

Basic Train of Thoughts for the Construction of Low Cost Scenery Spots

Duanmu, Shan

China Research Center of Landscape Architectural Design and Planning

ABSTRACT

To many developing countries like China, the practical way to constant development of city construction is low consuming.

The basic methods of low-consuming landscape construction:

1) Low building consumption:

Decreasing constructing quantity

Using low-costing material

Designing low-consuming landscape

Reusing of building material

2) Low energy consumption :

Decreasing water consumption

Consuming and enrichment of earth fertilizer

Decreasing electrical consumption

3) Low maintenance :

Adapting natural material

Using local plants

Special design to decrease maintaining

Because of many reasons, China has not yet adapting Low-consuming Landscape Construction.

Key Words : Low Cost Scene, Sustainable development, Low construction, Cost Low construction amount, Low maintenance

I. CONSTRUCTION OF LOW SCENERY SPOTS AND SUSTAINABLE DEVELOPMENT OF THE CITY

The process of scenery spots construction in

cities is a process to remold the biological and cultural environment of the city. It not only forms new scenery spots in cities, but it also damages the original biological order of the city, produces a large amount of construction wastes and causes pollutions to the environment of the city. Therefore, the

optimization of the scenery spots construction process is essential to the sustainable development of the cities.

There are two basic ways for keeping sustainable development in the construction of scenery spots in cities. The first way is to carry out sustainable constructions by making use of new technologies, new materials and new working procedures, and this is the positive method; the other way is to carry out such constructions through low cost, and this is the passive method.

China is a developing country that is in a high economic growth period. For the time being, China is carrying out city constructions in a very large scale. We must adopt completely new construction methods in order to ensure sustainable developments. However, because of the limit of capitals and technologies, as well as the low educational level of the constructors, it will be a very tough task for China to adopt the sustainable construction method by adopting new technology. But for low cost scenery spot constructions, because it does not need too much capital and uses less new technologies, it may become a practical path to take for developing countries to carry out sustainable constructions.

The benefits brought forth by low cost scenery spots construction for developing countries are: because of low construction costs, little extra capital and the adoption of less new technology, it may become quite popular in large scales, therefore, will make the cities to benefit from it in maximum. The low cost construction method depends on giving sufficient consideration to the local biological and cultural environment; more, it also plays a positive role in protecting the multi-life order and in forming new local cultures. Low cost scenery spots construction also plays an active role in protecting the cultural heritages in the original construction protective areas.

II. THE FOUNDATION OF LOW COST SCENERY SPOTS CONSTRUCTION IS TO ESTABLISH NEW CONCEPTS OF VALUES

Almost all developing countries have experienced a bitter development process. Therefore, yearning towards the economic forms of developed countries as well as relevant living and cultural modes by vetoing the special cultural features of our own, or puzzling over their own demands is a quite popular phenomenon in developing countries. In China, such a phenomenon has already affected the value selection of the public, the thinking modes of professionals and the decisions of administrative officials in local places. This is a dreadful trend. Therefore, it is the basis for everyone to establish a common concept of values for us to preach the position of local cultures in modern societies, to preach the significance of keeping the biological order and multi-life order to the public.

III. BASIC METHODS OF LOW COST SCENERY SPOTS CONSTRUCTION

Low cost scenery spots constructions mean to respect the original sceneries and the original biological environments sufficiently. The constructors must make sufficient use of the existing cultural heritages and the basic wishes for constructing scenery environments rich in local cultural features and local biological features.

Low cost scenery spots construction include three aspects: low construction cost, low energy consumption and later stage maintenance.

1. Low Construction Cost is the Basic Aspect of Low Cost Constructions and It can be Realized through the Following Methods.

1) Control and reduce the actual construction amount

The construction of scenery spots often consists of scenery spot facilities and the greenbelts. The areas in cities for the construction of scenery spots often include the badlands of the cities and the construction areas that have taken shape. Biological environment and cultural environment exist in all construction areas, therefore, by doing some repairing and finishing works to these facilities, by suit them to the new requirements, it is absolutely possible for us to control and to reduce the actual construction amount.

Another method to reduce the construction amount is to adopt reasonable construction methods and to make more efficient use of the construction land; in this way, we can reduce the construction wastes and damages to the sites. For example, by reducing piling on sites can avoid damages to the ground surfaces. Correspondingly, by reducing the use of temporary facilities on site, we can reduce constructions wastes.

2) Selection and application of low cost construction materials

The most direct method to reduce the construction costs of scenery spots is the use of low cost construction materials. This includes choosing low cost local construction materials, as well as local plant materials growing in local places. However, in order to prevent damages caused to local biological environments, it is necessary for us to avoid the use of wild plants growing in nurseries.

Some people may think that local construction materials are not so refreshing to their eyes or may

think that such materials are not suitable for their new usage purposes. This is a misunderstanding. As a matter of fact, local materials, no matter plant or construction materials, have more subtle relations with the local natural conditions and the local cultural environments. By making sufficient use of these materials, they can not only reduce the construction costs, they can also form new landscape recognizing features. This is something hardly achieved by using construction materials from outside. Besides, more exquisite designs can often make local materials to suit for new requirements.

3) Designing thoughts for low costs

Reasonable designing thoughts are the basic guarantees for low cost scenery spots construction. This has two connotations: reasonable and effective general planning and scenery arrangements, detailed designs for low construction costs.

The designers must first learn to give sufficient respects to the local biological environments and cultural environments, and they must also know how to carry out the designs by making use of the local scenery elements. The necessary caliber of a good designer include his ability in using the existing natural and cultural environments effectively, in using the local climatic conditions skillfully, and in using the local construction and plant materials skillfully.

In the meantime, he must also know how to make use of the site reasonably and know how to control artificial facilities within the limited scopes. These are also important aspects for low cost scenery spots constructions.

Besides, the designers should also take into accounts to reduce underground facilities, to reduces changes to good ground surfaces caused by constructions, to avoid the adoption of complicate

construction structures, to reduce the varieties of artificial materials, to use the minimum harmful chemical products, to create special landscapes by using old materials as well as to reduce wastes produced in the process of constructions.

4) Reuse of construction materials

Many old construction materials can be reused, particularly, in scenery spots where there are no special requirements for the strength of construction materials.

Used cement blocks and clay bricks are very good fulfilling materials for the bases of squares and roads. Old woods can be used to create small scenery decorations. Bricks, concrete blocks and stone blocks in better conditions have more widespread usages.

Using old materials have the following benefits. First, it reduces construction wastes and saves resources; secondly, the newly constructed sceneries go along very well with the original natural environments. Besides, using old materials can reduce the cost to a great extent, particularly in countries such as China, which has a long-standing history, the use of old materials can let the original culture extend to some extent.

2. Low Energy Consumption: Mainly Refers to the Reasonable Control of Costs in Constructing and Maintaining Sceneries Spots and to Reduction of Energy Consumption. These Include:

1) Reduce the use of water

The method to reduce the using amount of water is through the reducing the use of concrete and bricklaying facilities. The batching of cement grouts in concrete works and bricklaying works, the placement of concrete and curing of concrete all

needs large amounts of water. By reducing these items, we can save a large amount of water.

Introducing treated wastewater into scenery spots to irrigate plants or to maintain the sceneries can save a huge amount of fresh water. If the condition permits, the collection of construction water can also let the limited water resources to play more important roles.

2) The consumption and supplementation of fertility of soil

First of all, we reduce damages to the fertility of the soil in the process of construction. The designers must be aware that, any damages caused to the soil are not to be restored in a short term.

Secondly, the designers must look in a long-term point of view on the fertility of the soil. We must try to avoid the quick consumption of the fertility of the soil or using chemical medicines (including chemical fertilizers) for the purpose of achieving the designing results more quickly.

In the designing of forestation, the designers must mix fast growing plants with slow growing plants, must mix trees, bushes and vegetations, in particularly, they must take care to use some plants that have the capacity of nitrogen fixation, or plants whose decaying can add nutrition to the soil.

3) Low power consumption

The designers must have a reasonable vision over the use of lighting facilities in the scenery spots. Proper lighting can not only reduce the consumption of power, it can also create more elegant landscapes. In the contrary, too much lighting might cause damages to the surrounding plants.

3. Low Cost Maintenance: to Reduce the Maintaining Costs is an Important Aspect in Constructing Low Cost Scenery Spots

- 1) Use natural materials or imitated materials to reduce the amount of maintenance work

Natural materials and imitated materials bring forth many interesting changes in natural environments. Accepting and appreciating such changes are the basis to reduce the amount of maintenance work.

- 2) Selecting native plants to reduce the amount of maintenance work

Try to select native plants to reduce the amount of maintenance work to the minimum.

- 3) Use special designs to reduce the amount of maintenance work

Though any scenery designs will incur a large amount of maintenance work, reasonable designs indeed reduce the amount of maintenance work. For example, for the greenbelts of Beijing, which have a longer green period, the maintenance costs are much higher than greenbelts, which are mainly trees and bushes. The maintaining costs for greenbelts with larger water sceneries are also much higher than the maintaining costs of greenbelts with smaller water sceneries.

The above-mentioned methods are the most basic ones, and from them, many new methods can be derived. These methods should try to suit with different scenery types, local features and site conditions.

III. THE STRATEGY AND PRACTICE OF LOW COST CONSTRUCTIONS IN CHINA AT THE PRESENT

For the time being, the execution of low cost scenery spots construction still encounters some resistances. These resistances mainly come from two aspects: the policy of the government and the consciousness of the public.

In many cities in China, the municipal governments still use the construction size, the amount of construction and the amount of investments to appraise the quality of scenery spots constructions. Facing the general world trend of highlighting environment protection and highlighting sustainable development, the governments have no corresponding laws, regulations and standards. This directly causes the situation to pursue more investments and more consumption in all constructions. Secondly, most Chinese has just got rid of the condition of starvation, and they commonly have the consciousness of boasting for richness and dreading poverty. This is also reflected in the constructions. Therefore, in the process of construction, the impartially pursue high ranks and western styles in constructions. Some of them even have the trend to give up traditional culture and to veto local special features.

Other factors include: the designers have no ideas and methods to change this trend. Large-sized and collective constructions caused centralized damages and wastes. Some even speculating over the designs for commercial purposes.

What I must point out here is: the so-called low cost scenery spots construction does not mean to sacrifice the level and quality of the constructions. Secondly, the so-called low cost not only means the low cost for construction, but also the low cost for

the process of the design, construction and maintenance. Finally, the low cost scenery spots construction not only means to reduce the cost of construction, but to achieve goals in saving resources, protecting local biological orders and local cultures, and in reducing damages to the environments caused by constructions by reducing the costs, thus to realize sustainable development strategy for cities.

Though, China still has no low cost scenery spot constructions in general; in the sub-consciousness, we can still find some random examples. In China, I believe the most urgent affairs is that the government should select appropriate construction projects, to carry out deliberate designs and to set up models. Then, the government should

establish laws and regulations based on the practices of such projects, and should guide the public according such laws and regulations. In the meantime, the government should forcefully preach the benefits of low cost constructions, the special features of local cultures, and to establish good public visions. In specialized educations, the government should also introduces low cost constructions ideas into the contents of teaching, and guide the educational institutions to have academic exchange activities; and the government should also summarizes effective designing and constructing methods and try to popularize them in a timely manner. Only in this way, can the low cost scenery spots construction method exerts its effects.

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