RESEARCH ARTICLE OPEN ACCESS

Comparison of Disaster Preparedness Risk Management Strategies and Perceptions of Agricultural Producers with Different Sectors: The Case of Konya

Vildan KOÇBEKER[1], Yunus AKDOĞAN[2]
ORCİD 0000-0002-2467-4590[1]
ORCİD 0000-0003-3520-7493[2]

Abstract
Konya meets approximately 15-17 per cent of Turkey's agricultural production and is a pioneer in cattle and sheep breeding and fodder crops production. Considering the contribution of agricultural activities to the national economy, it is critical to increase the resilience of farmers against the potential impacts of climate change and disasters. This resilience can be ensured through active participation of farmers in mitigation, preparedness, response and recovery phases of disaster management. Konya's geological structure and climate characteristics are identified with potential hazards such as meteorological disasters, floods, floods, rock falls, landslides, sinkholes, fires, industrial accidents and earthquakes. The agricultural sector is more vulnerable to these disasters and the impacts of climate change than other economic activities. Precautions and correct behavioural changes by farmers will increase social resilience and ensure that the food needs of the growing population are met. This study was conducted among individuals actively working in the fields of health, agriculture and education in Konya province (N=2.277.017) and the differences in the scores of the Disaster Preparedness Scale Based on Belief Model are compared. The scores of students and health workers are found to be higher than those of farmers. A large part of the society does not have sufficient knowledge about the disasters of the region they live in. Both the safety of living spaces and the sustainability of economic activities are closely related to strategies to manage existing risks. In order to create behavioural change that can manage risks, knowing the reasons that create disaster preparedness perceptions is the basis of the policies to be implemented in supporting sustainable ecosystems and social stability. Moreover, understanding the disaster preparedness beliefs of the society is important for analysing the right behavioural decisions of the society against disaster risks. There is a need for vocational training and information activities in the field of disaster management in order to create emergency plans. In Konya, 75 per cent of the active population is engaged in agriculture, animal husbandry, fishing, hunting and forestry and 40 per cent of the annual net income comes from agriculture. In this context, the factors affecting the beliefs of agricultural producers about disaster preparedness, risk management and correct behaviour change are investigated.

Keywords: Disaster, Resilience, Risk, Climate Change, Agriculture

---

Date of Submission: 15-01-2025 Date of acceptance: 30-01-2025

---

[1]SelcukUniversity, Beyşehir Ali AkkanatAppliedSciences High School, TheDepartment of EmergencyAidandDisaster Management, KONYA-TURKEY
[2]Selcuk University, Department of Statistics, KONYA-TURKEY
*Corresponding author: : vildankocbeker@selcuk.edu.tr

I. INTRODUCTION

When the development plans made in Turkey in 1960 and later and the effects of disasters that occurred in our country are examined, it is not possible to talk about a sustainable development plan without implementing effective policies and strategies that will reduce disasters and risks (Ergünay, 2009; Kadıoğlu, 2011). Within the scope of disaster management, reducing losses and damages, preparation, prediction and early warning, and pre-disaster protection activities are considered as Risk Management; and post-disaster activities such as impact analysis, intervention, improvement and reconstruction are considered as Crisis Management (Kadıoğlu, 2008). It is important to prepare risk reduction strategy plans on a provincial basis (Tezer and Türkoğlu, 2008) and to update existing emergency plans (Koçbeker, 2019) in order to reduce the physical, social, economic and environmental damages that disasters will cause. Considering that the decrease in agricultural production for Konya province will have serious consequences for the country's economy, agricultural risk management is a dynamic process that requires strategic planning and includes all stakeholders. In 2019, 927,082 of the total 17,872,331 cattle and 2,459,960 of the 48,481,479 sheep and goat in Turkiyewere in Konya province. In addition, it is reported that 10.5 million of the 60 million laying hens were in this province (Anonymous, 2019).

According to the data of the Ministry of Agriculture and Forestry, Konya has become the province with the highest milk production and approximately 20% of egg production in Turkiyein 2019 with 1 million 315 thousand 120 tons of milk production. Konya also ranks first in Turkiyein terms of total agricultural area, grain products, fallow area and other plant products; The cultivated agricultural area is determined to be 13,054,000 decares. The amount of irrigable land is 1,652,762 hectares, and according to data based on existing water resources, it is observed that 595,059 hectares of land is irrigated (IRAP, 2021). The region is the leading producer of the Turkish market in the agricultural machinery and equipment sector and one of the leading provinces in exports. Konya ranks first in the production of milk, wheat, sugar beet, barley, carrots, cherries, dry beans, broad beans and tulips; It ranks second in poppy, corn, potato, grape, pea, alfalfa, sunflower, melon and cherry production. However, there are multifaceted risks that threaten the existing agricultural potential in the region, and this leads to losses that are difficult to quantify (Kara and Yerli, 2022). Aninterdisciplinary approach is required to record risks and experienced events in order to minimize losses.Also, training for damage reduction and preparedness is needed to be carried out according to realistic disaster scenarios that will be created from existing data. Assessing existing risks with a holistic approach will help with more accurate planning of the basic stages of disaster management. It has been reported that producers' understanding of the real causes and consequences of risks increases their likelihood of taking precautions to adapt (Zhai et al., 2018). The decrease in the water level in Lake Beyşehir, the most important freshwater source of the Konya Closed Basin, has reached remarkable levels. The efforts made by the Ministry of Agriculture and Forestry emphasize that precipitation and water scarcity are important pressure factors in the region (Anonymous, 2021).

In addition to low precipitation, high evaporation, excessive water withdrawal and agricultural water consumption are also among the factors that increase the severity of drought. Among the meteorological extreme values recorded in Konya city center between 1929 and 2020, the highest temperature was 40.6 °C (July 30, 2000), the lowest temperature was -28.2 °C (January 6, 1946), the highest precipitation was 73.7 kg/m² (February 22, 1945), the fastest wind was 32.4 m/s (April 18, 2012) and the highest snow height was 66 cm (February 22, 1945). The average value recorded in the same period was 11.7 °C for annual average temperature, 4.4 hours for annual average sunshine duration, 329.2 mm for annual average total precipitation and 102.8 annual average number of rainy days (Anonymous, 2021).

Recording the damages caused by extreme environmental temperatures is an important data source for future disaster scenarios. Such high or low temperatures mayunfavouraby affect farmers' activities by causing secondary problems such as loss of wetlands, animal deaths and diseases, decreased soil quality, increased dust, food insecurity and economic disruption. Such meteorological events require preparation and damage reduction planning. It is of great importance for farmers to be informed in advance so that they can follow the days when these extreme values will occur and deal with themthem with minimal damage. The heavy rainfall that caused material damage in Konya in 2020 caused the death of many small, sheep and cattle. In addition to the rains, hail caused damage to cultivated areas and fruit trees (IRAP, 2021). The most important steps in reducing losses and damages is to prepare flood risk management plans for basins within the provincial border for possible flood and informthe farmers to take precautions by evaluating hazard and risk maps. The flood management plan

prepared by the General Directorate of Water Management reported that a total of 237 flood and inundation events occurred in Konya province (SYGM, 2021).

It has been reported that the monitoring of meteorological data and the clear perception of climate change by farmers in the form of increasing average temperatures, decreasing precipitation and increasing frequency of extreme weather phenomena will also increase the possibility of adopting different strategies to adapt to climate change (Zhai et al., 2018). In recent years, crops that meet their water needs with precipitation such as wheat, barley and oats have given way to crops such as corn, sugar beet, alfalfa and green vegetables that need more water. The replacement of small livestock farming with large livestock, increasing population and industrialization are among the factors that increase water use in the region. Uncontrolled water use in agricultural sector poses a significant risk for sustainable agriculture. In addition, increasing sinkhole formation due to excessive groundwater use is another risk factor in the region. According to a fieldstudy conducted by General Directorate of State Hydraulic Works in 2008, there are nearly 94,000 groundwater pumping wells in total in Konya Closed Basin; 27,140 of these are licensed and 66,808 are illegally drilled and operated. Since illegal wells lack technical support, they cannot be monitored and it is not known how much water they pump. While the average annual precipitation is 622 mm/m² in Turkiye, the Konya Closed Basin receives only half of this amount, remaining at an average level of 318 mm/m². Despite this, it is the water basin with the highest groundwater extraction in Turkiye. Agricultural activities have significant environmental, economic and social tolls on water, soil, biodiversity and natural resources. Therefore, policies are needed to support production activities through necessary knowledge and capacity for adaptation to regional risks. Promoting sustainable agricultural practices and providing opportunities for active, proactive change, an integrated disaster management approach with preparation and planning in which all stakeholders, not just public institutions, take responsibility, can help overcome existing risks (Bigi et al., 2017; Gatzweiler and Braun, 2016; FAO, 2014).

12.5% of Konya's surface area is covered with forests. Between 2011 and 2020, a total of 209 forest fires broke out in the 2nd and 3rd degree vulnerable areas, and 446.67 hectares of forestland weredestroyed. The bowl-shape of the Konya Plain is an important contributor to the high density of fog in the area, which makes Konya a city with the highest number of foggy days all year round. This element should be evaluated in terms of transportation.

Risk management includes assessing the risks of possible accidents in the distribution and supply chain of strategic resources (water, oil, gas),as well as food, that have the potential to affect all sectors. It also includes taking necessary measures and making prior praparation for possible accidents that may cause leaks during chemical substance transportation. This risk management plan includes safe arrival at critical sites as well.

Although Konya is largely located in a safe zone in terms of earthquake risk, there are active or potentially active faults in the region (IRAP, 2022). When evaluating the disaster risk of Konya, it is important to determine the disaster perceptions of the local people, their decisions to adopt the measures to be taken, and the obstacles and driving forces for these decisions. These data provide important implications in the planning of public policies to be implemented, the general framework of education and publication activities to be prepared, and the measures to be taken. It has been reported that disaster training increases the level of disaster awareness and perception (İnal et al., 2012; Güner, 2016; Kadıoğlu and Uncu, 2018; Özen, 2020; Avcı et al., 2020), is effective in alleviating the concerns of those working in this field (Kaya et al., 2012; Dikmenli and Yakar, 2019), significantly affects participation in disaster drills (Şen and Ersoy, 2017) and perception of disaster preparedness (Göktekin and Mabuk, 2018; Tercan and Şahinöz, 2021; Tan and Acımış, 2022). There are very few studies on the adaptation to and compliance of the agricultural sector with disaster risks. In this study, the perceived benefits, beliefs and vulnerabilities of the people of Konya regarding disaster preparedness were examined in terms of perceived obstacles, perceived severity, action-provoking factors and self-efficacy.

II. MATERIAL METHOD

Data control is performed using frequency analysis to analyze the data obtained from the surveys. Since previously existing scales are used for the validity of the general disaster preparedness belief (GDPB) scale, confirmatory factor analysis (CFA) is performed. Again, Cronbach's alpha coefficient is calculated for reliability analysis for each scale. The normal distribution of the scores obtained from the scale is tested using the Kolmogorov-Smirnov test, and again for variance homogeneity, the Levene test. Of parametric tests,one-way analysis of variance (ANOVA) is used for more than two independent groups for the analysis of the data, and the independent two-group

T-test is used for two independent groups. Further, Pearson correlation coefficient is employed for relationship analysis. AMOS 22 and SPSS 22 package programs are used in the statistical tests of the study.

Ethical Aspect of the Research

The ethical approval required for this research was obtained from Selçuk University with the protocol number 2022/478 on 22.11.2022. Written permission was obtained from the owner of the scale for the "GDPB Scale" to be used in the research. During the research, the confidentiality of the participants and the anonymity of the data are protected, the participants were given detailed information about the research, and participation was completely voluntary.

III. Findingsand Discussion

In order to determine the construct validity of the previously developed GDPBscale, multi-factor CFA is performed with the SPSS AMOS 22 program (İnal et al., 2018).

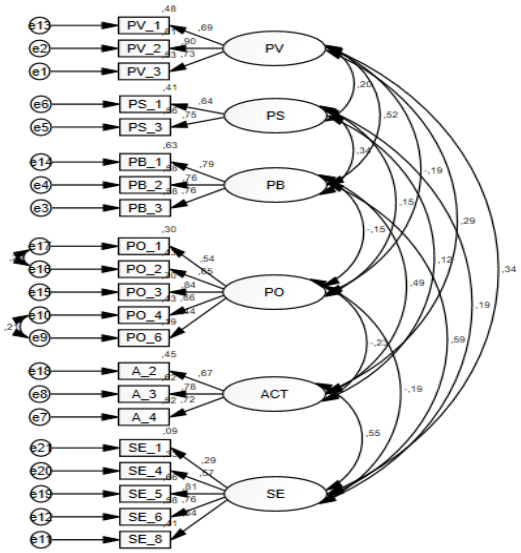

Figure 1.GDPB Scalemeasurement model

When the fit values produced by the measurement models created to test the validity of the scales are not within acceptable limits, the changes made to the scale as a result of modifications are shown in Table 1, and the fit values produced by the measurement models are shown in Table 2.

Table 1. Changes Made to the GDPB Scale

	Subdimensions	Number of statements	Number of excluded statements	The type of confirmatory factor analysis used
Disaster Preparedness Scale Based on Belief Model	Perceived Susceptibility	6	3	Multifactor Confirmatory Factor Analysis
	Perceived Severity	3	1	
	Perceived Benefit	3	-	
	Perceived _Obstacles	6	1	
	Activators	5	2	
	Self-efficacy	8	3	

Since the fit values produced by the measurement models created to test the validity of the scales were not within acceptable limits, necessary modifications weremade. After the modifications, 3 items (items 4, 5 and 6) were removed from the perceived susceptibility sub-dimension of the GDPB Scale, 1 item (item 2) from the perceived severity sub-dimension, 1 item (item 5) from the Perceived Obstaclesscale, 2 items (items 1 and 5) from the Activators sub-dimension and finally 3 items (items) from the self-efficacy sub-dimension. (Table 1)

Table 2. Adaptation Values of Disaster Preparedness Scale Based on Belief Model

	X^2	df	X^2/df	GFI	CFI	RMSEA
Disaster Preparedness Scale Based on Belief Model	851.114	172	4.948	0.962	0.953	0.044
Optimum adaptation values			**≤3**	**≥0.90**	**≥0.97**	**≤0.05**
Acceptable adaptation values			**≤4-5**	**0.89-0.85**	**≥0.95**	**0.06-0.08**

After the modifications given in Table 1, the modifications are terminated since the fit values produced by the model are within acceptable limits. (Table 2) The factor loadings and reliability results of the scale are given in the table below. The Kaiser-Meyer-Olkin (KMO) value is calculated in order to determine the sample size. The results obtained are considered perfect as they approach 1, and unacceptable if they are below 0.50. The existence of a relationship between the items is analyzed with the Barlett test. The KMO coefficient of the scale (KMO=0.842) is determined to be above 0.50 and the significance value of the Barlett test is determined as 0.00. This shows us that the data obtained from the individuals are suitable for factor analysis. In order to determine the factor structure of the scale, rotated (Component Matrix) and principal axis rotated (Rotated Component Matrix- Varimax) principal component analysis is performed. Factor loadings are expected to be above 0.50.

Table 3. GDPB Scale Factor Loadingd

Scale	Sub-dimension	Items	Factor loadings
GDPBScale	Perceived Obstacles	Individual preparation for disasters takes a lot of my time	0.815
		I don't have enough money to prepare for disasters	0.782
		I do not have enough knowledge to make personal preparations for disasters	0.736
		I do not have enough knowledge to make personal preparations for disasters	0.705
		Disaster planning is difficult for the family to understand	0.568
	Perceived Vulnerabilities	There is a high probability that I will experience an Emergency/Disaster in the next few years	0.861
		I consider that I will experience an emergency/disaster at some point in my life	0.838
		Improving building resilience in preparing for emergencies/disasters is important to me	0.725
	Self-efficacy	I can fix items that need to be fixed at home	0.810
		I can identify hazards that could cause a fire	0.808
		I can determine a safe place in the house/building I live in to be protected from earthquakes	0.682
		If I need it after an emergency/disaster, I can access the necessary service to receive psychological support	0.633
		I can administer basic first aid	0.356
	Perceived Benefit	Individual preparation for emergencies/disasters can reduce the risk of death after emergencies/disasters	0.826
		Making individual preparations for emergencies/disasters will also protect my family members	0.769
		Preparing for emergencies/disasters will meet my needs in emergencies/disasters	0.758
	Activators	People whose opinions I care about guide me on being prepared for emergencies/disasters	0.817
		My friends enlighten me about the necessity of individual preparation for emergencies/disasters	0.788
		Emergency/Disaster policies encourage me to be prepared for Emergencies/Disasters	0.736
	Perceived Severity	I am afraid of dying as a result of emergencies/disasters	0.836
		Thinking about the possibility of experiencing an emergency/disaster scares me	0.828

KMO=0,842, Barttlet Test-Ki-Square: 14577,994, df: 210, Sig:0,000, Cronbach's Alpha:0,766.

Table 4. Variance explanation percentage and reliability results of sub-dimensionson GDPBScale

Scale	Sub-dimensions	Variance Eplanation Percentage	Cronbach's alpha Coefficient
GDPB ScaleÖlçeği	Perceived Obstacles	24.799	0.780
	Self-efficacy	12.679	0.739
	Perceived Vulnerability	8.593	0.807
	Perceived Benefit	6.304	0.816
	Activators	5.840	0.768
	Perceived Severity	5.064	0.702

When Table 4 is examined, 24.799 of the total variance explained is explained by the dimension of perceived obstacles, 12.679 by the dimension of self-efficacy, 8.593 by the dimension of perceived vulnerability, 6.304 by the dimension of perceived benefits, 5.840 by the dimension of activators, and 5.064 by the dimension of perceived severity. It is seen that the total variance of the scale is 63.279. The internal consistency coefficient of the scale, namely Cronbach's alpha value, is examined in order to prove the applicability of the scale. As a result of the analysis, the reliability coefficient of the entire scale is found to be 0.766. It can be said that the reliability of the measurement tool is high. As a result of all these analyses, it is seen that the developed scale has six dimensions, high validity and reliability. Before moving on to the analysis of the data, the skewness values are examined for the assumption of normality.

Table 5. Skewness values of sub-dimensions on GDPB scale

Sub-dimension	Skewness values
Perceived Obstacles	-0.586
Self-Efficacy	-0.359
Perceived Vulnerability	-0.569
Perceived Benefit	-0.379
Activators	-0.530
Perceived Severity	-0.255
Disaster Preparedness Scale Based on Belief Model	-0.415

When the overall scale skewness values are examined, the scale and its sub-dimensions show a normal distribution since they are between -1 and +1.

Table 6. Comparison of Disaster Preparedness Scale Components by Job Groups

	Job	**N**	**Average**	**SD**	**F value**	**P value**
Perceived Vulnerability	Health worker	115	11.513	0.196	159.303	0.000
	Student	1154	11.462	0.083		
	Farmer	811	9.194	0.103		
Perceived Severity	Health worker	115	7.139	0.184	3.776	0.023
	Student	1154	6.617	0.064		
	Farmer	811	6.590	0.063		
Perceived Benefit	Health worker	115	11.113	0.240	33.920	0.000
	Student	1154	11.238	0.093		
	Farmer	811	10.146	0.089		
Perceived Obstacles	Health worker	115	14.834	0.400	85.555	0.000
	Student	1154	13.290	0.134		
	Farmer	811	15.891	0.142		
Activators	Health worker	115	8.304	0.228	36.517	0.000
	Student	1154	10.084	0.087		
	Farmer	811	9.224	0.090		
Self-Efficacy	Health worker	115	17.495	0.299	11.871	0.000

	Student	1154	17.420	0.131		
	Farmer	811	16.537	0.124		
Disaster Preparedness Scale Based on Belief Model	Health worker	115	70.400	0.847	14.975	0.000
	Student	1154	70.113	0.324		
	Farmer	811	67.585	0.337		

As a result of the one-way analysis of variance (ANOVA) test performed for the difference between the study groups in perceived susceptibility scores, a difference is found between the groups as P-Value=0.000<0.050. According to the Tukey pairwise comparison results conducted to determine which study group caused the difference, the perceived vulnerability scores of students and healthcare workers were found to be higher than those of farmers. In other words, the perceived vulnerability scores of students and healthcare workers are similar to each other but higher than those of farmers.

The vulnerability of the society can be created by delivering basic disaster information education activities to every segment of the society. Disasterawareness seminars, song and theaterperformances for kindergarten students, disaster information meetings and interviews, education practices of disaster volunteers, drills, activities including disaster information education and practices within the scope of technical trips can be planned in order to reduce disaster risks (Koçbeker, 2019). When planning education and practices, economic activity areas, age, gender and cultural vulnerability should be taken into consideration. It is important to make the necessary training and implementation activities to gain the knowledge and skills needed for risk management accessible to rural areas and farmers, in short, to all segments of society, in cooperation with the media, in order to create social awareness(Kadıoğlu, 2011; Koçbeker 2019).

As a result of the one-way analysis of variance (ANOVA) test conducted for the difference between the study groups in perceived severity scores, P-Value=0.023<0.050 is found to be a difference between the groups. According to the Tukey pairwise comparison results conducted to find out which study group the difference originated from, the perceived seriousness scores of healthcare workers are found to be higher than those of students and farmers. In other words, the perceived seriousness scores of students and farmers are similar and lower than those of healthcare workers. This may be an indication that healthcare workers are more experienced in disaster issues.

As a result of the one-way analysis of variance (ANOVA) test performed for the difference between the study groups in perceived severity scores, a difference is found between the groups as P-Value=0.023<0.050. According to the Tukey pairwise comparison results conducted to find out from which study group the difference originated, the perceived benefit scores of students and healthcare workers are found to be higher than those of farmers. In other words, the perceived benefit scores of students and healthcare workers are similar to each other but higher than those of farmers.

It is observed that health workers and students received higher scores than farmers. This indicates that both groups have a better understanding of the benefits to be obtained from disaster preparation. It can be said that the fact that farmers have a lower perception of disaster preparation is due to the lack of basic disaster awareness training and information in this group. The positive correlation between the level of education and the perceived benefit level of disaster preparation can be explained by the increase in individual awareness, thus positively affecting the perception of disaster preparation (Al-Hunaishi et al., 2019; Okan et al., 2023).

Attitude determines actions and in this context, educating farmers about the negative effects of disasters and improving access to information before and during disasters can create correct behavioral changes in farmers. Thus, farmers who evaluate the possible risks of disasters can develop the capacity to transform risks into opportunities. Low-income agricultural producers may want to evaluate the incentives and technological opportunities offered by public institutions and subsidies that will increase their resilience to disasters. Early warning systems and access to accurate information about disasters will increase their preparedness and loss reduction capacities. Public support should not only provide information about disasters but also organize the timing of information and the information dissemination network. Agricultural producers in rural areas can be organized as communities that share and improve their preparations by creating a communication network where they can share accurate information about disasters and experiences of preparedness measures.

As a result of the one-way analysis of variance (ANOVA) test performed for the

difference between the study groups in the perceived barriers score, a difference is found between the groups as P-Value=0.000<0.050. Accordingto the Tukey pairwise comparison results conducted to find out which study group the difference originated from, the perceived obstacles score of farmer individuals is the highest, health workers' the second highest, and students' the lowest. In a study conducted in 383 small-scale rice growing enterprises in China, farmers are aware of climate change and its negative effects on their livelihoods and think that it negatively affects rice production, but the factors that prevent them from adopting adaptive strategies are unpredictable weather conditions, limited farm size, insufficient labor, scarce water resources, high cost of inputs, and insufficient information about weather conditions (Pickson and He., 2021). It has been reported that the most important obstacles for farmers to take precautions against climate change are the ratio of agricultural income to total household income and local natural environmental conditions (Zhai et al., 2018). For agricultural producers in our country, economic conditions are hindering factors in disaster mitigation activities such as building new infrastructure, purchasing agricultural insurance, rebuilding or reinforcing barns. This shows that farmers feel the obstacles and difficulties they face in preparing for disasters more. However, supporting farmers is very important in preventing declines in crop yields and ensuring sustainability in regions where food security is increasingly problematic (UNDRR, 2021).

As a result of the one-way analysis of variance (ANOVA) test performed for the difference between the study groups in the Activators score, a difference is found between the groups as P-Value=0.000<0.050. According to the Tukey pairwise comparison results conducted to determine which study group caused the difference, the Activators score of students is the highest, farmers' the second highest, and healthcare workers' the lowest. The vulnerability of the society increases especially after disasters. The expected behavioral change in the society is the time when the society faces the damages caused by the disaster. If the short time intervals before the emotional impact of the disaster passes and begins to be forgotten are evaluated correctly, permanent behavioral change can occur (Koçbeker, 2019; Kadıoğlu, 2011). The research results show that students have a more proactive attitude towards disaster preparedness and response. Supporting farmers to strengthen their socio-economic status, community organizations, self-management, and access to markets and value chains can be useful in taking action (Kara and Yerli, 2022).

As a result of the one-way analysis of variance (ANOVA) test performed for the difference between the study groups in Self-Efficacy scores, a difference is found between the groups as P-Value=0.000<0.050. According to the Tukey pairwise comparison results conducted to determine which study group the difference originated from, the Self-Efficacy scores of students and healthcare workers were found to be higher than those of farmers. In other words, the Self-Efficacy scores of students and healthcare workers are similar to each other but higher than farmers'. According to the self-efficacy scores, the fact that the scores of healthcare workers and students are higher than farmers' indicates that both groups have higher self-confidence in disaster situations. Similarly, students and healthcare workers received higher scores than farmers in the GDPB Scale evaluations. This emphasizes the positive effect of education level and professional awareness on disaster preparedness. Farmers' adaptation and transformation abilities in the face of risks and threats should be supported. It is important to provide support for new business opportunities that will increase farmers' entrepreneurial skills, appropriate infrastructure investments to reduce disaster risks, and advanced climate-resilient agricultural techniques (OECD, 2021). In order to encourage farmers to take responsibility for increasing their resilience to the damage caused by disasters, it is important to ensure that farmers gain the capacity to manage risks by increasing the necessary skills and knowledge with consistent policies (OECD, 2021).

As a result of the one-way analysis of variance (ANOVA) test for the difference between the study groups in the GDPB Scale scores, a difference is found between the groups as P-Value=0.000<0.050. According to the Tukey pairwise comparison results made to obtain which study group the difference originated from, the Belief Model-Based Disaster Preparedness Scale scores of students and healthcare workers are found to be higher than farmers'. In other words, the GDPB Scale scores of students and healthcare workers are similar to one another but higher than farmers'.

It is important to understand the disaster preparedness beliefs of the society so as to analyze the correct behavioral decisions of the society against disaster risks. This study aimed to examine the different perceptions and attitudes about disasters among health workers, students and farmers. The analysis of the study groups in terms of perceived severity, perceived benefits, perceived

obstacles, activators, self-efficacy and GDPB Scale scores showed statistically significant differences.

IV. RESULT

It is crucial to identify the driving forces that affect the society's decisions to adopt measures in order to reduce disaster damage. As a result, the study findings reveal that health workers and students have a higher perception of preparedness than farmers in terms of disaster preparedness and management. These results emphasize the importance of ongoing programs for the education and awareness of individuals and indicate that strategies aimed at increasing the knowledge of individuals in all segments of society regarding disaster preparedness should be developed. It can be said that the lack of basic information about disaster is the most important setback in determining current risks. Until individuals believe in their capacity to correctly perceive and manage risks, specific education policies are needed at the basic level and regarding the sustainability of economic activities. It can be said that zoning provincial plans according to economic activities in order to reduce the effects of regional differences in disaster preparedness plans and policies will increase the perception of disaster preparedness among local people. In this way, the scope of disaster training and implementation activities and emergency plans can be customized according to the current conditions and the needs of the region, starting from a more general framework. Agricultural policies that will prevent agricultural risks that will enable Konya to cope with disasters can be provided in cooperation with producers under the responsibility of producer unions, research centers, other educational institutions and all stakeholders.

REFERENCES

[1]. Al-Hunaishi, W., Hoe, V. C. W., and Chinna, K., 2019. Factors associated with healthcare workers willingness to participate in disasters: a cross-sectional study in Sana'a, Yemen. BMJ Open, 9(10): 030547.

[2]. Anonymous, 2019. TarımveOrmanBakanlığı 2019 YılıFaaliyetRaporu. https://www.tarimorman.gov.tr/SGB/Belgeler/Bakanl%C4%B1k_Faaliyet_Raporlar%C4%B1/2019%20yili%20faaliyet%20raporu.PDF (Access Date:16.09.2024)

[3]. Anonymous, 2021. 2021 YılıİklimDeğerlendirmesi. İklimveZiraiMeteorolojiDairesiBaşkanlığı

[4]. AraştırmaDairesiBaşkanlığı, Ankara. https://mgm.gov.tr/files/iklim/yillikiklim/2021-iklim-raporu.pdf (Access Date: 16.09.2024)

[5]. Avcı, S., Kaplan, B., and Ortabağ, T., 2020. Hemşirelik Bölümündeki Öğrencilerin Afet Konusundaki Bilgi ve Bilinç Düzeyleri. Resilience, 89-101.

[6]. Bigi A., Santucci F., M. and Bakhshi A., 2017. Sustainable Agricultural Development, Climate Change and Disaster Risks Management. Asian Journal of Agricultural Extension, Economics and Sociology, 21(2): 1-17

[7]. Dikmenli, Y., & Yakar, H., 2019. Öğretmen adaylarının afet bilinci algı düzeylerinin incelenmesi. Yüzüncü Yıl Üniversitesi Eğitim Fakültesi Dergisi, 16(1): 386-416.

[8]. Ergünay O., 2009. Afet Yönetimi: Genel İlkeler, Tanımlar, Kavramlar, DSİ, Ankara.

[9]. FAO, 2014. Building a common vision for sustainable food and agriculture, principles

[10]. and approaches. Rome; https://openknowledge.fao.org/server/api/core/bitstreams/cd7ebb4f-da7c-474d-83df-b5cc224d2ff8/content

[11]. Gatzweiler, F.W., von Braun, J., 2016.Technological and institutional innovations for marginalised smallholders in agricultural development.Springer, Berlin.

[12]. https://doi.org/10.1007/978-3-319-25718-1_13

[13]. Güner, Y., 2016. Çanakkale ili 112 acil sağlık hizmetleri istasyonlarında çalışan personelin afet tıbbı konusundaki bilgi düzeyleri. Yüksek lisans tezi, Pamukkale Üniversitesi, Sağlık Bilimleri Enstitüsü, Denizli.

[14]. Göktekin, Z., 2018. 112 Acil Sağlık Hizmetleri Çalışanlarının Afet Bilinç Algı Düzeylerinin Belirlenmesi; Balıkesir İli Örneği. Yüksek Lisans Tezi, Çanakkale Onsekiz Mart Üniversitesi Eğitim Bilimleri Enstitüsü, Çanakkale.

[15]. İnal E., Kocagöz S., Melikşah T., 2012. Temel Afet Bilinç ve Hazırlık Düzeyinin Saptanmasına Yönelik Bir Araştırma. Türkiye Acil Tıp Dergisi, 12 (1): 15- 19.

[16]. İnal, E., Altintas, K. H., & Dogan, N., 2018. The development of a General Disaster Preparedness Belief Scale using the health belief model as a theoretical framework. International Journal of Assessment Tools in Education, 5: 146-158. doi: 10.21449/ijate.366825

[17]. İRAP, 2021. İl Afet Risk Azaltma Planı Hazırlama Kılavuzu, AFAD Planlama ve Risk Azaltma Daire Başkanlığı, https://konya.afad.gov.tr/kurumlar/konya.afa

d/E-Kutuphane/Il-IRAP-Planlari/KONYA-Il-IRAP-Plani-.pdf
[18]. Kadıoğlu, M., 2011. Afet Yönetimi: Beklenilmeyeni Beklemek, En Kötüsünü Yönetmek. T.C. Marmara Belediyeler Birliği Yayını, İstanbul.
[19]. Ulaş Kadıoğlu, B. ve Uncu, F., 2018. Disaster Awareness Research in Family Health Centers: The Case of Elazig. Journal of Current Researches on Health Sector, 8 (2): 1-10.
[20]. Kadıoglu, M., 2008.Küresel İklim Değişikliğine Uyum Stratejileri, Kar Hidrolojisi Sempozyumu Bildiri Kitabı, DSİ 8. Bölge Müdürlüğü Yayınları, Erzurum,
[21]. Kara, K.Ö. ve Yereli, A.B., 2022. İklim Değişikliğinin Yönetimi ve Tarım Sektörü. Afet ve Risk Dergisi, 5(1): 361-379.
[22]. Kaya E. Ve Özcebe H., 2012. Afetlerin Çocuk Sağlığı Üzerindeki Etkileri. TAF Preventive Medicine Bulletin, 12 (4):455-460.
[23]. Koçbeker, V., 2019. Temel Afet Bilinci: Kırsal Alanlarda Afet Yönetimi Uygulamaları. Çizgi Kitabevi
[24]. OECD/FAO, 2021. Building Agricultural Resilience to Natural Hazard-induced Disasters: Insights from Country Case Studies, OECD Publishing, Paris
[25]. Okan, F., Kavici Porsuk, S. Yıldırım, M., Dursun, B., Toğuşlu, İ., & Yanık, F., 2023. 112 Acil sağlık hizmetleri çalışanlarının afetlere hazırlık algısı. Afet ve Risk Dergisi, 6(2): 562-574.
[26]. Özen, B., 2020. Malatya kentmerkezindekifarklıikilisedeafetbilinçdüzeylerininölçülmesi. Yükseklisanstezi, İnönüÜniversitesi
[27]. Pickson, R.B., He., G., 2021. Smallholder farmers'perceptions, adaptation constraints, and determinants of adaptive capacity to climate change in Chengdu. SAGE Open July-September, 1-16.
[28]. SYGM, 2021. TarimVeOrmanBakanliği Su YönetimiGenelMüdürlüğü
[29]. Şen, G. veErsoy, G., 2017. HastaneAfetEkibininAfeteHazırlıkKonusundakiBilgiDüzeylerininDeğerlendirilmesi. GümüşhaneÜniversitesiSağlıkBilimleriDergisi, 6 (4): 122-130.
[30]. Tan, Y.F., &Acımış, N.M., 2022. Denizli 112'de çalışansağlıkpersonelininafetehazırlıkdurumlarınındeğerlendirilmesi. Pamukkale Tıp Dergisi, 15(1): 107-115. DOI: https://doi.org/10.31362/patd.952835
[31]. Tercan, B., &Şahinöz, S., 2021. HastaneÖncesiAcilSağlıkHizmetlerindeÇalışanPersonelinAfetlereHazırlıkAlgılarınıBelirlemeyeYönelikÖlçekGeliştirme: MetodolojikBirÇalışma. HastaneÖncesiDergisi, 6(3): 367-379.
[32]. Tezer, A. veTürkoglu, H., 2008. AfetZararlarınıAzaltmanınTemelİlkeleri, JICA TürkiyeOfisiYayın No: 2, Ankara.
[33]. UNDRR, 2021. The GAR Special Report on Drought 2021. https://www.undrr.org/publication/gar-special-report-drought-2021(Access Date: 16.09.2024)
[34]. Z. Shi-yan, S. Gen-xin, Q.I.N. Yao-chen, Y.E. Xin-yue, M. Leipnik, 2018. Climate change and Chinese farmers: perceptions and determinants of adaptive strategies.Journal of Integrative Agriculture 17(4):949-963.