Study of the Roles of Eco-tech Architecture in Development of Tourism Industry

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Abstract. In the recent years because of the importance of tourism, it is called an industry and known as the third profitable industry in the world .Economics called this as productive industry. The development of the tourism industry in each region should be sought in its natural and cultural attractions. Tourism industry is one of the largest industries in the world that is a major source of economic and work in some countries. Tourism will cause people, making acquaintance with cultures, races, tribes and tradition that will be a factor for exchanging and developing culture.

Eco-Tech architecture, environment and ecology are factors that specially have attention and try to use the proper climate and environment. Nowadays, energy saving is one of the major concerns; the architecture can provide solutions for maximum use of natural conditions in the buildings contributed in this matter. In this architecture, technology is not actually against nature, but nature along and parallel to further exploit the possibilities of environmental and human prosperity and stability of supply is the place. The reduction of incomes is relater with the reduction of quality of services which causes people avoid an inexpensive travelling. In this article, we try to study travel budget by using Eco-Tech Architecture it has been tried to cut down expenses without reduction of quality.

Keywords: Eco-Tech architecture, environment, ecology, energy, Architecture, Tourist, Expense and income

1. Introduction

Tourism is the element of the modern world's economy. Countries which are concerned about their economic development, consider the tourism and leisure industry as an important requirement. This is why tourism, especially in western countries, has been significantly developed [18]. Many economic activities are related to tourists' activities. The followings are among the most important activities: public transportation, airlines, car rental companies, travels maritime lines, travel by train and motor vehicles, hotels, meeting and conference centers and other public centers [19]. On the other hand, Nature has been considered as first house for him. Nature is the one of the reasons of trip and development of tourism. So should make an attempt to both keep his environment and decrease the harms which is a result of his forgetfulness. These harms are divided into several types:

- Harms form an inappropriate use of natural sources without paying attention to compensate its ways such as cutting the trees off and defrosting the woods.
- Harms form industrial life which has caused use of non – renewed energy sources, one hand, which putting to the energy and also could bring about non – compensated pollution , and on the other hand, substituting industries in natural basis will result in demolishing its scenery.
- Harms form sewage contaminations, litters and Man's machinery detainments.

Keeping the environment and preventing pollution means the use of process, practical strategies, preventable products, cutting or controlling pollution could be able to include recycling, purification, controlling mechanisms, using of sources and exchanging materials [13]. Peoples' tendency to travel and

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increasing number of tourists on the one hand and the role of this industry in counties' economy on the other hand will cause countries to compete in this regard. This competition has two phases; first, the number of tourists increases and second, by applying appropriate strategies, profitability of the industry rises [8].

2. Definitions

In this chapter, we will define some terms in this background.

2.1 Ecology

The term Ecology has been derived form a Latin word (oikos) meaning housing and to a better one, are managing and the economy of earning and spending, while, (Logos) means knowledge [13].

2.2 Life Environment

Life environment is an environment together with biological, chemical and physical dement son which man and other creatures could be able to have an optimized life. Life environment is an environment which covers our life's trend and it has a great reaction on it. Life environment consists of nature, Harman's society and place raised from Man's thought and the whole Earth as you call it biosphere [13].

2.3 Nature

. Based on today's view, nature is just separated from its deep meaning; one is considered a completely materialistic and the other as God- given. In Art's point of view from nature which is a God – given one all world whether nature, it deep meaning or invisible world and martyrdom world. This aspect itself which once was a defeated aspect in the world gave, gradually, its place to another aspect in which nature was not only associated with higher and higher creation, but also it was under man's control [5].

3. Classification of Types of Tourism

The most important factors that tourism can be defined based on them are:

Factor of Time: Tourists activities are divided into 3 categories: short term (les than a day), middle term (from one to three days), and long term (more than three days).

Factor of Location: Tourism is divided into tourism activities in near area, mid area, and off the area.

Factor of Citizenship: Tourists are divided into two groups of foreign and international tourists and domestic tourists.

Factor of Travel Motivation: Based on this factor, tourism is divided into motivation of resting, recreation, medical treatment, religion, culture, economy, sport, etc.

Factor of Tourism Season: Tourism season is categorized based on different seasons of the year. In this categorization summer and winter are considered to be more important than spring and fall.

Factor of Type and Composition of the Trip: Individual trip, group trip and family trip that determine the composition of the tourism.

Factor of used vehicle: It is divided based on the vehicle that is being used for the trip.

Factor of residence type: Tourists are divided based on type of residence in accordance with quality and quantity such as tourist settled in hotels, guest houses, villas and boarding house, camping, etc [12].

4. Types to tourisms based on Tranel Motivation

Tourism is divided to the following categories:

4.1. Ecotourism

First of all the visiting and the residing of tourists should occur in way that has the least effect on the environment. This fact potentially seems contradictory because people visiting and residing in a place require establishing facilities and services that inevitably needs host interference in the nature [16].

4.2. Cultural Tourism

Cultural tourism means that part of tourism which focuses on cultural attractions. These attractive aspects are different and include: completed works, museums, exhibitions and the like [4].Tourism can be

categorized based on the following factors: Objectives, investment incentives, destination, vacation time, and the time tourists' desires to stay. Evans Smith classifies tourism into six groups: 1. Ethnic Tourism. 2. Art Tourist. 3. Historical Tourism. 4. Nature-oriented tourism. 5. Recreational tourism. 6. Business Tourism [17].

4.3. Business Tourism

The most important trips taken under this category are: Trips taken to participate in Markets, Exhibitions of goods and industries, and/or inspecting or visiting facilities and the factories and so on. Business companies will pay the costs [3].

4.4. Rural Tourism

Trips of this kind are taken to Rural and Agricultural regions. Rural tourism can cause the betterment of rural growth by developing complementary activities of agricultural section, employment generating, increasing rural households' income in the context of rural participation in accepting tourism [11].

4.5. Religious Tourism

Trips taken to Shrines, holy places and religious attractions are considered as Religious Tourism.

4.6. Health Tourism

Trips taken for medical purposes such as treatments, spending recovery period, changing climate by the doctor recommendation are considered as Health Tourism.

4.7. Sport Tourism

Important sport events have created this type of tourism. The active and passive participation in various sports and organizing economic factors of the country of origin to destination and the taken trips is called Sport tourism [2].

5. Eco-Tech Architecture

The production of rational industrial processes in the form of building elements has caused natural environment, reflectivity and the lock of use and generally in the form of a complicated system. Happily sensitivity to such conditions, developed relationships such as site, social understanding, energy use, city building and environmental awareness is being considered in a way that eco-tech is with high tech today [15]. Eco- tech architecture has been made in answering to comments about tech architecture. Some of these tech style believers, environmental groups and also green party in Erupt have ideas in this case. Meanwhile, in modern architecture, they are considered as ecology to technology and technology is not with nature, but next to nature is used for making better environmental facilities and man's peace and comfort. Norman foster's design in rebuilding Rishtag (Germany's parliament) in Berlin has been as a design that put more emphasis on eco-tech style (1993) [7].

6. The Purposes of Eco-Tech Architecture

The purpose of such a case is not only to use natural and environmental factor, but also to develop technology and to increase the quality of life for next generations. Eco- tech architecture with the purpose of keeping the environmental has emphasis on the factors below:

- The reduction of waste and the distribution of energy in the environment.
- The reduction of effect of production on man heals.
- Use of recycled material into the nature's circle.
- To prevent poisons [14].

Therefore, all those factors and this architecture based on providing comfort, man head nature, is related to use of technology and facilities at a maximum rate.

7. Eco-Tech Architecture and Technology

In this case, we have tried to show elements in order to bring about an agreement with environment by using tools such as ventilation, sun cells, green houses, heating exchanges and active walls. Richard Rajers as one the most important and informative architecture says: The creation of architecture which has new

technology in it in clouds going away from Afflation's theory; a world with an extraordinary meaning that it might be out of ability to add something to it or that we cannot separate something from it [15]. We have tried in this are to use part of technology which it canning either needs or bringing about a relationship with nature. Here two of them are pointed out:

7.1 Solar technology

Sun is a source of healthy energy, cheep and endless one. We can use of this kind of energy to different purpose such as used heating water or to provide internal space temperatures or even to provide a part of electrical energy. A benefit of using energy and solar technology is the reduction of expenses, help to rebuilding our environment, use of designing faced, especially south faced and a simple function.

7.2 Intelligent technology

The responsibility of this set is to make a permanent function of different parts of buildings and ordering is in a way that the function of different parts of building is related and it should be in optimized condition. We should reduce the expenses and bring about a pleasant and safe environment. This system, management and control of building condition with the help of auto light control, traffic control (inputs and out puts) control of cooling and heating, informing of combustion, control of motoring system and a rational relationship in these systems [1].

8. Echo-Tech and Nature

There tree parts about the relationship between echo-tech and nature:

8.1 Use of nature

Nature itself has a lot of advantages to increase life's quality. Our ancestors did not have today's facilities and they couldn't use such Gad-green resources really well. But, today, awing to the indolence of use to industry and scientific dada we all have forgotten that. Eco-tech architecture is continuing the relationship between nature and technology. One of deeds of echo-tech is to use of recycled energies that is full of advantages:

- Reduction of fossilized fuels fallowing a reduction of pollution in the environment.
- Reaching easily and a reduction of expenses, cause in architecture space designing, we try to use area climatic facilities, at a maximum rate, to need the building needs.
- Such energies have less harm and hurt a man than other kinds of energies.

8.2 Keeping the environment

As we stated earlier, echo-tech architecture was formed by the time that tech architecture was considered as architecture to nature and it has been criticized a lot therefore, using some ways to put away such a drawback is are of those purposes. Ventilation, san rays and other mechanical systems are developed tech that both ordinary people and architecture use from it. Natural ventilation together "with air" from ceiling; Pleasant ventilation by nightly refinery and sucking air from bed controlling sun rays and etc, are new ways to use energy and natural resource such as heat, sun ray, wind, heating energy in the earth and rain. All of these factors should be taken into account. In this case mechanical ways are also used to let off energy and new systems in producing that they had disagreeable effects.

8.3 Architecture structures in Nature basis

In this style of view, building is a small part of nature; thus, it should play a role in its ecosystem life. That is, it should be in agreement with nature in a circle.

9. Costs in the Tourism Industry

Costs in the industry fell into two major categories: Those paid by government and those paid by people including tourists, tour owners, accommodation section and tourism centres. Undoubtedly, the major part is on tourists' parts which are defined as followed: Transportation costs such as train, plane, and even inside city transportation system such as taxi. (Food costs, Accommodation and using tourism centres facilities costs, Service costs). On the whole, the major spending of tour owners and accommodation section such as energy consumption in different parts including heating and cooling of buildings and even

relevant taxes are earned from tourist. As a result, any reduction of cost in this industry that does not degrade the quality of services and tours increases the travel and tourism industry development [8].

10. The Role of Eco-Tech Architecture in Reducing Fuel Costs in Building

About 70% fuel in the world is used in the buildings and we know that using fuel causes environmental damage. Generally, use of energy in the building is divided into two parts. The first part is consumed for meeting heating requirements and the second part is consumed for removing some inappropriate factors such as winter winds. Energy consumption in buildings is as follows:

Lighting (25%), Heating and cooling (45%), Power equipment (15%), Energy loss (15%) [14].

Building is considered as one of the largest parts in energy consumption in most communities. Paying attention to building construction technologies to save energy and efficiency can be significantly effective in this regard [6]. Eco-Tech architecture attempts to make the most possible use of renewable energy which nature offers for free. Energies such as wind and solar, on the on hand, reduce the costs and the need for fossil energies and have less destructive impact on the environment on the other hand. According to the above-mentioned discussion, using sun light in most parts, using natural ventilation and wind for required cooling and natural sun light for required heating and using solar energy for providing hot water will minimize energy consumption; therefore, the related costs will be reduced.

11. The Role of Eco-Tech Architecyure in Reducing Environmental Protection Costs

From among the objectives of Eco-Tech architecture are reducing the consumption of none-renewable energies such as fossil fuels and increasing the consumption of renewable energies. These minimize the destructive impacts of such fuels on environment; therefore, irreparable effects such as the greenhouse effect, Ozone layer damage, global warming and damages of this kind are also minimized. The compensation costs of these damages will be reduced consequently. Another objective of Eco-Tech architecture is paying attention to environment and building compatibility with the environment which tries to have the lease damage on the environment by offering various strategies such as using renewable materials and paying attention to the construction environment.

12. The Role of Eco-Tech Architecture in More Profitability of Tourism Industry

On the one hand, Eco-Tech architecture attempts to reduce the damages to the environment and uses more renewable energy on the other hand cause some costs in part of providing energy and fuel which were paid by tourist previously to be reduced and this will increase the number of tourists. Moreover, this kind of architecture will reduce the costs that government and people should bear and will increase the profitability of this part. Meanwhile this keeps the tourisms attractions in good condition and this part of tourism will also thrive.

13. Conclusion

So not only architecture is one of the tourism attractions special in cultural tourism, but also in the following parts it causes the progress and profitability in tourism industry. Reduce costs of trip by reduce costs of accommodation with use the principles of Eco-Tech architecture and climate design.

- Development of eco-tourism by reduce damage to the environment through reduce use of fuel like oil special most of the fuel use in the buildings.

- Reduce of administration costs to do some measures to fix damage of using fuel.

- Building and making good and beautiful places for tourists with attention to the nature and climate design.

14. References

[1] A. John bozorgy, Z. Ghanad, "Intelligent Building Systems" Quarterly Kysun, No43, 2010, pp1

[2] A. Iranmanesh, "Soil dams: centers of tourism industry", 12th International joint, World Cultural Tourism Conference, 2011, Istanbul, Turkey

[3] A.A. Rezvani, "geography and tourism industry ", 2010, Pyam-Noor university press

[4] C .Wai Gi. "Tourism on Outlook Comprehensive", translate by Arabi, and Parsian, Cultural Research publication, 1998

[5] D. Londonberg, "economic of tourism", translate by Farzin, M.R, Bazargani publications, 2004.

[6] H. Arbabian, "Energy efficiency in buildings", 3th National conference on Energy, 2001, Tehran, Iran.

[7] http://gallerymemar.com

[8] L. Iranmanesh, "study of the sustainable architecture in development of tourism an reducing of passengers' incomes", 12th International joint, World Cultural Tourism Conference, 2011, Istanbul, Turkey

[9] M. Alvani, "Tourism Principals and Essentials", Foundation for Oppressed and Crippled Press, 1994, Tehran, Iran

[10] M. Golshani manesh, M. Golshani manesh, Gh.R Abedini, , "Sustainable Architecture", Proceedings of the National Conference of Sustainable Architecture, Hamadan, 2010, pp.146

[11] M. Nadery, M.R. Nadery, "Environment Effects of Dams", the 11th Civil Engineer Student Conference (CESC), 2004, Hormozgan university, Bandar Abass, Iran.

[12] Municipal Planning and Development Department of Tabriz. http://www.apd.tabriz.ir

[13] Municipal Organization Department of the Interior and Iran Dhyary," Rural Environment waste management, rural green space", Community Service Center Institute for Urban and Rural Social and Human Sciences Academic Jihad, 2006,pp. 6-11.

[14] N. Latifi, m. Alizade kuhi, "Echo-architecture of theory to practice", Proceedings of the National Conference of Sustainable Architecture, Hamadan, 2010, pp 404

[15] Quarterly Iranian Architecture, Volume II, No 5, 2002, pp6

[16] R. Douswill, "Tourism Management", Translated by A'rabi, Mohammad and Izadi, Davoud. Tehran, 1999, Bureau for zultural Research Press

[17] R. Ghafarzadeh, "Cultural Tourism", www.tourismscience.ir

[18] World-Tourism organization, Tourism high lights, 2005

[19] www.niazemarkazi.com