

## Research on Sustainable Development Mode of Contemporary Neo-Chinese Landscape

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**Abstract.** By using systemic method, this paper devotes to render basic principles and methods of establishing sustainable development mode of “neo-Chinese landscape”, including recovering and rebuilding ecological pattern on basis of regional natural environment, excavating and replacing traditional cultural symbols in the context of contemporary Chinese cultural environment, extending and interpreting of “People orientated” concept on the background of information age, and regressing and introspecting traditional design philosophy under impact of contemporary design thoughts. It points out that, on the historical background of serious environment pollution and Chinese culture default, we should adhere to ecological sustainable development of low carbon landscape and insist to pursue culture sustainable development at the same time. Then sustainable development of politics, economics, ecology, culture and society in our country can be promoted simultaneously.

### Introduction

Nowadays, Chinese urban construction has been carried out vigorously. However, with large scale exploitation, integrity of urban ecology has been destroyed seriously. People who standing at the edge of crises have been realized the importance of sustainable development of ecological environment gradually. Definition of “Sustainable Development” ideology was rendered by the World Commission on Environment and Development (WCED) firstly. It refers to abilities of meeting contemporary people’s needs without damaging descendants’. In 1992, “United Nations Framework Convention on Climate Change (UNFCCC)” was passed on World Climate Conference in Copenhagen. Overall controlling the discharging of greenhouse gases such as carbon dioxide has been stipulated explicitly, in order to deal with adverse effect on human economy and society bringing by global warming. In 2003, British government published “ENERGY WHITE PAPER”—“Our energy future—creating a low carbon economy” which is aimed at producing great economic benefit with little consumption of natural resources and energy pollution. In 2007, Japan promulgated “Japanese low carbon social pattern and feasibility study” which put forwarded optional social pattern of harmonious coexistence between human beings and nature. In recent years, correlational research of sustainable development has become the key point of academic research worldwide, involving environmental engineering, urban planning, landscape architecture and other discipline which is related to each other.

For China, idea of sustainable development of ecological environment is the inevitable course of Chinese contemporary landscape design. A lot of researches have laid a certain foundation. The contents mainly include five aspects: 1. Development patterns of Low carbon ecological city; 2. Change mechanism and effect of low carbon landscape pattern; 3. Quantitative research on carbon emission data by establishing landscape dynamic models; 4. Landscape heterogeneity and biodiversity protection based on theory and method of landscape ecology; 5. Value evaluation criterion of sustainable landscape. Nowadays, urban landscapes always overlooked culture sustainability when searching for environment sustainability. Historical heritage have been died out rapidly unprecedentedly, and a lot of landscape morphology looked the same. Phenomenon of culture ascription being lost appears everywhere. Neo-Chinese landscape is a kind of landscape morphology that using new form language inheriting traditional culture spirit based on contemporary times

context. Its sustainable development mode is a new concept of sustainable development both in ecology and culture. The target of it is to find durability, stability, harmony, integrity and feasibility of long-term development of Chinese urban landscape. Under the national strategy of “One Belt And One Road”, the sustainable development mode of Neo-Chinese landscape plays an important role in synchronous development of politics, economics, ecology, culture and society of our country.

### **Basic Principles and Methods of Establishing Sustainable Development mode of Neo- Chinese Landscape**

**Recovering and rebuilding ecological pattern on basis of regional natural environment.** Sustainable development of ecological environment is the foundation of survival and development of human beings, especially for China where environment pollution is a big problem. Remoulding and integrating landscape elements according to natural environment, such as geography, landform, vegetational cover, is the precondition of maintaining regional natural habitat. In seriously polluted districts, original ecological environment should be recovered firstly, and then diversified low carbon landscape should be created. “In the whole landscape life cycle of planning and designing, materials and equipments manufacturing, construction and daily management, fossil energy should be used as little as possible in order to promote energy efficiency and reduce carbon dioxide emissions. Carbon sequestration capacity of landscape systems should be improved. Then landscape systems with low-energy, low-pollution and high carbon sinks can be formed<sup>1</sup>”. Facility Constructions should try to avoid changing of landform and natural ecosystem, utilizing current river form, momentum, and characteristic of ecological system, in order to establish ecological landscape with regional characteristics. West Lake scenic spot in Hangzhou is one of outstanding neo-Chinese landscape works. At beginning of this era, upstream water contamination not only hindered purification of water quality in West Lake, but also cut off the relationship between West Lake and mountains at west of lake. The designer Prof. WANG Xiangrong kept old bridges around the West Lake and original architectures, and rebuilt pool of cultured pearl and rubbish to be a lake at west. After that, 80 hectares water areas and wet land were shaped on land of six square kilometers at west, and sludge and impurity were deposited. Therefore, stress of dredging of West Lake was reduced. Water quality of downstream was purified. Diversified biology habitat was established as well. The problems of direct surface runoff at the West Lake even in Hangzhou have been solved. This method of proper reconstruction on basis of whole ecological pattern deserves to be used as reference. For coast regions, works of controlling water loss and soil erosion, deploying water resources, coordinating city waterfront and land usage, curbing environmental pollution, closing sewage, assorting public facilities are all effective measures to protect the whole ecological environment. Moreover, designers should take viewpoint of systematology in process of designing. The premise of design is not destroying natural ecological balance, excavating regional features and establishing overall images, in order to achieve organic harmonious with all around regional environment.

**Excavating and replacing traditional cultural symbols in the context of contemporary Chinese cultural environment.** Contemporary urban landscapes are not only carriers of practical value, but also cultural symbols of symbolic meaning. “Symbols, which normally are images of memory prototype, can arouse relation of emotion or sense<sup>2</sup>.” The drunken singing and the usual dancing, national dress, regional craft, local food are different kinds of cultural landscape symbols. For example, American baseball field, French wine, Egyptian pyramid are cultural symbols with regional characteristics in various countries being left behind by history. Culture of Southern Fujian was derived from culture of ethnic Han in central China which spread to Southern Fujian and became a subculture form. Natural landscapes including old harbour districts, old wharfs, stone roads, old banyans, and cultural landscapes of “Town in the spring and autumn”, “Waves of Gulandyu Island”, Taiwan opera and historical and cultural symbols of Xiamen, as well as city soul. Xiamen University is honoured as “the most beautiful university in China”, not only due to advantaged natural environment, but also due to its unique cultural

environment. Jiageng Architectures, sculptures of Mr. tan kah kee and LU Xun, Barbette fort and amounts of cultural symbols experienced temporal baptism becoming more and more connotative and meaningful. New Chinese-style landscape should reflect culture features in different districts. Excavating traditional cultural symbols and reusing them in contemporary landscape contribute to analyze deep structures at back of complicated urban landscape phenomenon, and have profound guiding significance for promoting cultural value orientation of urban landscapes. Cultural development also needs sustainability to accord with demand of the age.

**Extending and interpreting of “People orientated” concept on the background of information age.** Information era has enormous impact on different levels of urban landscape design. Intervening of a large number of information, updating and regrouping of traditional ideas, interactive effect between people and environment have permeated to development process of cities. Meanwhile, by influence of economic globalization, other countries’ civilization has been eroding our traditional culture. On one hand, neo-Chinese landscape should protect, refine, inherit and carry forward the cultural diversity of our country. On the other hand, it should have spirit of inclusive psychology, absorbing excellent design methods in the world, blending in process of globalization and modernization consciously. “GENIUS LOCI”<sup>3</sup> theory in westward advocate that the essence meaning of “Place” is helping people acquire sense of belonging. Any place has soul of its own. The sense of place goes beyond substance properties, margin and limited boundary. Designers should take behavioral factor into account, according to people’s demand, behavior rules and sportive characteristics. On viewpoint of Environment-behavior, surroundings ought to be built according to people’s habitual “behavior pattern”. This kind of behaviour is physiological and mental responses and transformations aroused by surroundings, including explicit activities and internal emotion, attitude, cognize and so on. Creating of environment reflect the designer’s emotion on dwelling environment. Traditional Chinese garden is the crystal of ancients’ wisdom and emotion, which reflect garden master’s attitude towards life. Neo-Chinese landscape continues to carry forward traditional cultural spirit, including “People oriented” ideology. For example, Wukuang Ruyuan Garden in Beijing adopts traditional gardens in “The Old Summer Palace” as prototypes, using contemporary design language to create unique New Chinese-style landscape in northern district. Architectures in this garden use traditional abat-vent, and improving morphology of the buildings of the official style in Beijing. Concise modern space form has combined with implicit traditional elements. Meanwhile, changing view-points, finding a view, borrowing scenery and other traditional garden making methods have been adopted to create contemporary landscape prospect with Chinese charm. Only if the contemporary residential landscape meet the spiritual needs of residents, caring spiritual touch and bailment of individual, family and social groups, landscapes can irradiate brisk vitality, creativity and competitiveness.

**Regressing and introspecting traditional design philosophy under impact of contemporary design thoughts.** We are living in a fast-changing information-based society that breeds continuous renewal design thoughts and styles, which reflects spirit of time’s dominant position in contemporary ideology. Under impact of globalization, western concepts, “Critical regionalism”, “Landscape Ecology”, “Sustainable Development” etc, have great influence in design field of our country. For Chinese designers, should identify advantages and disadvantages of various design concepts for landscape self-development. Discard the dross and select the essence, controlling the “level” therein. A lot of traditional Chinese design ideas were endowed new times connotation after long times, which have guidance significance for current design practices. For example, the earliest gardening theory monograph “YUAN YE” rendered “Site selection properly, Garden design appropriately”, which is a height summarize of ecology protection. Mr. QIAN Zhongshu put forward “Mountains-and Waters City” theory that applying Chinese garden design art into urban large regional constructions. This concept not only inherits philosophical thought of ancient Taoists--"harmony between man and nature" and reflects traditional Chinese culture, but also integrates ideas of landscape ecology and sustainable development. Prof. YU Kongjian suggests planning methodology of substantial spaces—“Anti-planning”. He explains that “urban planners and landscape designers should recognize

and design the landscape infrastructure of ecology, culture heritage and rest before establishing development programmes of urban constructions. That is, establishing ecological infrastructures to conduct urban development.<sup>4</sup> In recent years, academic delegates of landscape architecture, such as LIU binyi and WANG Shaozeng, stand for thinking of deriving nutrition from traditional Chinese philosophy concepts in order to probe into future development direction of Chinese landscape architecture. In practice, landscape in Xiangshan campus of China Academy of Art which is designed by winner of “Pritzker Architecture Prize” WANG Shu have great exploring and implicational significances for building genius loci in university campus in China. Prof. Wang reserved original farmland, stream and fishponds, and used more than 7 million recycled Bricks and Tiles as main materials to build 30 architectures in different sizes. Cyclic utilization of waste materials controlled cost effectively, and extended sustainable constructive tradition. A series of different courtyard structures were turned around and deflected according to terrain. Natural countryside in big scale reflects space language and unique implication of traditional Chinese gardening. With idea of Chinese native landscape architecture, this project fulfils plain aesthetic value by experimental constructive methods and contemporary constructive languages, which is an enlightenment for new constructive mode.

### Conclusion and Prospect

With rapid development of science and technology at present, “Design with Nature” idea rendered by Lan Lennox McHarg embodies important value. It indicates non-separable dependency existed between nature and human beings. This idea holds nearly the same view with traditional Taoist ideas in China, which makes us deeply realize that we couldn’t “drain the pond to get all the fish”, but try our best to protect the integrity of natural process and structures so that sustainable updating and development between old and new existence can be achieved in cities. “Tao” of “Learn from Nature” idea has endowed new age connotation. In process of urbanization, facing with heavy burden of land resources and deficiency of cultural spirit, we should keep long-term interests of city in mind, and strive to achieve sustainable development both in ecology and culture. Then “the Peach Garden” in new era according with human being’s ideal of life would be created in future.

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