

The Functions of Plants in Asian Gardens: A Review on Asian Landscape Architecture

Zahra Poursafar

*Research Scholar, Faculty of Architecture
Manipal University, Manipal, Karnataka, India.*

Abstract

Landscape architecture encompasses the analysis, planning, design, management, and stewardship of the natural and built environments. Well-executed environmental design directly affects the quality of life for people by eliminating functional conflicts on the land and providing proper design based on geographical and cultural needs. This high level outcome is depending on designer awareness of the landscape design principle and requirements.

This paper investigates the garden making instructions and principles with respect to plants in Asian Garden by evaluating the major, old and famous Gardens in Asia. A brief history of the Garden in Asia is also reviewed. The Asian Garden has been evolving for over a thousand years and has continued to be as relevant and interesting as ever to this day.

This study has reviewed and descriptively analyzed the research in the field of Asian Landscape Architecture –particularly gardens- to extract their principles and identify the role of Plants in Asian Garden designing.

Keywords: Landscape Architecture, Asian Garden, Plants.

INTRODUCTION

As the world population continues to grow and as global urbanization continues to unfold, our ecosystems and landscapes will be increasingly domesticated and designed. Landscape architects intentionally modify and create landscapes, and their imprints and influences are pervasive and profound, far beyond the physical limits of the designed landscapes (Chen & Wu, 2009). The landscape style typically falls into a formal or informal category. Asian Gardens fit in formal class because of the strong background and organized appearance.

Asian Gardens are very important natural environment that add value to the space and pleasure to life. They have a calming nature and contribute to a desirable, healthy community. There are many elements helping to create a garden in Asia which this study only focuses on Plants as the main element in any garden designing. With proper utilization Plants can transform a place into somewhere which is highly functional and has strong identity and aesthetic values.

This paper attempts to identify the common instructions and parameters in design of Asian garden, with respect to Plants. These principles can be a guideline for the future landscape designers. By understanding this importance Asian landscape architects can protect the purity and originality of this scope and combine them with new methods in the new world.

BACKGROUND TO THE LANDSCAPE ARCHITECTURE

A comprehensive definition of Landscape Architecture by the American society of landscape architects (ASLA, 2009) makes explicit the broad scope and diverse topics in this field:

“Landscape Architecture encompasses the analysis, planning, design, management, and stewardship of the natural and built environments. Types of projects include: residential; parks and recreation; monuments; urban design; streetscapes and public spaces; transportation corridors and facilities; gardens and arboreta; security design; hospitality and resorts; institutional; academic campuses; therapeutic gardens; historic preservation and restoration; reclamation; conservation; corporate and commercial; landscape art and earth sculpture; interior landscapes; and more.”

The Landscape Institute (2012) defines the elements of Landscape Architecture as below:

- Living elements, such as flora or fauna; or what is commonly referred to as gardening, the art and craft of growing Plants with a goal of creating a beautiful environment within the landscape.
- Natural elements such as landforms, terrain shape and elevation, or bodies of water;
- Human elements such as structures, buildings, fences or other material objects created and/or installed by humans; and
- Abstract elements such as the weather and lighting conditions.

Among all of these sectors defined in Landscape Architecture, this paper focuses on plants as the significant element of Landscape Architecture. Plants and their application in Asian garden are the concern of this study.

Many studies have targeted the garden designing in Asian countries, but they had focused on concepts and principles of gardens in the different geographical context. This paper attempts to find the common portion of garden designing between Asian countries and introduce this part as basic guidelines for Asian Landscape Architecture.

The research framework developed in this study is shown in figure 1:

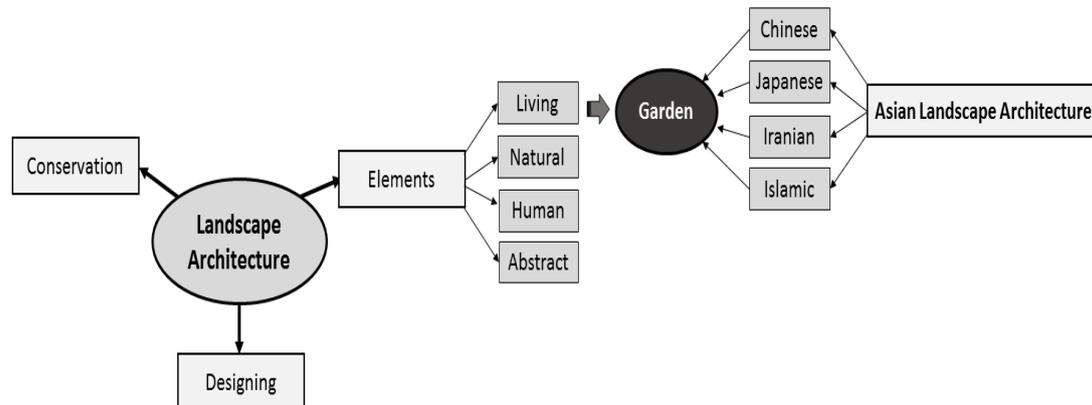


Figure 1: the research framework

The specific objectives of this study are:

- To identify the landscape architecture theories in Asia,
- To evaluate the principles of garden making in ancient Asian Gardens to extract their intersection part,
- To identify the most frequent Plants -trees and flowers- in Asian Gardens.

GARDENS IN ASIA

The story of the garden begins with the most ancient civilizations-Egypt, Persia, Greece and Rome. It begins with emerging and developing societies based on agricultural productivity and a symbolic approach to the universe(Sullivan &Boults, 2010).

Ancient Persia is composed of the modern countries of Iran, Iraq and Syria; from here, came one of the most enduring garden forms ever created. Created in a harsh environment with little water the gardens responded with enclosed sheltered spaces and the sparing use of water. These gardens were formal and geometric in style which reflected the Persian interest in geometry and mathematics (Bennis, 2006). While the Persian garden lasted until the 7-8th century, it took on a new meaning with the spread of Islam. Islam adopted the garden form, but it imbued it with meaning and symbolism. Persian culture was absorbed by Islam and continued without apparent interruption (Dolenc et al, 2012).

China is the “mother of gardens” (Wilson, 1929). Garden design of different kinds and sizes constitutes a substantial part of the Landscape Architecture profession in general, and has occupied a central place in Chinese landscape design and planning in particular (Chen & Wu, 2009).The natural elements in Chinese landscape design are; rock mountains, lakes, and trees, along with their energy brought together harmony with architecture and poetry. Chinese gardens are designed to stimulate one’s

intellect and spirit while wandering in Nature in an oasis of tranquility (Wilson, 1929).

In Chinese garden Plants have an additional value as cultural symbols, For instance, pine, flowering plum, and bamboo are collectively known as the Three Friends of Winter during harsh weather, the Plants display needle, flower, or leaf, thereby demonstrating the scholarly virtues of strength, courage, flexibility, and integrity (Chen & Wu, 2009). The lotus in the lake presents the essence of purity, as they grow in the mud and are cleansed as they emerge through the surface of the water (Henderson, 2012). Plants serve other purposes as well. Some are edible such as bamboo. Other Plants such as ginkgo, have medicinal properties. The hardy banana is often planted under the eaves of the roof and serves to amplify the sound of rain dripping from the roof tiles onto its large leaves (Qingxi, 2003).

There is also confusion between the Chinese and Japanese garden, of which the latter has its basis within the Chinese garden (Miller, 1993). There is a philosophical base to both: The Japanese garden takes its inspiration from nature as does the Chinese garden. However, it is influenced by various beliefs such as Shintoism, Hinduism, Taoism, and Buddhism often overlapping each other (Wilson, 1929).

The rich history and evolution of the Japanese garden can be traced back to the sixth century (Rogers, 2001). Japanese garden styles include karesansui, Japanese rock gardens or zen gardens, which are meditation gardens where white sand replaces water; roji, simple, rustic gardens with teahouses where the Japanese tea ceremony is conducted; kaiyū-shiki-teien, promenade or stroll gardens, where the visitor follows a path around the garden to see carefully composed landscapes; and tsubo-niwa, small courtyard gardens (Mehta et al., 2008).

Traditional Japanese gardens are designed for peaceful contemplation. The primary focus of an Oriental garden is nature. The elements of a Japanese garden mimic or symbolize natural elements. Thus, geometric shapes and artificial stones are not common in Japanese landscape design (Ortho, 2003).

Iran which used to be known as Persia has one of the oldest garden design traditions which is rooted on the Iranian plateau (Norouzian Pour et al., 2012). The Persian style often attempts to integrate indoors with outdoors through the connection of a surrounding garden with an inner courtyard. Designers often place architectural elements such as vaulted arches between the outer and interior areas to open up the divide between them (Khansari et al., 2003). In these gardens, the Plants are coordinated with water resources that they can use in order to make shadows and shades as much as they can (Norouzian Pour et al., 2012).

Before the birth of Islam, gardens, besides being affected by geographical conditions, were influenced by tradition, ritual, and the cultural background of the people (Turner, 1987). Traditionally, an Islamic garden is a cool place of rest and reflection and a reminder of paradise. Faith and geography are probably the two most significant factors in Islamic Garden design. Refuge from hot, sunny and dry weather Islamic garden expresses the perception of heavenly life and its comfort (Ansari, 2011).

The irrigation channels divide the garden into smaller symmetrical sections, all in simple, geometrical shapes. Layout, water and walled exterior are thus pivotal in Islamic garden design.

Plants bring final completeness to these gardens. Spear-like cypresses and ground covers create perfect year round canvas for highlighting seasonal horticultural displays. Trees, such as dates, olives and almonds bring fruit and shade (Clark, 2011). Flowers provide finishing touch with their fragrance and eye pleasing beauty. Sometimes referred to as Paradise Gardens on Earth, Islamic gardens became the inspiration to artists and gardeners alike (Turner, 1987).

DISCUSSION

Asian Landscape Architecture is rooted in an ancient attractive simplicity which makes it easy to understand and gives the feeling of familiarity to the visitors. Natural elements complete the dominant part of outdoor environment in Asia, which is known as gardens. Asian Gardens invite meditation, when they properly implement and adjust natural and man-made elements to show the human connections with the ground.

Asian Gardens are created with an uncomplicated design which is also observed in the Asian natural environment. The function of these gardens is to provide a place for pleasure through mental approaches and a location for leisure time to be spent.

Table 1 shows the principles about four Asian ancient gardens in a comparison approach. These key points are applied in different Asian countries and have been followed by Asian designers with the consideration of cultural and religious issues.

Table 1: Comparison of Asian Gardens and their characteristics

Country	Inspiration	Elements	Styles	Aim
China	Philosophy of Unity of man with nature Yin–yang dualism	Rocks Water(lakes) Plant Literary Inscriptions	Expansive imperial gardens Temple gardens Private walled gardens	To recreate an ideal landscape in miniature. To stimulate one’s intellect and spirit while wandering in Nature in an oasis of tranquility.
Iran	Gardens of Mesopotamia Iranian plateau Persian gardens	Water canals and ponds Plants Animal statue. Pavilions Sunlight and its effects	Hayat Meidan Chaharbagh Park Bagh	Symmetry Integrate indoors with outdoors Enclosure Provide a place for relaxation through spiritual methods Place for leisure time to be spent

Japan	Nature	Rocks Water Plants ornaments	Small courtyard gardens Japanese rock gardens or zen gardens Stroll gardens Rustic gardens	Asymmetry Enclosure Balance Symbolism
Islamic Gardens	Holly Quran Heaven	Courtyards Water features Plants Calligraphy on Walls	—	Introversion Balance between physical and metaphysical Multiple use Diversity Beauty Moderation Contextuality Individualism

As indicated by table 1 a variety of concepts is applied in Asian outdoor environment, which helps to create the beautiful and functional spaces known as gardens. These principles changes according to many parameters like climate, culture, religion and geographical conditions. Table 2 shows the intersection of different theories and principles relevant to Asian Garden making.

Table 2: the common portion in Asian Gardens

Asian Garden	Inspiration	Elements	Styles	Aim
	Nature and Related Issues	Rocks Water Plants Man-Made Elements	Different according to culture and religion	Balance between physical and metaphysical parameters Human mind and its desires Beauty Enjoyment

As indicated in table 2 Plants are the primary element shaping the gardens. Plants as living elements of landscape designing are the integrated part of outdoor environment. Incorporate trees and flowers with different heights and properties would create the pleasant environment for the functional and aesthetic purposes. Table 3 shows the most frequent flowers and trees used in Asian Gardens.

Table 3: Type of Plants that were used in Asian Gardens

Country	Type of trees	Type of flowers
China	Maples, Pine Trees, Bamboo, Plum Trees, Willows, Sweet Olive Trees, Banana Trees, Ginkgos, Sweet Osmanthus, Azaleas, Viburnum, Viburnum	Lotus Flower, Chrysanthemums, Peonies, Climbing Roses, Camellias, Jasmine, Magnolias, Japanese Iris
Iran	Poplars, plum trees, peach trees, apricot trees, almond trees, silkworm trees	Gol-e-Sha'mdaani (Geranium), Rose, Jasmine, Tulip, Narcosis, Susan, Bind weed, Pansy, Snap dragon, Mallow
Japan	Japanese Boxwood, Umbrella bamboo, Maidenhair tree, Dwarf mondo grass, Japanese apricot, Japanese maple, Angel's hair, Aucuba japonica , Trumpet vine	Japanese camellia, Fortnight lily German iris, Southern magnolia Aloe vera
Islamic Gardens	Dependent on weather and geographical location a large variety of trees are found in these gardens.	Dependent on weather and geographical location a large variety of flowers are found in these gardens.

Asian Gardens take its objects from across the Asia to demonstrate the garden as a place of thoughts and imagination during the centuries. This exhibition centers on the garden as an artistic part of nature, which enclosed by boundaries affects the visitors physically and psychologically.

Because of this connection between human and gardens designers look at this area of design more seriously and follow some instructions to repeat the systematic gardens:

- I. Selection of the Plants in a successful Asian Garden must be based on functional and psychological factors. For example, wide trees are more preferred because they give shade in addition to the sense of protection and calm. Therefore, Plants like flowering cherry and maples are good choices to fill the gardens visually and create the beautiful atmosphere with their colorful appearance.
- II. For having a proper Asian Garden cultural issues always should be considered because of the fact that a particular color can have very different meanings to different groups of people. as indicated by Hirschman(2007)East Asian countries typically utilize white as the value for their funeral attires due to the fact that white is symbolic of death in East Asian cultures, while in Islamic culture it is the symbol of peace , hope, wedding and pray (Hasan et.al, 2011).
- III. Arrangement of the Plants in Asian Gardens follows an elegant specific plan. There are objects (trees or flowers) as a foct surrounded by others in a certain space. That means all the land is not filled and always negative and positive

spaces are working together creating visual composition, which shape the visitor's conception.

- IV. In Asian Gardens there is a tendency to break up the larger part of landscape into smaller unconnected areas. This technique makes the garden easy to understand and remember and also enables the visitors to have visual connection during the walking period. These boundaries are made with proper implementation of design elements such as water canals, statues and even a row of trees or flowers which also implies barriers for privacy and safety.
- V. Harmonious, peace and calm, understandability, relationship between elements and their strong inner connection are other principles in a successful Asian Garden.

CONCLUSION

An Asian landscape is designed with specific intentions in mind. The designers applied certain ideological principles and objectives, which rooted in the faith and the cultural framework using distinct design elements to create environment, which is visually pleasant and structurally organized.

Asian Gardens benefits from the consideration of moral and spiritual concepts, in the different geographical context which help to design and create an aesthetically pleasing and functional garden. Following the well-executed ideas and attention to details complements the garden's entire aesthetic, and the right Plants, flowers and shrubbery can significantly enhance its attraction by adding proper color and even fragrance to the gardens.

This research was conducted based on a descriptive method working with research papers, studies, reports and related documents (the library documents). Three primary instructions which shape and involved with the Asian Gardens were explained as outlined by past researches.

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