

Research Article

Research on Landscape Design of Food Industrial Zone

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Abstract: The emergence of food industrial zone, in a certain extent, marks the development and progress of Chinese economy, which plays a very important role in the construction of city landscape. Based on the analysis of landscape design as well as its meaning in the food industrial zone, this study takes it as a starting point, discussing the landscape composition of modern food industrial zone, as well as landscape design principles and specific design content of food industrial zone.

Keywords: Food industrial zone, landscape design, principles

INTRODUCTION

With the rapid development of modern society, the working efficiency is improved, people's leisure time is also increased. The traditional static Pattern of leisure is impacted, while the modern pattern of leisure, namely the participation mode of leisure is gradually got recognition and favor by the urban people (Hubbard and Onumah, 2001). At the same time, the entertainment activities have special characteristics with the direction of diversification. Modern food industrial zone is a product in the process of transition from the traditional industry to the modern industry, fresh and natural environment in the zone has the very strong attraction for visitors.

Since the technological revolution in middle 18th century, the industry has made great headways and the development of food industrial parks has also experienced different stages, from the initial formation-simple gathering period. With the progress of technology, the second technological revolution brought food industrial upgrade and the classes of industry also increased, forming an food industrial structure dominated by energy, raw-material processing and machinery. The development of food industrial parks has entered into a period of extensive stage (Philips, 1998). With the decline of traditional food industrial parks and after World War II, the development of food industrial parks has entered into a period of intensive and high-efficient stage-food industrial parks become the major form of food industrial land. Compared with the food industrial park in the past, the current food industrial parks attach more importance to the living environment of factories and enterprises, emphasizing the concept of sustainable

development (Vos, 1993). Meanwhile the public facilities are more human-oriented, stressing ecological environment. While constructing food industrial parks, western developed countries will mainly consider high-tech parks and food industrial ecological parks. However, it is not until 1980s' that China began to construct food industrial parks, most of which are built according to foreign experience (Forman, 1996). The landscape environment doesn't get enough attention in China and currently, the landscape environment in many food industrial parks is not satisfied.

MATERIALS AND METHODS

The landscape design meaning of food industrial zone: Landscape design is a form, with factors to constitute a relatively independent creation in a certain area, which has a certain social and cultural connotation and aesthetic value of landscape. It must have two properties: one is the natural attribute, it must serve as a forming factor with sense of light, shape, color, the relatively independent space, which is easy to separate from the regional pattern of the background object. Another is the social attribute, it must have a certain social and cultural connotation, with ornamental function, so as to improve the environment, through its connotation, it can cause people's emotion, interests and other psychological reflection (Madaleno, 2000).

As a branch of the content of modern landscape design, the landscape pf food industrial zone refers to the food industrial zone or rural area, it is composed of various elements of the environment, which can become the aesthetic object, the sum of all information.

Table 1: Types of modern food industrial zone

Pattern	Factors of development, characteristics	Cases
The type of edge area of scenic spots	Its development is mainly relied on the well-known scenic spots, which is one of the earliest developed tourist food industrial zone, because it is far away from the tourist market of the city, with the shadow effect of original scenic area, it got slow development.	Zhejiang province with "two rivers and one lake" as well as fishing family in scenic spots, etc.
The type of city suburb	The main purpose is to adapt the modern city people to getting rid of the increasingly fast pace eagerly, so as to avoid the environment pollution in the city, taking advantage of the city suburb's relatively good natural environment and human environment as well as its regional advantages.	Taoyuan folk village of in the northern area of Shanghai city
The type of underdeveloped area	Mainly guided under the national tourism poverty alleviation policy, combined with the economic characteristics of the local industry, so as to highlight the regional ecological characteristics and cultural characteristics.	Tourism food industrial zone in Jing Gangshan of Jiangxi province

Table 2: The natural material of the landscape in modern food industrial zone

The elements of landscape	The description of landscape elements
Topography, geomorphology	The terrain units (plain, mountain) and topography (slope, aspect, etc.)
Climate	Four seasons, the temperature, humidity, precipitation, solar radiation, wind speed, etc.
Soil	Types of soil, distribution, characteristics, etc.
Water	Lakes, rivers, swamps, ponds, reservoirs, etc.
Animals	The status and characteristics of animal communities and distribution
Plants	Direct reflection of the types of landscape, such as grass, flowers, plants, etc.

Table 3: Artificial material of landscape in modern food industrial zone

Elements of landscape	The description of landscape elements
Structure	Public architecture; landscape architecture; architecture for leisure experience purpose; memorial architecture; ancient architecture
Facilities and equipment	Irrigation such as canals, facilities for vegetables such as greenhouse; land forms, such as terrace; livestock, such as poultry barns
Water conservancy facilities	The waterwheel, reservoir, dams, irrigation network, etc.
Traffic road and tools	Domestic roads, asphalt road, stone road, fitness trails, etc. The roads with ancient ruins including ancient roads, ancient bridges, etc. Types of transportation, such as car, bike, sightseeing car, boat, raft, etc.
Tourism facilities	Reception facilities, such as restaurants, hotels; sightseeing facilities, such as sightseeing sketch, landscape stone, etc.

Because of its function and its objective explicit forms, people can perceive and understand the meaning, therefore, it can achieve the purpose of bring people aesthetic feelings with pleasure.

The formation of landscape of modern food industrial zone: The landscape of modern food industrial zone is a complex entity, which is composed of a variety of elements. It is composed of plants, animals, landscape buildings, roads, squares, scenes and other elements in the landscape of food industrial zone. According to the materials of landscape design, the landscape elements of modern food industrial zone can be divided into three types, namely, natural landscape, artificial landscape and event landscape (Table 1).

The natural material of landscape in food industrial zone: In China, different regions have different geographical positions, thus, the natural landscape in food industrial zone is also different. Combined with the unique material of natural landscape in the zone, landscape design can make the environment of the zone more beautiful, which can make the visitors leave a deep impression on it. The natural material of the landscape design should be with a simple, quiet, fresh, natural, comfortable style. The landscape of the natural material mainly includes topography, climate, soil, water, animal, plant and so on, many kinds of factors

are combined together, which are also very important for the landscape design of food industrial zone. These factors can be shown in Table 2.

Artificial material of landscape in food industrial zone: Artificial material of landscape belongs to the artificial creation, so it can be including structures, agricultural facilities, roads, landscape and so on, both the landscape and the function can be shown in Table 3.

RESULTS AND DISCUSSION

Principle of integrity and openness: During the period of planning the construction of the food industrial zone, the analysis should be started from the location of the food industrial zone, then the surrounding traffic conditions, the condition of climate, as well as resources and environment. Moreover, designers should also consider how to make fusion with the overall environment, secondly, designers should have an overall planning from the whole for the zone, so as to make reasonable organization and functional division; designers should design from each of the independent partition, so as to have detail design for the landscape, who also should pay attention to these areas that cannot be dispersed from the whole design of the zone, taking the overall functional orientation as the starting point, considering the organic connection of

each partition. In an effort to make the zone be more complete, reasonable with the surrounding environment as well as its overall integrity.

Principle of highlighting the characteristics: We should fully dig the local industry resources, the production conditions in rural areas and the local characteristics of the season, so as to suit the local conditions, highlighting the characteristics. Moreover, we should fully dig the rural landscape, rural culture and food industrial resources, so as to create a local color landscape, highlighting the unique landscape characteristics of leisure in food industrial zone.

Principle of ecological aesthetics: During planning and designing food industrial zone, we should be based on the ecological aesthetics, making use of aesthetic guidance, refining and summarizing the ecological relationship between biological and non-biological relation, so as to form beautiful landscape ecologically and harmoniously.

The specific design content of landscape in modern food industrial zone: In the pro-phase of planning and designing landscape in food industrial zone, the area of the zone should be taken effective analysis, so as to complete the planning content for designing the landscape. After that, designers should have specific design for the landscape in the food industrial zone. The designing elements of the landscape in modern food industrial zone can be divided into the following several aspects.

The design of farmland landscape: The farmland landscape area mainly refers to the tea garden, vegetable garden and greenhouse, etc. As for design of this kind of landscape areas, first of all, designers should plan roads well in the farmland; then around the farmland, designers should arrange some seats for rest; secondly, in the field, as for crop planting, it should be reasonable planned and designed with partition design. As for the garden landscape design, visitors can be personally involved in agricultural labor, so as to experience the fun of planting vegetables. As for the landscape design of garden, the terrace, the tea cultivation in terraces all can form a unique landscape, which also can be conducive to the growth of tea plants. Visitors can participate in the picking process, who can also watch the ceremony and other activities of tea culture reaction. As for the design of bonsai garden, in bonsai garden, you can personally see master making bonsai, who also can learn bonsai art by themselves. Botanical garden can meet all kinds of plants through the listing, which can adopt the plants to increase the interaction with visitors. For the landscape design in the greenhouse, the design of greenhouse crop cultivation and landscape art should be in combination. The plants

in the greenhouse should plant seasonal fruits, while exotic vegetables can be planted, plus some famous flowers, so as to obtain certain economic benefits.

The design of animal landscape: The design of animal landscape is an essential part for the landscape design in food industrial zone. Birds flying in the sky, fish swimming in recreation can add vigor and vitality to the landscape of the zone. The raised livestock and poultry can be used only as hotel cook, but also can be sold to tourists, so as to ensure the freshness. As for raising animals, we should first determine the size of the animals, feeding types, followed by the effective and reasonable partition, such as animal husbandry, feeding area, logistics area, reserving animal exhibition area, etc. This kind of landscape design should also be combined with animal in captivity, considering safety and aesthetics.

The design of plant landscape: Plant is the largest area of landscape with various elements in modern food industrial zone. Plants in food industrial zone play very important role for art design, which can be used as the main scenic spot of local areas, playing the role of decorating the landscape. There are a wide variety of plants in food industrial zone, some plants are at the entrance area, some are at square area beside the road, some plants are occurred in farmland landscape and forest landscape, even at building areas and other leisure entertainment districts, there are various plants.

The design of smell: The design of smell can also increase the charm of the landscape in food industrial zone. There is fresh fragrance with the earth in the zone, flowers send out their unique fragrance, fruits have aromas of ripe, all these can arouse the interests of tourists. As for the smell of raising animals and the smell of organic fertilizer, we should deal with them effectively so as to reduce the odor.

The design of sound: The design of sound can adjust the attitude of the tourists. Beautiful voice can create a relaxed atmosphere, allowing visitors to enjoy the natural beauty and feel comfortable. People who come to the food industrial zone is for the purpose of relaxation, so as to embrace the nature, therefore in the design of the sound in food industrial zone is very important.

CONCLUSION

In a word, with the improvement of people's living standards, the leisure entertainment demands are higher and higher, creating a traditional visual landscape is not enough to meet people's landscape experience, more and more people want to touch the view of texture, smelling their tastes, listening to their voices and so on,

therefore, designing elements in food industrial zone should also meet the demands to create rich landscape with visual, auditory, olfactory, taste, touch, etc.

REFERENCES

- Forman, R.T.T., 1996. Some general principals of landscape ecology. *Landscape Ecol.*, 73: 22-24.
- Hubbard, M. and G. Onumah, 2001. Improving urban supply and distribution in developing countries: The role of city authorities. *Habitat Int.*, 79: 66-68.
- Madaleno, I., 2000. Urban agriculture in Belem. *Braz. Cities*, 82: 45-47.
- Philips, H.L., 1998. *Tomorrow by Design a Regional Design Process for Sustainability*. John Wiley and Sons, New York, pp: 37-38.
- Vos, W.H., 1993. Meekes trends in European cultural landscape development: Perspectives for a sustainable future. *Landscape Urban Plan.*, 46: 32-34.