

# Effect of Landscape Architecture on Building Environments

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## **Abstract**

The aim of this study was to analyze the impact of Landscape Architecture on the built environment. Landscape is one of the important and fundamental issues which have been the center of attention recently. Landscape has had a unique position in discussions related to sustainable development in Architecture and urban planning so that landscape is regarded as one of the crucial elements in urban sustainable development. Landscape Architecture is the art and science of organizing land, spaces, and the elements on them to be used in an appropriate, healthy and pleasant way. The research method was based on descriptive method of data analysis to evaluate the impacts and significance of Landscaping to Architecture and the Environment. Studies have shown that landscaping has a direct effect on not only the building outfit but also the functionality, performance and aesthetics. Landscape Architecture over the years has not been given the deserved emphasis and considerations in design proposals and construction. Hence, the natural elements of the environment is not fully harnessed in maintaining ecological balance in built environments as proper landscaping offers owners and users an increased livability, improved health, greater flexibility, enhanced energy and environmental performance. Data was sourced primarily from books, internet and related literature. Landscape is more than a projection unto nature or the environment, it is a multivalent frame of territory, patterns, politics and aesthetics determining how the environment is perceived and shaped. The importance of this study goes beyond highlighting the benefits of Landscape Architecture in the built environment but also promote the awareness of sustainable Architecture and ecological balance of the built environment.

## **1. Introduction**

Landscape architecture emphasizes the nature of conservation, development of public parks, city parks, local parks, artificial forests, lakes, recreational areas, outdoor recreation centers, open space systems and other components of landscape architecture in providing opportunities and benefits for real estate development. The term landscape implies land but can be extended to water surface. Also predominantly human environments are landscapes. Tim Cresswell observes that, “landscape is an intensely visual idea” Cresswell, Tim (2004), but appreciation can involve other senses as well, creating sensory landscapes such as soundscapes or smellscapes.

According to Laurie (1975), the land becomes a landscape when it is described or viewed in terms of the earth and environmental features (physiographic and environmental characteristics). The diversity of landscapes based on these features is based on the history of human impact upon the landscape, and is further a reflection of this dynamic, naturalness and social system. According to Council of Europe - Landscape means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors” (Council of Europe 2000a: Article 1)

Landscape architecture emphasizes on the planning and design of land and water for use by the local community as well as on the understanding of the system. Planning acts as a futuristic approach, where the land is regarded as a source of judgment in relation to the demands and expectations of the society’s needs and values. Design refers to the use of qualitative or functional layout of the land contained in the planning process for social -specific functions such as housing, education or recreation. This study reveals the significant relationship between land, real estate and landscape architecture. Landscape architecture which provides an open park and green space can be expanded to benefit the social, environment and economy through optimal used of space in property development project. Hence, this study discusses the objectives which are to determine significant factors in the development of landscape architecture, to identify the importance of landscape architecture in development.

## **2. What is Landscape Architecture?**

According to the Institute of Landscape Architects Malaysia (1995), landscape architecture is the art and science of design, planning or management of land, natural and man-made structures and objects, when the soil is utilized through the application of scientific knowledge and culture in the study of ecology and behavior, with concern for natural resource conservation and stewardship of the land and which enables improvement in the quality of outdoor space for human use and appreciation.

The view on landscape has changed throughout time from being seen as scenery or a sum of objects, to an on-going process (Saltzman 2000). In Germanic languages the term “landscape” has meant either a territorial unit, or scenery, which is also the meaning in Anglo-Saxon languages (Olwig 1996). The use of the word landscape has varied historically, but today the concept is generally used in a broader and more inclusive sense. An example of this is the ELC’s definition of landscape that emphasizes the individual perception and dynamic character of the landscape, being shaped by interaction of man and nature (Council of Europe 2000a). The landscape definition according to the time geography approach, which will be discussed later (pp. 19), also emphasizes the landscape’s dynamic and changing character. In a text about landscape management and protection in relation to the changing landscape, Saltzman (2000) writes about how landscape can be defined:

The landscape is often described as shaped and reshaped in interplay between man and nature, it is described as a link between the past, the present and the future, and as pedagogical panorama of how man through history has learned how to make use of nature in a more effective way.” (Saltzman 2000: 63) According to Fairclough (2006), most landscape definitions have been quite narrow and mono-disciplinary, despite the landscape’s multidisciplinary character. Fairclough advocates a landscape definition that is about perception, and additionally states that the most useful way of describing landscape is through narratives. If a definition should be made it should be broad and inclusive to reflect the landscape’s infinitive diversity (Fairclough 2006). Landscape planning has over the years increasingly detached itself from territorial organization, which was practiced when agriculture and other place-bound production were the main industries, and instead become dominated by functional organization (Hägestrand 1993). Planning can be seen as a way to manage this

seemingly chaotic situation, and steer the development in a certain direction (Antrop 2005). According to Dempsey et al. (1979), the involvement of the landscape architecture profession as a source of creative thinking and planning has long been active in Europe. Some people even argue that time is the very essence of landscape and that change is one of its most important characteristics (Fairclough 2006; Hägerstrand 1993).

### **3. Components of Landscape Architecture**

The development of landscape architecture as municipal parks, recreational areas and theme parks should be seen as a physical entity that developing land with other improvements (Mar Iman, 2005). Land which contains the development of landscape architecture may consider aspects such as size, shape, content creation, topsoil (epipedon), subsoil (endopedon), and accessibility and so on. Repair formed from the development of a managed landscape architecture can be seen as a building, open space and recreation, natural or artificial elements of water, plants and so on. The development of landscape architecture is also seen in terms of the points relative to the landscape, such as the placement of the center, commercial center, the city and other seemingly accessible properties.

The landscape architecture profession is relatively new compared to other design professions like engineering and architecture. Just like any other developing profession, landscape architecture has and is still finding itself new niches in planning, design, development and management of land. This new niches are mainly in industries that have typically been dominated by other professions such as the mining industry, history (Historic Landscape Characterization), archaeology among others. This is possible because landscape architecture training prepares candidates to proficiently deal with specific issues within these industries. The training equips them with understanding of ethics, aesthetics, and socio-ecological issues (Roberts, 1999). It is a multi-disciplinary profession that incorporates horticulture, ecology, botany, applied and fine arts, environmental psychology, physical sciences, geology, and architecture. They have the capacity to plan, design, build and manage landscapes of all types, (Buchko and Hitch, 2010).

Urbanization is a present, on-going process that affects not only urban areas, but the whole landscape, and the people populating it (Antrop 2004). The landscape is going towards a dichotomy of highly populated areas with very intensive land use, and neglected, abandoned areas with low population (Antrop 2005; Emanuelsson 2009: 335ff). Sustainable development is a formulation to set a balance between social needs, economic activity and the environment which has become a vital part in landscape planning. One of the most debated challenges for the future referring to sustainable development is the effect that climate change will have on our planet. Climate change could affect many aspects of the landscape, from biodiversity to economic prerequisites, but the full effects are still to be discovered. Very likely, nevertheless, is that landscape planning needs to adapt to be able to meet new needs in the future landscape (Sarlöv-Herlin 2012: 11).

#### **4. Built Environment of Landscape Architecture**

In fact, landscape is a part of nature where we settle in and can be perceived due to our senses and this direct relation largely affects quality of our lives. Although the concept of landscape is different for people, human has understood that nature comprises dependent elements that represent the fundamental aspects of being. Human has rooted in nature and depends on natural forces. Here, landscape means the environment in which nature is dominant. In nowadays world, landscape is a live and dynamic entity which is affected by human, the way he interacts and also association of memories for a long period of time. Thus, landscape is a concrete mental phenomenon. Furthermore, the growth of human mental capabilities is continued from achieving the disperse qualities to more coherent experiences in which components and reciprocal relationships are perceived generally. Landscape has an important role in making relationship between nature and both human and human communities and also has a significant role in deepening this relation. A way to balance different needs, and satisfy various interests at the same time, is to facilitate the creation of multifunctional landscapes. This has become increasingly important in the more densely populated world, and is becoming a more common demand from the rich and stable societies in Europe (Vos & Meekes 1999).

Multifunctional landscapes are essentially about safeguarding and enhancing different interests and values, such as biodiversity, production, recreation, cultural heritage and aesthetic values, in one and the same area, not handling them as separate interests (Sarlöv-Herlin 2012: 14f). This is especially important in urban areas where land is scarce and landscapes often are under high pressure.

Environment can be attributed implicitly to everything around us, whether man-made or natural [10]. Landscape is part of an environment which is a place of our current actions and we can interact with it at the present moment. In fact, environment and nature are the main context of landscape architecture [11]. One of the differences between environment and landscape is that "landscape", as one of the facts of daily life, has a function and flexibility which is more understandable in compare with environment. Considering landscape as a phenomenon, one of the factors in its perceiving is finding out the structure and understanding the principles among its components. Accordingly, it can be mentioned that landscape architecture is the art of integration the form of land, water, plant, buildings, flooring and climate with each other to make a pleasant outer space. Quality landscape design contributes to attractive, safe, efficient, and maintainable installations. The designer must strive for sound, economical, functional, and aesthetic development. A well-designed installation will satisfy the user's needs, instill pride of ownership, and promote a unified visual image. With continued emphasis on the environment, landscape development has gained increased significance in the everyday operation of the installation. Many environmental issues can be resolved through the application of landscape architecture principles. The landscape architect typically addresses environmental issues such as storm water management, erosion control, wildlife habitat preservation, and restoration of damaged lands through proper design and implementation of water harvesting techniques, grading, wetlands design, and native species planting design. The main emphasis of landscape architecture is placed on the elements of land in outer and public spaces. Therefore, landscape architecture deals with all types of outer spaces, large or small, urban or rural, by using hard and soft materials. In fact, a designer of landscape design, must be consider the relation among the building and surrounding environments and be aware of the climate impacts and the relation among land, plants, water and building materials in order to create a landscape fit to natural environment by human Non-physical elements: climatic factors [temperature, radiation, wind, humidity] and non-climatic factors [light, smelling, noise, weather].

The impact of environment on human has been considered significant to the built environment and its elements have been used to affect human behavior. In fact, the relationship between human and environment is reciprocal and they both affect each other and are affected by one another. This becomes especially important since cultural heritage is considered to be an asset in the work for a more sustainable development (Riksantikvarieämbetet 2011). Human, environment and communication are three basic factors in relationship between human and environment. Thus, an environmental design is made based on the relationship between environment and human behavior [14]. Generally, the proposed theories regarding the causal relationship between environmental factors and social behavior are divided into two parts. One of them affects natural environmental elements [climate, wind, temperature, mountain, etc.] and another one emphasizes on build environment factors especially, urban environments and their impacts on human behavior. In fact, from scholars' view point, the physical structure affects communication between people, culture of people and social ecology [15].

Since the landscape is a part of environment, the main trends in landscape perception were categorized in four paradigms: the expert, the psychophysical, the cognitive, and the experiential. In fact, the two main factors in landscape design are the users and their psychology. The relationship between a person and the space observed causes to perceive and understand the landscape [16]. So that, landscape architecture is an environmental designing and using which forms the interaction and action of human and/or natural-cultural factors by combining the science and art together. Although the characteristics of a physical environment can influence the development and accuracy of a mental/cognitive map and affect subsequent way finding behavior, the way in which humans intervene on the landscape depends primarily on the technical facilities that it holds, or has held at one time [16].

Additionally, one of the significant functions and impacts of landscape architecture is the ecologic function which is originated from nature. Researchers believe that environmental affordance in landscape plays a key role in alleviating the so-called lifestyle-related symptoms [e.g. burnt out disease, stress-related pain], so that natural views and landscape sceneries ease people's pressure and change their mood. Based on these researches, nature is able to compensate for the damages to identity and brings about a well-balanced personal growth. For instance; water and green space are two fundamental elements comprising landscape and

nature. Both psychological effects of water, as a life giving element which attracts human, and its visual effects are significant [17]. Green space has a crucial role in expanding sceneries, providing mental peace for citizens, improving air quality, reducing noise pollution, and preventing undesirable effects of automated life style [18]. In an urban structure, green space works as a filter to reduce environmental pollution such as smoke and noise and it guarantees relatively the personal and public health of citizens along with their environmental peace. One of the main purposes in green space designing is to achieve social and psychological effects of bringing human and nature closer. Investigations reveal that trees and park sceneries cause the reduction of stress, anger and tension, landscape enjoyment, and concentration enhancement. A park, with variety of plants, has direct restorative impacts and is capable to revitalizing the citizens. Moreover, it is demonstrate that patients get recovered more quickly when looking out of a window with natural scenes [19]. Hartig (2003) illustrates that looking at trees and natural resources make reduction of stress, blood pressure, anger and aggression and bring about liveliness. In this field, the researches reveal that environmental stressors [e.g., crowding, noise] can elicit substantial stress in people, while visual access to nature shows effects on stress recovery. Old garden and fruit trees with numerous flowers increase concentration. Bringing people closer to nature, by looking at trees, flowers, growing plants and observing seasonal differences is instructive and also affects peoples' sprit and their life styles.

Recently significant advances in computer graphics have been made and exciting new options for visualizing our environment in three or four dimensions (with animation over time or movement through space) are emerging. These advances are of major interest to the profession. Some of the important developments recently have involved highly realistic representation of vegetation (Prusinkiewicz & Lindenmayer 1996, Deussen et al. 1998, Prusinkiewicz et al. 2001), intelligent display of terrain and automatic generation of landscape imagery from GIS-based data (Hoinkes & Lange 1995, Bishop & Karadaglis 1997). This technology that exists today enables us to render visually stunning and richly detailed visual simulations of natural and urban environments. Comparing it with what we have experienced technologically in the previous decades it can be foreseen that in the near future even further technological developments will take place. It can also be expected that these technological developments will be accessible to most people working in spatially relevant disciplines.

## 5. Conclusion

The contemporary view on landscape is that it is dynamic and changing. Time and change can furthermore be considered to be essential characteristics of landscapes. Since the landscape is constantly changing, it is a new landscape that takes the consequences of the decisions that are made in the present. This is relevant for landscape architects and planners since the decisions that are made today affect landscapes far into the future. In seeking the right balance between protections, management and planning of a landscape, it should be remembered that the aim is not the preservation or "freezing" of the landscape at a particular point in its lengthy evolution. Landscapes have always changed and will continue to change, both through natural processes and through human action. In fact, the aim should be to manage future changes in a way which recognizes the great diversity and the quality of the landscapes that we inherit and which seek to preserve, or even enhance, that diversity and quality instead of allowing them to decline." (Council of Europe 2000b: paragraph 42) Based on the literature reviewed, the relationship between human and environment is a dynamic and reciprocal one and landscape has a pivotal role in increasing the quality of human dwellings. Human, environment and communication are three significant factors in relationship between human and environment. The design process is expected to create architecture and landscapes of exceptional, distinguished design quality, integrity, and sensibility.

Additionally, other parameters in landscape designing are nature, human, his psychology, and the relationship among them. Then, the impacts of environment and landscape on human and after that, their affordances in making places with higher qualities from various aspects were investigated. Landscape has an important role in reducing stress and tension and increasing concentration. Moreover, studies indicate that stress and concentration are two involving factors that influence people, and consequently their efficiency and their learning. Thereby, based on different viewpoints regarding the influences of environment on human, library spaces should help reduce stress, increase relaxation and concentration of users. In fact, library environments should be in a way that users feel less anxious and stressed out and have more peace and concentration while they are studying. Thus, by concentrating on these two parameters, it can increase the potentials of library environment to increase learning more. Landscape can create peace and cheerfulness for users due to its affordances. People can relief

their tension, mental fatigue by being in nature or even by looking at it. In fact, this research indicates that by integrating the potential of landscape and library spaces, it can create an environment in which the efficiency and learning of users improve. All effective landscape designs rely on basic principles. An understanding of these principles prevents the creation of ugly landscapes and fosters the creation of beautiful ones. Unity, simplicity, variety, balance, sequence, pattern, shape and scale are terms often associated with art. Urban parks, local parks, urban forests, green lawns, game and recreational sites, recreational lakes and so on constitute an important amenity and consider the need for users or local residents. Nevertheless, the public perception may not include all scientific explanations believed to be contained in the components of landscape architecture.

Therefore, the impact of Landscape Architecture on the built environment goes beyond the provision of complementary spaces around built facilities or structures but also the psychological impact on the habitants within and outside it, to create a functional scenery, platform and livable environment that are fitted with all necessary components to foster a pleasant and sustainable ecological environment.

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