## 論文の内容の要旨

## 論文題目 Research on the Rural Cultural Landscape in Metropolitan Area of Chengdu, China——a Case in Dujiangyan City

(中国・成都大都市圏における農村地域の文化的景観に関する研究:都江堰市を事例として)

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This study focuses on the rural areas of the Metropolitan Chengdu, China, especially on the Linpan areas in the alluvial plain (fan-shape area) of Dujiangyan City that serves as the irrigation source of the Chengdu Plain. The magnificent rural cultural landscape in this area was formed in traditional agrarian era, while after entering the modernization era, the focused area is facing the crisis of "Three Rural Issues" of poverty, inefficient production and urban-rural development gap, which resulted in the loss of identity of rural cultural landscape. Especially after the Sichuan Earthquake in 2008, the New Village Construction movement based on the new Urban-Rural Planning Law has tremendously influenced and affected the characteristic of traditional rural landscape, and the rapid transition is still in a process.

From the perspective of sustainability of rural landscape, this study aims to develop the methodology of sustainable development planning for rural cultural landscape in the focused area. With careful analytical discussions on the cultural landscape of the Linpan in the focus area, the value, characteristics and transition can thus be recognized and further serve as the concrete foundation for this study to propose explicit methodology for conservation and revitalization of the regional-scaled rural landscape of the fan-shape area and also the community-scaled Linpan reconstruction, plans for new village development, legal regulations, design and so forth. The academic results of this study are as follows.

First, cultural landscape theories have been introduced to the Linpan areas of Dujiangyan City to further define and explicate the cultural landscape at regional and community scale.

The Rural Cultural landscape on alluvial plain in Dujiangyan city could be defined as

"Agroforestry system and its surrounding agricultural landscape based on the World Heritage Dujiangyan irrigation waterway system. This traditional system has the flexibility in adaption to dynamic changes of modernization, while having active social role. The combination of Linpans produces evolutionary infrastructure in regional sustainability, such as ecological, recreational, economical aspects, and the evolution has been still in progress".

From the regional-scaled point of view, the rural cultural landscape in this area is based on the delicate irrigation canals formed by the Dujiangyan Irrigation System that has 2300-year-old historic legacy. The scattered villages established along watercourses and the farmlands surrounding these villages are the smallest unit in the practice of sustainable land use system in this specific area. If comparing the interrelation of individual objects in the land use system to the organic cell structure, watercourses would be capillaries, Linpans would be cell nucleus and farmlands would be cytoplasm. Watercourses in this area have distinctive hierarchic structure that consists of 4 levels which share various spatial relations with the Linpan.

From the community scaled point of view, the rural cultural landscape of the Linpan consists of family units and the agroforestry system that utilize diversities of the multilayer vegetation in monsoon climate. The Linpan serves not only as the living space, but also the agricultural and forestry production space for the villagers to lead self-sufficient lives. More than 90% of traditional Linpans are around 1ha at size, and this scale indicates the small-scaled aggregated living style.

Second, this study discusses in detail on the transition of rural cultural landscape and lifestyles in the Linpan area of Dujiangyan City according to three respective eras.

Traditional Agrarian Era (before 1978) is the reference era for the traditional rural cultural landscape characteristics. The landscape structure at regional and community scale was the result of long-term interaction between the self-sufficient lifestyle of the villagers and the natural elements. The lifestyles of the villagers had deep connection with the vegetation in the Linpan. Especially, since the demand of woods as building materials and as firewood, the maintenance and management of forests within the Linpan and along the watercourse was important and well organized.

As the time came to Early-Modernization Era (1978-2008), with the modernization of construction techniques, concrete and bricks were widely used, hence the decrease of the demand for large arbors from the Linpan. Tall arbors in the Linpan were replaced with fruit trees or other seedlings that were of higher economic benefit. Also, with the

significant economy difference between urban and rural areas, the outflow of population leads to increase the hollowed Linpan, and the tourism-oriented Linpan also appeared for the thriving rural tourism. However, the rural cultural landscape structure of the Linpan areas was still maintained.

Since Mid-Modernization Era (after 2008), as the post-earthquake reconstruction affairs started, primary principles for operating the new villages constructions involve the concentrated living spaces of the villagers and the transforming residential lands to farmlands. In the new villages, though with well-organized infrastructure, as the density of buildings got higher, the planting space for trees became insufficient, hence unable to maintain the original agroforestry system. In the focused area of this study, three types of new villages were classified based on the analysis on the construction methods of the 52 new villages established.

Third, the methodology of sustainable development planning for the rural cultural landscape areas were proposed in both regional and community scale.

At the regional scale, two respective greenbelts were specified in the fan-shape area. Greenbelt 1 is designated as the preservation core zone of the Linpan cultural landscape. This study advises strongly against the development of new villages in this area for the better preservation of the traditional landscape structures and the essential landscape elements. Greenbelt 2 is designated as the buffer zone of Greenbelt 1, and the development of new villages with proper intensity would be acceptable. In addition to the zoning policy, based on the precise studies about traditional and re-organized waterway networks, 12 types of rural community clusters have been identified, and the rural cultural landscape cluster map has been made. Furthermore, the different regulations that should be applied to each cluster type in order to achieve the target of conservation and revitalization of rural cultural landscape in regional scale have been proposed. By combining the zoning policy and cluster management policy, the methodology of the sustainable development planning for rural cultural landscape has been proposed.

At the community scale, three methods are proposed for the reformation of Linpan and the construction of new villages. Adequate changes of the construction style, vegetation species, family units and the Linpan structure in traditional Linpans or new villages are recognized, but the agroforestry system as the bottom line for the traditional Linpan characteristics should try to be maintained in any case.

The academic contribution of this study is that this is the first research in China,

concerning the characteristics and transition of the Linpan areas in Dujiangyan City, especially focusing the New Village Construction Movement after the 2008 earthquake in Dujiangyan City. This study demonstrated academic originality concerning the explication of the Linpan area in Dujiangyan City with cultural landscape theories, the analysis of cultural landscape at the regional and community scale, and the proposal of macro and micro scaled methodology for sustainable development planning. The methodology which has been clarified in this study, could be efficiently applied to other rural areas in alluvial flats of China.