كتاب الأبحاث الكاملة للمؤتمر الدولي الرابع للتنمية المستدامة والمجال

4. Uluslararası Sürdürülebilir Kalkınma Kongresi Tam Metinleri

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مقدمة

يواجه العالم تحديات كبيرة في أقامه توازن بين التنمية المستدامة والحفاظ على البيئة من جهة ومن جهة أخرى تحقيق الامن الغذائي والذي أصبح من أولويات الدول بفعل الاحتكار واختلال التوازن بين الطلب والإنتاج، ففي الوقت الذي يواصل فيه الاعتماد على الطرق التقليدية في الزراعة المعتمدة أساسا على تساقط الامطار والاستهلاك المفرط للمياه الجوفية غير المتجددة، فان هذا له أثرا كبيرا على نضوب الموارد الاقتصادية غير المتجددة واستقرار الامن الغذائي بالعالم. ولذلك يتجه العالم إلى مصادر الطاقة المتجددة والبحث عن بدائل تضمن احتياجات السكان وفق مبدا التنمية المستدامة.

وتعد الطاقة المتجددة بأنها الحل الأخير لمشاكل الطاقة والبيئة في العالم، مما يتيح إمكانية الطاقة الرخيصة وغير المحدودة تقريبا الخالية من التلوث، حيث نجد بان العالم يستهلك الطاقة من مصادر عديدة، فمنها المصادر التي تأتي من خامات الوقود الأحفوري مثل الفحم والنفط والغاز الطبيعي، ومنها الطاقة التي تأتي من مصادر صناعية مثل الطاقة النووية. كما يحصل على الطاقة أيضا من مصادر طبيعية مثل الطاقة الشمسية والطاقة المستخلصة من الرياح ومساقط المياه والتي تسمى بمصادر الطاقة المتجددة.

ان المشاكل المتفاقمة من خلال أزمات الطاقة والتخوف من احتلال الامن الغذائي ولاسيما في الدول الأكثر فقر، يستوجب إعادة التفكير بشكل جوهري على المستوى الدولي وفق استراتيجيات مستدامة تحقق الاستقرار على مستوى العالم وتجنبا الوقوع في أزمات دولية ستركز أساسا على الاستغلال العقلاني للموارد الطبيعة واعتماد طاقات متجددة وأساليب جديدة في الزراعة لضمان تحقيق استدامة في الامن الغذائي والحفاظ على حقوق الأجيال القادمة.

د صيد احمد سفيان

رئيس اللجنة العلمية

Preface

The world faces great challenges in balancing sustainable development and environmental preservation with achieving food security, which has become a priority for countries due to the monopoly and imbalance between demand and production, while continuing to rely on traditional agricultural methods based mainly on rainfall and excessive consumption of non-renewable groundwater, This has a significant impact on the depletion of non-renewable economic resources and the stability of global food security. Therefore, the world is turning to renewable energy sources and is looking for alternatives that guarantee the needs of the population in accordance with the principle of sustainable development.

Renewable energy promises to be the latest solution to the world's energy and environmental problems, allowing for the possibility of cheap and nearly unlimited energy, free of pollution, as we find that the world consumes energy from many sources, including sources from fossil fuel ores such as coal, oil and natural gas, and energy from industrial sources such as nuclear power. It also draws energy from natural sources such as solar, wind and watersheds called renewable energy sources.

The problems exacerbated by the energy crises and the fear of the occupation of food security, especially in the poorest countries, require a fundamental rethinking at the international level in accordance with sustainable strategies that ensure stability at the global level and avoid falling into international crises based mainly on the rational exploitation of natural resources and the adoption of renewable energies and new methods of agriculture to ensure the sustainability of food security and preservation of the rights of future generations.

Dr. Sid Ahmed Soufiane

President of the Scientific Committee

ÖN SÖZ

16. Uluslararası Sürdürülebilir Kalkınma Kongresi, 28-31 Ekim 2022 tarihlerinde Antalya'da gerçekleşti. Bu kongre, Saygın Bilim Derneği'nin (Saybilder) organizasyonunda ve Mardin Artuklu Üniversitesi ile Ajloun National University'nıin (Ürdün) ilmi desteği ile düzenlenmektedir. Kongreye 5 farklı ülkeden davetli konuşmacı katıldı. Aynı zamanda Türkçe, İngilizce ve Arapça duyurular yapılarak bilim insanlarına çağrıda bulunulmuştur. Bu çağrılar sonucunda yapılan başvurulardan 28'i Türk bilim insanları tarafından ve 48'i farklı ülkelerden (Cezayir, Filistin, Libya, Mısır, Morocco, Tunus ve Umman) katılan bilim insanları tarafından hazırlanmış toplam 76 sözlü bildiri sunuma uygun görüldü.

Bu kongrede tüm bildiriler üç hakemin onayına sunulmuştur. Hakemlerin en az iki tanesinden olur alan bildiriler programa dâhil edilmiştir. Aksi takdirde bir görüş bildirildiğinde ise bildiriler ret edilerek başvuruları iptal edilmiştir. Bu süreç içerisinden bildirilerin önemli bir kısmına hakemlerden düzeltme talebi gelmiştir. Hakemler tarafından talep edilen düzeltmelerin yapılıp yapılmadığı da özenle kontrol edilmiş ve düzeltilerden sonra kabul mektupları düzenlenerek yazarlarına gönderilmiştir.

Bu kitapta kongrede sunum yapan bilim insanlarının bildirinin tam metinleri yer almaktadır. Kongreye iştirak edemeyen ve bu konulara ilgi duyan kimselerin metinlerden istifade edebilmesini sağlayacak olan bu çalışmanın bilim dünyasına hayırlara vesile olmasını diliyorum.

15.10.2022

Prof. Dr. Şinasi Akdemir

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Investigation of the factors that affect geographically indicated products (CIU) in Turkey

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ABSTRACT

The data of this study, which was carried out of the investigation of the effect of geographically indicated products in the context of scarcity of factors of production is essential. This study was conducted with 343 producers at the beginning of 2021. Therefore, the present study aims to contribute to the knowledge of these factors of production on farms in Turkey. A logistic regression analysis was performed to study the factors that affect the agricultural production of agricultural products. In the analysis, whether the farmer produces a Geographical indication product (CIU) was taken as the dependent variable, and age, level of education, occupation, social security, family size, number of family members working in business, residence, agricultural production model, ownership of a tractor, irrigation facilities and how many years of agricultural activity were taken as independent variables.

Keywords: Factors affecting, Geographically Indicated Product, Logistic regression, Turkey.

INTRODUCTION

Turkey has 11,707 identified plant species, 3649 of which are endemic, and ranks 9th in the world and in Europe with 1,704 plant species produced economically, 117 million tons of production (Güner, 2012) and an annual agricultural product of 160 billion dollars. It ranks 1st (TOB, 2018). Turkey ranks first in the world in the production and export of hazelnuts, apricots, figs, raisins and cherries. It is a country with dollars (TİM, 2017). On the other hand, in agricultural productivity, it is a country with a yield above the world average in some products on a basin basis (for example, Çukurova Region 569 kg/da in cotton, 1140 kg/da in maize) (TUIK, 2019).In addition, in Turkey, certain products are mentioned with certain provinces/districts and/or certain regions (specific regions in general). Factors such as the high production amount of the product in question in the relevant region, the intensive production of the product, the practices of leading farmers, the yield, quality and aroma of the product are effective in this. For example, hazelnut Ordu, Giresun and Samsun; apricot

Malatya; grape Manisa; cherry Uşak; roasted chickpeas from Çorum, garlic from Kastamonu's Taşköprü district; radish Kadirli district of Osmaniye; Rose recalls Isparta, pepper brings Kahramanmaraş, pistachio Osmaniye. TOB has given great importance to the development of geographically indicated products, considering these characteristics of the specified regions and the increase in the demand for these products with the awareness of the consumers; started to support the products identified with the relevant region and to organize festivals for this purpose.

Despite such potential, the first steps on geographical indication in Turkey were taken following the European Union regulations. Right after the regulations on geographically indicated products (CIU) that came into force in the EU in 1992 (Tosato, 2013), Turkey has prepared legal regulations in this field. However, the point reached today is not at the desired level. While geographical indication products are generally concentrated in areas such as winemaking and cheese making in the EU and the USA (Le Goffic and Zappalaglio, 2017; Marie-Vivien, 2010, Hughes, 2006), products with geographical indication (GI) in Turkey are generally fruit and vegetables concentrated in categories. The production and trade of geographically indicated products has an increasing importance all over the world. There are 10 thousand geographical indication registered products in total in the world. Even today, the production and trade of these products is a subject of fierce debate between the USA and the EU (Charlier and Ngo, 2007, Handler, 2006, Josling, 2006a, Josling, 2006b, Marette et al., 2008, Marie-Vivien and Thevenod-Mottet, 2007).

Both public institutions, social organizations and non-governmental organizations make great efforts for the development of the production of CIPs in Turkey. In fact, municipalities, which see that it is beneficial for their own regions, are in the race to apply for patents for related products, in addition to various activities; They want to highlight their products. The primary factors affecting this are to increase the income of the producers and to get a larger share from the market. In addition, contributing to the recognition of the province or region (the relevant region) and protecting the small family business against increasing competition are other important benefits of CIU production.

As a matter of fact, with the influence of international developments, Turkey has given great importance to the development of geographically indicated products and has started to support them. In Turkey, geographical indications are protected by being registered by the Turkish Patent Institute (TPE) within the scope of the Decree-Law dated 1995 and numbered 555. The Turkish Patent Institute and TOB THB carry out the geographical indication registrations for food and agricultural products together. (The first geographical indication studies started in 1996. The first geographical indication product was the Hereke Silk Carpet. Today, the number of agricultural products that have received patents in geographical indications has reached a total of 278. More than 300 agricultural products are composed of 422 products waiting to receive geographical indications. There are 3 products registered in the EU (Aydin figs, Malatya apricots and Gaziantep baklava). Geographical indications are an important enrichment tool for countries. While it is stated that there are 2,500 products that are candidates for registration in Turkey, 337 products have been given geographical indications so far (of which 278 are agricultural products), the examination of the applications made for 422 products continues.

On the other hand, the increase in the production of geographically indicated products depends on the increase in the income of the producers, which in turn depends on the interest and demand of the consumers for the product with the geographical indication and their willingness to pay higher prices for this product.

In addition to a product that receives a geographical indication in a region, there are also products with the same name as this product with differences in type, aroma, color and taste, and these products continue to be produced by the same producers of the same region. For example, when the Ahlat walnut receives geographical indication, all activities (festivals, applied policies, seminars, panels) towards Ahlat walnut influence increasing the consumption of this walnut in the consumer or are for this purpose. However, it is unthinkable that the producer who grows another walnut variety other than Ahlat walnut in the region in question should not be affected by the practices carried out for Ahlat walnuts. This influence can be different. Walnut walnut campaigns increase walnut consumption. Other walnut producers can also take a share from this. It may be the case in the opposite case. While these policies applied for walnuts increase the consumption of walnuts, they may adversely affect the demand for other walnut varieties, which previously had a significant share in the market, and may cause decreases in production. In perennial plants that require a certain investment and time for production, this situation will adversely affect the situation of producers who grow products that do not have geographical indications in products where it is difficult or even impossible to switch from one variety to another.

The objective of this study is to contribute to the knowledge of the investigation of the factors that affect geographically indicated products (CIU). It is aimed to determine the factors affecting the production decisions of the producers who grow the product with geographical indication and the variety that does not receive the geographical indication of the same product. In addition, the effect of growing geographically indicated products on producer satisfaction and income was analyzed.

METHODOLOGY

This study was conducted in Turkey, specifically with 343 producers from different provinces(Elazığ, Karaman, Konya, Aksaray, Bitlis, Kütahya, Muğla). These provinces are some of the largest national production regions (Stat Agri, 2018). This guarantees the representativeness of the sample constituted. The sample was constituted by considering all the categories of producers and their production systems. The surveys took place in the first quarter of 2021. The data collected concerns the socio-economic and demographic characteristics of the producers as well as the factors that influence agricultural production.

The parameters likely to influence agricultural production were evaluated using a logistic regression model. The information was collected and the relations between the variables were examined with the relevant statistical tests (Khi-Square, t-test, etc.). Logistic regression analysis was used to determine the variables affecting the production and consumption decisions of producers (Agbo, 2015, Aksoy et al., 2010, Hananu et al 2015). In the logistic regressions used in the research, whether or not they produce CIU for producers ("1" if it produces, "2" if it does not).

Empirical model is specified below;

$$E(Yi) = P(Yi) = \frac{e^{\alpha+\beta Xi}}{1+e^{\alpha+\beta Xi}} \qquad [1]$$

When the farmer produces CIU, the probability becomes for this purpose:

$$P(\text{no CIU}) = 1 - P(Yi) = \frac{1}{1+e^{\alpha+\beta Xi}} \qquad [2]$$

Où:

P(Y*i*): The probability for a producer *i* to produce CIU; P (Y*i*) = 1 if the producer produces CIU and 2 if not.

e: The exponential function

Y*i*: The explained variable; produces CIU,

β: The vector of the parameters to be estimated, the sign of which allows the interpretation of the results

α: The constant

Xi: characteristic of producer *i*; it represents the vector of explanatory variables

Avec

$X= \beta_0 + \beta_1$ **Age** $+ \beta_2$ **TractPos**$+\beta_3$ **IrrigationPoss** [3]

Où, **Age** = Age of the producer; **TractPos** = Tractor possession and **IrrigationPoss=** Irrigation possibility

Software SPSS version 20 was used as a tool for data processing and analysis. It enabled us to present the socio-economic and demographic characteristics of the producers and to carry out the logistic regression model.

Table 1: Variables used in the logistic regression model

Variables	Explanation	Measurement
	Dependent variable (Y_{ij})	
	Produces CIU	1 = Yes; 2 = No
	Independent variables (X*i*)	
X_1 **= Age**	**Age of the producer**	In year (1 = 0-30; 2 = 31-60; 3 = more than 61)
X_2 **= TractPos**	**Tractor possession**	1 = Yes; 2 = No
X_3**= IrrigationPoss**	**Irrigation possibility**	1 = Yes; 2 = No

Results and discussion

The average age of producers is 47 years old. These statistics are the same as those obtained by (Miassi and Şinasi , 2022). The research results were analyzed that 99.1% of the surveyed producers are male, 0.9 % are female and 76.8% of Irrigation possibility against 23.2%. Most of the producers have an average level of education middle or high (44.4%). In other words, it is seen that women, singles, young people and producers with a middle or high level of education are more inclined to grow CIU. The reason for this is that CIU is accepted by the society, therefore, it provides a high-income opportunity in a small area with its high demand and price. Households have an average of 7 are the most dominant (53.1%). After this category, follows that composed of 1 to 5 people (43%) and more than 10 people (3.9%). Most of the labor has an average of 2 people and 18 years of intervention in the agricultural sector (28%). Tractor assets (55.9%) of producers. As a result, 24.4% use an external workforce. According to Kormawa et al. (2019) owning a tractor reduces the need for external labor.

Table2: Socio-economic and demographic characteristics of respondents

Variables		**N**	**%**	**Mean**
Age	0-30	24	7	24.0
	31-60	263	76.9	46.7
	61 and above	55	16.1	67.6
	Total	342	100.0	46.1
Gender	Male	338	99.1	-
	Female	3	0.9	-
	Total	341	100.0	-
Household size	1-5	145	43.0	4.0
	6-10	179	53.1	7.1
	More than 10	13	3.9	15.1
	Total	337	100.0	8.7
Education	Primary /less	168	49.7	-
	middle-high	150	44.4	-
	University	20	5.9	-
	Total	338	100.0	-
Irrigation possibility	Yes	251	76.8	-
	No	76	23.2	-
	Total	327	100.0	-
Intervention in agricultural sector	1-10 years	60	21.2	7.1
	11-20 years	79	27.9	17.9
	More than 20	144	50.9	37.1
	Total	283	100.0	20.7
Tractor asset	Yes	189	55.9	-
	No	149	44.1	-
	Total	338	100.0	-

Source: Survey in 2021

Table 3: Grow geographically indicated products

Do you grow geographically indicated products?		If yes, how many acres?	How many years have you been training CIU?	If your income increased after receiving the geographical indication, how much was the increase in the product price?
Yes	Mean	100.33	8.86	4.25
No	Mean	109.73	5.79	3.21

In this table 3 above, we observe a growth in the products geographically indicated for acres, years of CIU training, and an increase in the price of the product and the average for the enumerators yes of (100.33, 8.86, and 4 .25), against (109.73, 5.79 and 3.21) respectively.

Table 4: Results of the different respondents on CIU

Receive agricultural support		Yes	No	Total
	Yes	40	60	100
	No	11.02	88.98	100
Mean		25.51	74.49	100
Difference between groups:	Insignificant			
Change in the amount of land in the last 5 years		Yes	No	Total
	Yes	66.67	33.33	100
	No	3.16	96.84	100
Mean		34.91	65.09	100
Difference between groups:	significant			
The consolidation area of the land		Yes	No	Total
	Yes	100	0	100
	No	91.89	8.11	100
Mean		95.95	4.05	100
Difference between groups:	Insignificant			

From this table 4 above interviewers who receive agricultural support that yes says an average 25.5 against of 74.4. it shows Insignificant agricultural support. And also, same the land consolidation area shows us insignificant. And CIU contributes to a change in land area over the last 5 years with a mean of yes =65 against no=34.9. It shows us that significance.

Table 5: The outcomes of the logistic regression model (Dependent variable: produces CIU (1= Yes; 2= No)

The Variable in the Model	**Coefficient**	**Std error**	**Wald statistic**	**sd**	**P value**	**Exp(B) Odds**
X_1= Age	-0.733	0.287	6.506	1	0.011**	0.480
X_2=Tractor presence (1= yes, 2= no)	2.183	0.371	34.639	1	0.000***	8.874
X_3=Irrigation possibility (1= yes, 2= no)	0.861	.445	3.741	1	0.053**	2.366

Remark: ***: significant at the 1% (P _ 0.01); **: significant at 5% (0.01 <P _ 0.05); *: Significant at 10% (0.05 <p _ 0.10).

Source: Estimates made with SPSS

Table6: Classification and Accuracy rate

Classification Table				
Observed		Estimate		
		Do you grow geographically indicated products?		Accuracy rate (%)
		Yes	No	
Do you grow geographically indicated products?	Yes	61	24	71.8
	No	36	117	76.5
Accuracy rate (%)				74.8

Table 6 above reveals that the model accurately predicts whether the manufacturer is producing CIU with 74.8 % accuracy.

The survey and analysis of this study, clearly shows that the variables of age, tractor presence and Irrigation possibility are significant in the model (Table5). The age variable has a negative coefficient in the model. According to this, it is seen that as age increases, the tendency to produce CIU increases (1-0.48 = 52% more). The tractor presence variable is included in the

model with a positive coefficient. It is seen that tractor ownership increases CIU production (8.87 times). The variable of irrigation possibility is found in the model with a positive coefficient, and it is understood that the enterprises with the possibility of irrigation tend to grow more CIU (2.36 times).

The present analysis revealed that the age statistically significant in our model. The average age of surveyed is 47 years old. The youngest and the oldest are 24 and 68 years old respectively. The younger people are stronger than the elders and can perform tougher jobs in the field. Moreover, households with older heads are the multigenerational households having more retired and/ or older persons to feed. Thus, an increase of one age unit of the producers will contribute to producing CIU. This result corroborates with certain results obtained in the literature (Amblard, 2006).

Owning or not owning a tractor has a positive and statistically significant effect at the 1% level of significance. Then, an increase of one unit of this variable will induce the producer to produce more CIU. This corroborates with certain results obtained by (Gaborean, 2011). As a result, producers using a tractor are more willing to take action to produce CIU. In fact, using tractors in agricultural areas provides the mechanical energy necessary for carrying out fieldwork such as plowing the soil and transporting harvest products, reported by (APCA, 2013). Also, the use of a tractor is much more cost-effective when deployed over a large area. This facilitates the execution of activities and reduces the need for external labor. This makes owning a tractor a key factor in successfully producing CIU. Irrigation possibility has positive and statistically significant in our model. According to the results, it is seen that as the Irrigation possibility increases, people produce more CIU. Irrigation carries water to crops to increase yield, keep crops cool in excessive heat and prevent frost. In other situations, irrigation is considered insurance against occasional droughts. Irrigation can provide benefits by reducing the risk of disease, frost damage, and other stressors to crops, which can provide income stability. This result is supported by (Jimenez et al. 2019). Other benefits include improved crop quality, significantly increased crop yields, which have low moisture holding capacities, increased double cropping possibilities, and provide a means of liquid fertilizer application. This result confirms the results obtained by (National Research Council 2010).

CONCLUSION

The results obtained from the logistic regression model carried out that the geographical indication of the product has a positive effect. CIU production also contributes positively to the recognition of the region. In addition, this perception and understanding in the eyes of consumers not only affects the satisfaction of the producers but also creates the opportunity for the producers to sell the product directly to the consumers, in other words, it shortens the marketing channel and naturally increases the profit of the producer. It has also been determined that activities such as promotions for CIU contribute to the recognition of both the product and the region, and to the regional economy.

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Güneş Enerjisinden Elektrik Üretiminin Sürdürülebilir Kalkınmaya Olan Sosyoekonomik Etkileri

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ÖZET

Enerji, herhangi bir ulusun sosyoekonomik kalkınmasına kılavuzluk eden vazgeçilmez bir metadır. Günümüzde yapılan çalışmalar, küresel enerji talebinin yaklaşık %80'inin ham petrol, doğal gaz ve kömür gibi fosil yakıtlardan karşılandığını bildirmektedir. Enerji üretimi için yaygın olarak kullanılan fosil yakıtlar, sera gazlarına, çevrenin kirlenmesine, seller ve sıcak hava dalgaları gibi aşırı iklim olaylarına ve orman yangınlarına neden olmaktadır. Ancak insan nüfusu arttıkça, fosil yakıtlara olan ihtiyaç ve elektriğe olan bağımlılık da katlanarak artmıştır. Bu nedenle, yenilenebilir enerji kaynakları, fosil yakıtların neden olduğu bozulmayla ilgili yaklaşan tehlikeleri engellemek için etkin bir alternatif olmaya devam etmektedir. Yıllar geçtikçe, birçok ülke, devam eden enerji sorunlarını çözmek ve böylece temiz bir çevre elde etmek için yenilenebilir enerji kullanmaya başlamıştır.

Güneş fotovoltaik (PV) endüstrisi, küresel olarak çeşitli işlere yönelik istihdam yaratmada kendisini geniş ölçüde kanıtlamıştır. Sektör, farklı becerilere ihtiyaç duyulan birçok alanda farklı işler sunmaktadır. Farklı iş fırsatları, işletmelerde araştırma bağlantılı, yüksek vasıflı istihdam ve güneş enerjisi ürünleri imalatından yenilenebilir enerji sistemlerinin ve süreçlerinin onarımı gibi küçük düzeyde deneyim gerektiren istihdamlara kadar uzanmaktadır. Örneğin, 2014 yılında, güneş enerjisi endüstrisinde yaklaşık 3,3 milyon kişi istihdam edilmiş ve bu istihdamın 2,5 milyonu PV endüstride gerçekleşmiştir. 2018 yılında sadece Asya ülkelerinde, 3 milyondan fazla PV istihdamı sağlanmış olup, küresel dünyanın onda dokuzuna yakın bir istihdam gerçekleşmiştir. Bu nedenle, Asya'da, özellikle güneş enerjisi ekipmanlarının imalatında iş fırsatları önemlidir. Avrupa'da PV için zayıf bir istihdam fırsatı olsa da, iş genişlemesi küresel olarak sağlam ve sağlıklı olmuştur. Bulgulara göre, güneş enerjisinin dünya genelinde her yıl ilerletilmesiyle yaklaşık 10 milyon kalıcı istihdam sağlanacaktır. Bu makalede, dünyada güneş PV sistemlerin ulusal kalkınmanın sosyoekonomik yönlerine ve istihdama olan katkıları değerlendirilmiştir.

Anahtar Kelimeler: Güneş fotovoltaik (PV) sistemleri; Sürdürülebilir kalkınma; Sosyo-ekonomik etkiler; İstihdam