CONFERENCE PROCEEDINGS/FULL PAPERS
ISBN: 978-625-97566-7-7/June 2025

"40th RSEP International Conference on Economics, Finance and Business, 23-24 May 2025, Campanile Prime Paris 19 - La Villette, Paris, France"

Bibliometric analysis of eco-farm studies

Turhan Cetin
Prof. Dr., Gazi University, Faculty of Gazi Education, Türkiye
cetin.turhan@gmail.com

DOI: https://doi.org/10.19275/RSEPCONFERENCES353

Abstract

In this study, a bibliometric analysis was conducted on articles related to ecofarm. In this context, journal articles containing the keywords "ecovillage, ecofarm, ecofarming, ecovillages, ecological farming, ecological villages" in journals indexed in WoS and Scopus databases were analyzed. The keywords "ecovillage, eco-farm, eco-farming, ecovillages, ecological farming, ecological villages" were searched in Web of Science (WoS) and Scopus using the 'or' option in line with the purpose of the study. "Authors Keywords" and 'Keywords' options were preferred during the search to access more reliable studies where authors used these keywords. The publication period of the articles in the dataset was limited to 1987-2024. After these limitations, 245 articles in WoS and 292 articles in Scopus were included in the dataset and the relevant dataset was saved as "Bibtex" and "CSV" files by selecting the "Full Record and Cited References" tab in WoS and all bibliometric data in Scopus. Since the data obtained from the two databases were thought to include duplicate articles, the duplicate articles were eliminated in the R-Studio program before the analysis and the analysis phase started. For the study of the research data, the R-Studio program, which is compatible with the infrastructure of the R Statistics program, was used. The R programming language is open source and offers many different options to users, so it has a constantly updated structure. In this study, the data were analyzed using the "bibliometrics" package developed in collaboration with Massimo Aria and Corrado Cuccurullo from the University of Naples Federico II. After the "Bibtex" file downloaded from WoS and the "CSV" files downloaded from Scopus were combined in "xlsx" format on R-Stuio, the "bibliometrics" package added to R-Studio was activated and added to this interface. Gail A. Wicks from the University of Nebraska is the most active author, having published 9 articles on ecofarms. The countries with the most cited articles are the USA, Sweden, United Kingdom, Poland, Czech Republic, Germany, Netherlands, Austria, Iran and Italy. When the number of citations is analyzed, it can be stated that it is almost directly proportional to the scientific production data of countries such as the USA, Sweden, Netherlands, Austria and Iran. The most popular trending topics related to ecofarm in recent years include sustainability, community, policy, management and grass-roots innovations.

Keywords: : Eco-farm, bibliometric analysis, R-Studio, science mapping, WoS (Web of Science).
Jel codes: O13, P28, Q56

1. Introduction

The tourism sector is known as a sector that has high fixed capital investments, produces composite products, is labour intensive despite technological developments, cannot show flexibility in accommodation investments in a short time in terms of supply, and is sensitive to political, social and economic developments and changes. It provides foreign currency inflows to countries, increases employment and productivity, increases the communication and influencing power of countries in the international arena, and contributes to the creation of an integrative climate and an environment of peace. It also plays an important role in solving countries' foreign

The articles on the RSEP Conferences website are bear Creative Commons Licenses either CC BY or CC BY-NC-ND licenses that allow the articles to be immediately, freely, and permanently available on-line for everyone to read, download, and share.

trade deficits and unemployment problems. Therefore, the tourism sector, which is also called the chimneyless industry, has become a strategic priority for many countries around the world.

When the tourism movements in recent years are examined, it is seen that instead of killing their free time under the sun in the classical tourism based on sea, sand and sun, people have started to prefer to go on vacation for individual and special interest tourism types by dividing their vacation time into several parts thanks to the speed and comfort in vehicles. There are many reasons for this trend, such as the level of satisfaction with the classical tourism product, the desire to discover different cultures, the shortening of distances between countries, the increase in education and income levels, the increase in the third age tourist profile that has solved its economic problems within the general tourism mobility, and the desire to participate in cultural and sports activities (Kılıç & Kurnaz, 2010). Accordingly, there is a rapid increase in demand for alternative tourism mobility. Therefore, it is seen that alternative tourism supply is growing and diversifying.

Hacıoğlu and Avcıkurt (2008) also call alternative tourism as product diversification, while some researchers also use the term special interest tourism for alternative tourism (Küçükarslan, 2007; Akoğlan-Kozak & Bahçe, 2009). No matter what the concept of product diversification in the tourism sector is called, it cannot change the fact that the consumption behaviour of tourists participating in tourism mobility is gradually changing.

1.1.Ecological Tourism

The concept of ecological tourism has come to the agenda and become popular with the importance of tourism-environment relations and sustainability discussions, and has been frequently mentioned in recent years. Ecological tourism is considered to be a broader issue than the movements of nature lovers and environmentally conscious tourists. In reality, the phenomenon of ecological tourism is expressed as a whole of environmental, economic and social relations. According to the definition of the International Union for Conservation of Nature, ecotourism is defined as environmentally responsible travel and visitation to unspoiled natural areas with low visitor impact and socio-economic benefits for the local community, supporting conservation through understanding nature and cultural resources (Kurdoğlu, 2001: 4). According to The International Ecotourism Society, ecological tourism is defined as “sensitive travel to natural areas that protects the environment and considers the welfare of local people” (Küçükaslan, 2007: 80).

The concept of eco-tourism was first introduced by Hector Ceballos Lascurain in 1983 and was initially referred to as the enjoyment and appreciation of nature. According to Lascurain, eco-tourism is “travel to places that are relatively unspoiled and unpolluted, where there are admirable landscapes and wild plant species and animals” (Che, 2006 in Ziffer, 1989). In research conducted by the World Tourism Organization in Germany, Canada, Spain, Italy and England within the framework of the International Year of Ecological Tourism, the tourist profile in the ecological tourism market was described as a consumer group between the ages of 30-59, with high income and high education, interested in gastronomy and culture.

Ecotourism emphasizes the natural conservation of a tourist area and therefore relies on tourists' environmental awareness. These tourists are expected to comply with local regulations exhibit environmentally responsible behaviour and not harm the natural environment (Chiu, Lee, Chen, 2014). Ecotourism has been recognized as a form of nature tourism that is expected to contribute to both conservation and development (Ross & Wall, 1999). Ecotourism is defined as "responsible travel to natural areas that protect the environment, sustains the well-being of local people, and includes interpretation and education". Education should include both staff and visitors. Ecotourism is widely recognized as a strategy for the protection and promotion of natural ecosystems and local development.

The development of ecotourism has led to the popularity of farm tourism as part of meaningful travel to natural areas that create economic opportunities for local people, where natural resources are preserved, which are beneficial for local people while understanding the natural and cultural environment and maintaining the integrity of the ecosystem (Ahmadova and Akova, 2016). Farm tourism is often proposed as a sustainable development option to revitalize rural economies and diversify income sources, and is largely built on its endogenous growth potential (Gössling and Mattsson, 2002). Among the various forms of on-farm diversification, agrotourism is often cited as having development potential for farms and rural areas. In particular, agrotourism is expected to stimulate employment, provide additional income, ensure sustainable stability in rural communities and also contribute to a well-managed cultural landscape (Slavic and Schmitz, 2013).

Turkey is a country that Europeans recognize spatially but know very little about culturally. Transferring the cultural characteristics of Turkey's rural areas to tourists with a rural tourism approach will bring cultures closer together and create new tourist markets. As a matter of fact, Turkey has a very important geographical location

in terms of both cultural tourism and agricultural tourism in ecological farms and ecological agriculture practice areas (Çetin, 2010).

1.2.Agrotourism and Farm Tourism

Within the framework of agrotourism, activities such as tasting home-made products such as preserves, pastries and cheeses, purchasing farm products, participating in daily agricultural activities, and seeing local culture and traditions (dance, music, clothing, etc.) can also be done differently from farm tourism services (Gündüz, 2004, 40). Agrotourism is an activity that provides additional income to producers with the feature of being carried out in regions where agricultural production is intensive. In regions where this type of tourism is practised, a beneficial interaction is created by integrating agriculture and tourism. While production continues in fertile agricultural lands, inefficient or unsuitable areas for agriculture are utilized for tourism and recreation activities (Küçükaltan, 2002: 150).

In agricultural tourism, people who want to get away from the busy agenda in the city centre and experience village life are accommodated in structures created on-site in its natural state, for example, hoeing in the soil, milking milk, etc. It is a partner in village life with all elements. The person who becomes a part of village life also pays a fee in return. For this reason, these actions are also called agro-tourism (Gökalp and Yazgan, 2013). Agrotourism is activities based on agriculture and animal husbandry in farms or villages (collection of vegetables, fruits, flowers, etc., pre-processing, animal feeding, obtaining and evaluating animal products, etc.). Tourists watch or participate in these activities.

Agrotourism is a type of tourism practised in regions where agricultural activities are intensive and resources are used in line with sustainability. Agrotourism activities are supported by governments because the damage to the environment and environmental products is considerably less than mass tourism, it brings new solutions to problems such as ecology and social carrying capacity and contributes to the economic development of rural areas (Civelek Oruç, Dalgın, & Çeken, 2015).

Farm tourism is a type of tourism that consists of people coming to an active farm and participating in agricultural activities on this farm with daily or longer stays outside the places where they live, work and meet their usual social and basic needs. The main purpose of farm tourism is to carry out agricultural activities, animal husbandry and the sale of agricultural products produced. At the same time, these farms include tourism activities in their activities and provide people living in industrialized areas with the opportunity to relax and be alone with nature. Visitors are offered accommodation, food and beverage facilities and a number of outdoor activities (Yılmaz, 2008: 111).

As a type of tourism that facilitates and develops agricultural diversification, farm tourism offers significant opportunities to businesses operating in this field. In this sense, farm tourism is analyzed in two categories. The first is the opportunity for farming families to restructure their businesses by creating agricultural diversification through farm tourism, and the second is the business activities carried out by those who are truly committed to their business and dedication to farm tourism. The number of businesses in the second category is increasing day by day and studies in this field are increasing (Hall and Page, 2006).

On farms, visitors are offered local flavours and activities such as milking cows, herding sheep, shearing wool, feeding livestock, picking fruits, weeding, harvesting, and horseback riding. In addition to these activities, tourism types that can be done alone such as hiking, cycling tours, and fauna exploration are added to the activities of the farms and provide diversity (Yılmaz, 2008: 109). In addition, activities such as horseback riding and endemic flora exploration are also offered. Likewise, local festivals, museums, artistic exhibitions, sale of handicrafts, educational trips, entertaining activities, cultural events, and activities for natural attractions are considered within this scope (Çıkın et al., 2010: 4).

Farm tourism can be defined as an alternative tourism activity that allows people who want to get away from the negative effects of urban life and spend their vacations in a quiet, calm and peaceful environment to learn about farm life, the cultivation and collection of agricultural products, village life, etc. during this time and to perform activities such as hiking, visiting the natural and cultural heritage of the region, cycling, etc. at other times (Uygur and Akdu, 2009:163). Farm tourism is based on tourist activities carried out by participating in various activities with the farm owner on a farm or animal breeding farm. For farm owners, tourism is complementary to their core business. Thus, farm tourism is not only a tourism activity but also an education in nature to learn the business and lifestyle of the region (Ahmadova, 2015:108). Farm tourism also emphasizes the host/guest relationship, the interaction between the host's private life and the guest's experiences. This interaction is the core concept of social tourism, which became popular in the 1920s and 1930s. Farm tourism creates alternative vacation opportunities for people and contributes to the fusion and coexistence of different cultures (Akçay Özkan and Yalçıner Ercoşkun, 2019:79).

Farm tourism is part of agro-tourism. However, both farm and agro-tourism represent only one part of rural tourism. It is becoming one of the most important single economic activities in the rural economy in a few rural places in Europe and also in Australia, New Zealand, the United States and Canada. Thus, rural tourism is much more than farm or agricultural diversification, but more specifically, efforts to diversify the rural economy in order to develop it from a primary to a service-based economy (Bojnec, 2010:13).

Farm tourism has an important role in preserving cultural heritage, cultural identity and cultural landscapes. Farmhouses and other farm buildings have significant heritage value in both Europe and North America. Mainly in marginal areas for modern industrialized farming, farm tourism helps to preserve regional landscapes against pressure for alternative land uses (Ollenburg, 2008).

The concept of ecological village tourism can be defined as the integration of ecological life and tourism or the continuation of touristic activities by ecological living conditions in ecovillage settlements, which are created within the framework of ecological living standards, which can be rural, semi-rural and rarely urban, and often have permanent residents. During ecovillage tourism, visitors can benefit from short- or long-term accommodation and food and beverage services, as well as socializing, participating in ecological tourism activities, participating in application workshops, and having contact with nature and animals. In addition, visitors can participate in natural agriculture practice courses, animal care, tree pruning, fruit and vegetable harvesting activities and production courses for local products (Doğru, 2021). Ecotourists participating in ecovillage tourism generally consist of people who are interested in alternative lives, have a high socioeconomic level, are interested and curious about ecological life, are conscious about ecological life, and prefer to visit ecovillages with their families.

Ecological farms are areas where organic or natural farming methods can be applied without any harmful interference to the natural functioning of the environment, where waste management and recycling are possible, and resources are used efficiently and consciously. The products produced in eco-farms vary depending on both the physical conditions of the area and local production and consumption habits. The fact that the products produced are more than consumption reveals marketing requirements. Especially in recent years, in line with the increasing demands for the consumption of natural products, it is seen that the products produced in eco-farms have started to be offered to the markets by diversifying and increasing the production amounts, and even organic product markets have been opened for these products.

Areas with different natural environmental conditions are also important for alternative tourism. Since the Kozak region (Turkey-Izmir) is suitable for pistachio pine cultivation, pistachio pine cultivation is the primary economic activity in most of the villages in the region. Villagers expand their pistachio pine areas every year by planting pistachio pine seedlings in their fields. An ecological farm to be established here will contribute to special interest tourism (Çetin, 2003).

2. Method

In this study, a bibliometric analysis was conducted on ecofarm-related articles. Trends in scientific production emerge with the increase in the diversity and number of topics studied in a research field. These trends are identified through various statistical analyses, one of which is bibliometric analysis. Bibliometric analysis encompasses a comprehensive statistical approach that includes research conducted on a specific topic, a graph of scientific production by year, identifying the most influential authors, institutions and sources, authors' collaboration and citation networks, and current trends in the field (Aria & Cuccurullo, 2017; McBurney & Novak, 2002). In this study, journal articles containing the keywords "ecovillage, ecofarm, ecofarming, ecovillages, ecological farming, ecological villages" in journals indexed in WoS and Scopus databases were analyzed.

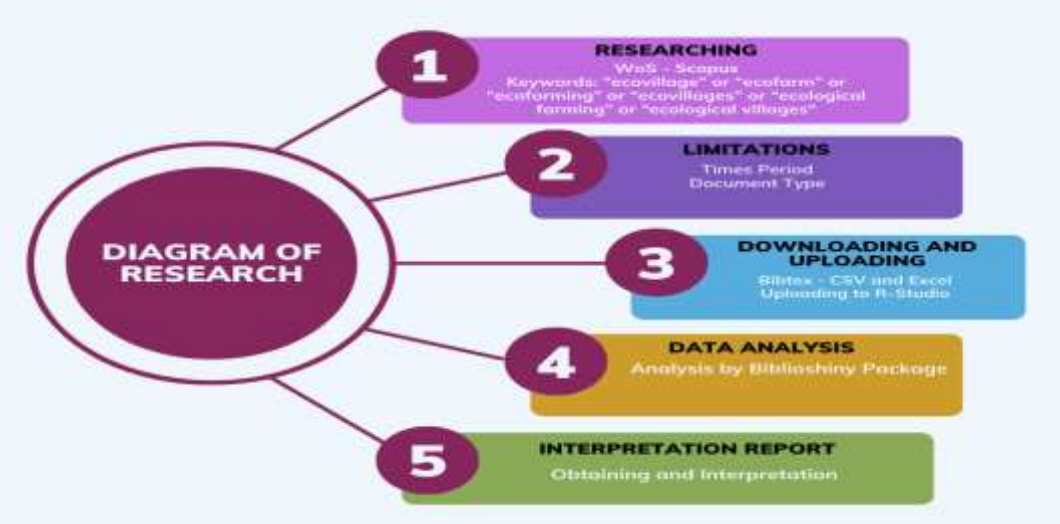

Figure 1. Data Collection Process

The keywords "ecovillage, eco-farm, eco-farming, ecovillages, ecological farming, ecological villages" were searched in Web of Science (WoS) and Scopus using the 'or' option for the study. "Authors Keywords" and "Keywords" options were preferred during the search to access more reliable studies where authors used these keywords. In the first search without any restrictions, a total of 245 publications on ecofarm in WoS and 292 publications in Scopus were found in all publication types and fields. The type of publication was selected as "article" without limiting the publications in the dataset to any category. Then, it was determined that the first time the concept of ecofarm was used as a keyword in a study in WoS and Scopus was in 1987 and this year was accepted as the starting date for the research. Articles published in 2025 were not included in the dataset, as the year 2025, when the data was downloaded, had not yet ended and was thought to affect the statistics in the dataset. Therefore, the publication period of the articles in the dataset was limited to 1987-2024. After these limitations, 245 articles in WoS and 292 articles in Scopus were included in the dataset and the relevant dataset was saved as "Bibtex" and 'CSV' files by selecting the "Full Record and Cited References" tab in WoS and all bibliometric data in Scopus. Since the data obtained from the two databases were thought to include duplicate articles, the duplicate articles were eliminated in the R-Studio program before the analysis and the analysis phase started.

2.2. Data Analysis

The R-Studio program, which is compatible with the infrastructure of the R Statistics program, was used for the analysis of the research data. R programming language is open source and offers many different options to users, so it has a constantly updated structure. Users can benefit from the packages offered at https://cran.r-project.org. In this study, the data were analyzed using the “bibliometrics” package developed in collaboration with Massimo Aria and Corrado Cuccurullo from the University of Naples Federico II (Karaca & Kılcan, 2023, p. 149). After the “Bibtex” file downloaded from WoS and the “CSV” files downloaded from Scopus were merged in ‘xlsx’ format on R-Stuio, the “bibliometrics” package added to R-Studio was activated and added to this interface. From the various types of analysis offered by the bibliometrics package, productivity graphs, most relevant authors, institutions, countries, collaboration status of authors, clarity of international collaborations of responsible authors, trends in ecofarm and keyword analysis were used. The graphs and quantitative data obtained were interpreted and the general framework and trends of the articles on ecofarm in education were presented.

3. Results

This section presents the findings of the educational research on ecofarm in the analyzed dataset. The table below provides basic information about the journal articles focusing on ecofarm.

Table 1. Main information

Categories	**Results**
Timespan	1987:2024
Journals	171
Documents	222
Authors	588
Authors of Single-Authored Documents	51
Authors of Multi-Authored Documents	537

According to the information presented in Table 1, according to the data set, the keywords "ecovillage, ecofarm, ecofarming, ecovillages, ecological farming, ecological villages" were first used by an author in Scopus databases in 1987. In WoS and Scopus, 222 articles were published in 171 different journals with the keywords "ecovillage, ecofarm, ecofarming, ecovillages, ecological farming, ecological villages". Over a period of 37 years, a total of 588 different authors have conducted research on ecofarm. When the table above is analyzed, it is seen that the majority of the authors (f=537) conducted their research through collaboration. Only 51 authors conducted research on ecofarm as a single author.

Figure 2 below presents the scientific production graph for journal articles on ecofarm in WoS and Scopus.

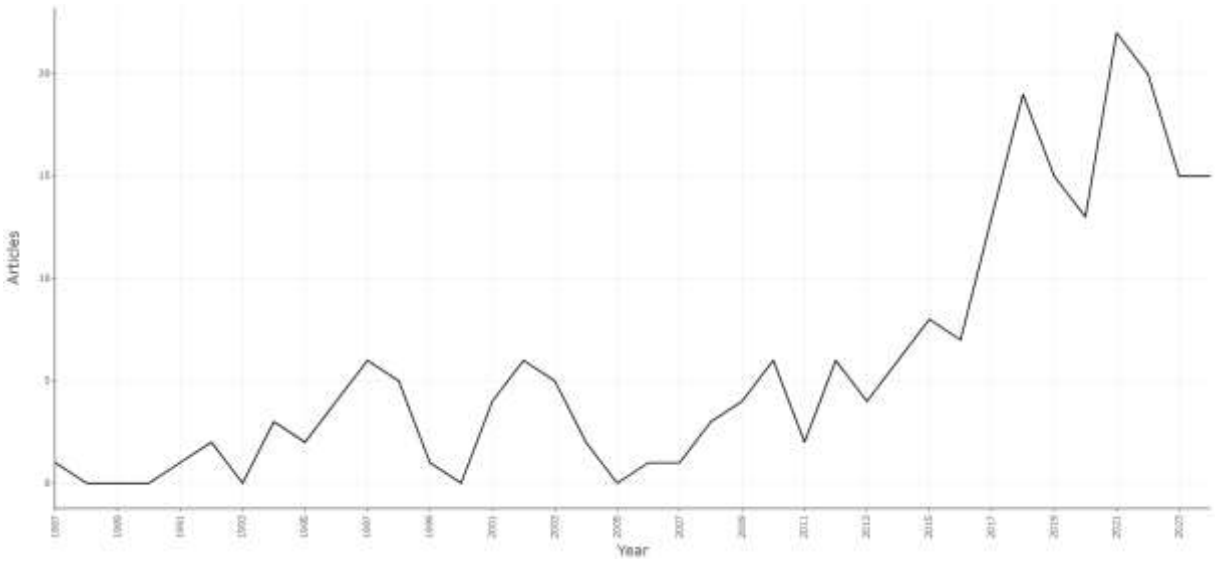

Figure 2. Annual Scientific Article Production

Figure 2 shows that ecofarm research started in 1987. When different periods are examined, a significant increase in the number of articles on ecofarm is observed after 2016. When the number of articles in the last six years is analyzed, it can be seen that the number of articles was 19 in 2018, 15 in 2019, 13 in 2020, 22 in 2021, and 20 in 2022. It can be said that the increase in the number of scientific articles on Ecofarm is about raising awareness in production for global environmental problems.

Table 2 presents the top 10 researchers who have shown the most interest in the field of ecofarm in WoS and Scopus databases. The table includes the institutions where these researchers work and the number of articles they have produced on the subject.

Table 2. Most relevant authors

Authors	**Institution**	**Article (f)**
Gail A. Wicks	University of Nebraska (USA)	9
Gordon E. Hanson	University of Nebraska (USA)	6
Garold W. Mahnken	University of Nebraska (USA)	5
Robert H.W. Boyer	RISE Research Institutes of Sweden (Sweden)	4
João Leite Ferreira Leite Neto	Pontificia Universidade Catolica de Minas Gerais (Brazil)	4
Ann Christine B. Salomonsson	Statens Veterinärmedicinska anstalt (Sweden)	4
Lennart Salomonsson	Sveriges lantbruksuniversitet (Sweden)	4
Washington José de Souza,	Universidade Federal do Rio Grande do Norte (Brazil)	3
Luiz Guilherme Mafle Ferreira Duarte	Pontificia Universidade Catolica de Minas Gerais (Brazil)	3
Ana Margarida Esteves	Iscte – Instituto Universitário de Lisboa (Portugal)	3

Table 2 shows that Gail A. Wicks from the University of Nebraska is the most active author with 9 articles on ecofarm. She is followed by Gordon E. Hanson, also from the University of Nebraska. Other researchers have also produced a significant number of articles on this topic. Some of the authors are from and work in countries such as Sweden and Brazil. This shows that the US attracts researchers from different countries about the concept. The publication start year and citation values of the researchers interested in the topic are shown in Figure 3.

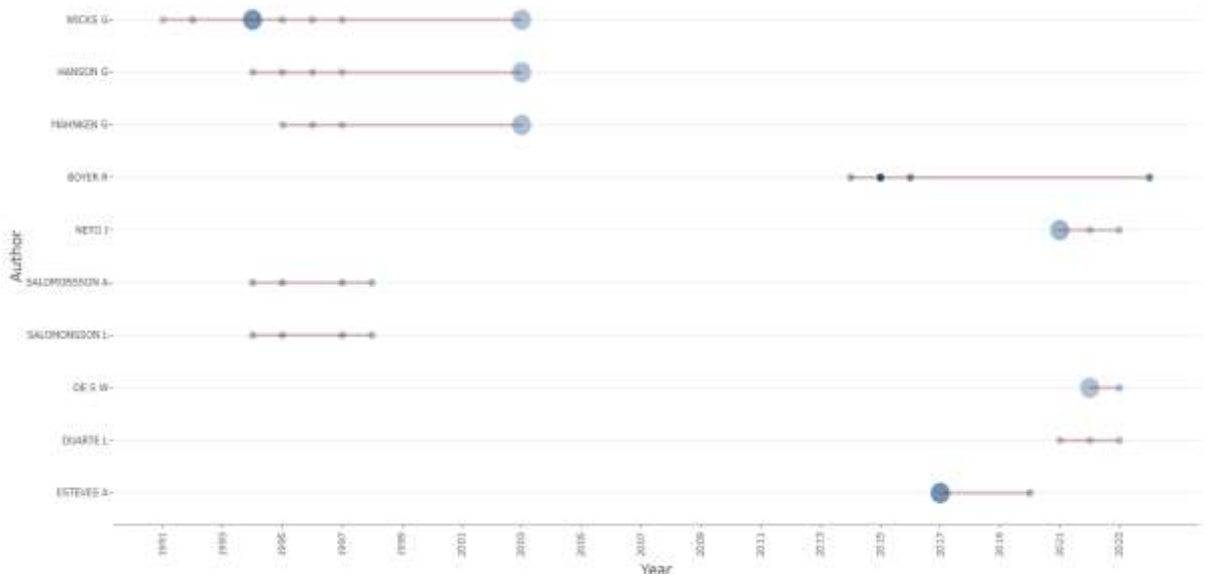

Figure 3. Authors' Production over Time

According to the information presented in Figure 3, Gail A. Wicks, who has the highest number of articles, wrote her first article on ecofarm in 1991 as restricted by WoS and Scopus. The fact that this author produced 9 articles between 1991 and 2003 shows that interest in this topic tended to increase in those years. Among the top

10 researchers, Gail A. Wicks from the University of Nebraska has the oldest publication on this topic. Wicks wrote her first article on this topic in 1991 in a journal indexed in WoS and continued to publish on the subject. Figure 3 shows that there has been an increase in the number of articles in the last seven years. This finding can be interpreted as an increase in the interest of researchers in ecofarm in recent years. While the size of the dots in Figure 3 is related to the number of articles, the colour intensity gives clues about the citation value of the articles. When Figure 3 is analyzed, it can be seen that Gail A. Wicks is the researcher who wrote the most articles per year. A review of one of these articles showed that it aimed to determine whether soybeans could be successfully grown in no-tillage in semi-arid areas of the central Great Plains near North Platte (USA) (Wicks & Klein, 1991).

Figure 4 below presents a map of the scientific production of ecofarm-related articles in WoS and Scopus.

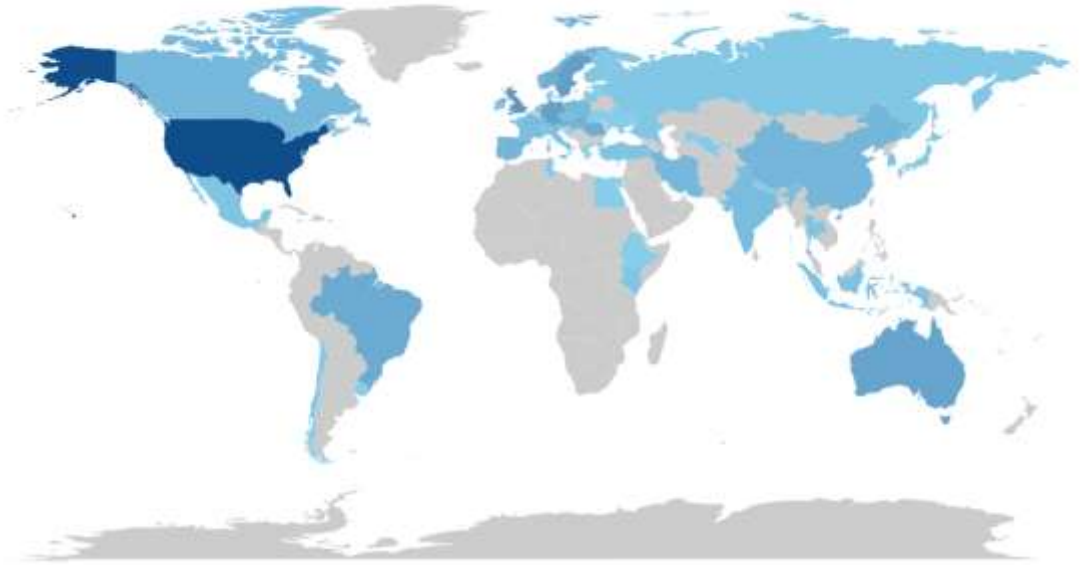

Figure 4. Country Scientific Production

Looking at the scientific production map in Figure 4, it can be seen that the grey colour represents that there is no article production on the subject in WoS and Scopus databases. The light blue colour indicates that there is article production on ecofarm, while the dark blue coloured countries show that scientific production on this subject is more prominent compared to other countries. The top 10 countries producing the most articles on ecofarm are USA (f=81), UK (f=34), Sweden (f=29), Germany (f=27), Australia (f=25), Slovakia (f=24), Brazil (f=21), Norway (f=20), Romania (f=20) and Portugal (f=18). This information shows that these countries prioritize the ecofarm concept compared to other countries.

Table 3 below provides information on which countries produce the most cited articles in educational research.

Table 3. Most cited countries

Country	Total Citations	Average Article Citations
USA	624	21,50
Sweden	216	24,00
United Kingdom	176	16,00
Poland	172	28,70
Czech Republic	166	55,30
Germany	151	12,60
Netherlands	129	21,50
Austria	116	23,20
Iran	113	22,60
Italy	113	37,70

According to the information given in Table 3, the countries with the most cited articles are the USA, Sweden, United Kingdom, Poland, Czech Republic, Germany, Netherlands, Austria, Iran and Italy. When the number of citations is analyzed, it can be stated that countries such as the USA, Sweden, Netherlands, Austria and Iran are almost directly proportional to scientific production data (Figure 4). It can be said that the high number of scientific production in these countries affects the total citation rate. However, it is seen that countries such as Slovakia, Norway, Brazil, Romania, Portugal, and Australia, which are among the top 10 countries in terms of scientific production, are not in the top 10 in terms of citation numbers. In addition, it has been determined that the researches conducted in countries such as Iran, Italy, Austria, Czech Republic, Poland, Netherlands, Iran, which are in the top 10 in terms of total citation rate, are in the top 10 in terms of citation rate despite having fewer publications. Average Article Citation data supports this statement. These findings can be interpreted as indicating that studies on eco-farms produced in these countries receive positive or negative attention.

Figure 5 shows the collaboration between the countries of the corresponding authors and other countries in ecofarm articles in the WoS and Scopus databases.

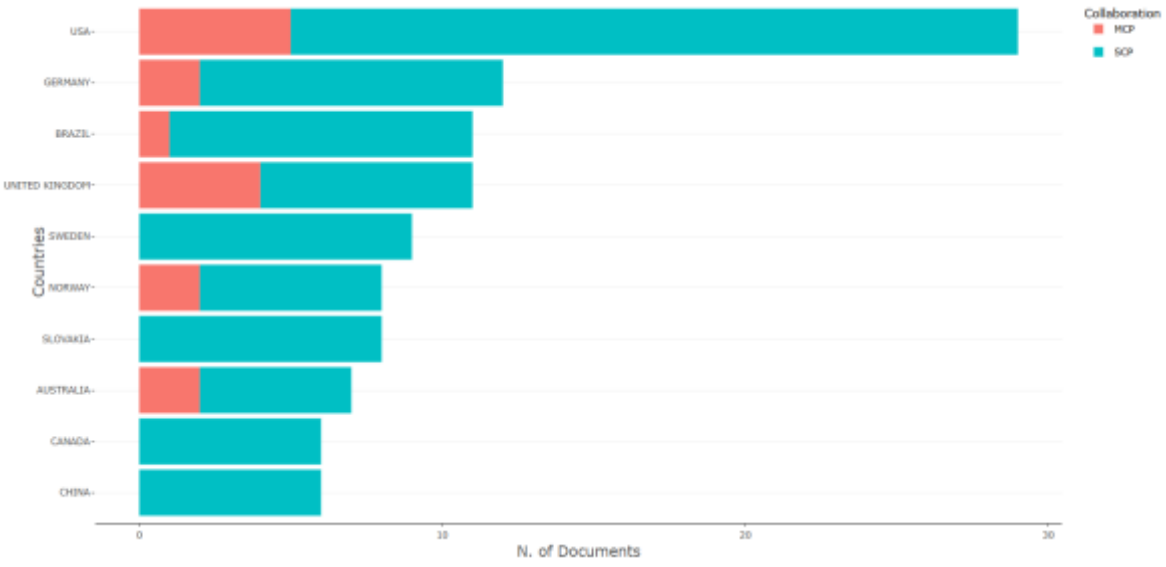

Figure 5. Corresponding Author's Country Collaboration

According to the information in Figure 5, when the MCP (Multi-Country Production) and SCP (Single Country Production) rates are analyzed, it is seen that the principal investigators in all countries except Sweden, Canada, Slovakia and China, which are among the top 10 countries, conduct research in international cooperation. On the other hand, the research conducted in these four countries is either single-authored or conducted in collaboration within the country. This finding can be interpreted that researchers in Sweden, Canada, Slovakia and China are not open to collaboration.

Figure 6 shows the diversity of the collaboration network between countries working on ecofarm.

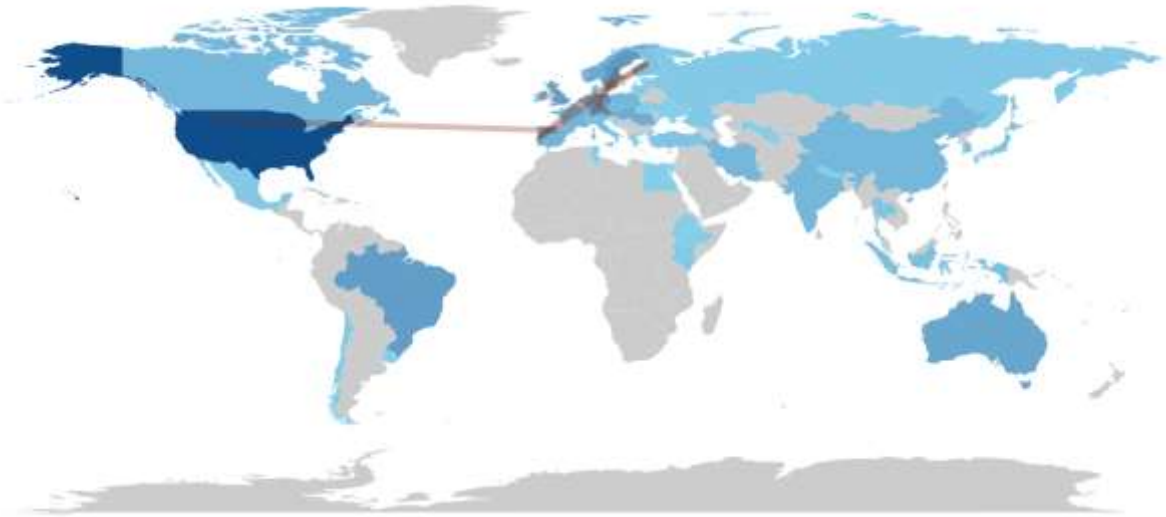

Figure 6. Country Collaboration Network

When the data on the collaboration with researchers in their own and other countries of the corresponding authors writing articles on Ecofarm are analyzed, it is found that the highest number of Portuguese and Finnish researchers collaborated with researchers in different countries in WoS and Scopus searches according to Figure 6 above. Portuguese researchers collaborated mostly with researchers from Finland and the Netherlands, while Finnish researchers collaborated with researchers from the Netherlands and Portugal. These findings can be interpreted that these countries are pioneers in collaboration in ecofarm studies compared to other countries.

Table 4 shows the number of global citations of scientific articles on ecofarm according to WoS and Scopus data.

Table 4. Most cited articles

Article's Title	**Global Citations**
Aroma profiles of five basil (Ocimum basilicum L.) cultivars grown under conventional and organic conditions	123
Cohousing's relevance to degrowth theories	92
Grassroots Innovation for Urban Sustainability: Comparing the Diffusion Pathways of Three Ecovillage Projects	82
A study of a urine separation system in an ecological village in Northern Sweden	78
A Model of Sustainable Living: Collective Identity in an Urban Ecovillage	77
Influence of Wheat (Triticum aestivum) Straw Mulch and Metolachlor on Corn (Zea mays) Growth and Yield	76
Protozoa as bioindicators in agroecosystems, with emphasis on farming practices, biocides, and biodiversity	73

On ochratoxin A and fungal flora in Polish cereals from conventional and ecological farms - Part 1: Occurrence of ochratoxin A and fungi in cereals in 1997	71
Effect of cropping systems and crop rotations on weeds	70
Integrated cultivation of the red alga Kappaphycus alvarezii and the pearl oyster Pinctada martensi	70

According to the information presented in Table 4, the article (Klimankova et al., 2008), produced to investigate the applicability of HS-SPME for the analysis of basil volatiles and to differentiate between five basil varieties grown under organic and conventional conditions based on information on the composition of volatiles, received the most attention from researchers not working on this topic at international level. Similarly, the second article published in 2010 focused on the issue of co-housing (Lietaert, 2010). It can be said that this topic has attracted international attention.

Table 5 shows the journals where scientific articles on ecofarm are most frequently published.

Table 5. Most relevant sources

Source	**Article (f)**
Sustainability	12
Weed Technology	5
Acta Agriculturae Scandinavica Section B-Soil and Plant Science	4
Journal of Cleaner Production	4
Weed Science	4
Acta Ethnographica Hungarica	3
Community Development	3
European Countryside	3
Journal of Political Ecology	3
Acta Veterinaria Scandinavica	2

Looking at the journals listed in Table 5, it is seen that these journals are limited to WoS and Scopus as databases. When the table is analyzed, it is seen that the journal with the highest number of articles on the subject is “Sustainability” with 12 articles. When the publication scopes of these journals are examined, it is seen that they publish articles on topics such as sustainability, environmentalism, society and ecology. These findings can be interpreted as that the articles on WoS and Scopus ecofarm are conducted in different subject areas.

Figure 7 shows a keyword cloud consisting of the most frequently used keywords in ecofarm-related articles.

Figure 7. Word Cloud

The word cloud presented above is limited to a single keyword. Accordingly, the first 50 key keywords plus the most frequently used terms are shown as the limit. In the literature, according to Garfield (1990), key keyword plus provides more comprehensive information compared to the keywords used by authors. In this context, researchers aiming to research a specific topic use 3 to 6 keywords according to journal guidelines. Web of Science (WoS) and Scopus generate keyword-plus terms to access more comprehensive information in the relevant field based on the keywords used by researchers in publications. Therefore, Keyword Plus reveals the relationship between the main keywords and other related keywords and the trend on the topic (Tripathi et al., 2018). According to the figure above, the most frequently used keywords in articles on ecofarm in WoS and Scopus are community, sustainability, management, grass-roots innovations and policy.

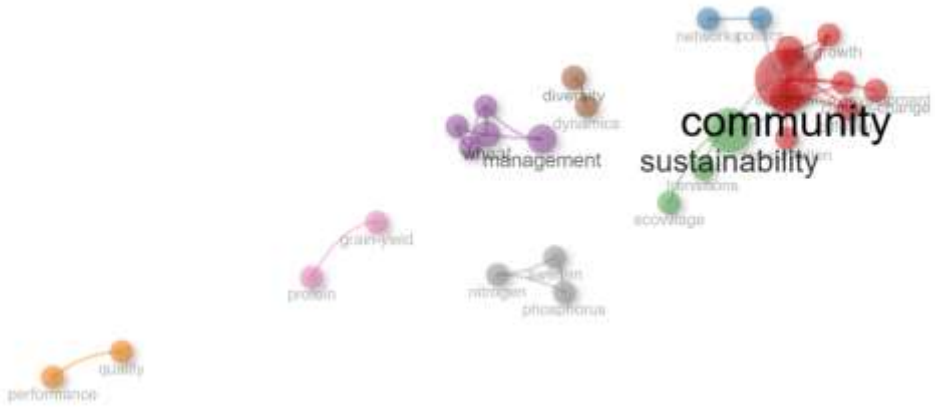

Figure 8. Co-occurrence Word

Co-occurrence word analysis was conducted to determine which keywords are used more frequently together and the results are presented in Figure 8.

Figure 8 shows groups of keywords that are frequently used together in articles. Keywords such as community, degrowth, grass-roots innovations, climate change, sustainable development, life, consumption and diffusion form a group. It can be said that certain studies focus on community. The presence of keywords such as management, sustainability, quality and protein in other groups strengthens this interpretation. Based on these findings, it can be stated that the articles are written on ecofarm.

Figure 9 shows the list of trending topics for ecofarm-related articles in WoS and Scopus.

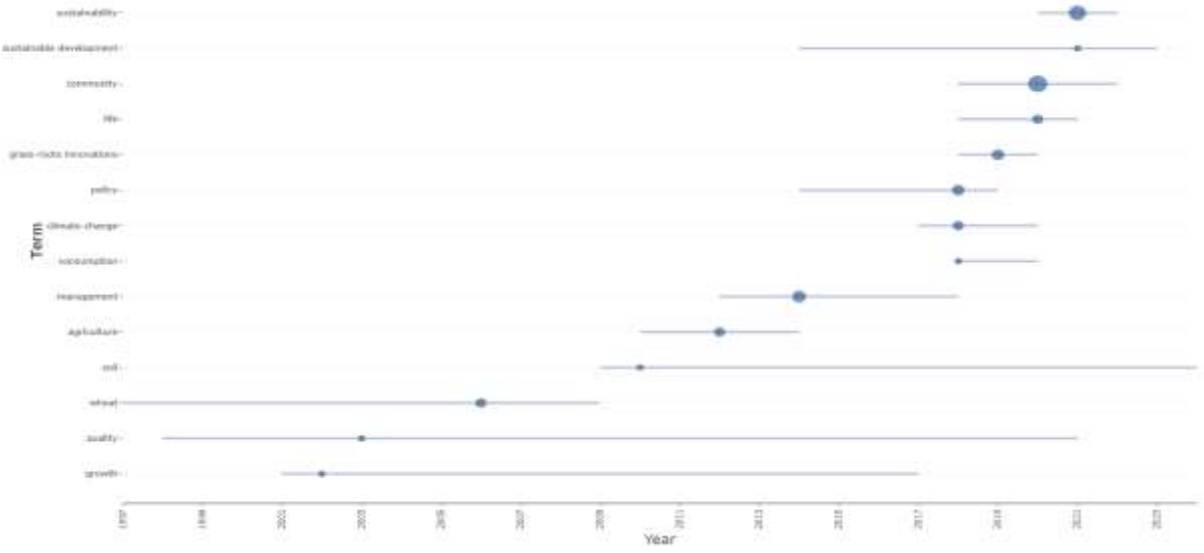

Figure 9. Trend Topics

According to Figure 9, the most popular trending topics related to ecofarm in recent years include sustainability, community, policy, management and grass-roots innovations. Some of the keywords in Figure 9 may be relevant to the sample groups used in the research. Quality appears to have remained popular for the longest period of time. It can be interpreted that it also influenced the increase in the types of trending topics over time.

References

Adalılar, Ş. N. (2012). Bir turistik çekim merkezi olarak ekoköyler ve ekoköylere tüketici yaklaşımlarını belirlemeye yönelik bir araştırma. Yayınlanmaış Doktora Tezi, Gazi Üniversitesi Sosyal Bilimler Enstitüsü, Ankara.

Ahmadova, S. & Akova, O. (2016). Türkiye'de organik ekoturizm çiftlikleri üzerine bir araştırma. Karabük Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 6(1), 14-29.

Ahmadova, S. (2015). Türkiye'de organik ekoturizm çiftlikleri üzerine bir araştırma. Yayınlanmaış Yüksek Lisans Tezi, İstanbul Üniversitesi Sosyal Bilimler Enstitüsü, İstanbul.

Akçay Özkan, B. & Yalçıner Ercoşkun, Ö. (2019). İç Anadolu Bölgesi'ndeki ekolojik çiftliklerde tarım turizmi. Balkan ve Yakın Doğu Sosyal Bilimler Dergisi, 05(03), 78-89.

Akoğlan Kozak, M. & Bahçe, A.S. (2009). Özel ilgi turizmi, Detay Yayınları, Ankara.

Altunal Gürgen, Y. (2019). Ekoköyleri ekolojik ve eşitlikçi bir kalkınma bağlamında yeniden düşünmek: yabancılaş(ma)mış insan. Yayınlanmamış Yüksek Lisans Tezi, Marmara Üniversitesi Sosyal Bilimler Enstitüsü, İstanbul.

Andriopoulos, C. Avgerinos, E. & Skanavis, C. (2017). Is an ecovillage type of living arrangement a promising pathway to responsible environmental behaviour? Health and Environment Conference Proceedings, 210-219, Dubai Academic City, Dubai United Arab Emirates.

Avelino, F. & Kunze, I. (2009). Exploring the Transition potential of the ecovillage movement. Paper presented at the European Conference on Sustainability Transitions: Dynamics & Governance of Transitions to Sustainability, 4th-5th June, Amsterdam, the Netherlands.

Bojnec, S. (2010). Rural tourism, rural economy diversification, and sustainable development. Academica Turistica, 3(1–2), 7-15.

Boonkaew, R. & Roongtawanreongsri, S. (2018). Ecovillage in Thailand: lessons from applying the concept to practice. Human Behavior, Development and Society, 19, 50-63.

Borsos, B. (2007). The eco-village concept and its place in sustainable settlement and rural development. Unpublished Doctoral Thesis, Pécs University of Sciences Faculty of Natural Sciences Pécs, Hungary.

Borsos, B. (2013). The eco-village concept in a model experiment in southwest Hungary. Journal of Settlements and Spatial Planning, 4(1), 69-76.

Çetin, T. (2003). Doğal ortam-ekonomik faaliyet ilişkisine bir örnek: Kozak yöresi (Bergama). Gazi Eğitim Fakültesi Dergisi, 23(1), 23-46.

Çetin, T. (2010). Cumalıkızık köyünde kültürel miras ve turizm algısı. Milli Folklor, 11(87), 181-190.

Chiu, Y. H., Lee, W-I & Chen, T.H. (2014). Environmentally responsible behaviour in ecotourism: Antecedents and implications. Tourism Management, 40, 321-329

Çıkın, A., Çeken, H. & Uçar, M. (2009). Turizmin tarım sektörüne etkisi, agro-turizm ve ekonomik sonuçları, Tarım Ekonomisi Dergisi, 15 (1-2), 1-8.

Civelek Oruç, M., Dalgın, T. & Çeken, H. (2015). Tarım turizmi uygulamaları ve pazarlama modelleri: Türkiye için bir model önerisi. Uluslararası Sosyal ve Ekonomik Bilimler Dergisi, 5(2), 40-45.

Costa, S. (2015). Practical approach towards degrowth transition: a case study of an emerging ecovillage in Kalmar, Sweden. Unpublished Master Thesis, International Master's Programme in Environmental Studies and Sustainability Science, Lund University, Sweden.

Doğru, E. (2021). Türkiye'de kırsal destinasyonların değerlendirilmesi: Ekoköyler ve ekoçiftlikler. Yayınlanmamış Doktora Tezi, Karabük Üniversitesi, Karabük.

Garden, M. (2006). The eco-village movement: divorced from reality. The International Journal of InclusİVe Democracy, 2(3), 1-5.

Garfield, E. (1990). Keywords Plus: ISI's breakthrough retrieval method. Part 1. Expanding your searching power on current contents on diskette. Current Comments, 1(32), 5-9.

Gesota, B. (2008). Ecovillages as models for sustainable development: a case study approach. Unpublished Master's Thesis, Albert-Ludwigs-Universitat, Freiburg.

Gorji Mahlabani, Y., Shahsavari, F. & Motevali Alamouti, Z. (2016). Eco-village, a model of sustainable architecture. Journal of Fundamental and Applied Sciences, 8(3S), 1835-1847.

Gültekin, Y. S. & Gültekin, P. (2017). Dadalı Ekoköyü'nün farklı ilgi gruplarının bakış açılarından değerlendirilmesi. 1st International Sustainable Tourism Congress Proceedıngs Book, 458-467.

Gündüz S. (2004). Ankara ili Kalecik ilçesinde tarımsal turizme uygun alanların saptanması ve tarımsal turizm modelinin oluşturulması üzerine bir araştırma. Yayınlanmamış Doktora Tezi, Ankara Üniversitesi, Fen Bilimleri Enstitüsü. Ankara.

Hacıoğlu, N. & Avcıkurt, C. (2008). Turistik ürün çeşitlendirmesi, Nobel Yayın Dağıtım. Ankara.

Hall, C. M. (2013). Framing tourism geography: Notes from the underground. Annals of Tourism Research, 43, 601-623.

Hall, M.C. & Page, S.J. (2006). The geography of tourism and recreation: environment, place and space. Glasgow. Francis Group.

Hall, R. (2015). The ecovillage experience is an evidence base for national wellbeing strategies. Intellectual Economics, 9(1), 30-42.

Kasper, S. V. D. (2008). Redefining community in the ecovillage. Human Ecology Review, 15(1), 12-24.

Kılıç, B. & Kurnaz, A. (2010). Alternatif turizm ve ürün çeşitliliği oluşturmada ekolojik çiftlikler: Pastoral Vadi örneği. İşletme Araştırmaları Dergisi, 2 (4), 39-56.

Kılıç, D. & İşcan, F. (2019). Dünya'da ve Türkiye'de ekolojik köy uygulamaları. TMMOB Harita ve Kadastro Mühendisleri Odası, 17. Türkiye Harita Bilimsel ve Teknik Kurultayı, 25-27 Nisan, Ankara.

Klimankova, E., Holadová, K., Hajšlová, J., Čajka, T., Poustka, J., & Koudela, M. (2008). Aroma profiles of five basil (Ocimum basilicum L.) cultivars grown under conventional and organic conditions. Food Chemistry, 107(1), 464-472.

Köse, E., Öztaşcı Gültekin, R. E., Yazıcı, M. & Yurttaş, C. (2017). Eko-köylerin sürdürülebilirlik hareketi ile çevreye sağlayacağı potansiyel fırsatlar. AL-FARABI International Journal on Social Sciences, 4, 1-17.

Küçükaltan, D. (2002). Tarım turizmi ve Türkiye'de tarım turizmi işletmeciliği. 2.Turizm Şurası Bildirisi 1. Cilt. ss.143-159 Ankara, 12-14 Nisan.

Küçükaslan, N. (2007). Özel ilgi turizmi, Ekin Yayınevi. Ankara.

Lietaert, M. (2010). Cohousing's relevance to degrowth theories. Journal of cleaner production, 18(6), 576-580.

Luo, Y., Crask, L., Dyson, A., Zoghi, M. & Hyatt, B. (2011). The eco-village experience at California State University, Fresno: An integrated approach to service-learning. Metropolitan Universities Journal, 21(3):16– 26.

Ollenburg, C. (2008). Regional signatures and trends in the farm tourism sector. Tourism Recreation Research, 33(1), 13-23, DOI: 10.1080/02508281.2008.11081286

Özadak, A. (2016). Köye geri dönüş: Türkiye'deki ekolojik çiftliklerde birlikte yaşam deneyimleri ve yeni köylülük. Yayımlanmamış Yüksek Lisans Tezi. Bilgi Üniversitesi Sosyal Bilimler Enstitüsü, İstanbul.

Pathiraja, S. M., (2007). The role of eco-villages in community-based environmental education: a comparative study of communities in Sri Lanka and the United Kingdom. Unpublished Master Thesis, Durham University.

Rose, J. (2014). Ekoköyler: Yeni rotamız. (Çev. İ. Urkun Kelso). İstanbul: Yeni İnsan Yayınevi.

Sarı, Y. & Ece, C. (2018). An examination of eco-village as an example of eco-entrepreneurship; the case of Turkey. Internatıonal Journal of Landscape Architecture Research, 2(2), 01-03.

Savgın, C. & Zengin, B. (2018). Türkiye'de çiftlik turizmine yönelik kavramsal bir model önerisi. Akademik Sosyal Araştırmalar Dergisi, 6(86), 239-258.

Savgın, E. C. (2016). Çiftlik turizmine yönelik kavramsal bir model önerisi. Yayınlanmamış Doktora Tezi, Sakarya Üniversitesi Sosyal Bilimler Enstitüsü, Sakarya.

Şimşek, O. (2016). Alternatif bir ekolojik yaşam modeli: TaTuTa (ekolojik çiftliklerde tarım turizmi ve gönüllü bilgi, tecrübe takası) projesi. Yayınlanmamış Yüksek Lisans Tezi, Cumhuriyet Üniversitesi Sosyal Bilimler Enstitüsü, Sivas.

Slavic, I. P. & Schmitz, S. (2013). Farm tourism across Europe. European Countryside, 5(4), 265-274.

Suh, J. (2017). Agriculture and sustainable communities: Reflections from a comparative case study. Community Development, 49(1), 34-49.

Takeuchi, K., Namiki, Y. & Tanaka, H. (1998). Designing eco-villages for revitalizing Japanese rural areas. Ecological Engineering, 11, 177–197.

The Findhorn Community (2018). Ekoköy Findhorn. (Çev. A. Doğan). Yeni İnsan Yayınevi: İstanbul.

Triarchi, E. & Karamanis, K. (2017). The evolution of alternative forms of tourism: a theoretical background. Business & Entrepreneurship Journal, 6(1), 39-59.

Tripathi, M., Kumar, S., Sonker, S. K., & Babbar, P. (2018). Occurrence of author keywords and keywords plus in social sciences and humanities research: A preliminary study. COLLNET Journal of Scientometrics and Information Management, 12(2), 215-232.

Uygur, S. M. & Akdu, U. (2009). Çiftlik turizmi, kırsal, tarım ve ekoturizmin kavramsal açıdan irdelenmesi. Ticaret ve Turizm Eğitim Fakültesi Dergisi, 1, 143-166.

Waerther, S. (2014). Sustainability in ecovillages - a reconceptualization. International Journal of Management and Applied Research, 1(1), 1-16.

Walker, L. (2016). Ekoköy Ithaca. (Çev. O. Tuncay). İstanbul: Yeni İnsan Yayınevi.

Wicks, G. A., & Klein, R. N. (1991). Feasibility of non-irrigated soybean (Glycine max) production in the semi-arid central Great Plains. Weed Technology, 5(2), 369-375.

Yılmaz, H. (2008). Turizm çeşitlendirilmesi kapsamında eko turizm ürünü olarak tatil çiftikleri: Türkiye'deki tatil çiftliklerine yönelik swot analizi. Yayınlanmamış Doktara Tezi, Afyon Kocatepe Üniversitesi, Sosyal Bilimler Enstitüsü, Afyonkarahisar.

Zeybek, O. & Arslan, M. (2019). Ekoköylerin kent ölçeğinde uygulanabilirliği üzerine bir araştırma. Adnan Menderes Üniversitesi Ziraat Fakültesi Dergisi, 16(2), 135 – 141.