

AGRITOURISM POTENTIAL OF GREENHOUSE ENTERPRISES ESTABLISHED AT DİKİLİ-KAYNARCA REGION IN İZMİR-TURKEY

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Availability of geothermal water resources, suitability of climate for greenhouse plant cultivation and high potential of tourism increases the applicability of agritourism in Kaynarca Region, in Turkey. Closeness and connectivity of region to both Bergama and Dikili, which have high cultural tourism attraction and improvements in cruise tourism, respectively, would provide the integration of agritourism to other tourism types. Therefore, an alternative tourism can be uncovered and both national and international tourism demand can be increased in area. In this study, determination of the available potential of greenhouse enterprises of Kaynarca Region in Turkey, related to agritourism has been presented.

Keywords: *Agritourism, greenhouse, Kaynarca, Dikili, Bergama*

JEL Classification: *L83, M1, O1*

INTRODUCTION

Tourism has been defined as the entire relationships and events caused by travelling of people far from their usual working environment, permanent residences and habitats where they can demand the goods and services produced by tourism enterprises and by their temporarily accommodation, by Aiest (Kozak et al., 2010).

Tourism can be classified as recreational, cultural, sport, religion (faith), economic, political, congress and family tourism (Usta, 2002).



Rural tourism is a type of tourism, which is combined with rural culture, natural environment and agriculture, and which can be easily integrated into other tourism activities. Therefore, rural tourism, enriched with context by the regional, national and international initiatives, can attract people to the rural areas in many countries. Rural tourism is divided into village tourism, farm tourism, green tourism and agritourism (Soykan, 1999).

Agritourism has emerged in agricultural and naturally charming areas as a result of developing international tourism. It usually covers all tourism activities in rural areas, and hereby shows some similarities with rural tourism. Nilson defines the agritourism as a sub-branch of rural tourism. Hence, rural tourism generally bounds to environment, while agritourism bounds to cultivated area and farmer (Çıkın et al., 2009).

Agritourism is carried on rural enterprises, which integrates commercial dimension of tourism with active farming. It utilizes natural, ecological and environmental resources, integrates agriculture and forestry; fishery, livestock and agricultural activities; farm culture and daily farm life (Kozak, 2009). Agritourism enables accommodation facilities, participation of tourists to work programs such as milking, animal breeding, plant harvesting etc., in farm enterprises whose main task is providing farm products to customers. Potential agritourism activities usually include the ones such as farmer's bazaar, flower exhibition, street stalls, antiques, tractor driving, riding horses, agri-fairs, agri-museums, cycling tours, souvenirs, hunting, fishing, teaching to cook local foods and rural training centers (Avçıkurt and Köroğlu, 2008).

Agritourism not only includes conservation of agricultural lands and utilization of agri-products in tourism but is an alternative tourism also, which has developing economical dimension as an alternative tourism. Nowadays, various tourism alternatives are seen relating to international touristic demands. Fruit harvesting in orchards where the agricultural activities are intensive is one of these alternatives (Çıkın, 2009). Additionally, socio-economic and external factors affect the participation of agri-producers in agritourism. Producers perceive tourism as a social phenomenon (Polovitz et al., 2001).

Greenhouse cultivation is a type of agriculture which enables efficient and high yielded fresh vegetable and flower production. Soilless culture as a part of greenhouse horticulture showed a quick development, since it is independent from available soil conditions, prevents soil borne problems, harmful effects of soil chemicals such as Methyl Bromide (Van Os et al., 2001; Giannakou and Anastasiadis, 2005). The technology utilized in soilless culture is well developed. The growers recognize

production as profitable. All these reasons make soilless culture attractive for supply and demand sides of agritourism (Nelson and Pade, 2007).

Brief background of Dikili-Kaynarca Region and Bergama tourism

The region is located on the Dikili-Bergama highway and vast number of tour buses uses this route especially in summer season. Increasing importance of Dikili Port in Northern Aegean Sea caused to frequent visits of cruiser tourists. The tourists who come to Dikili Port are taken for a visiting to local and universal heritages in Bergama through the daily trip tours to Bergama.

Dikili is a popular summer resort and coastal town located in the Aegean Region of Turkey. It is situated 120 km north of İzmir. It has a large port enough to accommodate three passenger ships at the same time, and has good land transport connections.

Accommodation facilities are generally in the form of hotels and pensions in Dikili. Type, number and the capacity of the accommodation facilities in 2010 are given in Table 1 (Baykal et al., 2013).

Table 1. Type of accommodation facilities and bed capacities in Dikili (2010)

Facility type	Number	%	Number of beds	%
Hotel	10	34.5	989	49.4
Motel	3	10.3	85	4.2
Pension	11	37.9	363	18.1
Camping	2	6.9	137	6.8
Service area	2	6.9	380	19.0
Holiday village	1	3.4	50	2.5
Total	29	100.0	2004	100.0

Table 2. Change of visitor numbers in years in Dikili

Year	Turkish	Foreigner	Transit	Total
2007	465	1399	4403	6267
2008	686	2317	8864	11867
2009	809	2796	6628	10233
2010	1584	768	14903	17255
2011	1419	1021	17392	19832

Entrance of foreign visitors into Dikili is generally via seaway. Since the business purpose entrances are few, they can be defined as “traveller”. Although the increase in numbers is evident in years, there is no stability or regularity (Table 2) (Baykal et al., 2013).

Bergama is populous, historical and central town of the same area. Moreover, when compared with other counties of İzmir relating to social-economic development grade, it is in fourth place in terms of agricultural indicator (Kaplanoğlu and Meriç, 2011). It is 27 km inland from the nearest seacoast and located at the east of Dikili. The history of the town reaches to The Hellenistic Period (283-133 B.C.) and it is included in the UNESCO World Heritage Tentative List. Touristic organizations play main role in tourism of Bergama. Foreign visitors generally prefer 8-15 days tours called “Anatolian Tours”. 88% of them stay one night in negotiated hotels. The number of daily visitors from İzmir and Ayvalık is more than nightly accommodated ones (Table 3) (Baykal et al., 2013). Besides, the distance between Bergama and İzmir positively contributes to total daily visitor numbers (Table 4).

Table 3. Number of arrivals to facility, nightly accommodations and average day of stay in Bergama in 2010

	Foreigner	Domestic	Total
Number of arrivals to facility	498	1613	2111
Number of nightly accommodations	1958	6061	8019
Average day of stay	3.9	3.8	3.8

Table 4. Total number of daily visitors of museum and historical sites in Bergama in 2010 and 2011

	2010	2011
Bergama Museum	25833	25416
Acropol	295927	301723
Asklepion	155959	154976
Basilica	36535	36906
Total	514254	519011

Greenhouse vegetable production in Dikili-Kaynarca Region

Greenhouse production, as soilless culture, started in 2002 in Kaynarca Region. It is carried out in the area more than 700 da. While there was 1 greenhouse enterprise in the region in 2002, total number reached 4 enterprises in 2011. Region is attractive for investors due to easy connection to İzmir and İstanbul markets, advantages of Dikili Customs, suitability of geothermal water resources and climate.

In this research, identification of agritourism potential of greenhouse enterprises established in one of the largest and important greenhouse areas of Turkey and as well as Europe is presented.

MATERIALS AND METHODS

The study was carried out in Kaynarca Region, which is located between Bergama (39°07'04.73" N, 27°11'00.47" E) and Dikili (39°04'20.73" N, 26°53'17.71" E) Towns, in İzmir-Turkey, in the August of 2011. The distance of the region to Dikili and Bergama is 9 and 17 km, respectively. It is one of the most important greenhouse areas of Turkey and Europe together with Antalya, mainly due to the availability of geothermal water resources and suitability of climate.

There are 4 greenhouse enterprises in the region. Names are indicated as A, B, C and D, due to the privacy demands of the enterprises during the research.

Field study of the research was performed in the form of at least 2 hours face to face interviews by either management or production manager of the enterprises after the necessary appointments. Because of the heavy workload and starting of the production season, interview demand was rejected by the enterprise D and therefore it couldn't be included into the study.

Total 30 questions were asked for each (A, B and C) enterprise. While 12 of them were prepared to clarify the general structure, 18 of them were aimed to define the agritourism potential, viewpoint and approach of the enterprise (Table 5).

In the case of negative response to "Q17 - Do you think to start agritourism activities in the following years?", it was assumed positive in order to continue to the interview and proceeded to next questions.

Table 5. Questions of the face-to-face interviews for greenhouse enterprises

Q1	What is the name of enterprise?
Q2	When was the enterprise established?
Q3	What is the total number of employees? How is the distribution?
Q4	What is the total area of the enterprise?
Q5	What is the total greenhouse area of the enterprise?
Q6	What are the products?
Q7	Why was this region chosen?
Q8	What are the greenhouse types?
Q9	Which heating system is utilized for production?
Q10	What is the production schedule?
Q11	Do you use good agricultural practices (GAP) in your enterprise?
Q12	Do you have quality management system in your enterprise?
Q13	How do you evaluate the Dikili-Bergama Region in terms of tourism?
Q14	What is tourism in your opinion?
Q15	What is rural tourism in your opinion?
Q16	What is agritourism in your opinion?
Q17	Do you think to start agritourism activities in the following years?
Q18	Would you employ new and experienced labor for agritourism? (Do you think that your available personnel are qualified in terms of language, agricultural and tourism skills and experiences? Why?)
Q19	What is your opinion on the new investment such as a new pension or hotel for the accommodation of visitors?
Q20	Do you think to expand your enterprise for agritourism? How do you perform it? (As a new small or medium scale greenhouse in a new area or as an addition to the available enterprise?)
Q21	Do you think to increase crop diversity for agritourism? Why?
Q22	Do you think to start other agricultural activities such as orchard, animal breeding etc. in addition to the greenhouse production? Why?
Q23	Do you think to establish sales stand in the enterprise or near the highway? Why?
Q24	If you are utilizing the geothermal energy for greenhouse heating at the moment, do you think to plan other touristic activities utilizing geothermal energy when the local conditions are convenient?

Q25	Do you think to organize certification programs for the visitors during their accommodation?
Q26	Do you think to install kitchens where visitors can cook or prepare their harvested crops in your available enterprise?
Q27	Do you think to introduce your production technology to the visitors?
Q28	Do you think to include visitors to the harvest either in a separate greenhouse or in the available greenhouses?
Q29	Do you think to include visitors to handling/packaging?
Q30	Do you only think to introduce your enterprise or to include visitors to whole activities? Why?

RESULTS AND DISCUSSION

The achieved results during the study have been given below in accordance with the questions.

The first established enterprise in the region is A. It has the largest total and greenhouse area and the highest employment number. For all enterprises, the reasons for choosing the Kaynarca Region for investment are suitability of climate, geothermal water, closeness to the market and Dikili Customs. Since the production is ended in July, total employee numbers of the enterprises are reduced in this month (Table 6).

Table 6. General properties of the greenhouse enterprises

Enterprise	Date of establishment	Greenhouse area (da)		Total area (da)	Employee Number				
					Manager	Technician	Officer	Worker	Total
A	2002	544	Plastic: 339 da	3100	2	38	45	485*	570
			Glass: 105 da						
B	2006	40.8	Whole Plastic	243	1	-	-	40 – 45*	41 – 46
C	2006	150	Plastic: 120 da	3000	2	14	3	121*	140
			Venlo type 30 da						

*In production season.

All enterprises are growing vegetables in soilless culture (Table 7). Production season reaches from August to June (11 months).

One enterprise has GlobalGAP and TN10; another one has GlobalGAP and BRC (A Grade) certification. Yet the other one has no certification. While geothermal heating is utilized in enterprise A and C, production is carried out by fossil fuel (coal) heating in B.

Enterprise A has a seedling nursery. All enterprises prefer to grow additional products such as orchards and field crops (Table 7).

Table 7. Products and growing areas of the greenhouse enterprises

		A (da)	B (da)	C (da)	Total (da)
Greenhouse	Tomato	396	40.8	150	586.8
	Pepper	60	-	-	60
	Melon	67*	-	-	67
	Lettuce	67*	-	-	67
	Seedling	21	-	-	21
Open Field	Walnut	-	15	-	15
	Olive	-	25	-	25
	Other orchards	1600	-	-	1600
	Barley	-	-	800	800
	Wheat	-	-	800	800

* Melon and lettuce are grown in the same area since the production seasons are not overlapped.

Although two enterprises accepted Kaynarca as the tourism region, they indicated negative effects of the lack of accommodation and promotion, domination of culture tourism and stereotyped tourism understanding in the region; relating to the answer to “Q13 - How do you evaluate the Dikili-Bergama Region in terms of tourism?”. Other enterprise asserted the future of tourism in the region is weak.

It has been determined that either the enterprises have no idea about tourism, rural tourism and agritourism or have lack of information. Thus; one enterprise did not answer the Q14, Q15 and Q16; others perceived the rural tourism and agritourism as the same concepts. It is therefore attributed to the origins of the interviewers, i.e. not from tourism but from agriculture sector.

All enterprises answered “No, at the current state” to the “Q17 - Do you think to start agritourism activities in this enterprise in the following years?”, which forms the basis of the study. The reasons were:

- The risk of occurrence and spread of diseases and pests,

- Necessity of the preservation of hygiene conditions,
- Exigency of not to take risks in terms of competition and use of input.

Because of the mentioned reasons above, enterprises tend to accept minimum number of visitors even with rendezvous.

Even though the enterprises were in doubt against the agritourism activities, one of them believed that agritourism could help the promotion of the greenhouse enterprise. Additionally, if it can be efficiently planned, integration of agritourism in future actions thought to be beneficial by enterprise A. In this case, such activities should be carried out in a separate area where occurrence and spread of the diseases and pest will have minimum impact on main greenhouse enterprise. The other two enterprises indicated that agritourism could be carried out sustainably and economically in 5000 sqm greenhouse fitted with separate equipment and crew, in their readily available enterprises, rather than heading to investment expenditure for new agritourism infrastructure. In this case, the issue “risk of occurrence and spread of diseases and pests” should always be kept in mind.

In terms of agritourism, quality of human resources of the enterprises has been low. All enterprises have agreed to necessity of employment of an expert and foreign language training.

However different vegetables were grown using soilless culture technique in greenhouses, enterprises grew only tomato except A. Enterprise A and C believed that, increasing the product diversification would be effective in attracting the interest of tourists. Since the application of different cultivation techniques is mandatory for the production of different vegetables in the same greenhouse, separated soilless tomato greenhouse having 5000 sqm was predicted to be sufficient by enterprise B.

Due to the negative effects of stench and risk of spreading pests and diseases, integration of a new business such as livestock into the available enterprise within agritourism concept was rejected by enterprise B and C. However, starting of investment for 300 livestock and considering its integration to the potential future agritourism activities in the region were indicated by enterprise A.

Due to the high risk of contamination, participation of visitors to harvest and packaging was rejected by enterprise C, while participation of visitors to harvest was considered when assembled a new greenhouse by enterprise A and B. On the other hand, participation of visitors to packaging was found acceptable only if products are handling and transporting to a roadside shop, i.e. not to export, by enterprise A.

Additionally, it was found to be possible to include the tourists into packaging under the supervision of an observer, because of the low level risk in packaging among the whole greenhouse business, by enterprise B.

Assembling a roadside shop selling greenhouse grown vegetables was stated to be unnecessary by the enterprise B and C, since this would impose new costs and lead to loss of prestige for both enterprises. However, purchasing attempt for suitable area to assembly a roadside shop by enterprise A has been ended unsuccessfully in recent years.

Even though training and certification of the tourists relating to practiced agricultural activities during the accommodation was welcomed by all enterprises, enterprise B and C tended to carry out such activities together with universities and institutes.

Installation of kitchens where harvested products could be cooked or readied to consumption by tourists themselves was favored only by enterprise A and B. Facilitation of this kind of service even with new kitchen assembly was considered to be beneficial both for enterprises and tourists, since many visitors maintain their life out of agricultural or rural lands.

CONCLUSION

Due to the high investment costs, difficulty of maintaining hygiene conditions and unsuitability of available human resources' quality and quantity, applicability of agritourism in the Kaynarca Region was not predicted at current state by the enterprises involved in this research.

Even though Dikili-Bergama Region is accepted as a tourism area, greenhouse enterprises did not concern themselves as part of the supply side of tourism. Moreover, they tended to accept minimum number of visitors under certain conditions even with rendezvous.

Beyond that general approach, assembling an accommodation facility separated from greenhouse enterprise for the tourists was planned by the one of the enterprises. In case of the investment, cultural tourism in Bergama, ecotourism and rural tourism in Kozak Plateau, coastal and cruise tourism in Dikili and thermal tourism in Dikili-Kaynarca, which are continued in the same region with greenhouse production, could be integrated around agritourism concept. In this way, agritourism can be a tool for competition, marketing and presentation together with an example of a good practice in terms of domestic and foreign tourism.

As a result, due to the available structures and mechanisms, enterprises were not willing for agritourism. However, agritourism can be developed in the region by the awareness created in cooperation between

public and/or local administration, non-governmental organizations and universities in following years.

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