



## Policy Recommendations for The Effects of the Covid-19 Outbreak on Seasonal Agricultural Workers: The Case of Türkiye

Merve Bozdemir Akçil<sup>1,a,\*</sup>, Zeki Bayramoğlu<sup>1,b</sup>

<sup>1</sup>Department of Agricultural Economy, Agricultural Faculty, Selçuk University, 42130 Konya, Türkiye

\*Corresponding author

ARTICLE INFO	ABSTRACT
<p><i>Research Article</i></p> <p>Received : 06/07/2022 Accepted : 25/08/2022</p> <p><b>Keywords:</b> Covid-19 Immigrant Seasonal Labor Refugee Agriculture</p>	<p>Impact of Covid-19 pandemic introduced with itself some socio-economic transformation as well as a myriad of problems. Closure of borders, alongside a fall in trade and human mobility brought forward concerns related to the self-sufficiency of nations. Throughout the pandemic outbreak, there was an emerging need for the countries to harness their own manufacturing resources and capacity efficiently to answer soaring demands of domestic market. At this point, visibility of agricultural sector has become foregrounded because of its inherent role in food and nutrition. Particularly speaking; producers who supplied need for seasonal labor from other countries were forced to take instantaneous measures and implement political changes. In Türkiye, since demand for seasonal labor could be met through domestic resources, it was feasible to prevent any failures during manufacturing process. Nevertheless, there were common concerns arising among the public on the measures to take for the work and life conditions of seasonal agricultural workers and required policies to implement. Within the context of this study, research on the discussions, practices, and measures to follow for agricultural sector during Covid-19 pandemic period has been conducted. Analyses have been drawn on the regulation in Türkiye and relevant policies have been suggested.</p>

Türk Tarım – Gıda Bilim ve Teknoloji Dergisi, 10(10): 1893-1900, 2022

## Covid-19 Salgınlarının Mevsimlik Tarım İşçileri Üzerindeki Etkilerine Yönelik Politika Önerileri: Türkiye Örneği

MAKALE BİLGİSİ	ÖZ
<p><i>Araştırma Makalesi</i></p> <p>Geliş : 06/07/2022 Kabul : 25/08/2022</p> <p><b>Anahtar Kelimeler:</b> Covid-19 Göçmen Mevsimlik İşgücü Mülteci Tarım</p>	<p>Covid-19 salgın döneminin etkileri sosyo-ekonomik değişim ve problemleri de beraberinde getirmiştir. Sınırların kapatılması, ticaret ve insan hareketliliğinin azalması beraberinde ülkelerin kendine yeterliliklerini de gündeme getirmiştir. Salgın sürecinde ülkelerin sahip oldukları üretim kaynaklarını etkin kullanabilmeleri ve iç piyasadaki talepleri karşılayabilme yeteneklerine ihtiyaç duyulmuştur. Bu noktada gıda ve beslenmeye yönelik üstlenmiş olduğu rolün bir sonucu olarak tarım sektörünün görünürlüğü ön plana çıkmıştır. Özellikle mevsimlik işgücü ihtiyacını diğer ülkelerden karşılayan üreticiler bu süreçte ani tedbirler almak ve politik değişiklikler yapmak durumunda kalmışlardır. Türkiye’de mevsimlik işgücü ihtiyacının iç kaynaklardan karşılanabiliyor olması üretim sürecindeki aksamaları önlemiştir. Fakat buna rağmen yaygın olarak mevsimlik tarım işçilerinin çalışma ve yaşam koşullarına yönelik alınması gereken önlemler ve uygulanması gereken politikalar kamuoyunda tartışılmıştır. Bu çalışma kapsamında Covid-19 salgını sürecinde tarım sektörüne yönelik gerçekleştirilen tartışmalar, uygulamalar ve tedbirler incelenmiş, Türkiye’deki düzenlemelere yönelik değerlendirmeler yapılmış ve politika önerilerinde bulunulmuştur.</p>

<sup>a</sup> [mbozdemir.akademi@gmail.com](mailto:mbozdemir.akademi@gmail.com)

<sup>b</sup> <https://orcid.org/0000-0002-5323-2265>

[zbayramoglu@selcuk.edu.tr](mailto:zbayramoglu@selcuk.edu.tr)

<https://orcid.org/0000-0003-3258-3848>



This work is licensed under Creative Commons Attribution 4.0 International License

## Introduction

Among the rest of financial sectors, agricultural sector is the primary business segment in which raw-material production for staple foods and industry sector is provided. On accounts of procuring raw-material and input for other sectors, agricultural sector has gained an advantage over other sectors and supported the continuity of inter-sectoral cooperation. Because of its major effect across sectors, agriculture has been the segment most severely impacted in times of crisis. On a global scale, shifts in the overall financial status of countries, cyclical fluctuations, political instabilities, public actions, natural disasters, climate change, shifts in healthcare conditions and similar crisis-evoking situations cause a direct impact on the agricultural sector operations. Having fueled a global health crisis like Covid-19 pandemic, Spanish Flu (1918) claimed the lives of over 40 millions of people. In that instance global economic revenues, expenditures and labor markets inclined to shrinkage and per capita income dwindled around a ratio of 10% (Barro and Ursua, 2008; Ceylan et al., 2021). This situation led to shifts in demand and resulted in a direct effect on agricultural production as well as agricultural labor being the dynamic force of production. Notwithstanding that, the ratio of natural disasters doubled for the last 2 decades and pushed the migration of more than 20 millions of people (IOM, 2009). Being the originating factor of natural disasters and major problem of the future, there are direct effects of climate change on agricultural sector too. It is estimated that predicted temperate rise due to climate change will spread heat stress and will lower working hour in G20 countries by 1,9% until year 2030 (ILO, 2018). That reality will directly impact work conditions of agricultural workers. For agricultural workers, higher temperature will double the risk of heat-induced ailments, injury risks and long-term chronic diseases (Fenske and Pinkerton, 2021). Aside from economic and environmental risks, social risks also directly affect agricultural sector and agricultural employment structure. For instance, after being forced to migrate because of the turmoil in their land, Middle Eastern population emigrated to Türkiye after March 2011 as a result of effectuated policies then. Having migrant and refugee status without work permit, this new population has mostly been employed in agricultural sector due to language barrier and experienced changes in terms of labor qualities. Foreign workers eager to work for low wages caused the native labor to try their luck in other sectors. This change taking place in labor market triggered an economic, social, and cultural confrontation (Bozdemir et al., 2019). All these economic, social and environmental risks which impact production processes are the factors that threaten the sustainability of agricultural sector. Added to these risks, 2019-dated Covid-19 pandemic that spread all over the world rapidly is also one of the health crises impacting agricultural sector.

Global Covid-19 pandemic has triggered globe wide effects on the production and consumption of staple food items. Forced lockdowns, closure of national borders which limited commercial operations were some of the practices that stirred a feeling of panic among citizens. Panic among the public led to swift changes in demand for staple foods such as flour, pasta, rice, beans etc. (Jambor et

al., 2020; Bochtis, 2020). To counter the risk of food shortage, Russia, Kazakhstan, Serbia and some other states restricted exportation of staple food items (Pulighe and Lupia, 2020; Bloomberg, 2021). To secure the sustainability of production developed countries in particular employ immigrant workers for maintenance and harvest operations at the time of fruit and vegetable growing. After the closure of national borders, there was a scarcity of labor specifically in areas where production operations were held by seasonally employed workers (Stephens et al., 2020). Production slump due to scarce labor initiated price increases in food market and volatile price policies (Lampridi et al., 2019; OECD, 2020a; Fortuna and Foote, 2020). Similar to agricultural labor market a number of problems emerged in the supply chain of input markets (FAO, 2020; ILO, 2020a, Aday and Aday, 2020). In importer countries at most, agricultural sector employees faced malfunctions related to the purchase of inputs like seeds, fertilizers and pesticides (UNCHTAD, 2020). Due to uncertainties in the market and risks, food prices escalated during Covid-19 pandemic period. This finding has been most vividly evidenced by the fact that according to the food price index of Food and Agriculture Organization of the United Nations-FAO, compared to previous year food prices in global markets climbed (May 2020) by around 40% (Gustafson, 2021).

As the most unprecedented global health crisis ever witnessed throughout the course of near history Covid-19 pandemic also increased the visibility of economic corruption, social inequality and unfair income distribution fueled by neo-liberal policies. Such adverse impacts of this global health crisis, persistent uncertainties and unknown nature of the virus caused downward trend in the markets. Negative trend in markets pushed forward future-related expectations and worries of the citizens. Shift in the demands as a result of concerns and fears of people resulted in the reintroduction of challenges experienced in nutrition, access to safe food and self-sufficiency in agricultural production. Pervading health crisis and constant demand for food contributed to once again appreciating the strategic value of healthcare and agriculture sectors in all countries (Doğan and Doğan, 2020; Abdelhedi and Zouari, 2020; Kogo et al., 2020; Lopez-Ridaura et al., 2019). These problems made already-persisting conditions of the disadvantageous labor class and social groups with fragile features even worse. In particular, seasonal agricultural workers, ensuring the continuity of production operations in rural areas, supporting sustainability of food supply and playing vital role in agricultural production, belonged to labor classes and social groups that were most severely affected from the process. Since in Türkiye agricultural labor demand could be met within national borders for the last years by the migrant and refugee stock, potential failures during production process could thus be prevented. However, pandemic outbreak created negative impacts on the socio-economic conditions of seasonal agricultural workers that are one of the most vital actors of agricultural sector. Within the context of this study, the aim is to examine the practices and measures taken on behalf of seasonal agricultural workers who, despite being the most fragile group in society in the global pandemic situation,

played critical role in the production of food items vital to continue life activities. In addition to the analysis of effective regulations, this study also aims to provide policy suggestions to improve the socio-economic standards of seasonal agricultural workers.

## Materials and Methods

Within the context of this research, measures taken by relevant institutes and commissions after reporting the first case of Covid-19 in Türkiye on 11 March 2020 have been monitored and analyzed. In data collection at first directives issued by the ministries, academic papers on the topic, national and international reports, resources from nongovernmental organizations and news websites have been reviewed. In the definition of seasonal agricultural worker within the framework of this study, reference was taken from the study of Bayramoğlu and Bozdemir (2020) who have described labor terminology in agricultural sector.

## Research Findings

### *Global View of Covid-19 and Seasonal Labor*

According to year-2019 data of the World Bank 26,76% of world population is employed in agricultural sector (The World Bank, 2021). A vast portion of agricultural population in the world consists of migrant workers. In Canada during harvest season around 60.000 immigrant workers from Mexico and Caribbean states migrate and participate in agricultural production operations seasonally. In Canada roughly 50% of seasonal immigrant workers are employed in horticulture works and 43% are employed in fruit and vegetable production. In Italy 360.000 people from around 155 countries, from Morocco and Tunisia at most, partake in agricultural production as seasonal immigrant workers (IOM, 2020).

After the reflection of Covid-19 pandemic in finance markets, 81% of agricultural producers in the world and 66% of self-employed people were affected adversely from the process. Since personal operations are more foregrounded among self-employed producers, they were less exposed to adverse effects compared to other producers because among the self-employed labor, need for supply outside of the organization is much less. In an attempt to prevent the problems faced in agricultural production due to pandemic outbreak or to minimize the risks involved in production, the countries resorted to specific measures. During this stage Asia-Pacific Region states such as Australia, New Zealand and Republic of Korea administered specific changes that offered flexibility in visa programs. For instance, Republic of Korea introduced a new law to extend the length of stay of foreign workers in agriculture and fishery sector five months longer. Via its Seasonal Agricultural Worker Program -SAWP the United States ensured seasonal labor supply by issuing H2-A visa application to secure the sustainability of agricultural production (ILO, 2020b).

Between years 2011 and 2017 more than 1,3 million of European Member states (EU) quit agricultural production. Along these years, after the participation of EU citizens in agricultural production (58.500 people) and seasonal migrants (83.700 people) in labor market, the number of

people in agricultural production could be balanced (European Parliament, 2021). With respect to Europe, as the number of people taking part in agricultural production is analyzed it becomes evident that immigrant workers have the lion's share in the sustainability of production. Criteria in the EU Seasonal Workers Directive facilitated the participation of migrants into agricultural production within the seasonal labor. It is estimated that seasonal labor employment in agriculture is 700.000 in the United Kingdom, 200.000 in France, 300.000 in Germany and 360.000 in Italy (Mitaritonna and Ragot, 2020). Because of the share of migrant workers in agricultural production EU and UK states implemented immediate measures during the ongoing Covid-19 pandemic to ensure smooth flow of agricultural production. Within the EU, since policies applied to solve visa problem failed to work there was increased drive to implement other practices. For instance, in France, Germany, Spain and Italy respectively it was resolved to re-employ part-time workers, temporarily dismissed workers and unemployed citizens in agricultural sector (Mitaritonna and Ragot, 2020).

On a global scale generic features of seasonal labor employed in agricultural sector can be listed as below;

- They come temporarily from low-income states, either hold seasonal visa or participate as unregistered workers in agricultural sector. They are undocumented workers.
- It depends on the employees alone mostly to certify their right to reside in host country.
- Working conditions are tough and they generally live in populated settings.
- They travel in groups to find work.
- There is very low potential for them to obtain and exercise their personal rights in occupational health and safety.
- They have no rights such as labor indemnity, healthcare service, social insurance payments or governmental payments offered to compensate pandemic period (Reid et al., 2020).

Due to abovementioned reasons seasonal agricultural workers are devoid of social security. As they work and live in crowded settings the risk to catch illness climbs higher among them. As they have high level of mobility because of working conditions, the risk to increase the infection goes up.

### *Covid-19 and its effects on the Seasonal Labor in Türkiye*

Compared to other sectors agricultural sector has a labor-intensive production process; hence in agricultural sector the risk to be impacted from Covid-19 pandemic is much higher than other sectors. That is because in Türkiye nearly all of the agricultural production operations are conducted in rural areas. Residents of rural areas are more vulnerable than urbanites in the face of health risks (OECD, 2020b; IFAD et al., 2020). The reasons for the higher risk of health among the residents of rural areas are such;

- Limited and labor-intensive nature of work areas,
- Large population of the elderly and poor who are under a huge risk of severe diseases,
- Failure to form a virtual work setting or establish a work environment which observes social distancing rules and has limited capacity to perform work from home,
- Low level of savings and revenues due to restricted amount of income; thereby requirement to keep on working,
- Difficulty to pay hospital visits due to present conditions and being forced to travel longer than city dwellers to access hospitals and test centers,
- Based on the mean age and education level, difficulty to achieve technological adaptation and limited internet access (coverage zone, connection speed, level of knowledge and weak skills in competent use of the internet etc.).

Next to health-related risks difference in the socio-economic conditions in rural and urban settings are also effective factors in escalating the disadvantages and limitations of the population employed in agriculture. Economically speaking, because of the lowness of agricultural income and in terms of social dimension, high mean age of agricultural workers are impediments in building new employment areas by forming modern investments in rural settings and effective use of technology. While posing a threat towards efficient and sustainable agricultural operations, these factors also magnify the disadvantages related to agricultural population and agricultural employment. Combined with existing problems risks that emerged in pandemic period have some impact on various factors related to the sector. Failure to effectively use technology in pandemic period made it vital to continue labor-intensive production operations. Covid-19 pandemic's impacts on the small-

scale plant and animal producer companies in Türkiye have been comprehensively examined in Table 1 by including all the relevant factors. Due to a temporary break in educational activities, participation of youngsters whose parents worked in agricultural production soared in pandemic period. Particularly at production operations such as maintenance and harvesting stage of fruits and vegetables, there was demand for intense labor and increased need for workers was met by the internal resources of companies. The Table evidence that although existing conditions remained unchanged for a number of factors there were negative changes in terms of the economic and social impact. In addition to negative trends in agricultural sector, the facts that use of technology remained the same, not any new partnerships could be formed in agricultural companies and input sales remained constant reveal that those people employed in agricultural sector have limited capacity to stand upright in the face of crises. These limitations signal that during Covid-19 pandemic period agricultural production is impacted by the economic reality, social and health conditions, technology use and environment and via these factors seasonal agricultural workers are directly impacted from the crisis.

Although in terms of seasonal labor features Türkiye has a similar structure to the world; during Covid-19 pandemic period it experienced a different reality than the reality of other countries. It is projected that in Türkiye the number of seasonal agricultural workers is circa 1 million. It is suggested that about 60% of seasonal labor in Türkiye consists of migrant and refugee workers. Socio-economic changes witnessed in agricultural sector particularly during the last 10 years increased the demand of agriculture companies for seasonal foreign labor who offered advantage in terms of production costs, demanded no social security rights and supplied cheap labor for agriculture sector market (Bayramoğlu and Bozdemir, 2019; Bozdemir et al., 2019).

Table 1. Impacts of Covid-19 on the Plant and Animal Production in Türkiye

LS	Impact of Level	Indicators	Crop Production						Livestock Production			
			GR	PL	RT	FR	VG	VGR	RM	MK	EG	HN
1	Economic Impact	Income	2	3	3	1	3	1	3	2	1	1
		Input purchases	2	3	3	1	1	1	2	1	4	4
		Input sales	2	2	2	2	2	2	3	2	4	4
		Number of buyers	2	3	2	1	3	1	2	2	1	1
		Cost efficiency	2	2	2	3	3	3	1	1	4	4
		Achievable input prices	2	3	2	3	3	3	1	1	4	4
2	Social Impact	Tendency to remain on the farm	2	2	2	2	3	3	2	2	4	4
		New collaborations set-up	2	2	2	2	2	2	2	1	4	4
		Women's participation in the labour force	2	2	2	2	2	2	2	4	4	4
		Youth participation in the labour force	2	2	2	1	2	1	2	4	4	4
3	Health Impact	Mask use	1	1	1	1	1	1	1	1	1	4
		Care for physical distancing	1	1	1	1	1	1	1	1	1	4
		Care for personal hygiene	1	1	1	1	1	1	1	1	1	4
		Concern for In-House Cleanliness	2	2	2	2	2	2	2	2	4	4
		Concern for Environmental Cleanliness	2	2	2	2	2	2	2	2	4	4
4	Technology Use	2	2	2	2	2	2	2	2	4	4	
5	Environmental Impact	2	2	2	2	2	2	2	1	4	1	

1 : Increase      2 : No Change      3 : Decrease      4 : No Information  
 LS: Level of Significance; GR: Grain; PL: Pulses; RT: Roots and Tubers; FR: Fruits; VG: Vegetables; VGR: Vegetables (Greenhouse); RM: Red Meat; MK: Milk; EG: Eggs; HN: Honey; Resource: IFAD et al., 2020.

Table 2. Work and life Conditions of Seasonal Agriculture Workers

City	Temporary Tent Settlement	Number of People Living in Tent	Number of Employees	Working Time (Months)	Products
Adana	47	2.200	15.000	12	Citrus fruits, summer-winter vegetables, melons, watermelons, peanuts, potatoes, fresh and dry onions
Ankara	46	2.638	20.000	7	Sugar beet, onions, potatoes, carrots, lettuce, beans, chickpeas, cumin, cherries
Konya	96	4.220	32.000	7	Sugar beet, dried beans, chickpeas, lentils, cumin, anise, tomatoes, peppers, cabbage, onions, potatoes, cherries, poppy, sunflower, maize
Eskisehir	20	1.032	7.000	7	Sugar beet, tomatoes, peppers, cabbage, lettuce, onions, potatoes, cherries
Bursa	27	777	4.300	7	Tomatoes, peppers, green beans, artichokes, onions, potatoes, pears, peaches, cherries, olives
Duzce	-	-	15.000	1	Hazelnut
Sakarya	-	-	-	3	Tea
Trabzon	-	-	-	-	-

Resource: Development Workshop, 2020.

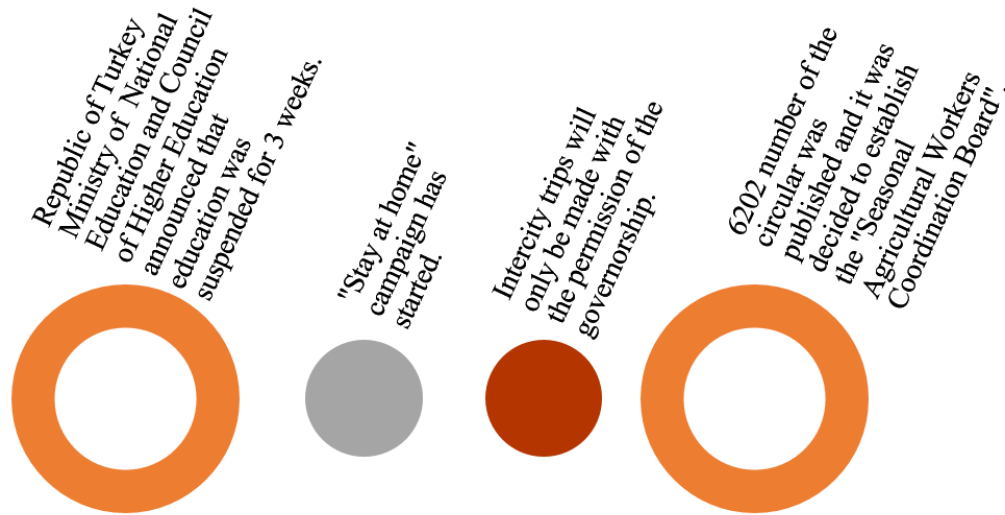


Figure 1. Dates of the Measures effectuated in Türkiye during Covid-19 Pandemic Period

In addition, since around 85% of labor demand in agriculture could be supplied internally there were no emergent problems due to a lack of labor in production. It is suggested that in Türkiye seasonal agricultural workers mainly move from the Southeastern Anatolia Region in April and they work in the agricultural operations across a total of 50 cities about 4-8 months long (Support to Life, 2020). The Table displaying seasonal agricultural workers' work and life conditions has been drawn by selecting specific cities on the map prepared by Development Workshop (2020). As seen in the Table, during year 2020 15.000 seasonal workers joined agricultural production within the provincial borders of Adana. Citrus fruits at the top of the list; maintenance and harvesting operation of agricultural products is performed by seasonal agricultural workers 2.200 of whom live in tents. In Adana city, there is a total of 47 temporary tent settlements (Table 2). Shared living and working spaces increase the health risk associated with Covid-19 pandemic situation.

Living in tent settlements, travelling to work sites as groups and lacking social security; seasonal labor represents the labor class and social group most heavily affected from Covid-19 pandemic period. However, in order to survive financially, they are obliged to join production operations. Very first measures effectuated in Türkiye upon the first case on 11 March 2020 are as analyzed in Figure 1. On 12 March 2020, Ministry of National Education (MEB) and Institute of Higher Education (YÖK) announced a three-week break in all educational activities. This resolution addressing to every citizen affected school age children of seasonal agricultural workers more adversely than other children because children whose parents worked in agricultural sector not only took a break in their education, but they also had to join agricultural production as labor. It is projected that the number of child labor below age 18 in agricultural sector equals to one third of the total number of workers in sector

(Development Workshop, 2020). In entire world prevalence of child labor is 14% in rural areas (ILO and UNICEF, 2021). It is estimated that restricted access to education during Covid-19 pandemic period heightened the total sum of child workers in agricultural sector. Via governorship order seasonal agricultural workers were exempted from “Stay Home” campaign issued on 18 March 2020 and intercity travel ban as of 28 March 2020. Subject to permit, seasonal agricultural workers were able to travel and ensure the sustainability in production. On 3 April 2020 6202 no. directive was issued. Practices to follow in the regulation of living sites of seasonal agricultural workers and rules to abide by in shared sites were specified within the context of this directive. “Seasonal Agricultural Workers Coordination Board” was founded on the same date and each city started to adopt and implement measures against Covid-19 pandemic within its own body.

Within the scope of updated resolutions and practices 6202 no. Directive has been effective to this date. Items within the framework of this Directive are hereinafter;

- The process will be executed in accordance with the resolutions adopted by Province/District Hygiene Boards.
- In the facility/container/tents where seasonal agricultural workers are to accommodate the distance between beds will be minimum 1,5 (one and a half) meters; in social sites social isolation distance between every person will be minimum (1,5 meters), closed areas will regularly be aired and if cannot be aired, the distance will be extended (minimum 3 meters).
- Distance between every tent will be increased, thus it will be viable to minimize humidity and wetness in settlement sites.
- Healthcare services will be provided by Province/District Directorates of Health and community health centers.
- Local administrations will be directed to regularly disinfect accommodation sites of seasonal agricultural workers.
- In accommodation sites and work areas, drinkable/usable water will be provided, collection of solid and domestic wastes and control of environmental conditions will be guaranteed.
- It will be ensured that in the accommodation sites of newcomers there will be sufficient soap nearby water resources.
- In the common sites of seasonal agricultural workers, as a must, permanent or mobile WC-bathroom etc. will be mounted, basic hygiene conditions will be secured and to achieve that objective, resources offered by AFAD (Disaster and Emergency Management Presidency) Provincial Directorate will be utilized.
- Special hygiene care will be given in the sites arranged for children.
- Primary community health measures exclusive for the pregnant and nursing women, babies, disabled citizens, and individuals above age 65 will be adopted and implemented.

## Results and Discussion

Agricultural sector plays vital role in the production of staple food items and offers livelihood for around 2,5 billion of world population. Added to that, agricultural sector is significant as it interacts with environmental conditions, depends on natural resources and acts as a vital player in both economic and social development. Considering all these factors it is essential to build a resolute and sustainable agriculture system on a global in times of crisis at most. In order to build such a system, at first, it is required to improve work and life conditions of seasonal agricultural workers who take active role in the execution and continuity of agricultural production. Countries are required to determine the kind of products that can offer them self-sufficiency in agricultural production and gain competitive advantage and then execute strategies in planning the production process. Production planning should especially be executed in countries such as Türkiye having small and fragmental businesses, remained inactive due to inheritance law and organization level and with a low level of value-added production and in areas where the use of technology is ineffective. Therefore, all natural resources will be used actively and efficiently, policies to boost the qualities of labor will be designated and opportunities for novel entrepreneurship will be designed in rural areas. To the ends of improving labor qualities, however, it is required to identify quantitative and qualitative assets, magnify their visibility, diminish participation in undocumented works and by observing a rights-based approach, regulations on agricultural employment should be effectuated. To conduct all of these activities, all types of labor joining agricultural employment should be completed through an organized action. Hence it will be conducive to protect employee personal rights of agricultural workers; to improve wage policies in the sector; to propose specific social security practices; to provide convenient access for healthcare services and to develop a technology-based system in which labor mobility can be tracked and checked. Via this developed system people employed in agriculture will be registered, trainings will be organized to gain expertise to the workers and boost technology use and by promoting entrepreneurship opportunities in rural areas, start-up actions aimed at agricultural sector will be supported. In order to conduct organized operations, it is vital to build partnerships with concerned institutes and establishments, to present a role model via organized workshops and take action through micro-leveled practices. The moment organized actions gain success, workers who are willing to benefit from increased welfare; gain expertise in their work; and be included within the framework of social security will be motivated to join organized operations. The entire process will offer benefits to boost the qualities of labor employed in agriculture most of which is formed by seasonal agricultural workers on top. Besides, registering the quantitative features of labor, strength in labor qualities and achieving integration with technology use will ease controlling the times of crisis. Data obtained from documented operations and traceable features of agricultural labor will expedite planning in times of crisis and actions towards strategy setting. Organization is a key solution in times of crisis as it will facilitate access to health facilities.



With the outbreak of Covid-19 pandemic as a global health crisis emerging risks in meeting staple food items contributed to better appreciating the value of agricultural sector and enhanced its visibility. In that period increased demand for agricultural products brought forward the concept of self-sufficiency, exposure to food safety problem and difficulty in supplying seasonal agricultural workers required to ensure the sustainability of production. During pandemic period it got harder for the seasonal labor who plays vital role in the continuity of agricultural production to join global production operations. Closure of borders mandated the countries to effectively employ national resources at production processes, thereby forcing them to engage in the kind of operations that fueled self-sufficient production. In pandemic time, procuring seasonal agricultural workers got harder and countries were then forced to develop immediate policies. Contrary to the labor supply problem globe wide, an opposite reality surfaced in Türkiye. After the political upheavals in the Middle East, as of year 2011, a corresponding rise has been recorded in Türkiye's migrant and refugee population thus there has been a structural change in the seasonal labor of agricultural sector. A vast majority of migrant and refugee population is employed basically in agricultural sector rather than other businesses since they lack the required skills, have no professional equality certificate and lack language competency. Resident seasonal agricultural workers played vital role and assumed huge responsibility in preventing potential problems during agricultural production. Despite those seasonal agricultural workers' poor life conditions, undocumented status in employment, absence of social security and many other problems combined with health risks made their work conditions even more dangerous. Work conditions during Covid-19 pandemic escalated seasonal disadvantages and social fragility of agricultural workers. Against all relevant health risks, seasonal agricultural workers continued to take part in agricultural production to secure their financial survival.

Ongoing health crisis, by directly altering work processes, urged to increase physical distance and implement wide scope measures in regulating work conditions. Mainly, because of the work and life conditions of seasonal agricultural workers who belonged to the disadvantageous and fragile groups of labor market it became more essential to organize their physical settings and take measures against pandemic outbreak. Within that context 6202 no Directive was issued in Türkiye. The Directive stipulated to make physical adjustments that suited to the work and life conditions of seasonal agricultural workers. Nevertheless, social and psychological risks that emerged during the process were not analyzed within the context of directive. Due to short-term and undocumented work style that deprived them of social security seasonal agricultural workers could not take part in work life under the collective rights of work, life and travel. Their conditions are far from employment terms of "decent work" defined by the International Labour Organization-ILO. Because of the fact that they have to participate in production under all circumstances to secure their financial existence it is likely that seasonal agricultural workers would feel themselves miserable and worthless. Besides since work and life conditions are integrated and family members are also active in work

processes there is a greater health risk among seasonal agricultural workers and that reality has been a common source of stress among parents in terms of protecting children's health. That being the case it is essential to include measures to protect social and psychological wellbeing within the context of this directive. To minimize social and psychological problems it is a must to form in agricultural sector a labor organization that protects employee personal benefits, specifies work standards and helps in increasing the income. It is vital to effectuate a legal regulation, even if it may only include minimum assets, for seasonal agricultural workers to make sure that they are treated within the scope of social security. Additionally, through the medium of nongovernmental organizations and cooperation among relevant agencies and institutes it is suggested to implement psychological counseling services for seasonal agricultural workers.

During Covid-19 pandemic period young workers in the companies as well as school- age children of seasonal agricultural workers could not regularly attend academic settings, hence they had greater participation in production operations. Online education practices negatively affected academic experience of children having no internet access and those required to partake in agricultural production. So as to diminish the disadvantages caused by this reality, mobile school practices should be adopted to help children continue education and voluntary teachers should cooperate to eliminate emergent disadvantages in education process. With the partnership of T.R. Ministry of Agriculture and Forestry, T.R. Ministry of National Education and nongovernmental organizations exclusive curriculums should be designed, coordinated and implemented for the children of seasonal agricultural workers. Failure in equality of opportunity in education and low wages allotted to seasonal agricultural workers in production process will, in the long term, inevitably lead to the continuity of the vicious cycle of poverty and ignorance. To break this vicious cycle, it is suggested to abide by the recommendations and resolutions taken by ILO to stop child labor. In order to ensure that children who lacked/discontinued education because of agriculture labor obtain continuous education they should be led towards state boarding schools, receive vouchers to gain training in private academic foundations, families should be furnished with incentives to help them send their kids to school; controlling in production sites should be more frequent and legal sanctions should be applied to companies employing child labor and projects and programs that can raise public awareness and support education should be effectuated.

## References

- Abdelhedi IT, Zouari SZ. 2020. Agriculture and food security in North Africa: a theoretical and empirical approach. *Journal of the Knowledge Economy*, 11(1): 193-210.
- Aday S, Aday MS. 2020. Impact of COVID-19 on the food supply chain. *Food Quality and Safety*, 4(4): 167-180.
- Barro RJ, Ursua FJ. 2008. *Macroeconomic Crises since 1870*. Brookings Papers on Economic Activity, Economic Studies Program, The Brookings Institution, 39(1): 255-350.
- Bayramoglu Z, Bozdemir M. 2019. Evaluation of external immigration's effects on seasonal agricultural labour. *Journal of the Institute of Science and Technology*, 9(2): 1164-1176.

- Bayramoğlu Z, Bozdemir M. 2020. Definition of labour terminology in the agricultural sector. Turkish Journal of Agriculture - Food Science and Technology, 8(3): 773-783.
- Bloomberg, 2021. Russia Wants to Limit Grain Exports to Protect Food Supplies. Available from: <https://www.bloomberg.com/news/articles/2020-03-27/wheat-futures-rise-as-russia-considers-grain-export-quota> [Accessed 07 July 2021]
- Bochtis D, Benos L, Lampridi M, Marinoudi V, Pearson S, Sørensen CG. 2020. Agricultural workforce crisis in light of the COVID-19 pandemic. Sustainability, 12(19): 8212.
- Bozdemir M, Gülçubuk B, Bayramoğlu Z. 2019. INSAC Tarımda göçmen-mülteci istihdamı ve kırsalda emek temelli çatışma örüntüleri Konya, Türkiye 19-20 Nisan 2019, 2. Uluslararası Bilim ve Akademi Kongresi, s. 309-317.
- Ceylan RF, Ozkan B, Mülazımoğulları E. 2021. The effects of pandemic diseases on the world economy. The Journal of Social Economic Research, 21(1): 1-9.
- Development Workshop, 2020. Virüs mü, Yoksulluk mu?, Korona Virüs Salgınının Mevsimlik Gezici Tarım İşçileri ve Onların Çocukları ile Bitkisel Üretime Olası Etkisi. Şu adresten erişilebilir: [https://www.ilo.org/wcmsp5/groups/public/---europe/---ro-geneva/---ilo-ankara/documents/publication/wcms\\_743368.pdf](https://www.ilo.org/wcmsp5/groups/public/---europe/---ro-geneva/---ilo-ankara/documents/publication/wcms_743368.pdf) [Erişim tarihi 16 Temmuz 2022]
- Doğan Y, Doğan S. 2020. Koronavirüs pandemisi ve türkiye’de bitkisel üretime etkisi. Artuklu Kaime Uluslararası İktisadi ve İdari Araştırmalar Dergisi, 3(1): 41-55.
- European Parliament, 2021. Migrant Seasonal Workers in The European Agricultural Sector, European Parliamentary Research Service. Available from: [https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/689347/EPRS\\_BRI\(2021\)689347\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/689347/EPRS_BRI(2021)689347_EN.pdf) [Accessed 16 July 2020]
- FAO, 2020. Food and Agriculture Organization of the United Nations, Policy Responses to Keep Input Markets Flowing in Times of Covid-19. Available from: <http://www.fao.org/3/ca8979en/CA8979EN.pdf> [Accessed 21 June 2021]
- Fenske RA, Pinkerton KE. 2021. Climate change and the amplification of agricultural worker health risks. Journal of Agromedicine, 26(1): 15-17.
- Fortuna G, Foote N. 2020. Seasonal workers, CAP and COVID-19, Farm to Fork. Available from: <https://www.euractiv.com/section/agriculture-food/news/seasonal-workers-cap-and-covid-19-farm-to-fork/> [Accessed 03 August 2021]
- Gustafson S, 2021. FAO. Food and Agriculture Organization of the United Nations, Food Price Index Continues to Surge. Available from: <https://www.foodsecurityportal.org/node/1726> [Accessed 03 August 2021]
- ILO, 2020a. International Labour Organization. Available from: [https://www.ilo.org/wcmsp5/groups/public/---ed\\_dialogue/---sector/documents/briefingnote/wcms\\_742023.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/briefingnote/wcms_742023.pdf) [Accessed 15 May 2021]
- ILO, 2020b. International Labour Organization. Available from: [https://www.ilo.org/global/topics/labour-migration/publications/WCMS\\_745481/lang--en/index.htm](https://www.ilo.org/global/topics/labour-migration/publications/WCMS_745481/lang--en/index.htm) [Accessed 16 July 2021]
- International Fund for Agricultural Development (IFAD), United Nations Development Programme (UNDP) and Food and Agriculture Organization (FAO), 2020. Covid-19 Rapid Impact Assessment on The Agri-Food Sector and Rural Areas in Türkiye. ISBN: 978-605-80545-4-7.
- International Labour Organization (ILO) and United Nations Children’s Fund (UNICEF), 2021. Child Labour: Global Estimates 2020, Trends and The Road Forward. ISBN: 978-92-2-034878-9.
- International Labour Organization (ILO), 2018. The Employment Impact of Climate Change Adaptation, Input Document for the G20 Climate Sustainability Working Group. ISBN: 978-92-2-031114-1.
- International Organization for Migration (IOM), 2009. Migration, Environment and Climate Change: Assessing the Evidence. ISBN 978-92-9068-454-1.
- IOM, 2020. International Organization for Migration. Available from: [https://www.iom.int/sites/default/files/documents/seasonal\\_agricultural\\_workers\\_27052020\\_0.pdf](https://www.iom.int/sites/default/files/documents/seasonal_agricultural_workers_27052020_0.pdf) [Accessed 16 July 2021]
- Jambor A, Czine P, Balong P. 2020. The impact of the coronavirus on agriculture: first evidence based on global newspapers. Sustainability, 12(11): 4535.
- Kogo BK, Kumar L, Koech R. 2020. Climate change and variability in kenya: a review of impacts on agriculture and food security. Environment, Development and Sustainability (in press).
- Lampridi MG, Sørensen, CG, Bochtis D. 2019. Agricultural sustainability: a review of concepts and methods. Sustainability, 11(18): 5120.
- Lopez-Ridaura S, Barba-Escoto L, Reyna C, Hellin J, Gerard B, Van Wijk M. 2019. Food security and agriculture in the Western Highlands of Guatemala. Food Security, 11: 817-833.
- Mitaritonna C, Ragot L. 2020. After Covid-19, will seasonal migrant agricultural workers in Europe be replaced by robots? Policy Brief, No:33, Research and Expertise on The World Economy.
- OECD, 2020a. Organisation for Economic Co-operation and Development. Available from: <https://www.oecd.org/agriculture/fruit-vegetables/> [Accessed 03 August 2021]
- OECD, 2020b. Organisation for Economic Co-operation and Development. Available from: <http://oecd.org/coronaviruses/policy-response/food-supply-chains-and-COVID-19-impactsand-policy-lessons-71b57aea/#endnotea0z23> [Accessed 12 December 2020]
- Pulighe G, Lupia F. 2020. Food first: COVID-19 outbreak and cities lockdown a booster for a wider vision on urban agriculture. Sustainability, 12(12): 5012.
- Reid A, Ronda-Perez E, Schenker MB. 2020. Migrant workers, essential work, and Covid-19. American Journal of Industrial Medicine, 64: 73-77.
- Stephens EC, Martin G, Wijk MV, Timsina J, Snow V. 2020. Impacts of COVID-19 on agricultural and food systems worldwide and on progress to the sustainable development goals. Agricultural Systems, 183: 102873.
- Support to Life, 2020. Available from: <https://www.hayatadestek.org/bulten/covid-19-salgininda-mevsimlik-tarimda-calisan-ailelerin-ve-cocuklarin-korunmasi/> [Accessed 16 July 2021]
- The World Bank, 2021. Available from: <https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS> [Accessed 16 July 2021]
- UNCTAD, 2020. United Nations Conference on Trade and Development. Available from: [https://unctad.org/system/files/official-document/ditctabinf2020d9\\_en.pdf](https://unctad.org/system/files/official-document/ditctabinf2020d9_en.pdf) [Accessed 10 July 2021]