Moreover, there is great pressure on the sector for fast production as the government promised the citizens to build the residences in a year. Since the number of construction sites is extremely high, the inspections and checks cannot cover all the sectors, too.

5.4.2. Refugee Labour in Construction

Before the earthquake, similar to the agricultural sector, the construction industry in the region also heavily employed male refugee labour. However, it is almost impossible to provide systematic quantitative data on characteristics of refugee labour in the construction sector since almost all of them work informally.

Refugees are mainly employed in precarious and unskilled jobs, with no social security, which is common trait of the sector. Research also indicates that there is a discernible disparity in skills between local labour and refugees. However, drawing a definitive conclusion in this regard necessitates additional research. As noted by one respondent, although there are skilled refugees with training in construction, they are still predominantly employed in precarious and unskilled construction jobs. Therefore, the causes of the difference between refugees and locals in terms of skills performed in jobs are unclear and may be related with the overall structure where refugees are in high numbers and work in any kind of job as a survival strategy rather than a condition where they have no skill. As a matter of fact, an NGO representative informed us that in Hatay refugees commonly work in mosaic processing on the walls. In this case, refugees have a mastery in comparison to the local population. He also noted that refugees

also worked heavily in ceramic processing, electric and water installation jobs as well. This information tells us that refugees have skills and training, although they heavily work in unskilled jobs. This is also a commonly observed outcome of international labour migration, wherein individuals often experience a loss of qualifications, de-qualification, upon arrival in the host country. Türkiye is no exception when it comes to trained and skilled refugees facing this issue.

After the earthquake, although, refugees also faced jobs losses in the construction sector due to the suspension of ongoing construction work. However, field research indicates that there will be a significant increase in the employment of refugee labour in construction-related work after the earthquakes. Early indications suggest that refugees are already being hired on a daily basis to remove debris and salvage goods from damaged buildings. Property owners are reluctant to enter these buildings due to the associated risks to their lives. This is a new situation which has emerged after the earthquakes but actually another example of refugees, working for survival. Another NGO respondent anticipated and was deeply concerned that especially in Antakya where the earthquakes devastated the city, reconstruction works would be based on the informal and precarious labour of refugees.

The construction sector is characterized by a scarcity of female labour. According to a respondent, cultural norms, along with sector-specific conditions, contribute to the discouragement of women's employment in this field. However, field research leads to the conclusion that a value chain analysis is essential to understand how women, especially refugee women, can be employed in the construction sector. By examining different stages and processes within the value chain, we can identify specific opportunities for women's employment and tailor interventions accordingly. For example, refugee women may be employed in interior architecture-related jobs which may require special training. Additionally, women may find jobs in the sales and marketing division of the construction sector but in such cases, Turkish language training for refugee women would

be necessary. They may also be employed in the control of safety protocols with language support. As a matter of fact, if cultural (gender-based discriminatory attitude and behaviours) and language barriers are resolved in the sector refugee women can be employed in various business lines depending on their skills and motivations to work.

5.4.3. Skills Need in Construction and Related Sectors

According to the 2021 Construction Industry Labour Market Report of İŞKUR, it is seen that there are 1,306.768 jobs in the sector throughout the country. According to the estimates of the trade unions and employer organisations, only in the earthquake region, more than 200 thousand people will be employed within the scope of rebuilding efforts. Given the current labour shortage in the sector, in all the sub-sectors and working areas there will be immense need for skills. According to the employer organisations, the priority is the unskilled jobs as in the sector it is essential to first meet the need for unqualified workforce, and then identify those with skills and qualifications and place them in jobs that require qualifications.

Moulders, tunnel moulders, iron binders, masons, insulators, fine works artisans, including plasterers, painters, and tile workers, are the key specialised occupations that must be filled in first. In order not to repeat the great destruction we experienced in the earthquake disaster, the employees who will do these works, especially the mould makers and iron masters, should have the ability to read projects.

► It is clear that a sizable portion of the demolished structures had plans that complied with the law, but the plans had implementations that did not follow them. It is simple to re-experience the same suffering if we construct new buildings using mould makers and iron workers who lack project reading expertise. When building a structure from the ground up, the mould maker is the most crucial component. The mould maker must be a competent worker with the ability to understand a professional project. Also, mould makers should have experienced iron binders working with them. If the iron is not connected appropriately according to the way the project dictates it the building cannot be durable statically.

Employer Organisation Representative, Hatay

At this point, another critical effect of insecurity, which is a serious problem in the construction sector, emerges. Skilled professionals like mould makers and iron binders, despite possessing the requisite expertise and determination to correctly execute projects, often find their voice of objection marginalized. This predicament occurs when contractors, in an attempt to curb expenditures, deviate from the agreed project plans and regulations. Workers, when insisting on the proper execution of projects, face the risk of job loss. Engaging with trade unions could potentially counterbalance this disparity in power relations, while supporting their access to formal jobs and corresponding social protection.

Even if the iron binding master or mould maker sees an error in the project, he cannot express this situation much because he works insecurely. Their master or journeyman says, “It’s none of your business, mind your business.”

Trade union Representative, İstanbul

Fine works sub-section of construction is crucial as fine works artisans will be needed not only for the new building constructions but also for the repairing of slightly or moderately damaged buildings. These works play a crucial role in facilitating the re-habitability of people’s homes and re-operationalisation of the workplaces, allowing them to resume their daily lives and activities in a safe and functional environment. By doing so, the pressure in housing might be relieved to a certain extent. These are also potential jobs for women in the sub-sector. Female fine works artisans could be trained, and their work will be sustainable in the region for future repair jobs. They will be also preferable considering the traditional gender roles prevalent in the region.

The demand for skilled labour in the construction of temporary housing, which is significant in the area from a variety of perspectives is also crucial. A workforce capable of working in production and assembly jobs in this sector is urgently needed.

Workshops for portable homes and containers need to be established in the area. Due to shipping, the current method is both expensive and cumbersome. We must manufacture temporary homes or containers in the earthquake zone. Transporting a container from İstanbul to an earthquake area is expensive and time-consuming.

Occupational Trainer/Expert, İstanbul

Other sectors triggered by construction that the labour need is prominent are furniture and textiles sectors. To reactivate the production infrastructure established in these areas, it is imperative for the workforce that previously left the area to return. Their presence and participation are essential for the resumption of operations and the revitalization of economic activities in the region. The emigrated workforce who found favourable working conditions in the regions they arrived, are unlikely to return unless the same or better conditions are offered in the earthquake region. It is crucial for large companies that employ earthquake survivors to play an active role in bringing back this workforce. This can be achieved by making investments in line with their specialization areas within the earthquake-affected region in the short term, while also ensuring good working conditions in their current locations. Such efforts will help incentivize and facilitate the return of the skilled workforce to the region.

To address the labour force gap in the region, as in the agriculture sector it is essential to tackle a range of interconnected challenges. These challenges include issues related to housing, limited livelihood opportunities, disparities between living costs and compensation levels, the provision of public services, and the restoration of city life and facilities. Resolving these challenges to a certain extent is crucial for closing the labour force gap and creating an enabling environment for sustainable employment and development in the region.

▶ 6

CONCLUDING REMARKS AND POLICY SUGGESTIONS

It is critical to acknowledge the significant labour shortage in the affected area, coupled with substantial capital loss in production processes and challenges associated with production inputs. This situation, combined with a downturn in demand—particularly in the manufacturing sector—disrupted production cycles and created an unsupportive environment for business planning. These factors have rendered the usual execution of a comprehensive skills anticipation study in the earthquake region impracticable. To facilitate a more effective, expedited, and lasting recovery, it is essential to undertake sectoral prioritization, determining the crucial skills, skill sets, and overall labour force needs. Interpretations of the study's findings should be approached from this angle, ensuring that the lack of specific mentions of certain sectors or jobs in policy recommendations is not misconstrued as an absence of skill development needs within those areas.



The key conclusion of the study is the pressing labour shortage in all sectors. It is acknowledged that there has been a longstanding demand for semi-skilled and skilled workers in the construction and agricultural sectors, even before the earthquakes. The earthquakes not only exacerbated this need, but also increased the demand for unskilled and low-skilled labour to a critical level that can impede the production cycles. The mass emigration from the region following the disaster is the main cause of labour demand across all sectors. In particular, the construction industry anticipates a significant increase in demand due to expected sector growth, which will result in a shortage of available labour in the near future. Addressing this issue requires safeguarding access to decent working conditions and social protection, especially considering the industry's tendency towards informal employment practices. In addition to the labour supply and demand mismatch in the region, labour relations have also been severely disrupted. The significant rise in labour costs, challenges faced by employers when employees exercise their rights in the aftermath of the earthquake, and employers' tendency to suspend or limit production have all contributed to strained employee-employer relationships. Consequently, in the earthquake-affected regions, there is a simultaneous occurrence of labour demand and unemployment due to employers' inability to meet the growing legitimate demands of workers.

In sectors beyond construction, significant challenges exist in sourcing temporary or permanent labour from outside the region. Notably, one such hurdle arises from the yet unnormalized state of the region. It is widely recognized that a considerable housing deficit has resulted from the earthquake's impact on primary production centres in both rural and urban areas. Furthermore, urban centres continue to struggle with a severe lack of public services and civic facilities. Despite a trend of rising wages, another major concern is that these salary levels fail to meet fundamental living needs, thereby widening the gap between wages and cost of living.

Although businesses within the construction industry could feasibly meet the basic needs of workers migrating from other regions by building essential infrastructure on their sites, these workers may choose not to relocate to this region. This reluctance could stem from a nationwide labour shortage that provides them with job opportunities in other areas.

Predominantly, the region's agricultural sector is plant-based, which requires a degree of low to medium specialisation. Consequently, the external labour force may lack necessary competencies, even for low-skilled jobs. Regardless of their overall qualifications, incoming workers need to possess skills specific to regional agricultural products. Thus, although employing seasonal agricultural labour may help to bridge the workforce gap, it's currently impractical to source workers from all regions. Newly arrived labour must either already have knowledge about the regional agricultural products or receive training to that effect.

Several other constraints, including the inability to sustainably provide essential production inputs, significant capital losses experienced by producers due to the earthquake, and issues with labour supply, pose substantial barriers to the region's ability to resume full-capacity production. This problem is compounded by a lack of business motivation within the region. Particularly within the agricultural sector, the strict labour division within production units, especially family farms, has disrupted production processes following the loss of personnel. This hindrance to full-capacity production makes it difficult to accurately determine labour needs and define necessary skills in the short term.

Based on desk reviews and interviews conducted as part of this study, a range of key skills have been identified as necessary. In agriculture, low-skilled tasks such as harvesting, hoeing, pruning, spraying, and fertilising, as well as unskilled roles like crate carrying are needed, alongside skilled roles like operating and repairing agricultural machinery. The livestock sector requires basic skills like ration preparation, nail cutting, dehorning, proper milking, shearing, and animal grazing. Driving, notably for the transportation of seasonal workers, is another significant requirement. Semi-skilled labour is needed in supporting sectors like marketing and sales.

Within the construction sector, a broad range of skills, including moulding, tunnel moulding, iron binding, masonry, insulating, roofing, and fine tasks like plastering, painting, and tile laying are in high demand. For prefabricated buildings, assembly skills are prioritized. High-level skills like operating construction machinery are also essential, despite the time-intensive nature of the training. With the region's machinery and production tools damaged or destroyed due to the earthquakes, skills for repairing existing damaged stock should be prioritized. Support sectors like furniture and textiles demand skills at all levels. Across all sectors and sub-sectors, there is a need for Occupational Safety and Health (OSH) training due to the potentially hazardous work environments and possibility of frequent, large-scale job transitions.

6.1. Policy Suggestions

Active labour market strategies for recovery following disasters typically begin by stimulating job creation for preventing unemployment. However, the field study has clearly indicated a severe labour shortage, rendering job creation stimulation unnecessary. In such circumstances, the emphasis ought to be on reorienting and reallocating labour through training initiatives, to support industries experiencing labour and skill deficits. The study also reveals a broad-based need for labour across virtually every sector and business line, with requirements ranging from unskilled to highly skilled labour. This situation primarily results from substantial emigration to different parts of the country post-disaster. Secondary factors include pre-existing labour shortages in certain industries nationwide and regionally, as well as increased demand, especially within the construction sector, due to the region's economy restructuring to meet recovery and reconstruction needs.

Increasing labour supply could be achieved through three main strategies: encouraging reverse migration of the departed workforce, bringing new temporary or permanent labour into the area, and training and employing the region's working-age citizens. Utilising the labour supply potential of the region's reserve labour force could positively influence labour market composition, boosting women's and refugees' labour participation. However, potential barriers such as the post-disaster traumatic experiences of the local population, inadequate income for unskilled or low-skilled jobs to meet increased living costs, and traditional factors, such as cultural norms and gender roles hindering women's employment could prevent the labour supply from reaching expected levels. The region's conditions could also precipitate a significant increase in informal employment. Despite these limitations, activation programs targeting the region's reserve labour force for unskilled and low-skilled job employment could stimulate labour supply. Implementing such programs could ensure formal employment and respective workers' rights by offering incentives to employers.

The consensus is that prioritising the return of individuals who left the region is crucial to meeting labour force needs, particularly in agriculture, as those who previously worked in the area possess the skills necessary for region-specific crop production. Experts assert that workers migrating from different climatic zones may not understand the peculiarities of crops produced in the disaster zone. Furthermore, considering the area's notable demographic diversity and historical complexity, particularly in Antakya, it appears that not only refugees but also Turkish citizens from other regions are not readily welcomed by local communities. The erosion of the city's native culture is a serious concern. Thus, preservation of Antakya's unique multiculturalism is desired and initiatives emphasizing the return of departed individuals should be given primary importance.

The region's existing labour force currently relies on humanitarian aid. Therefore, ALMPs should provide incentives compelling enough to encourage workers to re-enter the labour market. The key expectation is an income level that ensures decent living conditions amid the region's high cost of living. Program implementation should consider supports for housing and incentives that enhance income levels.

The workforce that migrated from the earthquake-stricken region currently enjoys better living and working conditions in their new locations. This is primarily due to larger companies embracing them as disaster survivors and fulfilling their civic duties by offering improved conditions. ALMPs should contemplate partnering with these companies, guiding their potential investments in the region, and facilitating the return of the migrated workforce. This returning labour force could be trained in skills that these companies may require for potential businesses in the region.

6.1.1. Measures to Ensure Decent Living Conditions

To serve the purpose of building back better and facilitating the return of affected populations back home, it is crucial to make significant progress in addressing the main problem areas that led to emigration. These include addressing housing shortages and ensuring the restoration of essential public services, as well as revitalising urban life and facilities. These interventions will not only ensure decent living conditions but also foster community resilience, sustainable employment, and inclusive development in the earthquake-affected region.

► Housing

As previously mentioned, the level of destruction seen in the earthquake zone is unmatched in the nation's history. Nearly 3 million people lost their houses or unable to inhabit the damaged ones. Resolving the housing issue in the area is a prerequisite for addressing any other challenges and effectively mobilising the workforce, either through providing suitable housing or exploring outsourcing option. There is a clear need for almost two and a half times the current number of prefabricated living spaces established so far. Given the labour need in this area, work-based learning programmes and vocational training courses could be delivered for the relevant sectors and skills in prefabrication manufacture and assembly.

In the agricultural sector, provision of shelter is essential for both humans and livestock, as it appears that many barns have been destroyed. As indicated by participant experts nearly 4,500 of 12 thousand barns, stables, and houses, which were destroyed in Hatay and Kahramanmaraş were integrated facilities where sustainable farming practices that combine the production of crops and livestock in a mutually beneficial way were applied. These should be reconstructed as soon as possible. Activation programs should focus on the farming and livestock skills needed in the region in a combined way to revitalize these integrated farms. It is important to consider the application of innovative livestock techniques in the reconstruction of the damaged barns, as well as incorporating green transformation principles in the reconstruction of the structures. By adopting new livestock techniques, such as modernised barn designs that enhance animal welfare, ventilation systems, and efficient waste management practices, the reconstructed barns can provide improved conditions for livestock rearing. In this context, employment opportunities can be created in the green business category. Barn models with sustainable energy capacity applied in the world and in Türkiye can be put into practice and training programs centring skills relevant to these models could be prioritised.

The prioritisation of directly affected populations for limited housing opportunities in the region is seen as an obstacle for mobilising the required workforce from outside the region. In the short term, it does not seem possible to meet the shelter needs of temporary workers by the existing public initiatives, presenting an area for intervention for international organisations. As the logistics of the prefabricated buildings is limited and their transportation to the region creates a bottleneck, either construction of production centres within the earthquake affected provinces or focusing on modular prefabrication must be considered. In the former case, the skill set needed is more complicated than the latter as it includes construction as well as a more complex assembly process.

The modular or foldable prefabricated buildings could be transported to the region with almost 8 times fewer resources. Moreover, in the medium or long term, these could also be put in reuse in other regions, for instance addressing the housing needs of the seasonal agricultural workers, offering sustainability for the investments.

Following the gradual transition of affected populations to permanent residences, some of the prefabricated living areas or tent areas established at the current stage from those that will not disrupt urban life could be preserved and used for providing shelter for seasonal labour in the region, especially in agriculture. This will solve the chronic housing problem of seasonal workers that has been persisting for a long time at least in the disaster region. The modular and foldable prefabricated buildings are also essential in this regard.

The significant increase in rents in the region is a factor that reduces the purchasing power of the population leaving the region and the workforce that will come to the region temporarily and permanently. This also creates extra pressure on wage levels. In this area, it will be an important step for the public to regulate and support rent payments until the housing supply reaches the desired level and the market conditions return to normal.

In short, activation programs should primarily focus on skills needed in assembly and production of the prefabricated buildings. Moreover, skills needed in the areas focusing on substructure of the prefabricated buildings like plumbing, and fine works needed to turn these structures into homes including furnishing should also be covered.

► Public Services

One of the top priorities is to sustainably provide the necessary level of quality health services. The number of field hospitals should be increased until new healthcare facilities are built to replace demolished ones. The medical staff who will work in these facilities should be given the living and working circumstances that will allow them to remain in the area with a motivation beyond volunteering. Health issues brought on by the discharge of chemicals and dust resulting from ongoing demolition projects should be prevented. The possibility of the workforce to live in a healthy environment with their families should be ensured, whether they are local residents returning or outside labour force newly coming to the area. The culture of using masks gained with the COVID 19 pandemic should be revived in the region and the required masks should be provided free of charge to those living in the region.

The activation programs in this regard, should prioritise the health and safety aspect beyond the occupational perspective. Awareness campaigns should be included within the projects, for possible hazards due to chemical emissions. Moreover, specific campaigns focusing on increased occupational risk should be conducted. ALMPs should have a stricter OHS perspective as the risks in all sectors are deepened and new occupational risks emerged. Although significant legislative problems have not been observed regarding the post-disaster hazardous materials, especially asbestos, the tendency to quickly dispose the debris after the disaster triggered the non-implementation of occupational health and safety measures. In this context, priority should be given to the provision of protective clothing for the use of all workers working in areas close to the debris. awareness-raising training on asbestos and silica issues among workers in the region should be supported, particularly through unions. In order to prevent the spread of diseases caused by hazardous materials, the government urgently needs to switch to proper management of earthquake waste.

Although education in the physical environment has started, it is seen that there are disruptions in education activities due to the destroyed education infrastructure and the use of some schools by different public units. Investments in education infrastructure should be done as soon as possible to allow face-to-face education to be conducted continuously throughout the region. Temporary

field schools should be set up if necessary to get the area to a point where the returning workforce won't be concerned about their kids' education.

It is anticipated that the earthquakes will also negatively influence the school enrolment rate for refugee children. One of the respondents noted that before the earthquakes their NGO work hard to struggle against child labour and to improve their school enrolment rate by creating awareness in families in the first place. Although, they have had modest improvements in the condition of refugee children, now, after the earthquake, he is concerned about increased levels of school dropouts, mainly for two reasons: (1) Families would be afraid to send their children to damaged school buildings; (2) Families would need the labour of their children for survival especially in seasonal agricultural work. He notes that women and children are affected the most from crisis situations and he expects that the situation will get worse in the case of refugee children.

► Urban Life and Facilities

Urban life has been interrupted in the provinces where the destruction in the earthquakes was great, especially in Antakya, the centre of Hatay. The disruption of ordinary life in the city centres causes wage earners to hesitate to come to the region with their families. In these regions, shopping areas and socialising places where basic needs can be met, apart from social assistance, should be rapidly created. Covering the losses of the tradespersons is an important requirement not only in terms of the employment capacity it will bring back, but also for the labour force in the region to lead a normal life. According to a participant, in Antakya alone, the shops of 4500 tradespersons have been destroyed. Restructuring in this area will come late, as the priority is housing. It is envisaged that only 1500 buildings will be rebuilt in 2 years. To put it in a different way, it is foreseen that only one third of the destroyed workplaces of the tradespersons in the region can be rebuilt in the short run. During this period, prefabricated shopping areas, which have been limited in number and location, need to be expanded in order to revitalise urban life. In medium term, in the reconstruction of the earthquake affected cities, the urban planning aspect should consider the social cohesion, livelihood of city dwellers, and vitality of social life and proper provision of city facilities. Moreover, participation of citizens in the process should also be ensured.

6.1.2. Increasing Motivation to Do Business and Work

The interviews with both employer and employee representatives show that businesspeople either lack the capacity to reinstate the production capacity before the earthquakes or hesitate to do so due to the uncertainty, while the workers do not prefer to work as the compensation is not worth the effort. The post-disaster trauma experienced enhances this trend. To overcome this issue and increase the motivation of doing business and work, it is essential to ensure that the area develops into an economic hub of appeal, to provide the necessary means for production, and to boost the income from working and conducting business. Another important intervention could be supporting the market demand for the businesses in the region. Given the need for confidence in the capacity and sustainability of production in the region, international organisations could play a crucial role. Leveraging their credibility, these organisations could help restore factors necessary for re-establishing demand in the region. Hence, promotion of ALMPs implemented in the region towards the companies that might have potential demand for products from the region might be considered. Moreover, programs that lead to purchase guaranteed production might as well be implemented.

► **Compensating and Providing Capital**

For production processes to recommence in the earthquake-stricken region, it's essential for the government to promptly address capital losses and provide capital support to local investors. Compensating capital losses should not be attempted through loans, as the individuals in the area have nothing left to offer as collateral. For the construction sector, this could involve rebuilding workshops and trade centres and assigning them to affected populations. For the agriculture sector, compensation might include replacing livestock, rebuilding barns, storage facilities, and repairing or repurchasing technical equipment and machinery. Activation programs should provide more than just labour cost subsidies; they should include a component for capital support. Kickstarting production cycles should begin with the provision of capital. Consequently, for a more effective implementation of ALMPs projects should be executed in collaboration with state institutions or employer trade unions that can supply the necessary capital for the supported line of business.

► **Supporting and Regulating Wages**

The region has seen a significant surge in wages due to labour scarcity. Employers outside of the construction sector seem unable to meet this increase in labour costs. Ensuring that wages in the region are sufficient for a decent living is of utmost importance. Hence, nearly all participants have underscored the need for a region-specific minimum wage level, determined by the government. However, for businesses in the region to regain stability and operate at full capacity, it's crucial that the wage subsidies, at least partially, this uptick in labour costs. Any ALMP to be implemented in the region must consider region-specific wage levels.

The possibility of the rising labour costs driving employers towards hiring workers informally or gravitating towards atypical employment forms, such as short-term employment or piecework, cannot be disregarded. There's a serious risk of increased precarious employment in the region. As such, activation programs should incorporate financial incentives supporting labour cost reduction, perhaps in the form of support for employees' social security costs.

► **Social Security and Job Security**

Given that the agriculture and construction sectors traditionally involve informal forms of employment, it's anticipated that ALMPs to be implemented in the region, especially those focusing on refugees, may face resistance from employers due to the requirement of formal employment. Employers are unlikely to welcome additional factors that may increase labour costs. Therefore, ALMPs should consider both reducing the employer's labour cost burden and enhancing workforce skills and productivity (Karslı-Varol, 2022).

Providing support for insurance and occupational health and safety costs is particularly crucial to encourage formal work. In both agriculture and construction sectors, labour demand gravitates towards periodic and informal employment. Without comprehensive projects aimed at addressing this fundamental issue, it appears challenging to secure formal employment within the framework of ALMPs. Cross-sector employment models in the construction and agriculture sectors can ensure formal and year-round employment. Skills development projects within the remit of ALMPs could therefore concentrate on cross-sector employment in various occupations.

Assuming that high wage levels and formal, sustainable livelihoods can be guaranteed through labour force initiatives, the deserted disaster region could potentially become an attractive hub for the workforce.

6.1.3. Skills Training and Employment

Employers and employee representatives in the construction and agricultural sectors understand that international organisations' initiatives may not directly resolve the pressing issues due to resource constraints. While designing ALMPs, labour market actors anticipate that international organisations will develop creative and innovative programmes that serve as good practices for prospective public, private, and civil society cooperations in this regard. They seek models that extend beyond skills development to include support in capital provision and labour cost reduction.

While they recognise the importance of theoretical training for employees to gain a holistic understanding of their roles and the significance of their tasks, stakeholders believe that practical training should take precedence. Both the agriculture and construction sectors have a significant need for unskilled labour. Stakeholders suggest that ALMPs should concentrate on work-based learning programmes providing an opportunity of upskilling.

In terms of identifying trainers, the existing white-collar workforce in construction companies could be utilised, particularly for theoretical training and occupational health and safety training. However, it's noted that enhancing their capacity and proficiency in training methods and techniques is essential. Hence, ALMPs should begin with comprehensive trainer training. Another essential requirement highlighted is the inclusion of learning-to-learn skills in the ALMPs, as program participants may need to adapt to different working environments due to the dynamic nature of the region and sectors.

When developing an ALMP for the agricultural sector, acquiring multiple skills appears to be a vital requirement. Only 2% of agricultural enterprises in Türkiye produce a single product. Therefore, the workforce trained to work in an agricultural production unit must acquire the total skills set demanded by the product composition in that business. The programs should also cover areas that require supplementary work and skills for production processes. Although such comprehensive skills programmes might be more costly, they are essential to fully re-initiate the production processes.

Examining sustainability, a vital condition for workforce development, it becomes clear that the skills acquired through ALMPs for both the construction and agriculture sectors can benefit Turkish citizens in the long term. This is largely due to the nationwide labour demand in both sectors. In the construction sector, the long-term demand for labour is expected to continue due to the need for housing stock renewal and earthquake-proofing works in other regions.

6.2. Employment of Women and People with Disabilities

While there are traditionally no significant barriers to women's employment in the agricultural sector, it's noteworthy that women's traditional caregiving roles have seen an increased workload following the earthquake. Institutional support in services such as childcare and eldercare, especially in relation to shelter services within ALMPs, will enhance women's participation in the workforce. Although women's employment in the construction sector might seem limited initially, it is apparent that female employment is feasible in finishing works and support services. Jobs such as timekeeping, bookkeeping, warehousing, marketing, and sales, which require quick skills acquisition, can also provide employment opportunities.

Incentives could be provided to businesses in the agricultural and construction sectors to establish onsite care facilities, enabling women to bring their children or dependents to work. Similarly, cooperative agreements with state social security institutions could be developed to support refugee women's home caregiving responsibilities. The construction sector offers limited job positions for women. Awareness programs with small and large construction businesses could stimulate the creation of positions suitable for women's employment. Additionally, accompanying programs could

inform businesses about the reasons women are not typically employed in the sector, with specific reference to gender-based biases that render the construction sector inhospitable for women's employment.

The conditions of people with disabilities are largely overlooked, with little information available about their labour conditions in the agriculture and construction sectors. There is a general lack of awareness on the part of Turkish society and the state regarding the needs of people with disabilities and their work conditions. It's expected that the earthquakes further compounded the challenge of accessing their needs. Therefore, state institutions should enhance their understanding of the conditions of persons with disabilities in the region and design necessary programs to meet their needs. The ALMPs should focus on office-based support jobs for both agriculture and construction sectors for the training and long-term employment of people with disabilities.

6.3. Refugees

Since the earthquake-stricken region is still recovering, particularly in terms of access to basic needs, such as access to clean water and shelter, labour market needs take a secondary role in the agenda of the involved actors.

A state representative has emphasized that the ongoing refugee integration process was stalled due to the earthquake and needs to restart from scratch. However, this new process should not just address basic needs like housing and access to services but should also include vocational training and skills development. The representative warns against training programs that do not lead to employment. As an example, while women do attend these programs, they often don't result in employment. Therefore, the representative suggests identifying sector-specific needs and designing rapid training programs that address immediate and relevant needs, such as the current demand for orange pickers in the agriculture sector. It's also crucial to provide sufficient daily allowances to encourage refugees to attend these programs, which ideally should guarantee formal employment upon successful completion.

In the agriculture and construction sectors, refugees often work at unregistered and unskilled jobs. Thus, a significant challenge lies in identifying the existing skills among refugees and understanding how these skills can be utilized effectively. The state is best positioned to reconcile skills and needs, especially in sectors characterized by high informality and a substantial immigrant population. An NGO representative suggested that refugees could receive training in areas such as machine operation, agricultural spraying, and Turkish language skills, the latter being crucial for enhancing employability not just in the region but across Türkiye.

Research indicates that the already prevalent informality among refugees will increase in both sectors. There's also a considerable risk of a rise in child labour among refugees. The consequences of informality for decent work and labour rights are clear, but another notable consequence is the information gap, particularly for refugees. As refugees typically hold low-skilled, low-paying jobs, their existing specialisations, training, and skills are often unknown. Hence, addressing this knowledge gap is crucial for efficient resource allocation and skills development. State authorities should create programs for refugees to certify their existing skills, which can then be matched to employers' needs and used to design future programs addressing skills mismatches.

The employment conditions for women, particularly refugee women, are largely unknown. In agriculture, women's labour is often unseen within family businesses, making it difficult to identify violations of labour rights and other gender-based issues. Care work for the sick, children, and elderly often inhibits women from pursuing paid employment, a burden that is heavier for refugee women due to their limited access to institutional support. Considering the increased care work burden following the earthquake and the fact that many men have lost their jobs, creating care facilities to support families may free up women who wish to work.

State authorities should improve programs and the capacity of institutions to monitor and prevent child labour, and to promote school enrolment among refugee children. Yet, child labour is also tied to the survival needs of refugee families and the capacity of public education, among other factors. Thus, addressing poverty among the refugee population is also crucial in the fight against child labour.

International NGOs, in cooperation with state social security institutions and trade unions, can develop programs to establish transparent and routine procedures for monitoring the employment of refugee labour, particularly in the construction sector. This should specifically address where workers will be housed and under what conditions. As stated earlier in the report, there's an expected increase in informality in the construction sector, especially regarding refugee labour. Moreover, refugees are likely to be employed in low-skilled, challenging jobs that threaten decent work conditions.

6.4. Green Transformation and Green Jobs

The prime drivers for green transformation in agriculture appear to be profitability and resource constraints arising from the climate crisis. As participants note, EU regulations concerning the green agreement could only be partially applicable to Türkiye. Being among the top seven global producers for 57 products, Türkiye supplies essential agricultural raw products to the EU. Therefore, the application of green deal standards in agriculture could only match the extent to which they're applied in the EU's Eastern European countries. Green jobs in the agricultural sector are expected to increase only if they are profitable, suggesting that state institutions need to spearhead the sector's green transformation through planning and training. In addition to public initiatives, the impending water crisis caused by climate change could catalyse agricultural producers to embrace green transformation. To bolster sustainability in agricultural production, waterless agriculture and labour apt for alternative water use models could be integrated into ALMPs. ALMP partners could be selected from producers adhering to green production models.

In the construction sector, green transformation primarily focuses on energy and water saving, given the current technological development level. Low-skilled green jobs, such as solar panel installation, exist in sustainable energy production. The energy preservation sub-section of the construction sector holds more potential for green job employment, particularly for low-skilled labour in insulation work. ALMPs could emphasize the skills needed in these areas to aid green transformation.

6.5. Social Assistance Allocation

Interviewed partners emphasised that social assistance programmes should not perceive the entire earthquake zone as homogeneous. Tailored programs considering the scale and impact of the destruction should be implemented. There are concerns that, for operational convenience, resources may be diverted to regions like Gaziantep, which host a high concentration of international NGOs but have less extensive destruction, potentially neglecting those in greater need.

6.6. Seasonal Labour

ALMPs targeting seasonal labour should consider workers' product knowledge when aiming to address the labour force gap in the earthquake region. Not every seasonal worker possesses the skills necessary to meet the area's needs. However, there exists a group of seasonal employees in Türkiye who are knowledgeable about the region's product line. With an estimated 1.5 million

person-months of labour annually in the context of agricultural workers, around 300,000 of these originate from Şanlıurfa. If systematically relocated to Kahramanmaraş, Hatay, and Malatya, significant value could be added. While resolving unemployment issues in one earthquake-stricken region, the labour force requirements in other affected regions could be met. Şanlıurfa's seasonal workers have relevant experience with the crops of the Kahramanmaraş and Hatay region, suggesting that minimal training could ensure uninterrupted production. Notably, two-thirds of the seasonal workers from Şanlıurfa are women, presenting an opportunity to boost female workforce participation. To address the labour gap in small family businesses resulting from declining household populations, it's essential to identify the requisite knowledge and skills within households and production units. If this skills mismatch is to be addressed with seasonal agricultural workers, training should be considered, taking into account the division of labour within the relevant production units.

REFERENCES

- ▶ AA. 2023a. "Bakan Akar: Hudutlardan Herhangi Bir Kaçak Geçişe Asla Müsaade Etmeyiz." 27 March 2023. <https://www.aa.com.tr/tr/gundem/bakan-akar-hudutlardan-herhangi-bir-kacak-gecise-asla-musaade-etmeyiz/2856449>
- ▶ AA. 2023b. "Bakan Soylu: 11 Bölgede 57 Bin Enkazın 50 Bini Bitti." 22 April 2023. <https://www.aa.com.tr/tr/gundem/bakan-soylu-11-bolgede-57-bin-enkazin-50-bini-bitti-/2878653>
- ▶ Caro, Luis Pinedo. 2020. Türk İşgücü Piyasasında Suriyeli Mülteciler. ILO. https://www.ilo.org/wcmsp5/groups/public/---europe/---ro-geneva/---ilo-ankara/documents/publication/wcms_739463.pdf
- ▶ Central Bank of the Republic of Türkiye (CBRT). 2023. Residential Property Price Index. <https://evds2.tcmb.gov.tr/index.php?evds/serieMarket>
- ▶ DSP and IGAM. 2019. Integrating Syrian Refugees into The Turkish Labor Market: Challenges And Opportunities. <https://igamder.org/uploads/belgeler/DSP-IGAM-Turkey-Final-Policy-brief-Feb-2019.pdf>
- ▶ Erdoğan, Murat and Çorabatır, Metin. 2019. Suriyeli Mülteci Nüfusunun Demografik Gelişimi, Türkiye'deki Eğitim, İstihdam ve Belediye Hizmetlerine Yakın Gelecekte Olası Etkileri. Qudra Programme Research Panel https://igamder.org/uploads/belgeler/QUDRA_TURKEY%20RESEARCHREPORT_TR.pdf
- ▶ Eurostat. 2015. Eurostat Indicators on High-Tech Industry and Knowledge-Intensive Services. https://ec.europa.eu/eurostat/cache/metadata/Annexes/htec_esms_an3.pdf
- ▶ FAO. 2022. Türkiye Syrian Refugee Resilience Plan 2022–2023. <https://www.fao.org/3/cc2343en/cc2343en.pdf>
- ▶ GIB. 2023. Geçici Koruma. <https://www.goc.gov.tr/gecici-koruma5638>
- ▶ Gunasekera, Rashmin; Ishizawa Escudero, Oscar Anil; Daniell, James Edward; Pomonis, Antonios; Macabuag, Joshua Lee David Clifton; Brand, Johannes; Schaefer, Andreas; Romero Hernandez, Roberth Alejandro; Esper, Sarah; Otálora, Samuel González; Khazai, Bijan; Cox, Kerri Dionne. 2023. Global Rapid Post-Disaster Damage Estimation (GRADE) Report : February 6, 2023 Kahramanmaraş Earthquakes – Türkiye Report (English). Washington, D.C.: World Bank Group. <http://documents.worldbank.org/curated/en/099022723021250141/P1788430aeb62f08009b2302bd4074030fb>
- ▶ ILO. 2003. Gender in Crisis Response: A Guide to the Gender-Poverty-Employment Link. https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/---ifp_crisis/documents/publication/wcms_115915.pdf
- ▶ ILO. 2006a. Draft classification structure – ISCO-08. Including Annex 1 for updating ISCO-88 into ISCO- 08. ILO, Geneva. <https://www.ilo.org/public/english/bureau/stat/isco/docs/annex1.pdf>
- ▶ ILO. 2006b. Lessons Learned And Good Practices From The ILO Aceh Programme. https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-jakarta/documents/publication/wcms_117130.pdf

- ILO. 2012. Reconstruction and Job Creation: Report on the ILO response to the Chile 2010 Earthquake and Tsunami. (Microsoft Word - ENG Informe de Sistematizaci363n Final versi363n 6 de agosto.d\205) (ilo.org)
- ILO. 2015. Guidance Note: Anticipating and Matching Skills and Jobs. https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---ifp_skills/documents/publication/wcms_534307.pdf
- İçduygu, Ahmet and Diker, Eleni. 2017. "Labour Market Integration of Syrian Refugees in Turkey: From Refugees to Settlers". Göç Araştırmaları Dergisi 3(1): 12-35.
- Kagider and UN Women. 2023. Deprem Bölgesindeki Kadın Girişimciler İhtiyaç Analizi. <https://kagider.s3.eu-central-1.amazonaws.com/uploads/projectPictures/36582b25-8ab5-4989-bc1b-e24239960e94.pdf>
- Karslı Varol, Gizem. 2022. An Evaluation of the Role of Active Labour Market Policies on Syrian Refugees'Access to the Labour Market: The Case of ILO in Turkey. MS thesis. Middle East Technical University.
- Karadeniz, Oğuz. 2023. Türkiye İşgücü Piyasasında Geçici Koruma Sağlanan Suriyelilerin Sosyal Güvenlik Durumu ve Kayıtlı İstihdama Geçiş için Öneriler. https://www.ilo.org/wcmsp5/groups/public/---europe/---ro-geneva/---ilo-ankara/documents/publication/wcms_874229.pdf
- Republic of Türkiye Ministry of Industry and Technology. 2022. SEGE 2022: Socio-Economic Development Ranking of Districts in Türkiye. <https://www.sanayi.gov.tr/assets/pdf/birimler/2022-ilce-sege.pdf>
- SBB. 2023 Kahramanmaraş and Hatay Earthquakes Report. <https://www.sbb.gov.tr/wp-content/uploads/2023/03/2023-Kahramanmaras-and-Hatay-Earthquakes-Report.pdf>
- Sert, Deniz; Didem Danış; Sevinin, Eda. 2023. Durum Tespit Raporu: Göç ve Deprem. GAR <https://gocarastirmalaridernegi.org/attachments/article/311/Göç%20ve%20Deprem%20-%20Durum%20Tespit%20Raporu.pdf>
- Social Security Institution. 2022. SSI Statistical Yearbook 2021. <https://www.sgk.gov.tr/Istatistik/Yillik/fcd5e59b-6af9-4d90-a451-ee7500eb1cb4/>
- Tarlan, Kemal Vural. 2020. Pandemi Günlerinde Göçmen/Mülteci Emeği: Geçmiş, Bugün, Gelecek, <https://birikimdergisi.com/guncel/10125/pandemi-gunlerinde-gocmen-multeci-emeği-gecmis-bugun-gelecek> (KVT, 2020).
- TDBB. 2023. "TDBB Türkiye Üye Belediyelerinden Deprem Bölgesine Yoğun Destek." <http://www.tdbb.org.tr/?p=20040&lang=tr>
- Özüdoğru, Burcu Aydın. 2023. The Impact of and Policies for the 2023 Kahramanmaraş Earthquake". TEPAV Policy Note, N202306.
- TRT Haber. 2023. "Depremde Can Kaybı 50 bin 96 Oldu." 20 March 2023.
- Turkish Exporters Assembly. 2023. Export Figures by Province. <https://tim.org.tr/files/downloads/rakamlar/2022/12/2022-12-iller-bazinda-rakamlar.xlsx>
- TURKONFED. 2023. 2023 Kahramanmaraş Depremi Afet Ön Değerlendirme Durum Raporu. <https://turkonfed.org/Files/ContentFile/turkonfed2023kahramanmarasdepremiafetdurumraporu021023-4718.pdf>
- TURKSTAT. 2022a. Household Labour Force Survey Data 2021.

- ▶ TURKSTAT. 2022b. Gross Domestic Product by Provinces 2021. <https://data.tuik.gov.tr/Bulten/Index?p=Gross-Domestic-Product-by-Provinces-2021-45619>
- ▶ TURKSTAT. 2023a. Labour Force Statistics 2022. <https://data.tuik.gov.tr/Bulten/Index?p=Labour-Force-Statistics-2022-49390>
- ▶ TURKSTAT. 2023b. Crop Production Statistics. <https://biruni.tuik.gov.tr/medas/?kn=92&locale=en>
- ▶ TURKSTAT. 2023c. Livestock Statistics. <https://biruni.tuik.gov.tr/medas/?kn=101&locale=en>
- ▶ TURKSTAT. 2023d. House Sale Statistics December 2022. <https://data.tuik.gov.tr/Bulten/Index?p=House-Sales-Statistics-December-2022-49526>
- ▶ TURKSTAT. 2023e. Building Permit Statistics in Detail. <https://biruni.tuik.gov.tr/yapiizin/giris.zul>
- ▶ TURKSTAT. 2023f. Poverty and Living Conditions Statistics 2022. <https://data.tuik.gov.tr/Bulten/Index?p=Poverty-and-Living-Conditions-Statistics-2022-49746>
- ▶ Tutnjevica, Tamara. 2003. Gender In Crisis Response : A Guide To The Gender-Poverty-Employment Link. https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/---ifp_crisis/documents/publication/wcms_115915.pdf
- ▶ Uçar, Canan. 2020. "Gaziantep Parça Başı Emek Piyasasının Suriyeli Kadınları: Emek, Zorunlu Göç ve Şiddet". In Toplumsal Cinsiyet Perspektifinden Türkiye'de Göç Araştırmaları, edited by Kristen Biehl and Didem Danış, 38-55. İstanbul: SU Gender and GAR.
- ▶ UNHCR Türkiye. 2023. Türkiye Fact Sheet. <https://www.unhcr.org/tr/wp-content/uploads/sites/14/2023/03/Bi-annual-fact-sheet-2023-02-Turkiye-.pdf>



International
Labour
Organization

www.ilo.org

