

TOURISTIC ACCOMMODATION FACILITIES IN THE LIGHT OF ECOLOGICAL APPROACHES

FATMA KÜRÜM VAROLGÜNEŞ¹, FATİH CANAN²

ABSTRACT

Depending on the intense life of modern human, the desire for recreation, entertainment and discovering different places has caused the concept of tourism to grow and diversify day by day. The phenomenon of tourism that has developed after 1990s had faced a burst after 1980s and the people has filled the coasts with hotels in order to access the triple of 'sea, sand and sun'. The significant damages caused by mass tourism have directed the tourism industry to alternative tourism types and to design of facilities adopting ecological approach. The designs formed in the light of ecological approaches are reviving the local memory by reflecting the characteristics of the relevant area, and are revealing structural approaches which are susceptible to environment. In this context, the examples of touristic buildings at different areas of the world which are designed based on the ecological architecture criteria had been reviewed in literature, and the contribution they provide to natural environment had been searched. As the result of these researches, the principles that are being based on the design of ecological touristic accommodation facilities had been determined, and the contribution of these buildings to nature had been revealed. It is being observed that the selected and examined touristic facilities bear traces peculiar to the area they are constructed, and that they support the ecological facility comprehension through their materials, formal characteristics which are in conformity with nature, and through their approaches that are not constituting waste material in nature, using the energy efficiently and imposing restrictions on consumption of natural resources. As the result of this research, it will be tried to determine what kinds of principles are being based on in the formation of ecological touristic accommodation facilities.

Keywords: Ecological Tourism, Touristic Facilities, Ecology, Ecological Architecture.

1. INTRODUCTION

Tourism is one of the current economic generators, especially for developing countries (Kundu 2012). The benefits that the tourism industry provides to the country's economy have increased the importance attached to this sector by the developed and developing countries. The tourism industry has been indicated as an alternative industry especially for the countries having difficulty in industrialization (Dieke 1988). Observing the comprehension primarily targeting

¹ PhD student. Selçuk University, Department of Architecture, KONYA

² Assist. Prof. Dr. Selçuk University, Department of Architecture, KONYA

economic concern also in the tourism trends has brought into question the new concerns, and tourism's damages caused on natural environment as well as its opportunities have started to be discussed. It is now being known that the touristic facilities that are being developed in an uncontrolled manner are causing damage on the nature by causing contamination of air, soil and water sources, erosion and decrease of the number of relicts. The reality that touristic buildings which don't have infrastructure and which are being formed on with economic concerns cause permanent damages to their environment has recently directed the designers to generate sustainable solutions. It is a fact that the balance between conservation and usage is at the core of development of sustainable tourism. Enabling this balance also matters for the tourism industry. It is being estimated that the tourism industry is generating about 5% of the greenhouse gas and CO₂ emissions in the world (Canbay 2012). The tourism industry has established new investment, production and new revenue resources in the ecotourism since 1980s (Erdoğan and Tosun 2009). For this reason, it is now time to open a new page in the tourism industry. As an extension of this change, the concepts such as "sustainable touristic facilities", "ecological touristic facilities" have come up, and it has recently started to find fields of implementation in the whole world. Ecological architecture design is an approach of design in which it is intended to cause the least damage to nature in the processes of usage, maintenance and destruction as starting from the production of a spatial group. Ecological touristic facilities are required to be evaluated in this context. Before the construction of a touristic facility, during its construction phase (worksite) and in the processes after usage, it is expected for to cause the least negative effect on the nature. Locality is required to come to the forefront in the selection of materials of the facility and its labour. On the other hand, it will be possible to make mention of a real ecological design through realization of designs considering the climate, natural formation, ecosystem, weather, earth and water sources of the location. Each intervention in the environment is not made only to that location, it's also in more large scale an intervention on our planet (Kabuloğlu Karaosman 2011). Since the Rio Earth Summit Conference in 1992 all the nations of the world have clear targets to reduce waste and atmospheric emission of pollutants in all industries (Kirk 1998).

Table. 1. Comparison of touristic facilities of mass tourism and of ecological tourism

Touristic facilities of mass tourism	Touristic facilities of ecological tourism
Forces the bearing capacity	Considers the bearing capacity
Intensifies on space and time	There is expansion in terms of space and time
The development is fast, and it is directed to consumption	The development is slow, and it is sustainable
Touristic enterprises are large scaled and in conformity with international standards	Touristic enterprises are small scaled and prioritize local entrepreneurs
They generally intensify at coasts	They may be developed at all the areas
An architectural comprehension destructing the local architecture prevails	A genuine comprehension considering the local architecture prevails
It doesn't allow interaction with local public, and its contribution to area's economy is low	The interaction and communication in between the local public and tourists is in conformity and intense
It depends on large tour operators managed by large capitals	It is under the control of small scales specialist tour operators and travelling agencies
Products and services depending on global standards rather than local products prevail	It values the conservation and production of traditional, local and genuine products
The development is based on scale economies desired by large capitals	The development is based on planned and local policies

In the study, examples of architectural design that had been realized considering ecological design criteria from different geographies of the world had been examined. These examples are available at different geographies, different climate types and cultures. In the study, it had been intended to present the outstanding design characteristics of these different examples.

2. EXAMPLES OF ECOLOGICAL TOURISTIC ACCOMMODATION FACILITIES

There are different architectural approaches in different cultures, earth forms and materials. It is observed that these buildings have design values conforming to the natural environment. The people had also used the experiences obtained from their ancestors in order to create a habitable physical environment and had formed their spaces by complying with their ecological environment through suitable materials and construction techniques. Regarding the subject of study, examples of ecological touristic facilities that had been implemented in the world and in Turkey and that had been reviewed in literature are being provided.

2.1. Adrere Amellal Hotel, Egypt

Adrere Amellal Hotel, that is located at Siwa Oasis in Egypt and that is owned by ecologist Mounir Neamattala, has an ecological building. At the Adrere Amellal Hotel, imposing restrictions on energy consumption and usage of natural and local materials are coinciding with the concept of ecological building. We can say that the hotel is correctly using the natural resources as the result of not having electric in the building, being lightened by waxes, and being protected against energy loss in cold weathers and against energy gain in hot weathers due to its materials consisting of earth and rock salt. It is observed that the hotels designed ecologically are the ones that are unique, in conformity with nature and in conformity with the environment through their materials and philosophy. In the design of Adrere Amellal Hotel, ecological approach had been supported by using the geometry of nature (Fig.1, Fig.2).



Figure 1. The geometry of nature in the design of Adrere Amellal Hotel (www.adrereamellal.net)

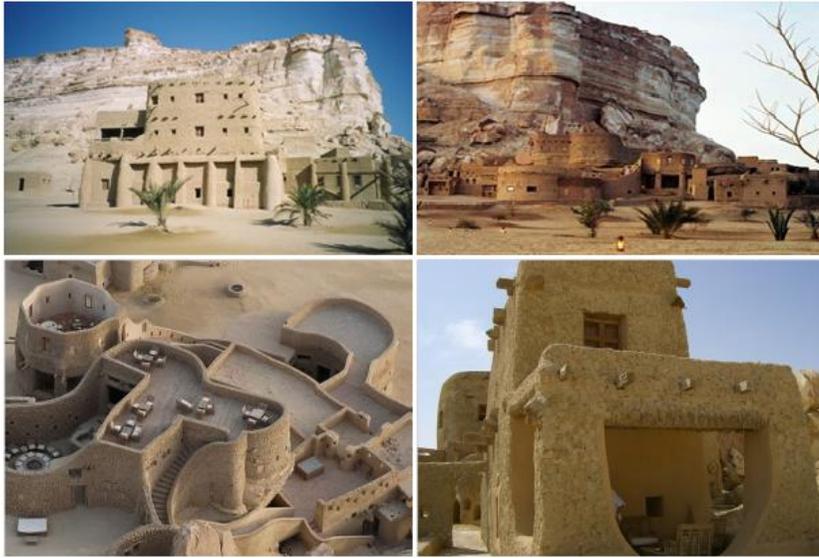


Figure 2. Adrere Amellal Hotel's compatible building with the geometry of nature Egypt
(www.adrereamellal.net)

At the hotel, use of cellular phones is prohibited. At the area which is bearing the characteristics of Islamic culture, the local public earning their keep by selling date, and they are leading their lives in a manner that is extremely isolated from technology. Being able to observe the local public and sharing their experiences are making the hotel different from others (Ypma 2005). Shaping the hotels at different geographical areas with traditional materials (stone, adobe, earth and brick) has necessarily enabled the formation of buildings having spatial originality. Earth and rock salt had been used as material in the construction of Adrere Amellal Hotel (Ypma 2005). The rock salt being added to earth is allowing the building to remain hot at night and cool in daytime. At the hotel, which is an ecological building, earth had been selected as building material against increasing environmental pollution. Soil material ensures that the building is perceived as a part of nature.

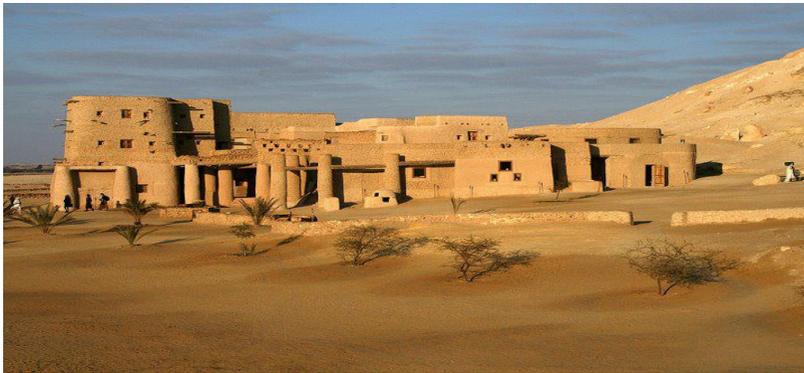


Figure 3. General view of Adrere Amellal Hotel (www.adrereamellal.net).

2.2. Maldives Gadakoshibe, Maldives

Maldives, located at South Indo-Pacific, are group of islands that are covering an area of 300 km² and that are providing tropical climate along the whole year. In the conceptual development of the project, primarily the climatic conditions, natural characteristics of the island, relation of color and pattern, relation of light and shadow and all factors in daily life had been considered. Due to the geographical conditions of the island, the traditional architectural style couldn't be improved for a long time. By developing holiday islands, the investments are increasing at the areas and initiating these new architectural processes. This project is suggesting a new approach covering more sustainable and nature friendly materials. The main purpose is while conserving the naturalness of the island the reinterpretation of nature by a new architectural approach (Fig.4). Gaakoshibee Island, that is covering a large part of East Maldives and that is in the form of a triangle, is becoming integrated with a lagoon resembling a pool. The depth of the lagoon, which is housing many different fish species, is reaching to about five meters at some points. Despite having a few large tree groups at its east, the vegetation of Gadakoshibe Island is shrubbery. The island is surrounded by large-grained coral shores. It has the characteristic of being the smallest Asian country in terms of both population and land. In the country, which is located at the south of India and at 750 km (435 miles) south west of Sri Lanka, the temperatures are ranging in between 24°C-33°C and the rate of humidity is very high along the year. For Maldives Gadakoshibe, a language of architecture which is focused on materials and which is environmental friendly had been used. The purpose is to enable the natural materials not only to be used indoors, but also in structures. Beyond the traditional hotel concepts, it had been tried to create outdoors as much as possible. The materials had been modified and placed without adding unnecessary details and decorations as in conformity with their natural characters.



Figure 4. General view of accommodation social units (Lan 2011)

In the whole design process, importance had been attached to the close relation of environment and buildings which are spread on the island. In order to develop easies of use regarding the project which is based on different technological processes, the advantages of flexibility of organic materials such as bamboo had been used (Fig.4). Spa units are examples of the concept of use of natural materials. Beyond the traditional methods, it had been intended to improve the organic materials through forward looking industrial methods. Despite deficiency of natural resources, the solar panels had been a suitable solution for generation of electric and hot water on the island. Moreover, a treatment plant has built to enable sea water to be used in the hotels.



Figure 5. A view from social facilities of the hotel (www.gadarchitecture.com)

2.3. Al Tarfa Desert Sanctuary Lodge & Spa, Egypt

This facility that is located at the most untouched oasis of Egypt has a completely environmental friendly architecture. There is construction area, which is spread to 200.000 m² (Fig.6). This facility, which has 20 suite rooms, is presenting the guests the opportunity to benefit from natural hot springs and to know about the cultural richness of Egypt (www.ecohotelsoftheworld.com).



Figure 6. General view from the hotel (www.ecohotelsoftheworld.com)



Figure 7. General view from the hotel (www.altarfa.net)

Al Tarfa has been a model for the sustainable touristic development of oasis of Egypt besides the quality accommodation services. One of the main objectives in the construction of the facility is to revive the architecture of classical buildings. After the construction of this facility, the area has started to serve as a geographical and archaeological base. The facility is bearing the four basic principles of sustainability; the people and their activities, social and economic structure, the representation of architectural and antique culture, and the ecology embracing them. At Al Tarfa, the restrictions for energy consumption, the use of natural and local materials (stone, adobe, soil, brick), and the preference of a form in its architecture conforming to the natural environment is overlapping with the concept of ecological building. We can say that the hotel is correctly using the natural resources as the result of not having electric in the building, being lightened by waxes and gas lamps, and being protected against energy loss in cold weathers and against energy gain in hot weathers due to its materials consisting of earth and rock salt. Al Tarfa Spa (Dar Al Hana) is located on a hill, and there are sauna, steam room, pool and relaxing areas in it. A relaxing atmosphere had been formed by enabling natural lightening and ventilation at the Spa area (Fig.8). The Spa areas had been made to face the sand hills at outdoor. Moreover, it is being directly benefited from sun and the green view of the oasis at the swimming pool at the open terrace (Fig.8). The large windows in the restaurant and in the cafeteria are preferred both to benefit from natural light and to feel the scenery indoors. Completely natural plants of the oasis exist on the green field around the facility. The walks and observations performed along with a guide are providing the guests the experience of oasis life. The carbon footprint of the facility is too small to be tested. It had been successfully conformed to the criteria of ecological architecture.



Figure 8. Views from the indoor spaces of the hotel (www.ecohotelssoftheworld.com)

2.4. Anatolian Houses Hotel, Nevşehir-Turkey

Anatolian Houses is a boutique hotel realized by the transformation of chimney rocks in the old settlement through restoration. The building is consisting of rock roofs within five chimney ricks in the project site, and of stone buildings constructed as leaning against these chimney rocks. The interventions made during transformation process of these spaces that were being used as lodging, dovecot or barn in the previous years to hotel had been made without ruining the originality of the building.



Figure 9. General view from the hotel (www.anatolianhouses.com.tr)

Cappadocia which had witnessed many different civilizations along history and which had been ruled by many of these- is exhibiting the most beautiful examples of ecological architecture products with magical history, the sense of bindingness of local life and natural fabric The row housing showing the most significant characteristic of local architecture of Nevşehir has provided convenience in forming the accommodation units. Their flat roofs are being used as open spaces on which it can be toured as it is observed in many architectures in Anatolia. It seems like a development respectful against nature without fighting against it which is maybe the most significant ecological architecture criterion had been completely enabled at the Anatolian Houses hotel. The outdoor, semi-outdoor and indoor spaces are enabling the ability to feel all the characteristics of the local climate. When you look at this building, the characteristics of the locality where the building is located can be revived in your mind. The houses of Cappadocia had been constructed on the hillsides either by carving the rocks or by face stones. The stones called as “seashore rock” used in architecture also cover different colour tints. The commonness of stone in the area, its significant isolation against heat, and ease of processing after being taken out of kiln had made its use widespread (Gulyaz 2016). Cappadocia houses, which didn’t draw interest for a long period, had faced demolition and extinction day by day, and had been sacrificed. But along with the revival of tourism, it has started to be preferred again and has started to gain importance. New functions such as hotel, guesthouse, disco and café have been assigned to the renewed historical buildings, and they had been served for tourism (Gulyaz 2016).

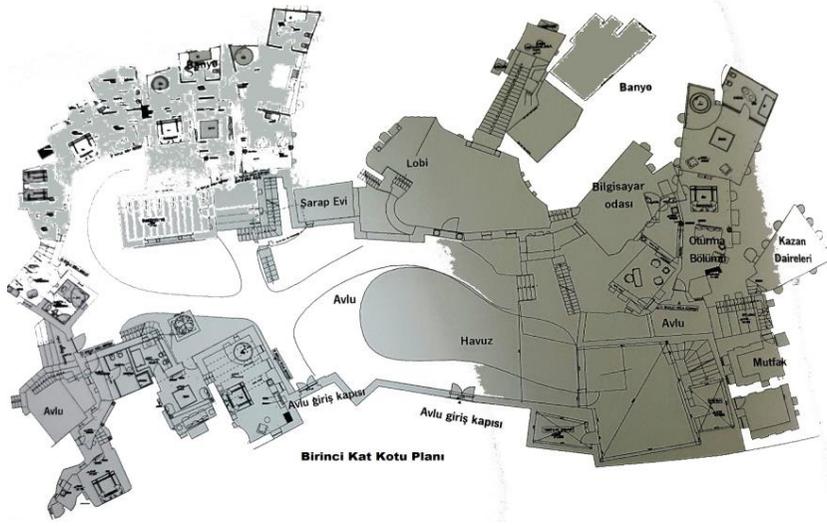


Figure 10a. First Layer Level Plan (Aslan, 2016)

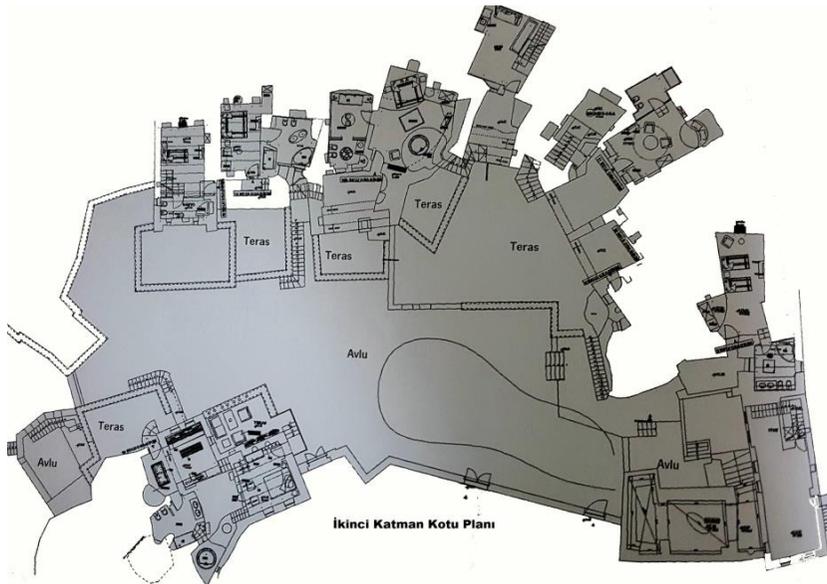


Figure 10b. Second layer level plan (Aslan, 2016)

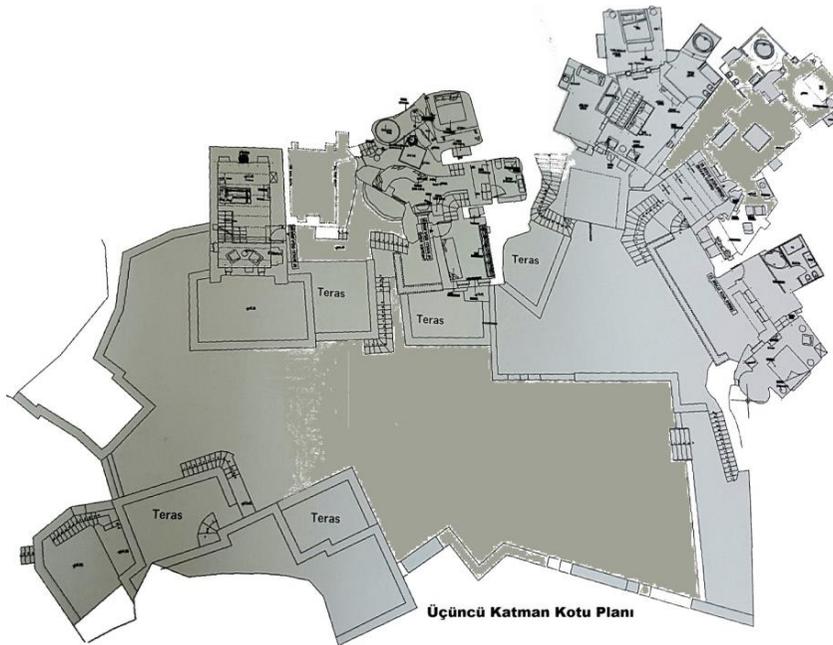


Figure 10c. Third layer level plan (Aslan, 2016)

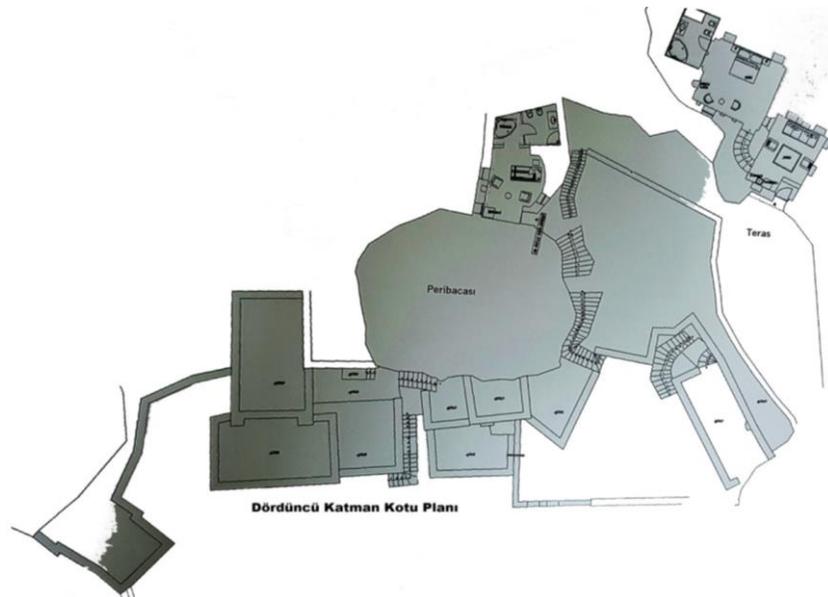


Figure 10d. Fourth layer level plan (Aslan, 2016)



Figure 11. General view from the hotel (www.anatolianhouses.com.tr)

3. CONCLUSION

Designing buildings conforming to ecological and sustainable architecture criteria which benefit from renewable energy sources as much as possible, means enabling the compatibility of human and nature. Today, as the consciousness of preserving the nature improve, it is being observed that the touristic accommodation facilities also develop some design solutions and common concepts in this direction (Table.2).

Table 2. Ecological Architectural Design Parameters.

Natural physical environment factors	Topography Climate Environmental texture Local materials Building design
Conservation of Energy and Energy Efficiency	Water Conservation Conservation of materials Environmental Pollution Control Waste Management Protecting the Ecosystem Comfort Conditions

It is being observed that the selected and examined touristic facilities in the world support the ecological facility comprehension through their materials, formal characteristics which are in conformity with nature, and through their approaches that are not constituting waste material in nature after time of use, using the energy efficiently and imposing restrictions on consumption of natural resources along with being different in terms of design. In the design comprehension of ecological accommodation facilities, the use of alternate and natural materials in the formation of buildings by combining them with method known is the basis. By this method, which is economic, it is being possible to realize local projects that conform to each climatic condition, land type and area. The traditional and local architecture, which is

being observed by a critical ecological perspective, is nearly an example for ideal ecological architecture. The reason of conformity of local architecture to ecology is the establishment of natural design process which is arising both by the universal relations of settlement and environment, and by the space and time experience of human through simple, but meaningful systematic relations. The factors observed in the design of ecological accommodation facilities are mainly the same. The common approvals and unchanging global realities had been addressed by different interpretations. Different local conditions and constraints have led to the emergence of original and architectural solutions that are innovative and are in conformity with nature. In order to access to alternative tourism types in a more extensive manner, the manner of use of facilities is being enriched. When the ecological accommodation facilities are evaluated in general, it is being observed that it is being conformed to conservation areas especially at macro planning scale. Moreover, there are ecological rules of living that the guests have to conform in ecological touristic accommodation facilities. Only in this manner, it is possible to specify that a facility is ecological. For the ones spending a specific period of time in the touristic facility, which is designed in conformity with the ecological criteria, it is being ensured for them to have a new and meaningful experience. It is clear that this experience will contribute to the ones living in modern city environments and especially in apartment buildings; it is giving the opportunity of knowing an ecological building, and of being able to apprehend many of its positive aspects. It is becoming possible for them to learn that it is possible to live in a healthy manner without causing harm on the environment.

REFERENCES

- Aslan, Ş. 2016. Projeler/Yapılar 8(Oteller). Yem Yayınları, İstanbul.
- Canbay, N. 2012. Nasıl Sürdürülebilir Otel Olunur? Ekoyapı Dergisi 12 pp. 70-73.
- Dieke, P.U. 1988 The Development of Tourism in Kenya and The Gambia: A Comparative Analysis. Phd Dissertation. The Scottish Hotel School, University of Strathclyde.
- Erdoğan, N., Tosun, C., 2002. Environmental performance of tourism accommodations in the protected areas: Case of Goreme Historical National Park. International Journal of Hospitality Management 28, pp.406–414, Elsevier science
- Gülyaz, M.E. 2016. Kapadokya Mimarisinin Binlerce Yıllık Öyküsü. Arkitera,17.
- Kabuloğlu Karaoşman, S. 2011. Mimarlık Eğitiminde Seçenekten Zorunluluğa;Ekolojik Tasarım.Güney Mimarlık Dergisi, 6, pp. 63-67.
- Kirk, D. 1998. Attitudes to environmental management held by a group of hotel managers in Edinburgh. Journal of Hospitality Management, 17, pp. 33-47 Elsevier science
- Kundu, S., Kumar, 2012. Economic empowerment through rural tourism: the case of Tarapith-a religious tourism destination in Birbhum District of West Bengal India. Geografia, Malaysia Journal of Society and Place, 8 (7).
- Lan, M. 2011. Create a Harmonious Environment Together of Ecological Architecture Design. Procedia Environmental Sciences,10, pp. 1774-1780. Elsevier science.
- Ypma, H. 2005. Hip Hotels Atlas. Thames & Hudson, Singapore.
- <http://www.adrereamellal.net> (date of connection: 2016).
- <http://www.ecohotelsoftheworld.com>. (date of connection: 2013).
- <http://www.altarfa.net>. (date of connection: 2016).
- <http://www.gadarchitecture.com>. (date of connection: 2016)