

A Rapid Assessment Report: Impact of the Earthquakes on Seasonal Migratory Agricultural Workers and Their Children

Evidence from the Earthquake Zone | May 2023



**A Rapid Assessment Report:
Impact of the Earthquakes on Seasonal Migratory
Agricultural Workers and Their Children**

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Abbreviations

AFAD	Türkiye's Disaster and Emergency Management Presidency
CCT	Conditional Cash Transfer
DW	Development Workshop Cooperative
IFRC	International Federation of Red Cross and Red Crescent Societies
IOM	The International Organization for Migration
METIP	Improvement of Working and Living Conditions of Seasonal Migratory Agricultural Workers Project
MoFSP	Ministry of Family and Social Policies
MoH	Ministry of Health
TBMM	Grand National Assembly of Türkiye
TRC	Turkish Red Crescent
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
UN	United Nations
UNICEF	United Nations Children's Fund
WASH	Water, Sanitation and Hygiene
WFP	World Food Programme
WHO	World Health Organization

1. EXECUTIVE SUMMARY

Affected Provinces
11

Population
14,013.196

Deaths
48,000 +

Earthquake Magnitude
7.8 & 7.5

The purpose of this assessment is to gain insight into how the recent earthquakes have affected one of the most vulnerable and underserved communities, i.e. seasonal agricultural labourers. While natural disasters like earthquakes have a significant impact on the socioeconomic profile of all members of society, certain groups, such as seasonal migratory agricultural workers, are more vulnerable than others to these effects. This report attempts to shed light on the changes in the economic, social, and psychological well-being of society in the immediate aftermath of the earthquakes.

Our research revealed an influx of new households moving into agricultural tent settlement areas and taking on seasonal agricultural work as a result of the earthquakes and their aftershocks. Despite being familiar with agricultural living and working conditions through their extended familial networks, these newly emerging households had neither previously lived in agricultural tent settlements nor relied solely on agricultural labour as a source of livelihood. Following the earthquakes, while their non-agricultural sources of income have declined, their debt and their reliance on agricultural income have increased, and our study has found that these households have thus become extremely vulnerable and economically fragile. As a result of the loss of employment and the dramatic decline in earnings, they have been forced to rely on an agricultural income in the aftermath of the earthquakes. Furthermore, the children in these households are driven into agricultural work and are at risk of becoming lost to the education system. Though their arrival has increased the supply of labour for agriculture, it is currently unknown to what degree and for how long their presence will last.

EVIDENCES



Deepening deprivation in terms of loss of income and livelihood & increased risk of child labour



Reduced access to basic needs and community-based public services



Insufficiency of information exchange, dialogue, and cooperation between institutions



Reduced access to education and increased risk of drop out



Rise of stress, anxiety, fear, and uncertainties



Vulnerability to disasters and crises arising from living and working conditions

The number of households seeking an agricultural income has increased, while the number of working days for seasonal agricultural households has decreased. This has put a strain on their earnings and livelihood, and the decline in employment is projected to become worse as a result of the reduced agricultural production in the earthquake zone. As an additional burden, there are farmers who are unable to collect the necessary revenues that would allow them to reinvest in land. It should be noted that the extent of agricultural loss caused by the earthquakes and the effect on the livelihoods of seasonal agricultural workers fall outside the scope of this research, although it can be observed that agricultural households, in an attempt to adapt to the current and projected economic dislocation, are actively seeking other sources of agricultural work, and or other ways to make a living, such as in rubble removal and construction work in the earthquake zone.

Our research following the earthquakes and the subsequent aftershocks revealed that several seasonal agricultural worker families arrived to take up their seasonal work earlier than in previous years. The migration of seasonal agricultural workers typically begins in late February or early March, depending on the route. This year, however, many left their permanent residences and began their migration to the tent settlement areas three weeks earlier, resulting in children leaving their schools earlier. While it is assumed that those who migrated with tents are safe, their early earthquake-induced arrival has brought further challenges to worker families. Some of the workers who are now living in tents lack such essential materials as tarpaulins, mattresses and blankets, putting their health and safety at risk. Furthermore, a number of seasonal migrant agricultural workers, particularly Syrians under temporary protection, have been driven out of their permanent residences, and others have become entirely reliant on tents. As a further outcome of the earthquakes, seasonal agricultural workers living in tents have now become less visible and are afforded less priority in the provision of aid in the form of food, clothing and healthcare than those who have been displaced by the earthquake. Under such circumstances, it is worth noting that they face the risk of increased marginalisation in the post-earthquake period as they become less visible and are considered of lower priority.

The findings of the field study and the key informant interviews suggest that seasonal agricultural worker families are reluctant to allow their children to return to school due to their fear of earthquakes. That said, the children of worker families whose homes have been damaged have little opportunity to continue their education as it remains uncertain whether

ADANA

Total cultivated agricultural land: **539K ha**
Population: **2,274M TR / 250K SRY**

GAZIANTEP

Total cultivated agricultural land: **132K ha**
Population: **2,154M TR / 461K SRY**

HATAY

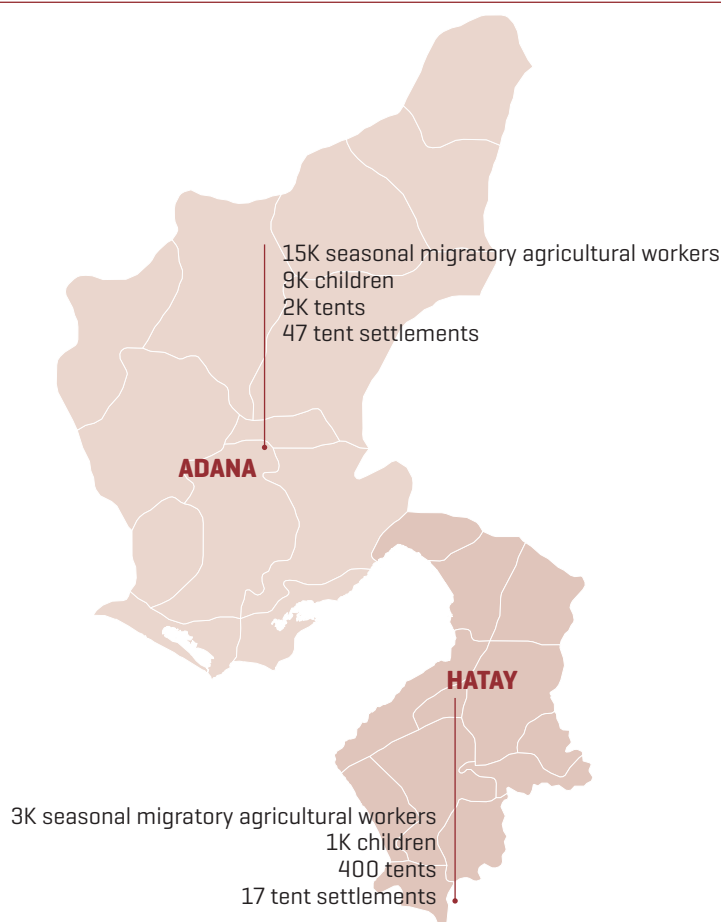
Total cultivated agricultural land: **275K ha**
Population: **1,670M TR / 356K SRY**

ŞANLIURFA

Total cultivated agricultural land: **10M ha**
Population: **2,179M TR / 317K SRY**

they will be able to return home in time, given the start of the school term and the end of the agricultural season. As such, children who migrate with their families for seasonal agricultural work are more likely to drop out of school and join the workforce.

Our research found that seasonal migratory agricultural workers, like anyone who has had to make abrupt changes to their circumstances, have faced such psychosocial risk factors as uncertainty about the future, emotional distress, sleep disorders, fear and anxiety in the aftermath of the earthquakes. Seasonal agricultural workers believe they are becoming less visible within the larger community as a result of the turmoil caused by the earthquakes and are losing hope in their ability to overcome the persistent difficulties and inequalities they are encountering. In short, the pre-existing impoverishment of seasonal migrant agricultural workers has been exacerbated by the earthquakes.

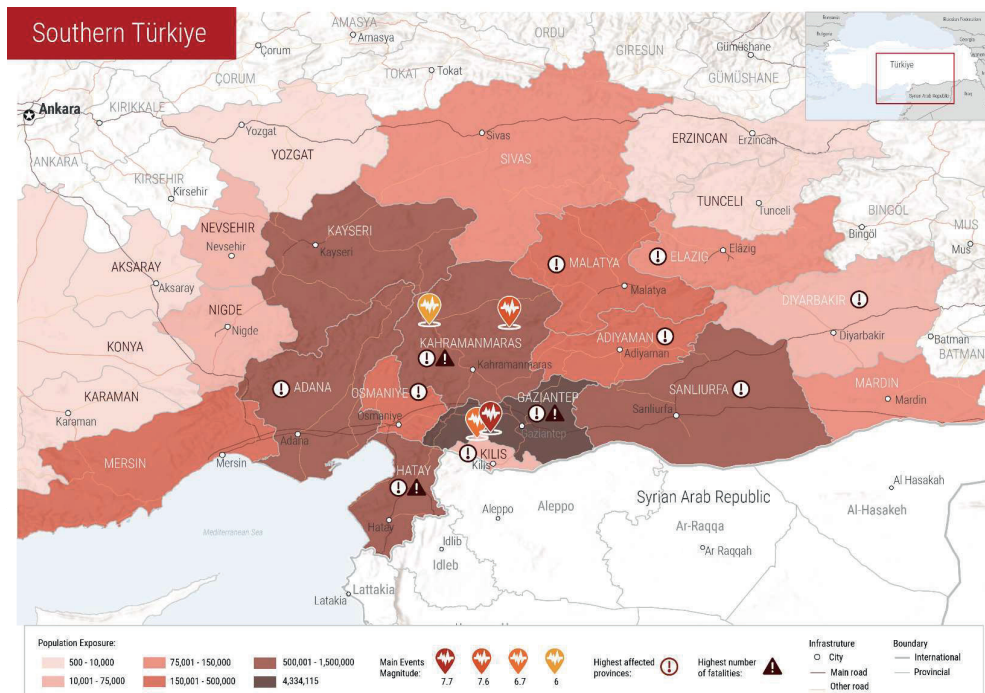


Source: Current Situation Map of Seasonal Migratory Agricultural Workers' Tent Settlement Areas in Adana Province, Development Workshop, 2019 & Current Situation Map of Seasonal Migratory Agricultural Workers' Tent Settlement Areas in Hatay Province, Development Workshop, 2020

2. SITUATION OVERVIEW

On February 6, 2023, two devastating earthquakes of magnitude 7.8 and 7.5 struck the Pazarcık and Elbistan districts of Kahramanmaraş province in Türkiye, the effects of which brought devastation to an area that included Gaziantep, Şanlıurfa, Diyarbakır, Adana, Adıyaman, Osmaniye, Hatay, Kilis, Malatya and Elazığ, aside from the effects over the Syrian border. The earthquake-affected region in Türkiye is home to around 15 million people, as well as half of the 3.7 million Syrians under temporary protection in Türkiye. Children are estimated to account for approximately 4.6 million of the affected population, 800,000 of whom are Syrian and from other refugee communities. The magnitude of the devastation caused by the twin earthquakes led Türkiye to declare a level four alert for the earthquake zone, which included a call for international assistance, and on February 8, a 3-month state of emergency (OHAL) was declared in the earthquake zone to aid the humanitarian response and the reconstruction of the affected provinces.

Map 1. Provinces Affected by Kahramanmaraş Earthquakes



Source: OCHA, Türkiye: 2023 Earthquakes Situation Report No. 2, 19 February 2023

More than 50,000 people were killed by the twin earthquakes, which destroyed nearly 307,000 buildings and 893,000 independent units throughout the region, [OCHA, 30 March 2023]. According to Türkiye's Disaster and Emergency Management Presidency (AFAD), the overall number of people provided with shelter in the earthquake-affected area is 1,593,808. Accommodation services are being offered to a total of 329,960 people affected by the disaster in the earthquake zone [AFAD, 2 Mar 2023]. According to the Ministry of Interior, 354 tent settlements have been established in the area containing 433,000 tents, and 21,000 containers have been established to date [OCHA, 9 March 2023]. The earthquakes have led to the displacement of almost 2.7 million people [IOM, 7 Mar 2023].

The United Nations (UN) and its agencies are sending out experts in disaster assessment, organising search and rescue teams, and providing emergency relief, food, medical supplies, thermal blankets, and other life-saving supplies [United Nations, 2023]. The UN has released \$50 million from its Central Emergency Response Fund to contribute to the action and recovery phases. On February 16, the UN released a \$1 billion flash appeal to assist the lives of 5.2 million people in Türkiye through April. Around 27 tonnes of supplies had been delivered by the World Health Organization (WHO) to the Ministry of Health (MoH) as of March 19. Over 560 different trauma and emergency surgery kits, interagency emergency health kits, and pneumonia kits are among the primary supplies that were provided [WHO, 24 March 2023]. Over 711 thousand people have received assistance from UN agencies and humanitarian partners for better living conditions, including tents, Relief Housing Units (RHUs), toolkits, and tarpaulins. More than 4.1 million individuals have received essential home products, including clothing, cooking supplies, thermal comforts, safety and security equipment, and sleeping supplies. Through food assistance in emergencies, about 3 million people have been reached [OCHA, 30 March 2023].

The twin earthquakes and their aftershocks have had a profound effect on Türkiye's largest seasonal migratory agricultural worker populations and their accommodation in the earthquake zone. Every year, the provinces of Şanlıurfa, Diyarbakır, Adıyaman, Gaziantep, Kahramanmaraş, Malatya and Adana host vast numbers of seasonal migratory agricultural workers who are accommodated in the towns or suburbs [TBMM, 2015]. According to a study conducted by the Development Workshop (DW) in 2020, in Adana alone, 15,114 seasonal migratory agricultural workers are accommodated in 2,202 tents in 47 temporary tent settlements [DW, June 2020], while 17 temporary tent settlements have been established in Hatay in which 2,796 seasonal migratory agricultural workers reside in 388 tents [DW December 2020]. It is unknown how many seasonal agricultural workers reside or work in the other provinces hit by the earthquake, although these provinces are known for their labour-intensive agricultural production, making them magnets for a large number of seasonal agricultural workers.¹ As the area affected by the earthquakes is, on the whole, less developed socio-economically and

¹ The earthquake-affected area is crucial for food production, the food sector and agricultural livelihoods, accounting for some 14.5 percent of Türkiye's entire agricultural GDP [FAO Türkiye, 2023].

has lower employment potential than other regions in the country, agricultural work remains an important source of income for the people of the region who, to make a living, migrate with their children to other provinces to work the agricultural lands.

The migratory process and the living and working conditions of agricultural workers and their families have been deeply affected by the earthquakes. According to the field research, many agricultural workers had yet to migrate when the earthquakes struck, as the movement of seasonal agricultural workers tends to begin after April and continues until December. Agricultural workers intended to leave the area after the earthquakes so as to arrive early at their usual location of employment. A field study by the DW reported that 96 temporary tent settlements were registered in Konya (June 2020). While there are several METIP zones² in the provinces of Adana, Hatay and Konya, it is well known that seasonal migratory agricultural workers typically live in makeshift temporary tent settlements that they create for themselves close to agricultural fields. The provinces outside the earthquake zone are anticipated to see a greater influx of migrant workers following the earthquakes, and so it is vital to include these provinces in the analysis.

The present study examines how the twin earthquakes and their aftershocks have affected the lives of seasonal migratory agricultural workers. To this end, we analyse the priority intervention areas related to seasonal migratory agricultural workers both inside and outside the earthquake zone to understand the effects on the socio-economic and socio-psychological status of the children affected by the earthquake, with particular focus on child labour. To this end, a field research was conducted in the provinces of Adana, Hatay, Şanlıurfa, Gaziantep and Konya in early March 2023, identifying the types and the extent to which material, social and psychological needs are met.

² The METIP project seeks to improve the living and working conditions of seasonal agricultural worker families, and has developed a public intervention/support character including through the establishment of living and working settings for seasonal agricultural worker families.

3. METHODOLOGY

This rapid assessment study was carried out to assess how household living conditions, employment, material deprivation, child vulnerability, and access to education and schooling were affected by the earthquakes, as well as the psycho-social risks and needs of seasonal agricultural migratory workers. To this end, the assessment focused on four sub-research areas: [1] changes in access to shelter and infrastructural services; [2] changes in access to employment, income and livelihood opportunities; [3] changes in child vulnerability and access to schooling; and [4] changes in psychological vulnerability and access to psycho-social support among seasonal migratory agricultural workers. The research questions below summarise the research inquiries for each of the sub-components outlined above, which formed the basis of our main research agenda:

Q 1	How have the earthquakes changed the living conditions of seasonal migratory agricultural workers in terms of shelter, and access to water, electricity, food and hygiene?
Q 2	How have the earthquakes affected the socio-economic conditions of seasonal migratory agricultural workers in terms of income, expenditures, employment and indebtedness?
Q 3	What are the ramifications of the earthquakes for children in terms of child labour, childcare, protection and access to education?
Q 4	What psychological vulnerabilities and changes have emerged in access to psycho-social support for seasonal migratory agricultural workers and their children after the earthquakes?

The assessment was conducted in two stages, in which the first stage involved a desk review to gain general background information about [a] the living and working conditions of seasonal migratory agricultural workers; [b] the ongoing humanitarian efforts in the aftermath of the earthquakes; [c] a review of global literature on post-crisis efforts to aid vulnerable communities following such disasters as earthquakes, the COVID-19 pandemic and hurricanes. The literature review of disasters and post-disaster interventions provided the general framework for the recommendations to be put forward by the report.

In the second stage, an empirical field research was carried out on 6–11 March, 2023 in the cities of Hatay, Adana, Gaziantep, Şanlıurfa and Konya, as the earthquake-affected provinces that are the start and end points of the migration route of seasonal agricultural migratory workers. In other words, agricultural workers live and work in these provinces, but migrate temporarily to other regions to engage in seasonal agricultural work. The empirical field research included [a] in-depth interviews (IDIs); [b] focus group discussions (FGDs) with seasonal migratory agricultural workers and agricultural intermediaries; and [c] key

informant face-to-face or online interviews [KII] with representatives of public and non-profit institutions. As part of the field research, 31 women and five children were interviewed. Table 1 provides details of the interviews conducted.

An inductive thematic analysis approach was selected for the study, as by offering a structural framework, it allows researchers to identify and understand patterns within the responses to open-ended questions during the interview analysis. The thematic analysis was conducted based on the vulnerability codes relating to their degree of access to employment, livelihood, water, sanitation and hygiene, education and psychosocial support which created familiarisation from the interviews. The vulnerability codes were combined and any linkages between different codes were highlighted in the report. The research findings and insights were supported by participant observations during the field research, which provide additional individual perspectives and reflexivity.

Table 1. Number of Interviews conducted during the empirical field research

Data Collection Instrument	Hatay	Adana	Gaziantep	Şanlıurfa	Konya	Total
In-depth interviews (DIs)	18	18	4	10	2	52
Focus group discussions (FGDs)	5	8	3	2		18
Key informant face-to-face or online interviews (KII)	1	1	5	1	3	11
Total	24	27	12	13	5	81

The researchers were aware that significant limitations would be encountered in accessing the target group, and in this sense, the limitations and mitigation plans were included in the methodology. The planned face-to-face interviews with key informants from the public and civil sectors in the earthquake region could not be conducted in the targeted numbers due to post-disaster evacuations and disease. Gaining access to the areas where seasonal migratory agricultural workers are accommodated in the earthquake region was particularly problematic, along with changes in the planned migration routes. Furthermore, since the earthquake affected an extensive area, reaching all of the different groups took more time than planned. The study team faced additional challenges in terms of accommodation and transportation, as well as a variety of security hazards in their efforts to reach various groups due to the considerable size of the area affected by the earthquake.

4. BACKGROUND

Natural disasters like earthquakes have a considerable effect on the socioeconomic structure of societies, and communities such as seasonal migratory agricultural workers are particularly vulnerable to this impact. Many studies to date have detailed the disruption to the mechanisms behind the provision and maintenance of protection, healthcare and education services. In reconstruction efforts in the aftermath of disasters, interventions in support of vulnerable groups should be tailored both in accordance with the conditions prior to the disaster, and the increased vulnerabilities.

Studies following Hurricane Katrina, which hit the United States in 2005, found that women and children in particular are vulnerable to disasters due to their lack of economic and political strength, discrimination and oppression, and the demands of caregiving responsibilities (Alice Fothergill, July 2017). In a study of the long-term post-disaster MHPSS operations following the Great East Japan Earthquake and its impacts, seven key intervention categories were identified, including assisting people individually and collectively, enhancing living conditions, investing in income-generating activities and raising public awareness (BMC Psychiatry, 2018). Public institutions play a significant role in the development of post-disaster coping strategies and in the bolstering of the resilience of the affected populations, according to a case study of seasonal migratory agricultural workers who were affected by the floods in Adana in December 2019 (DW, 2020). Finally, a study of the impact of the COVID-19 pandemic on seasonal migratory agricultural workers reported that the effects of the crisis impact were greater among the vulnerable social groups, particularly the apparent decline in income (DW, 2020).

The South-eastern Anatolia Region, where the most devastating effects of the earthquakes were felt, is the permanent residence of many seasonal migratory agricultural workers and their families. During the agricultural working season, which lasts from April until the end of November every year, these workers migrate temporarily to other provinces in Türkiye and move between provinces, towns and regions to work in labour-intensive agricultural jobs.

The earthquake-affected provinces are among the country's main agricultural production areas. Agricultural workers in the region work mostly for daily wages in such agricultural activities as soil preparation, planting, pruning, spraying, irrigation and harvesting. Off-season, these workers tend to take on daily employment in the towns where they reside, within the same region, such as in nearby urban centres, or through seasonal migration to provinces outside the region where labour-intensive agricultural production is common.

Seasonal agricultural families relocate for 5-8 months of the year, and return to their permanent residences in or around November if migrating to areas remote from their hometowns. As agricultural activities continue all year round in the provinces of Adana and Hatay, they are

host to considerable agricultural labour populations, who both reside and work in the area. On the other hand, Adıyaman, Şanlıurfa, Gaziantep and Kahramanmaraş are home to a large number of seasonal migratory workers, but are also destinations for migratory workers from different provinces. In this regard, it can be stated that the earthquake zone is a region where labour-intensive agricultural work creates regional labour mobility.

Seasonal migratory agricultural workers typically travel with their families to work in other locations, and due to their life and work routines as agricultural workers, hundreds of thousands of school-age children move with their families. As a result, every household member who can work – children included – is involved in agricultural activities. Foreign migrant workers, especially Syrian refugees, are included in these worker groups in Türkiye. Due to the seasonal nature of agriculture, students from these families leave school early and return late during the academic year, and children are compelled to drop out of school early and work as agricultural workers.

Seasonal migratory agricultural worker households generally reside in temporary tent settlements established with their own means, as there are only limited numbers of shelters operated by public institutions in the rural areas closest to the fields or orchards where labour is required. In some cases, migrant workers are accommodated in settlements provided by the employer. In the earthquake zone, most agricultural workers reside in temporary tent settlements during the working period, and often encounter objections from local people, as the temporary accommodation and services provided to seasonal agricultural workers are not always welcomed by the local population.

When the earthquakes struck, some seasonal migratory agricultural workers in Adana and Hatay were already residing in tent settlements set up with their own means or in temporary houses made of containers and briquettes provided by their employers. Furthermore, as in Hatay, in the Kırıkhan and Antakya districts, some seasonal migratory agricultural workers, mostly Syrians under temporary protection, were residing in rented houses in the district centres, some of which collapsed, while others suffered heavy damage. This loss of life of agricultural workers was mentioned during several interviews with workers, employers and agricultural intermediaries in Kırıkhan. Agricultural workers coming to Adana from Kahramanmaraş for the citrus harvest, especially in the winter months, also experienced the earthquakes in their tent areas, although among this group, some lost their permanent houses in the earthquakes. Most of the seasonal migratory agricultural workers residing permanently in Şanlıurfa and Diyarbakır experienced the earthquakes in their own homes, as the agricultural working season had not yet started. Interviews with agricultural intermediaries revealed some among this group whose houses had suffered slight damage. Workers in the İslâhiye and Nurdağı districts of the Gaziantep and Adıyaman provinces experienced the earthquakes in their homes, some of which were destroyed or damaged, and a number of workers lost their lives. Various NGOs providing services to seasonal migratory agricultural workers in the earthquake-affected provinces mentioned the losses of life and material damage they had experienced.

The seasonal agricultural workforce is mostly unregistered in Türkiye. Despite the effort of public institutions with such innovations as the e-METIP application, which aims to monitor the mobility of seasonal agricultural workers, a well-functioning mechanism for the monitoring of workers is still lacking, making it difficult to track the workers in the provinces in which they reside, in the provinces to which they migrate for work. As a result, determining the extent of the damage and losses experienced by seasonal agricultural workers can be challenging, making the rapid and continuous evaluation of the social and economic changes affecting the migration, working and living conditions of worker households vital, for the continued fulfilment of their needs.

Aside from the direct effects of the earthquakes, new economic, social and environmental changes have occurred in the distinctive working and living conditions of seasonal agricultural workers whose already limited access to municipal and public services is exacerbated by the effect of such disasters on urban infrastructures. Earthquake response has focused on urban areas, with little regard paid to the provision of services to seasonal agricultural workers residing in remote settings. Addressing these challenges requires customised plans, and intervention modalities that go beyond generic planning.

There are a number of emerging risks in the region in terms of agricultural activities and the status of seasonal agricultural workers, which are outlined below and should be carefully monitored [Table 2].



Table 2. Risk assessment and explanation

Risk Area	Explanation
<p>Loss of Access to Public Services such as infrastructure, food, water health, education</p>	<p>The effect of the urban devastation on the provision of basic services to seasonal migratory agricultural workers living in tent settlements in agricultural areas should be closely examined. Mitigation strategies should be planned and carried out to compensate for the disruptions in access to basic services in rural regions. It should be noted that the work of institutions that provide services to seasonal migratory agricultural workers may have been disrupted due to the earthquake, and that the change in priorities due to the disaster situation may create gaps in the provision of services to workers where progress has previously been made.</p>
<p>Loss of Agricultural Production and Limitations of Financial Resources for Farmers</p>	<p>Regular monitoring reports and in-depth studies are recommended. Changes in agricultural production in the 11 provinces in which agricultural activities are most intense should be monitored. The risk of a decline in the volume of agricultural activity should be evaluated, and the necessary measures should be put in place. It should further be ensured that the devastation, does not pose a threat to the soil and groundwater, especially from building debris.</p>
<p>Loss of Employment and Income</p>	<p>Some of the people affected by the earthquakes have suffered a loss of income, and have gravitated to seasonal agricultural work. This increase in the number of people seeking work in agriculture may have a considerable effect on the traditional seasonal agricultural worker families that have been engaged in agricultural work for several years. Furthermore, the departure of farmers/agricultural producers from the region after the earthquakes or the damage to agricultural facilities may make it harder to find regular agricultural work. Without sufficient support to revitalise agricultural production, farmers will encounter difficulties in continuing their agricultural production, resulting in a decline in job opportunities for regular seasonal agricultural workers.</p>
<p>Child Labour</p>	<p>The decrease in the number of jobs and the increase in labour supply may force families to accept substandard working and living conditions to find work, which may lead them to accept unfair daily wages and to include each and every household member in the workforce to compensate for their income losses, including children. The same reasons may lead families to rely on child labour in other sectors if agricultural work is no longer an option.</p>

The recent earthquakes were more devastating than earlier disasters due to their scale and their impact on the country. There is a need for greater involvement of the international community in the earthquake response to mitigate the impact of the disaster.

5. FINDINGS

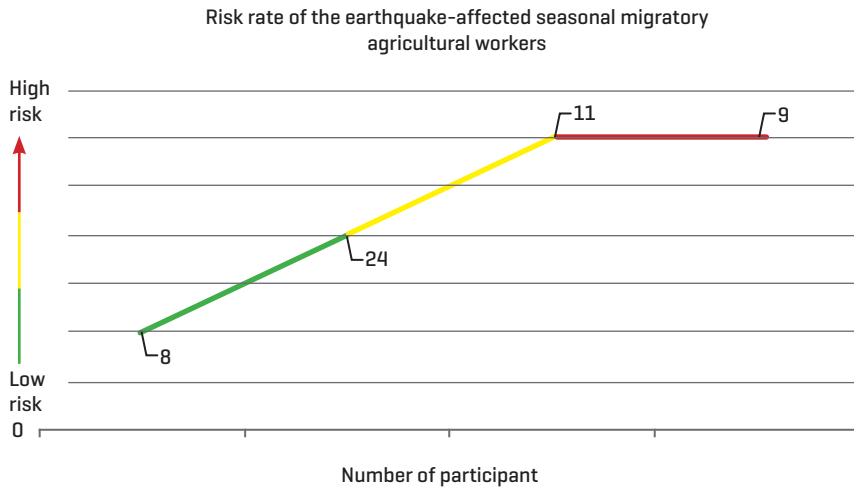
5.1. Loss of and Access to Living Environments and Materials

The access of seasonal migratory agricultural workers to such basic services as housing, electricity, health, water, sanitation and hygiene was limited even before the earthquakes. The findings of the study of the effects of the earthquakes on seasonal migratory agricultural worker families and their access to safe and reliable housing and basic needs are discussed in this chapter.

The impact of the earthquakes on seasonal migratory agricultural workers takes two forms, as these workers both reside and are temporarily employed in the affected cities, meaning that they are affected both as members of the local community and as seasonal workers who migrate to these regions for employment. Table 3 presents the risk categorisations of seasonal migratory agricultural workers who have been affected by the earthquake.

Table 3. Risk categorisation of the earthquake-affected seasonal migratory agricultural workers [risk rate from high to low: 1-2-3]

Sub-breakdown of seasonal migratory agricultural workers affected by the earthquakes	Risk rate	Number of participants
Seasonal migratory agricultural workers who lost houses and/or family members to the earthquakes, and started to live in tents	1	8
Seasonal migratory agricultural workers whose houses were damaged by the earthquakes and started to live in tents	2	24
Seasonal migratory agricultural workers whose houses were damaged by the earthquakes and who took up residence in the tent settlements earlier than in the past	3	11
Seasonal migratory agricultural workers whose houses were not damaged by the earthquakes and who have not yet migrated for work yet	3	9



Some of the seasonal migratory agricultural worker families who migrated to agricultural fields before the earthquakes struck defined themselves as fortunate in terms of safety, while those whose houses collapsed in their provinces of residence are experiencing considerable uncertainty as they do not know how long they will need to reside in their tent settlements.

The farmers in the earthquake-affected areas have also been affected, as the earthquakes have led to uncertainties in terms of business continuity, the duration of residence in tent settlements and the migration and return times if agricultural work is available. The earthquakes disrupted the agricultural work routine, as described by a seasonal agricultural worker in Hatay:

We've been coming here for years for the harvest, sorting and packaging of carrots. We were coming here before the earthquakes. Our lives were saved as we were living in tents, but we don't know what to do next. Our house in Şanlıurfa was damaged by the earthquakes. Normally, we would go to Sivas or Kahramanmaraş, and from there to Şanlıurfa, but we are unable to contact the producer. We don't know what we're going to do when we're done here. May Allah bless us.

The seasonal migratory agricultural workers who experienced the earthquakes in their home provinces stated that they had migrated early due to the limited access to humanitarian aid and for reasons of safety. In the past, they were able to migrate with some of their belongings, but this time their migration was more urgent, and so they were unprepared. Their various needs, including those related to their tent accommodation, continue to be met. Seasonal migratory agricultural workers can generally construct tents that are durable to weather conditions, but after the earthquakes, the lack of resources means their tents are less durable. Basic items such as beds, blankets and kitchen utensils are lacking in the tent settlement, thus worsening the already fragile accommodation conditions for the children. Huriye [Syrian-42], who migrated to Adana after their house in Hatay was destroyed by the earthquakes, described the difficulties they had encountered:

Our houses were destroyed, that is the hardest part. While our problems continue in the same way, the fact that we don't have a house anymore wears us out. We left all our belongings behind in Hatay, and left with only the clothes on our backs. We don't have anything anymore.

Interviews were also conducted with families who were evicted from their homes by their landlords, and who were having to live in tents for the first time, as well as with families who migrated to the agricultural zone earlier than usual and were living in tents. Some seasonal migratory agricultural workers residing in single-story houses were evicted by their landlords who wanted the house for themselves. Testimonies indicate that Syrians under temporary protection and seasonal agricultural worker families have faced additional difficulties in the aftermath of the earthquakes as marginalised groups.

During the field research, 12 tent settlements accommodating seasonal migratory agricultural workers were visited in three different provinces, and the data collected from both interviews and participant observations were used to assess the sufficiency of these settlements in terms of access to basic services and safety.



Table 4. Access to reliable and safe housing and infrastructural services
[adequate ▲ inadequate ▼ absent X]

Settlement areas	Provinces	Population density	Safe and reliable water	Safe and reliable electricity	Safe and reliable food	Hygiene and healthcare
Tent settlement area 1	Adana	120-150 families	▲	▲	▼	▼
Tent settlement area 2	Adana	70-100 families	▼	▼	▼	▼
Tent settlement area 3	Adana	100-150 families	▼	▼	▼	▼
Tent settlement area 4	Adana	100-150 families	▼	▼	▼	▼
Tent settlement area 5	Adana	70-100 families	▼	▼	▼	▼
Tent settlement area 6	Hatay	150-200 families	▲	▲	▲	▲
Tent+container settlement area 7	Hatay	25-30 families	▼	▼	▼	▼
Tent+container settlement area 9	Hatay	100-150 families	▼	▼	▼	▼
Briquette+tent settlement area 10	Hatay	20-25 families	▲	▲	▼	▼
Tent settlement area 10	Gaziantep	10-15 families	X	X	▼	▼
Tent settlement area 11	Gaziantep	50-70 families	X	X	▼	▼
Tent settlement area 12	Konya	5-6 families	▲	▲	▲	▼

Only two of the tent settlements that were visited had also container accommodation, and it was determined that many families were living in tents. It was understood from the interviews that most of the tents were constructed out of iron and tarpaulins purchased by the seasonal migratory agricultural worker families themselves.

It was understood from the field observations that electricity is obtained from three sources in tent settlements: [1] illegal connections to nearby houses or electric pylons, [2] directly from the field owner as their employer via a metered connection (referred to as “second-hand electricity”), and [3] from solar panels. The third of these sources was only rarely encountered, meaning that the majority of tent settlement residents make use of the other two methods and face the direct and indirect risks related to the distribution and charging of electricity. There is a huge security risk related to the application of both methods. Cables trail along the ground through tent settlements, where children walk and play, while in the second-hand electricity method, the workers pay higher electricity rates to the owners of the meters, who are typically the landowners and agricultural intermediaries.

Access to safe and reliable water in tent settlements is limited. Some tent settlements have access to water from a common tap set up by the seasonal migratory agricultural workers themselves, while in others, water is provided from water tanks, although access to safe and reliable water via this method is limited. For instance, before the earthquakes, while there was no problem with the provision of water in the container/tent settlement in the village of Kırıkhan Kodali in Hatay, access to clean water became an issue after the pipes were ruptured by the earthquake. Since the earthquakes, there have been many issues related to access to clean water. According to Gül from Kırıkhan in Hatay, the water to which they have had access since the earthquake is unhealthy:

The water in the tank before the earthquakes was clean, as it came from the public water supply network. The earthquakes led the pipes to burst, and the water is now muddy and smells bad. We have had to use this muddy water since the earthquakes. We never drink the water, but we use it for cooking and cleaning.

It was observed that in some of the tent settlements, seasonal migratory agricultural workers have built toilets and bathrooms for themselves. Toilet and bathroom waste is usually discharged into nearby water channels or outside the camp, and as most of these settlements lack any sewerage infrastructure, the settlements are at great risk of contamination and disease. Children spend all day playing near the water channels and are at risk of drowning and disease, though sanitation is not the only issue as rubbish is also not collected regularly from tent settlements. The accumulation of toilet and bathroom waste and rubbish creates an unhygienic environment, and the lack of control of the resulting pest problems contributes further to the threats to community health.

Before the earthquakes, seasonal migratory agricultural worker families were visited by family physicians in the region, especially for obstetrics and vaccination follow-up. During the field research, it was stated that no healthcare teams had visited the tent settlements since the earthquakes, leaving seasonal migratory agricultural workers to access health services using their own means. It could be understood from the interviews that pregnant women, children with disabilities and people with chronic diseases had no access to healthcare services.

The earthquakes have disrupted all aspects of everyday life, with access to goods having become particularly challenging in Hatay, and leading to an increase in the prices of the products that are available. Seasonal migratory agricultural workers have difficulties in accessing adequate food as the shops that supply the products were also damaged by the earthquake. Some of the interviewees stated that they had to go to neighbouring towns and districts to buy food due to the increasing prices. The socio-economic difficulties that existed prior to the earthquakes, combined with the increases in food prices and the limited number of suppliers, have brought additional challenges to seasonal agricultural worker families.

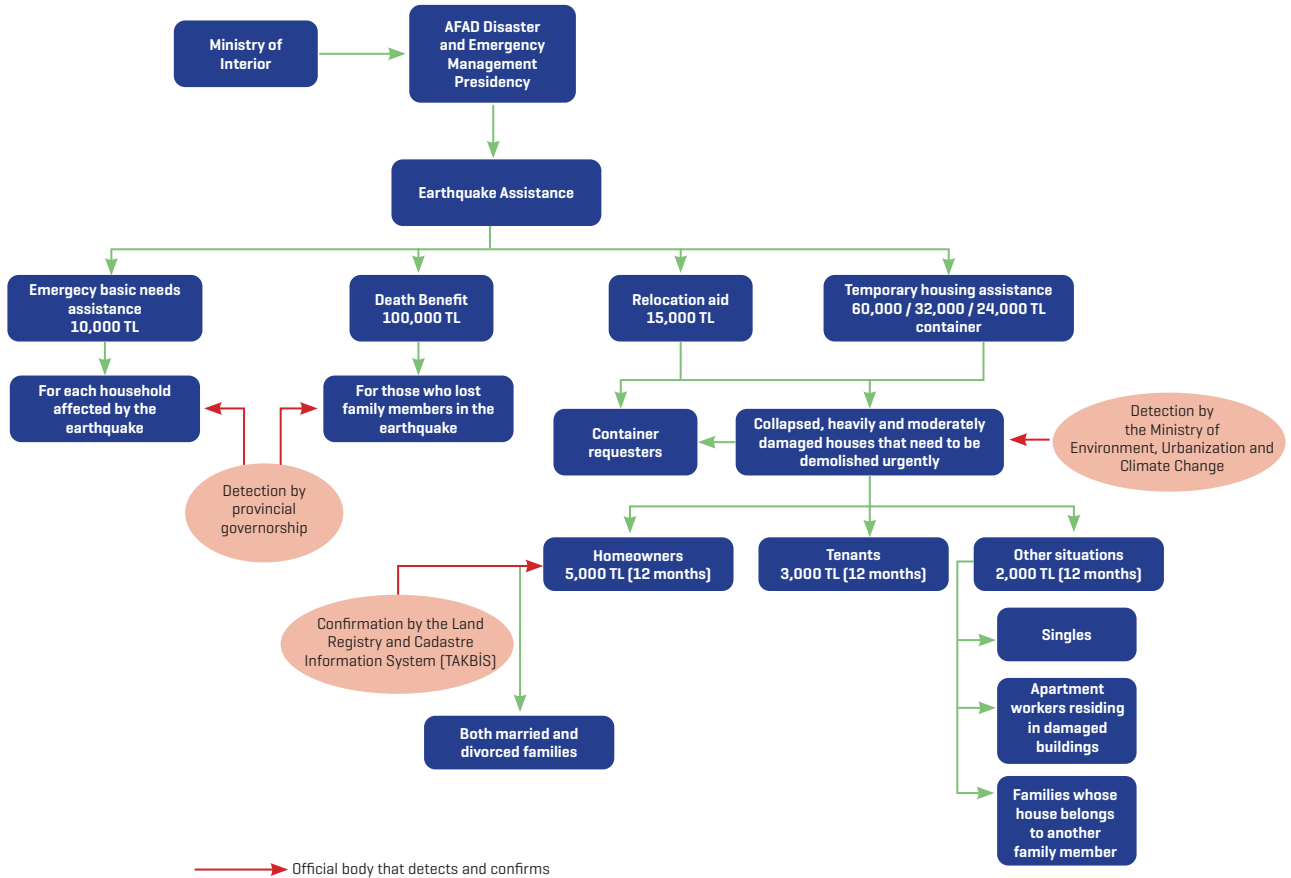
Since the earthquakes, governmental and non-governmental organisations have provided in kind and cash support in the earthquake-affected areas, although the interviews revealed that the benefits to season migrant workers have been limited [cash, shelter, clothing, food and water], and more are required.

Several seasonal agricultural worker families stated that they had moved to the agricultural areas soon after the earthquakes as they were unable to meet their needs living in tents on the streets in their hometowns, and hoped their access to humanitarian aid would be better. They stated that they were reluctant to stay in their homes due to a fear of aftershocks, and had stayed outside for a few days before deciding to migrate to the agricultural areas. It was stated that aid in the form of water and second-hand clothing had reached some regions. Leyla [34], who was taking up seasonal agricultural work for the first time with her family, expressed her thoughts on the provided aid as follows:

After the earthquakes, we received no help for 4 days. We waited for a tent on the streets, but none came. That's why we came here, to join our relatives. After we arrived, officials from the municipality came and threw a bag of second-hand clothes in front of the tents from the back of a truck. That is a bad way to help. We felt very humiliated.

Most of the interviewees stated that they had applied for assistance from public institutions for housing, moving costs and emergency basic needs, but had yet to hear anything. Only some of the interviewees stated that they had received emergency basic need assistance, which amounts to 10,000 TL per household, while others did not know how to apply for such assistance. The agricultural workers who were affected by the earthquakes, either directly or indirectly, were found to have little knowledge of the available post-disaster aid and support, or how to access it. The humanitarian assistance provided by the state to those directly affected by the earthquakes is summarised in Figure 1.

Figure 1. State assistance to those affected by the earthquakes



In summary, the earthquakes placed severe restrictions on the work routines and employment opportunities of seasonal migratory agricultural workers, leaving them in a precarious situation. Following the earthquakes, they relocated early to the working fields, leaving behind their belongings, and took up residence in makeshift tents. Their access to basic needs and services, such as safe shelter, electricity, food, water, sanitation and hygiene were also restricted, increasing the risks to health and safety. The government provides shelter assistance and permanent housing to those whose homes were severely damaged or destroyed by the earthquake, however, seasonal migratory agricultural workers are not sufficiently informed about these opportunities as they migrate to other regions to work. This could be remedied by informing seasonal migratory agricultural workers about these issues in the locations to where they migrate through provincial METİP offices.

An effective means of communication with seasonal agricultural workers and well-functioning monitoring mechanisms are crucial for the provision of the social and economic support introduced for earthquake-affected populations to these communities [temporary or permanent housing, education, income, livelihood, food, rent assistance, etc.].

5.2. Changes in Employment, Income and Livelihood

In this section we present the findings on how the recent earthquakes have affected the access of seasonal migratory agricultural workers to employment, income and livelihoods. We identified several different categories of seasonal agricultural worker and the varying degrees of economic dislocation they have endured, including the loss of, or reduced access to employment, as well as the different exposure levels, economic fragility and vulnerabilities experienced among these workers.

Some of the seasonal migratory agricultural workers interviewed in Hatay and Adana had witnessed the earthquakes in their hometowns, in Şanlıurfa, for instance, where their homes had either collapsed or sustained considerable damage. In other instances, seasonal agricultural workers were reluctant to remain in their buildings due to the continued aftershocks, although their residences had not been damaged. Due to these factors, many seasonal agricultural worker families opted to relocate earlier than usual given their access to the necessary supplies and materials for living in tents, as well as their knowledge and experience of residing in a tent setting. Every year, starting in late February, such people typically relocate to areas like Reyhanlı for onion, Silifke for strawberry and Çumra for beetroot harvesting, however, they were compelled by the earthquakes to pack up and head west two to three weeks earlier than in the previous year, opting for locations where carrot harvesting and processing is still underway, such as in Kırıkhan.

We noticed an increase from pre-earthquake term in the number of tent settlements during our visit to agricultural tent settlement areas in Kadıköy, Yeniköy, Köylüoğlu, Zeytinli and Kırıkhan. It is understood that earthquake-affected families relocated to tents in these zones based primarily on kinship contacts. While some had previously worked in agriculture and had prior experience of living in tents before being relocated, they had lived in apartments close to the farm prior to the earthquakes. There were also families who had taken up residence in tent settlements or containers after losing their houses and means of employment. For example, in Kırıkhan we met a family of 10 who had taken up residence in a container near a carrot processing facility thanks to extended kin living in a tent after their home and the small family-owned corner shop had been severely damaged by the earthquakes.

Murat, a 14-year-old child who was unable to attend school, had joined the agricultural workforce and was living in a container for the first time:

We lost both our shop and our house, but God kept us all alive. We are not sure what to do. We came here to settle in one container. We work in the fields to try to support ourselves today. I have to provide for my family even though I have never done this before. We still consider ourselves fortunate to be alive, but we hope things will get better soon.

Among the seasonal agricultural workers and their families who migrated sooner than planned due to the loss of or restricted access to their homes, or their fear of staying in their houses, some also reported a decrease in the amount of agricultural work available [see Table 5 for V2 case]. As a result of the influx of people affected by the earthquakes who are now seeking agricultural work, the amount of daily work available per household has decreased.

Seasonal agricultural workers expect the situation to worsen, as they believe some agricultural land will be only partially cultivated this year due to the financial constraints brought on by the earthquake. Nevertheless, while an anticipated downscaling in agricultural production has been widely discussed, there remains insufficient data to determine just how much will be realised. The FAO (March 2023) recently acknowledged the extent of the damage to agriculture, including crops, cattle, fisheries and agricultural infrastructure, particularly irrigation channels, in their report.³ Our observations of farmers reveal that the earthquakes have brought about a decline in the sources reinvested into farming activities. Delayed payments for agricultural products that have been delivered have reduced the number of crops sown in May and June, such as corn, beans and sunflowers, in the post-earthquake period, and the percentage of cultivated lands will inevitably decline if no financial sources are provided for agricultural producers, restricting both the supply of agricultural products and the demand for labour.

Table 5. Varieties of economic dislocation

Varieties of loss or reduced access	V1	V2	V3
Loss of, or reduced access to housing and infrastructural services	X	X	
Loss of, or reduced access to non-agricultural employment	X		
Loss of, or reduced access to agricultural employment		X	X

Under these circumstances, households whose primary income is from seasonal agricultural work, may experience a decline in income, creating further financial strain and indebtedness. While we are aware of the increased risk of reduced income for seasonal agricultural workers, we lack sufficient data to determine whether this reduction will be temporary or long-lasting.

³ The region accounts for 15 percent of agricultural GDP and over 20 percent of Turkish agri-food exports, and has suffered billions of USD in damages and losses as a result of the earthquakes, according to an initial assessment [FAO, March 2023].

Hasan, an agricultural intermediary from Kırıkhan, explains how farmers have begun to bargain for lower salaries as the demand for agricultural employment increased:

Following the earthquakes, several people contacted me to inquire about tents and tent locations, and I did my best to accommodate them by organising space and tents. Two days after their arrival came to me seeking employment. Landowners negotiate lower labour rates as they constantly receive calls from intermediaries offering cheaper labour. These expectations are unacceptable to me. Other intermediaries, though, offer lower labour costs and agree to serve. In this situation, we sadly start to follow them to avoid losing our work.

Our research in Konya has also revealed another destination point and post-disaster context for seasonal agricultural workers fleeing the earthquakes and aftershocks, as well as the floods that occurred on 15 March following heavy rain in the city of Şanlıurfa. Some of these people's dwellings, which had survived the earthquakes, have been damaged by flooding, limiting their access to housing even further. In Konya, agricultural technologies such as field grass cutting and hoe machines, and smart seeds, have already reduced the demand for seasonal migratory agricultural workers. It makes it difficult for workers to find agricultural work. Modernisation of agricultural production in Konya, has resulted in a further decrease in their income at a time when it is most needed.

Table 6. Directions of observed changes

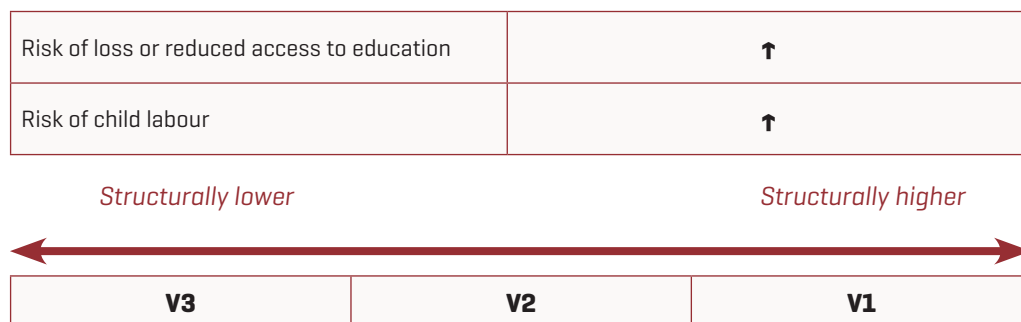
Change	Direction of change
# of tents in seasonal agricultural settlements	↑
# of new people in search of agricultural work	↑
amount of agricultural goods produced	↓
# of daily wage work distributed	↓
# of available income sources accessed	↓
amount of income	↓
amount of indebtedness	↑

During our field research we noticed cracks in the walls of several houses and apartments in Şanlıurfa, but the residents continue to reside in these dwellings. As they wait to be called to move to the west of the country, they have endured a number of aftershocks, but remain unsure when they should leave. As one seasonal agricultural worker residing in the Haliliye district of Şanlıurfa explained, having to wait in unsafe houses is a source of considerable concern:

Our house survived the major earthquakes, but we are still experiencing earthquakes, and we are unsure how long this will last. We panic after each aftershock, and so we decided to pack up our tents and move, although we are unsure of where to go or where to settle. We are awaiting the start of work so that we can pack up and move. We've been waiting for a while and it's becoming exhausting.

As a brief summary, we identified three subgroups engaged in seasonal agricultural work in which who have been affected by the loss or reduction in access to employment and income. The first of these is the new arrivals seeking seasonal agricultural work [V1] whose access to their regular sources of income has been lost or reduced. Generally, seasonal agricultural work is not new to these people as they may have either previously been engaged in seasonal agriculture or to have connections through kin. Second are households that rely heavily on employment in seasonal agricultural work and who have been forced to leave their homes earlier in the season due to the earthquakes [V2]. These people now have (and can be expected to have) less access to agricultural employment and income due to the combination of the increased labour pool, the shrinking daily employment and earnings, and the risk of downscaling in agricultural production. The final subgroup includes seasonal agricultural workers who continue to live in their homes and who have yet to begin their regular migratory cycle [V3]. There were several uncertainties facing the respondents of our study, including the appropriate migration time, and the availability and duration of agricultural work, leading to increased anxiety and other challenges associated with the earthquakes and aftershocks.

Table 7. Varieties of structural risks

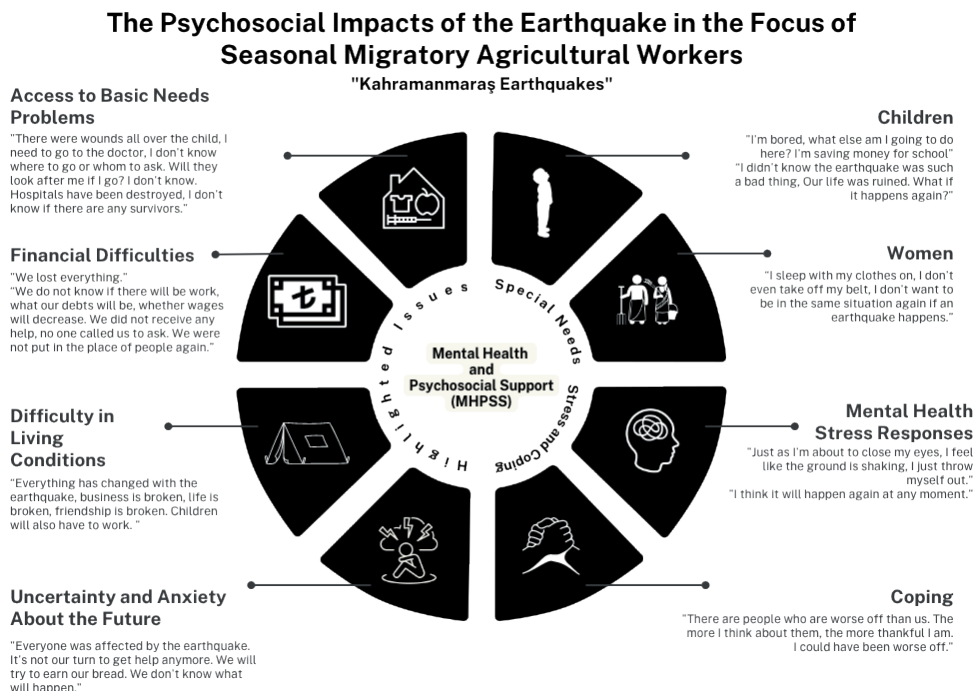


Our interviews with seasonal agricultural workers revealed an urgent need for tent materials, furniture and clothes, as well as food and hygiene products, as they became more and more dependent on loans, particularly from agricultural intermediaries, taking them deeper into debt. A return to non-agricultural work becomes less likely as their debts accumulate, being a problem especially for those engaged previously in non-agricultural employment (V1), increasing the risk of child labour. As has been widely studied in literature (OCHA Türkiye 2023 Earthquakes, Situation Report 12, April 2023; UNICEF, December 2021; ILO May 2020; UNICEF, December 2019), families experiencing debt, and the loss or reduced access to employment and income in the aftermath of earthquakes become more reliant on their children as an income source.

5.3. Change in Mental Health and Access to Psychosocial Support

The interviews and observations related to stress and coping mechanisms revealed that the earthquakes had exacerbated pre-existing issues among seasonal migratory agricultural workers, bringing additional challenges to living conditions.

Figure 2. Psycho-social impacts of the earthquakes on seasonal migratory agricultural workers



The earthquakes and the findings discussed in the section Loss of and Access to Living Environments and Materials combined to create an environment of stress and anxiety for seasonal migratory agricultural workers. The disruption of work, the increased needs (clothing, goods, etc.) and the sudden relocations appeared to be sources of high anxiety and stress. Issues related to unemployment and income loss, as well as the uncertainty of when things will return to normal, bring about feelings of hopelessness and helplessness.

It is observed that the number of seasonal migratory agricultural workers who have been able to benefit from in-kind aid after the earthquakes is low. During our research, most of the seasonal migratory agricultural workers stated that they had received no help since the earthquake, and do not know where to access/ask for support. The increased invisibility of seasonal agricultural workers amid the chaos in the aftermath of the earthquakes was a common issue shared by the respondents, and the pre-existing deprivation they endured had been increased by the earthquake, leading to common feelings of hopelessness for the future. Uncertainties related to unemployment and income are a particular source of concern among seasonal migratory agricultural workers, as described by one 49-year-old male farm worker:

We do not know if there will be work, what our debts will be, or whether the wages will decrease. We haven't seen any help yet, no one has called us and asked [if there is anything we need]. We were not perceived as human beings.

Seasonal migratory agricultural workers whose houses were destroyed or severely damaged in the earthquakes had to endure relocation, and moved to temporary tent settlements alongside their relatives. The sudden relocations led to single tents being shared by more than one family, and the feelings of helplessness were made worse by such situations as the changing weather conditions, and shortages of appropriate clothing or other items to protect from the cold, rain and wind, etc. In addition, electricity, water, sanitation and bathroom needs cannot be met, or are insufficiently met, with a negative effect on all household members, but particularly children. In a focus group discussion with women, one 39-year-old participant described their situation:

We were at our home in Urfa during the earthquake. Our house was damaged. We waited there for four days. We were too frightened to enter our houses, so we got in our car and came here to the temporary tent settlement for seasonal agricultural workers. Assistant by our relatives, we set up a tent here, but we have no electricity, no water and no toilet. Currently, 12 people live in this tent. We cook over a fire. Everywhere is filthy, and we had to leave all our belongings, everything, behind. We're done.

The challenging living conditions and the lack of employment options bring about feelings of "disappointment" and "hopelessness" among seasonal migratory agricultural workers. Commenting on these ongoing feelings, one male seasonal migratory agricultural worker expressed his dissatisfaction with the post-earthquake response, "They didn't see us before, and they won't see us now."

The seasonal migratory agricultural workers stated that the future was unclear as they do not know where they will live, where they will work, whether their children will return to school or whether they will receive any assistance, and only relatives are concerned about how they feel after the earthquake. There are no institutions asking, "Where is your child now?" Seasonal migratory agricultural workers feel "abandoned".

The fact that nobody even brought up the subject gave the respondent the impression that they had been "abandoned". Children and adolescents are particularly vulnerable during such emergencies due to their unique physiological, psychological and developmental needs. Many children and adolescents experience psycho-social distress, although often short-term, after traumatic events, undermining their basic assumptions that their world is a safe, stable and largely predictable place. For some, these feelings do not subside on their own, and may develop into clinically significant, persistent and damaging mental health problems. For the families of seasonal migratory agricultural workers, ensuring the education of children is a problem even in daily life, and the non-attendance of children in education increases with the earthquakes. The interruptions in the education of the children of seasonal migratory agricultural workers differ from those of other children in the earthquake-affected provinces. Exacerbating the pre-existing limitations on education, the uncertainty of where the family will live and work further limits the education of the children of seasonal migratory agricultural workers.

In earthquake-affected provinces, the education of all children has been interrupted, and while some schools were able to open in the earthquake zone after a short time, none had been opened in the earthquake-affected provinces at the time of the rapid assessment. The inability to open schools and the inability of children to resume their education is a significant risk factor for seasonal migratory agricultural workers, who have generally received only limited education. For example, in the provinces of Hatay and Gaziantep there are as yet no plans to re-open schools, to the detriment of both the children of agricultural workers living there and those of seasonal migrant agricultural workers who are migrating due to the earthquake. Currently, working and living in safe tent settlements are preferred due to the economic and psychological benefits.

While this issue affects all children, it is most acute among those whose parents are migratory seasonal agricultural workers. Many children of migratory seasonal agricultural workers have abandoned their education and have taken up agricultural work to support their families. The children interviewed in the earthquake-affected provinces stated that they did not believe their school buildings were safe and that they were reluctant to return to school due to the continued aftershocks. The children, who left all their belongings – their books and pens – in their homes, had no choice but to work in the fields and orchards.

Aside from such statements made by children as "I'm bored anyway, what else can I do here, I'm saving money for school", there were also statements from their parents along the lines of: "We don't want to leave the children behind, we are so afraid that there will be an earthquake when they are far away from us, so we do not send them to school."

The fear felt in the aftermath of the earthquakes influences all decisions, many of which result in permanent damage. The majority of the children of the interviewed families are still wearing the clothes they were wearing when the earthquakes struck, and have not taken a bath since. This lack of hygiene will lead to health problems. Young children need to be vaccinated and controlled. The symptoms of stress in children affected by the earthquakes include fear, sensitivity to noise, inability to be separated from their parents, sleeping problems, social introversion, etc. One 13-year-old boy expressed his fear related to the earthquakes: *"I didn't realise the earthquake was so bad, our lives have been ruined. What if it happens again?"* Social support and areas where they can feel safe are almost non-existent for children who had to leave their homes and schools without warning. This makes development more challenging for children.

Among the increasing vulnerabilities of seasonal migratory agricultural workers since the earthquakes, those related to pregnant women are particularly concerning given the lack of access to doctors for regular check-ups, while those in the final stages of pregnancy experience high levels of stress about where to go when the birth occurs and how they will meet the needs of the baby. A 37-year-old mother of five children who was 7-months pregnant, expressed her concerns:

There is nothing to be born here anymore, there is nothing to do. I thought she died from fear when the earthquakes struck, but nothing happened. God protected us. I haven't been to the doctor, as I don't know where to go or how to do it. A rag is as much as a day's work in the field. We're just trying to live right now, there's nothing else we can do."

Another observed problem is that the social norms regarding the appearance of women had negatively affected their ability to act quickly during the earthquake, and many experienced embarrassment and stress due to the lack of appropriate clothing in the aftermath. The occupation of tents by more than one family makes women uncomfortable, and raises concerns related to the safety of the female family members. In addition, the inability of children to continue their education, the lack of sufficient materials and equipment to cook in the tent areas, and the overcrowding of the tents have increased the workload of women and young girls.

Psychological reactions – stress responses – seen after the event. While these responses sometimes disappear over time, some may be burdened by them for many years. The most frequently mentioned emotion in the interviews was "fear". Tents have been defined as safe spaces for seasonal migratory agricultural workers during earthquakes, facilitating survival and safety. It is observed that fear triggers anxieties about the future and concerns that

the situation will get worse. We witnessed seasonal agricultural workers and their children closely following social media outlets and earthquake news to try to understand when and where another earthquake will happen. The most common stress responses were found to be difficulty falling asleep and nightmares, while other stress reactions included headaches, stomachache, hand trembling, difficulty breathing, etc.

Families develop closer bonds with one another, and their survival mode keeps them together. Survival and access to a tent have been described as aiding in their coping efforts, and the maintenance of beliefs and rituals was seen during observations in the field to be vital, with prayer and religious rituals generally being considered to be beneficial to seasonal migratory agricultural workers. Even though their workload has increased, women said that their chores were a good distraction. Social support mechanisms were also noted to be critical following a disaster, and the families and children encountered stated that being together and keeping in contact with their relatives gave them strength.

The effects of the fear on mental health brought on by the earthquakes and the psychosocial well-being of individuals influence their immediate and future decisions, especially related to education, and this can increase the risk of child labour. Additionally, the significant increase in the number of families living in tent settlements raises new problems related to child protection.

6. RECOMMENDATIONS

The social and economic structure of the earthquake-affected provinces are crucial and must be well accounted for when devising recommendations for the regions and seasonal migratory agricultural workers. Before the earthquakes, the socio-economic situation in the region had already been disrupted by migrant communities due to the Syrian Civil War. Since the migrant population mostly makes a living through temporary jobs in the informal economy, seasonal agricultural work is considered among the preferred jobs. Turkish and Syrian communities engaged in seasonal agricultural work, on top of the harsh living and working conditions they endure, had to cope also with the coronavirus pandemic. The quarantine measures applied during the pandemic led to losses of employment, and the economic difficulties were exacerbated by increased costs, spiralling debt and decreased incomes. At the same time, the distance education measures introduced during the pandemic hindered the access of the children of seasonal migratory agricultural workers to education above even the “normal” limited access they encountered related to family mobility and poor living conditions, given the lack of the materials and devices necessary to take part in distance education programmes.

Taking these pre-existing challenges into consideration, we make the following recommendations in support of seasonal agricultural migratory worker families that may increase their access to basic services and contribute reduce the effects of the earthquakes on their living and working conditions.

Evidence # 1: Deepened deprivation in terms of loss of income and livelihood & increased risk of child labour

Recommendation 1:

The highest-risk group in this study, being families who have lost their homes and employment, and who have been forced to take up residence in seasonal agricultural tent settlements for the very first time, are recommended to receive a conditional cash transfer (CCT) to compensate for the loss of income brought by the earthquakes, supporting these households in averting downward mobility, and allowing them time to restore their income and shelter. IT support will facilitate the access to education of children who are at risk of dropping out of school and engaging in seasonal agricultural work.

- School-aged children are at a high risk of entering the seasonal agricultural workforce to compensate for the dramatic loss of family livelihoods. Through a CCT program, earthquake relief can be combined with child protection programmes, particularly during the summer months. CCT would entail regular money transfers to households in exchange for certain predetermined requirements, such as the attendance of children to catch-up educational classes and participation in psycho-social support sessions. Evidence suggests that CCT programs can reduce poverty and improve human development by focusing on education and the well-being of the beneficiaries, especially during unexpected life events and emergencies such as COVID-19, earthquakes, wildfires, cyclones or floods. If the children in the household are to be selected for support, a child-based risk assessment should be implemented rather than a household-based assessment. In the current structure, the children in Turkish households are largely entitled to conditional cash assistance for education delivered by the MoFSS and MoNE. In this case, the monthly payment amount should be close to the average income earned by the children, with a tiered approach. The program should prioritise the children most at risk of dropping out if CCT support is not provided.
- For the implementation, a pilot program with eligibility criteria and the inclusion of beneficiaries in the design and implementation phase is suggested to be run in Hatay. A certain number of households with downward mobility can be targeted, and following the initial implementation, the program can be revised and strengthened before being applied to the benefit of a second group of families.
- The pilot implementation can be realised with the support of the public sector in cooperation with the Ministry of Family and Social Services, with support provided by international donors within the scope of earthquake response programmes.
- The existing CCT programs should have been complemented with a broader program targeting an increase in employment opportunities across the region. A new programme with focus on the non-agricultural sectors, and a return on the CCT program's efforts to reduce child labour and increase school participation in the region should be promoted.

Recommendation 2:

Providing a reliable and safe living environment in which basic services, such as WASH, food and electricity, are provided is essential for the well-being of seasonal agricultural workers and their children living in temporary agricultural tent settlements. The objections of the local people to the provision of temporary shelters and services for seasonal agricultural workers should be better managed in the post-earthquake period to provide more suitable conditions for seasonal agricultural workers along with the other parts of society affected by the earthquake.

- There is a need to work with public authorities, humanitarian organisations and appropriate stakeholders already engaged in the field. The provision of durable, weather-resistant and safe accommodation is vital.
- Essential materials such as tarpaulins, mattresses and blankets should be provided to ensure protection against the weather and the provision of decent sleeping conditions.
- Food and WASH should be provided according to the needs of the individual family.
- Efforts should be made to improve access to safe drinking water and sanitation facilities through, for example, the installation of water tanks and latrines.
- All services and materials should be distributed through targeted humanitarian assistance programs. The provision of such services should take into account cultural values, ethnicity, age and gender differences, and should meet the specific needs of earthquake-affected populations.
- The provision of essential supplies and services should be carried out in coordination and cooperation with a range of stakeholders, including government authorities and humanitarian and international organisations.
- The current situation maps of seasonal migratory agricultural workers in Mersin, Adana and Hatay prepared by the DW can be used to fast-track the implementation of interventions.
- The e-METIP system, designed as an information system for seasonal migratory agricultural workers, could be improved and used to reach them.

Evidence # 3: Difficulties encountered in information exchange, dialogue and cooperation between institutions with roles and responsibilities related to seasonal agricultural workers

Recommendation 3:

NGOs, UN agencies and public institutions offering healthcare, social and educational support to seasonal agricultural workers in the area prior to the earthquake should be informed about seasonal agricultural work in the affected provinces (including migration times, routes and volumes).

- A specific coordination structure for seasonal agricultural workers, including governorships, provincial directorates of ministries, municipalities, unions of agricultural chambers and NGOs, should be established.
- Agricultural intermediaries who organise worker mobility in the region should be informed about the possible problems encountered by seasonal agricultural migrant workers, which institutions are responsible for providing what services, and how workers and authorities can be contacted in the event of an emergency. To this end, it may be possible to make use of the communication channels already in place (databases, lists of agricultural intermediaries, etc.) by civil society, and the public, private and international organisations that offer services to seasonal agricultural workers.
- In the earthquake-affected provinces, the requirements of workers, and those of their families and children, should be communicated to local authorities. Local divisions of the Ministry of Family and Social Services and the Ministry of Labour and Social Security (MoLSS) should be involved in such efforts, while the Provincial Combating Child Labour Units of MoLSS and the Seasonal Agricultural Workers Project (METIP) coordination offices should follow the situation, identify needs and deploy the necessary resources.
- The e-METIP system can be used for the identification, planning and delivery of services. The mobility of seasonal agricultural workers is expected to increase, and so the e-METIP database should be adjusted to track the movements of workers and to identify their urgent needs. The provision of services to different groups, including but not limited to children, women and the disabled needs to be provided in a timely and inclusive manner through the utilisation of such systems as e-METIP.

Evidence # 4: Reduced access to education and increased risk of school dropout

Recommendation 4:

A special task force comprised of MoNE and MoLSS representatives should be established for the region. The children of seasonal migratory agricultural workers should be included in compensation programs.

- Transportation support should be provided to the children of seasonal migratory agricultural workers to support school attendance.
- Teachers in the region should be informed about the access and attendance of the children of seasonal migratory agricultural workers.
- Families should be provided with economic support, considering the economic cost of keeping children in school.
- Tailored programs should be developed for learning recovery to allow them to catch up
- Educational services should be designed for implementation in tent settlements.
- Information about vocational education institutions should be disseminated among young people who are eligible and interested.

Evidence # 5: Increased stress, anxiety, fear and uncertainties

Recommendation 5:

A mental health and psycho-social support (MHPSS) program should be developed for seasonal migratory agricultural workers and their children who have been affected by the earthquakes.

- The program should include an analysis of psychosocial needs and resources; experience-sharing groups, especially for women of all ages; psycho-social support for children and individual support for parents and children; and sources of information and guidance. The content of the programme should respond to the increasing stress, anxiety, fear and uncertainties.

Evidence # 6: Vulnerability to disasters: global warming, floods, health crises, epidemics, economic crises, etc. hardening living and working conditions

Recommendation 6:

In the medium term, measures should be taken to increase the resilience of seasonal migratory agricultural workers in the face of natural and human-made crises and emergencies.

- To establish the necessary administrative mechanisms for the systematic tracking of workers, maps of temporary settlements need to be prepared. Mapping the changing living settlements of seasonal migratory agricultural workers is recommended before planning any interventions. The maps should be updatable, dynamic, accessible, online and open to the use of different institutions.
- Protection risk analysis studies of temporary settlements and working environments should be promoted for earthquake-affected provinces (within the earthquake zone, and those that have received the affected populations). Risk analysis approaches and tools should be introduced to agricultural intermediaries. Seasonal agricultural workers should be informed of the risks and the mitigation efforts.
- Training should be prepared for implementation by the National Occupational Standards of Agricultural Labour Intermediaries with the aim of ensuring the provision of working conditions that are in accordance with human rights. Violations should be reported, and advocacy work should be carried out in cases of violations.
- Through business and human rights-based approaches, businesses can be promoted to take action in support of affected populations. Capacity-building activities may be organised through chambers of agriculture for employers and agricultural intermediaries detailing how to approach workers affected by earthquakes.
- Associations established by agricultural intermediaries can be supported technically and financially. The ability of agricultural intermediaries to mobilise public resources in emergencies is critical. As key figures in seasonal migratory agricultural work, strengthening the capacity of such intermediaries will lead to improvements in the living and working conditions of seasonal migratory agricultural workers. In the long term, it would be more effective to plan and advocate the utilisation of containers and other infrastructures and facilities (electricity, solar panels, mobile sanitation solutions, child-friendly areas, etc.) in the temporary settlements of the seasonal migratory agricultural workers employed in the region.

7. CONCLUSION

The effect of the earthquakes on seasonal migratory agricultural workers and their children, as well as the different risks encountered in the earthquake zone, are investigated in this assessment report. Our post-earthquake study found that employment and access to such basic services as water, electricity and sanitation had been affected for seasonal agricultural households, and the assessment also uncovered the challenges, opportunities and risks that have emerged in the disaster zone.

An influx of people into the seasonal agricultural worker tent settlement areas was witnessed after people fled their homes due to the earthquakes and the continued aftershocks, leaving their ruined or damaged buildings behind. While some of these people were already part of the annual agricultural workforce, others move close to their relatives out of stress, anxiety, fear of collapse of their homes or losses. Upon their arrival at the tent settlements, they start seeking work to support their families and to restore their lost livelihood, income or employment while adjusting to their new circumstances. If no measurement is made, there is a high risk of downward mobility for households in terms of a loss of housing and infrastructural services, and in non-agricultural employment. As a further risk, there is a fear that children will be pressured into taking up agricultural work, at least temporarily, and dropping out of school in the mid-term, especially for those whose families were not previously engaged in seasonal agricultural work. Since most seasonal agricultural workers reside in urban areas, this can result in children working in non-agricultural jobs outside the harvest season.

For seasonal agricultural workers, their early arrival into tent settlement areas out of fear of the earthquakes and ongoing aftershocks resulted in a deepening of their deprivation as they were unable to organise the evacuation of their ruined or damaged residences. Additionally, their arrival with expectations of employment may not be fulfilled, resulting in an expected loss of income throughout our research. It is currently unknown how long their reduced income will persist, especially given the influx of more people in search of agricultural employment and the loss of agricultural production and output as a result of the earthquakes. While they may feel safer in tents rather than buildings after the traumatic experience of the earthquakes and the continued aftershocks, as time passes, their insecurities deepen as their deprivation escalates, their means of subsistence diminish and their uncertainties multiply. To cope with their physical and economic dislocations, as well as the loss left behind in some cases, they look for and construct new means and paths of mobility, as well as seasonal employment in agriculture to help in their adaptation to their unsettled surroundings. These emergent patterns in the post-earthquake zone are outlined in the report, as well as gender-and-age sensitive and evidence-based mechanisms and recommendations that may help earthquake-affected households to deal with their economic and physical displacement.

The potential for agricultural production in the earthquake-affected region equates to a significant labour market for agricultural workers. The agricultural labour force will be more mobile than it is today due to the increase in agricultural activity that will be seen in the region, particularly around the end of April and the beginning of May. The region's infrastructure was severely impacted by the twin earthquakes, which also severely impacted the delivery of social, healthcare and educational support. A number of the residents of the region have, overnight, found themselves in need of fundamental humanitarian assistance. Under these conditions, the increased worker mobility in the region may enhance the vulnerability of employees and their families, who are already struggling to access basic human services. As a result, it is of extreme importance to pay close attention to the living conditions of the families that migrate to the region for work in terms of their access to healthcare services (particularly maternal and child health), the care and educational needs of children, and their access to nutrition and food.



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