



REVIEW PAPER

OPEN ACCESS

Sustainable architecture and urbanization based on a stable environment

Saied Farahani

Chevchenko University, Ukraine

Article published on October 12, 2013

Key words: Environment sustainability, Sustainable development, Environment, Sustainable architecture, Energy sources.

Abstract

One of the greatest concerns of the international community is destruction of sources of energy. Architecture and urbanization as efficient and effective factors in conserving this resource can contribute to survival of existence. Sustainable architecture is a method in designing which deals with reduction in consumption of energy sources and using them optimally. This fact has been the focus of attention of many professional societies. What leads to human survival on this planet is correct and appropriate use of environment. Clever use of these resources can lead to sustainable development and long life of future humans. Paying close attention to the concept of environment sustainability in architecture and urbanization could prepare appropriate conditions for achieving this goal.

*Corresponding Author: Saied Farahani ✉ farahani201211@gmail.com

Introduction

Environment has been constantly the focus of attention of man under names such as “nature” or “natural environment” during history. During different ages, this relation with the environment has been somehow accompanied with peaceful coexistence. However, nowadays given the dramatic development of technology, we have observed indiscriminate use of environment which has had significant consequences especially in megacities. After industrial revolution and appearance of schools such as “modern”, production of artificial building materials increased. These products have been based on modern slogan saying “house is a machine for living” and became the linchpins of architecture. It went on too far that in hi-tech schools, emergence and appearance of materials came to be considered features of architecture. It was when conservationists protested and condemned this method and school in order to defend natural resources (Arianpour, 1979).

The effect of environment on human mind

Human is a flexible creature that changes in different aspects such as moral, physical, intellectual and emotional dimensions during time and whole life and subsequently he changes the surrounding environment accordingly. As a result of every change, a new relation is created between him and the environment. This relationship connects him to new understandings of the environment which is the outcome of the interaction of human with the surrounding environment and other humans. Human beings recreate and renew their surrounding environments based on their material and spiritual needs and it continues until both he and the environment reach balance (Arianpour, 1979). This discussion is categorized in different types of compatibility group and in “other-self” subcategory. It means that in this category of compatibility human moves the environment based on his benefits and the natural environment is a subordinate to human and is at human service (Islami, 2007). What has raised concern among all

in this age of technology is the fact that this interaction of thought between human-human and human-environment has encountered trouble.

Psychologists believe that rapid changes in the environment have created some problems for human and environment. They consider the creation of these rapid changes in the environment is not appealing for human because these alternations in nature deprives him from sense of belonging and confuses him. In case this feeling sense of belonging does not exist, human tranquility will disappear and anxiety appears. Psychologists suppose whatever feeling we have about anything comes from our memory. One Swiss psychologist named Carl Gustav Jung states that even memories of last generations are passed on genetically. It is because of these foundations in our minds that seeing some places reminds us of familiar feelings and we have a sense of belonging and we think about passage of time (Azarbayjani, 2003).

Architecture is one of the environmental and skeletal elements which fills most of human time. Architecture is the most complex and tangible, technical and ordinary phenomenon which human could manifest in his cultural context and give it sacred color due to religious and spiritual life (Knick Samuel, 2002). Architecture is a phenomenon which is created by human and those who consider it only a shelter have simply forgotten its human respect and simplicity. Architecture is a symbol of memories and those fixations which have accompanied human during ages and have been always used as human haven.

Culture is another factor of giving balance to human life which makes balance between body and mind, individual and society and generally speaking, between an individual and the outer world (Islami Nadoshen, 1975). Architecture as a significant part of this culture is an element lack of which disturbs the equilibrium (Riahi Dehkordi, 2002).

The fact that what architectural environment satisfies people's need from a psychological point of view should be investigated in future researches and we cannot suffice outward events. Although human is a complex creature, by studying more we can find out that they have similar reactions to specific conditions. Also, accommodating human with the surrounding environment via the artificial medium called architecture is the subject which should be investigated precisely.

Importance of the environment

Environment conservation is one of the ways to survival of life and its continuation for future generations. And in fact, urban environment is the most relevant surrounding with human life. Paying attention to natural habitat environments is one of the most significant issues to be considered in the field of construction. Due to the environmental issues of the present century, there is a concern about destruction of earth and damage to the ozone layer. Intervention in the nature structure causes a sort of unstable and sick system which can provoke unexpected events. In order to prevent such disasters, it is essential for different social organizations such as economic development units, urban development, transportation, forestry and department of natural resources conservation to take action unanimously. Basic needs such as food, public hygiene and health which have been the center of attention since 19th century can only reach high quality if this unanimity occurs (Bahraini, 1996).

Nowadays, various obstacles are on the way of conserving urban environment, one of which is inattention of architects and urban issues specialists to the interaction of human and environment. They usually ignore environmental rules and policies during their designing and finish their projects without considering environmental issues. As according to the statistics of the organization of optimizing fuel consumption of country, more than

60 percent of energy waste in the country happens in residential buildings (Mabhas 19, 2006).

Knowing permissible environments and locating them exactly is not an easy task and it necessitates careful and deep studies in this field. Inability to find this environment is a topic which has not been considered by social and architectural researchers and it is understandable when all natural resources are declining and there is no way to revive them. The consequences of this phenomenon are increasing annually as the destruction of urban context is increasing air pollution of cities and destruction of the existing natural areas. Inaccurate city transportation system, inappropriateness of roads, visual and sound pollution are some of the issues related to architecture and urbanization. By applying technology, architecture is changing the environment to an artificial one and this modification can lead to peace only if these two settings co-exist peacefully (Movahed, 2003).

Sustainability

Globally, sustainability means both human and natural systems be able to survive for a long time. In English, "sustained" means continuous, persistent, and lasting. Root of this word means maintaining and keeping from loss (Haghshenas, 2005).

This verb has been used since 1290 A.D. It comes from Latin origin and it is formed of two words "sustinere" and "tenere" meaning holding. "sustainable" means continual and it is an industry which describes things and creates peace, calm, nutrition and maintaining life and consequently, life continuation and making it longer. Its Persian equivalent is "Paydari". The word "environment" means the surrounding place and where affects human life. The expression "sustainability" does not convey lowering expenses of necessary resources to make life longer, but it indicates the fact that no place created by human cannot stay alive without cooperation with the natural environment and survive (Mofidi, 2003).

Rocky Mountain Institute defines sustainability as: “Answering present needs without destructing future generations’ resources” (Institute, 1995).

Sustainability in its continual and lasting sense has been discussed in 1970s which was the result of logical growth and new awareness toward global issues of environment and development which by itself was under the influence of factors such as 1960s environmental revolutions and publication of books such as growth limitations and the first United Nations conference on environment and development which was held in 1972 in Stockholm. Literal understanding from the word “environmental sustainability” means creation of an inhabitable place for human, life continuation, work and activity which takes place with continual nutrition of foods.

Sustainable development

There are different interpretations of “sustainable development” by different societies, some of which are as followed:

- According to “Brand Tlend” commission, sustainable development is “the development which can supply present needs without losing the abilities of future generation of furnishing future needs.”
- “The International Union for Environment” stated in 1991: “sustainable development is improvement of human quality of life within the carrying capacity of supporting ecosystems.” (Heidarian Dolatabadi, 2004).

Sustainable development is an endless process the purpose of which is improving people’s quality of life while conserving the environment. In this respect, human is the most important factor in implementing sustainable development. His interference in the environment accompanied with changes in ways of exploitation of nature and components of nature are to achieve higher revenue. Rules of sustainable development do not

mean all constructions should be stopped, but it emphasizes proper use of resources and considering environment conservation (Movahed, 2003).

Sustainable architecture

Earth has been damaged extensively due to human reckless activities. Until the last few decades only environmentalists and related organizations were responsible for environment conservation, however, at the present moment and due to raised problems, the whole community have been responsible for conservation of the environment.

Since architecture is one of the most outstanding economical activities, therefore it is important to take note of sustainability in architecture regarding energy problems in society and costs of construction. The ultimate purpose of sustainable designing of architecture or sustainable architecture is finding a solution in order to prepare proper living and coexisting conditions of the above mentioned groups.

The first step in sustainable architecture is to know the environment. Nowadays, knowing about the environment is not only being aware of pollutants, but also knowing environmental potentials with influencing factors in environmental destruction and pollution, understanding environmental crisis and the condition of construction impacts on the nature surrounding the architecture (Movahed, 2003).

Sustainable architecture states the fact that we are able to create our necessary living milieu by accessing natural resources. Natural resources are like treasures without which the cycle of nature will stop. The fact is that we need these resources for our comfort survival. Sustainable architecture essentially states that by accessing natural resources we will be able to create a phenomenon which meets the needs of our life. Sustainability in architecture conveys our permission to use resources but we are not allowed to destroy them. As a result, making

adaptation between these resources, economical welfare and physical comfort is the grand purpose of life in the world.

Conclusion

Nowadays, expansion of cities has created significant changes in manipulation of earth and environmental factors. Based on this spreading out, growth of quality of life and conserving urban environment should be taken into consideration. Since using new construction material is unavoidable, the role of architects and urban planners is essential in creating sustainable architecture. Organic architects, green architecture advocates and eco tech supporters have been among those natural resources conservation movement founders during the history. Certainly it cannot be ignored that during the ancient history effective presence of architecture in preserving environment has been observed. It is hoped that architects and urban planners stay in the forefront of conserving natural environment and sustainable architecture.

It is important to consider that constructing sustainable architecture or sustainability of architecture does not mean that we should not use present resources in the nature. All creatures and resources have become available for human by God in order to aid him in continuing life. The important point in this discussion is the creation of one appropriate built environment and homogenous one which can be conserved for longer periods and therefore can improve the life of future generations.

Resources

Arianpour A. 1975. An Overview of Arts In Sociology, School of Fine Arts. Tehran.

Azarbayjani M. 2003. Concept of Sustainable Architecture. Proceedings of the third conference of energy optimization in building, Tehran.

Bahraini H. 1996. Journal of Ecology, **27**, 22-28.

Barret D , Browning W.1995. A Primer on Sustainable Building. Rocky Mountain Institute.

Edvin L. 2002. Environment management. EPA publications.

Eslami G. 2007. Planning Architecture. PhD course syllabus, Unpublished.

Eslaminadoshen M. 1975. Culture and Anticulture. Toos Publications, Tehran.

Haghsheenas A, Hossein S, Narges E. 2005. Hezareh Contemporary Dictionary English to Persian. Ministry of Culture and Islamic Guidance, Tehran.

Knick S. 2002. Sociology. Translated by Moshfeqh Hamedani, Tehran.

Movahed K. 2003. Status of Teaching Environment Concepts in Architecture Education and Urbanization. The Second Conference of Iranian Architecture Education, Tehran

Riahidehkordi A. 2002. Effect of Environment on Human. Professor at faculty of Architecture, Islamic Azad University, Tabriz.

Rashidi A. 2006. Training courses of engineering organization, **19**, 53-54.