

THE CONSERVATION OF A POTENTIAL WORLD HERITAGE SITE OF IRRIGATION CULTURAL LANDSCAPE IN TAIWAN: THE OPPORTUNITY FROM RURAL LANDSCAPE

*Conservación del paisaje cultural de irrigación en Taiwan como lugar
potencial de Patrimonio Mundial: una oportunidad para un paisaje rural*

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ABSTRACT

The Wushantou Reservoir and Jianan Irrigation System was designed by Hatta Yoichi and built by many workers in 1920s. The reservoir was built with the condition of natural environment, and the agriculture production was also changed due to this irrigation system. In 2009, the system was registered as “cultural landscape” under Cultural Heritage Preservation Act. It also designated as one of the Potential World Heritage Sites of Taiwan. Due to the nature of cultural landscape, the conservation concepts should be different to those of monuments or historical buildings which were mostly derived from a single point.

Furthermore, the conservation of an irrigation cultural landscape should not be limited to the structure – objects or canals – only. The whole irrigated agricultural land is essential. The opportunities provided for agricultural production to local people may be the important concept for the conservation of a rural landscape. Agritourism in this sense may become a good possibility to combine agricultural production and heritage conservation, by which local people may be economically sustainable, while the function and features of irrigation system may be also kept. Food made from local agricultural products also connected tangible and intangible part of heritage, while a virtuous circle would be derived from this connection. In this paper, the irrigation system and its heritage value would be explored. The status of rural development in the area, development and possibilities of agritourism, and relation between food and local production, would be discussed and analyzed.

Key words: Cultural Landscape, Irrigation System, Cultural Heritage, Agriculture, Tourism

RESUMEN

La Reserva Wushantou y el Sistema de Irrigación Jianan fueron diseñados por Hatta Yoichi y construido por numerosos constructores en los años 20. La Reserva fue construida con la condición de un entorno natural, y la producción agrícola también cambió debido a este sistema de irrigación. En 2009, el sistema fue registrado como un “paisaje cultural” bajo la Ley de Conservación del Patrimonio Cultural. Esta también lo declaró como uno de los potenciales lugares de Patrimonio Mundial de Taiwán. Debido a la naturaleza del paisaje cultural, los conceptos de conservación deberían ser diferentes a los de monumentos o edificios históricos, que derivan principalmente de un punto único.

Además, la preservación de un paisaje cultural de irrigación no debería estar únicamente limitada a la estructura-objetos o canales. Toda la tierra agrícola irrigada es esencial. Las oportunidades dadas por la producción agrícola a la población local pueden ser el concepto importante para la conservación de un paisaje rural. El agroturismo en este sentido puede convertirse en una buena posibilidad para combinar la producción agrícola y la conservación patrimonial, por la que la población local puede ser económicamente sostenible, al tiempo que la función y los elementos del sistema de irrigación pueden ser también mantenidos. La comida preparada a partir de productos agrícolas también conectan la parte material e inmaterial del patrimonio, mientras que un círculo virtuoso se derivaría de esta conexión. En este trabajo, el sistema de irrigación y su valor patrimonial serán considerados. El estatus del desarrollo rural en el área, el desarrollo y las posibilidades del agroturismo, y la relación entre la comida y la producción local serán discutidas y analizadas.

Palabras clave: Paisaje Cultural, Sistema de Irrigación, Patrimonio Cultural, Agricultura, Turismo.

1. INTRODUCTION

The cultural landscapes represent the “combined works of nature and of man”. An irrigation system could be seen as a cultural landscape, an organically evolved cultural landscape especially. The irrigation system would be also one of the important components for rural landscape and development, due to the operation of the system would benefit the agricultural production. Thus, not only the irrigation system facilities, the fields, even the village, could be considered as an integral landscape, which would represent the agricultural production process and scenery. More than 100 sites were nominated as World Heritage cultural landscape, in which more than 50% were organically evolved – continuing landscape.

The Wushantou Reservoir and Jianan Irrigation System is one of important irrigation system in southern Taiwan. However, the conservation of this historical irrigation system relies on the continuing cultivation, which is influenced by identification of local people and economic benefits supporting livelihood. In this sense, cultural tourism and agritourism were introduced in some destination with cultural landscape feature and heritage value. Tourism based on heritage and/or agriculture may help to enhance and maintain its value, while some developments or strategies accelerates the change of the local society; the authenticity and typical features may be lost in the process (Li, 2003) .

2. CULTURAL LANDSCAPE

2.1 The Core Value of Cultural Landscape

From the cultural heritage point of view, a cultural landscape should be a site reflects the interaction of people and environment/land, not a “landscape” of cultural idea, thinking, or viewpoint. It should be constituted with six basic components: theme, people, function, environment, objects, and time. A cultural landscape may be interpreted as functioning process made by people, at the same time some objects are made in the natural environment, while it is a dynamic and change process through time by which the historicity also accumulated.

The “theme” means a cultural landscape should be a site which “reflect how people use natural environment intentionally, while try to achieve specific purpose or work”. Plachter(1995) further argued that a site may be regarded as a cultural landscape where man’s culture and nature really shapes or has shaped each other. Besides, man is or was conscious of this influence in terms of defined aims, and the material structure of the landscape reflects those aims. Finally, he also noted that ecological mechanisms of control, reconstruction and decomposition are still at work, and man’s interactions with nature make use of these mechanisms. Thus a possible cultural landscape site may be not only analyzed and reviewed from the tangible structure of a landscape, but also the functional process and interaction described as “theme” (Figure 1).



Figure 1: St. Emillion – an UNESCO World Heritage cultural landscape site of vineyard



Figure 2: “People” as an important part in a religious cultural landscape

“People” means a cultural landscape should be created and modified by people - especially many people and common people. Even the associative landscape in which the view is normally natural, it will not be considered as a cultural landscape if it is not used, interpreted, and associated by people, by which the meanings and significances have been internalized as part of culture (Figure 2). Otherwise it will be only a natural landscape, and people just explain the view of a natural landscape. “Function” means how people work in the cultural landscape. The function must be made by people, while it should be also particular for environment limits or opportunities. The results of “function” will be “objects”, and only objects made by people with particular function may be considered as part of components of a cultural landscape (Figure 3). Besides, “function” should be also related to the theme of a cultural landscape, which reflected “how people use natural environment intentionally” described by “theme”.



Figure 3: The cultivation of sugar cane in a sugar cultural landscape



Figure 4: The specific structure prevent heavy wind in the natural environment

A cultural landscape must be created from a natural “environment”. The environment is the subject of “people’s” interaction and the place for “function”. Thus, the view in a cultural landscape must be based on a specific environment, in which limits and opportunities due to the natural environment have further shaped the particular view. Otherwise, it will be just a phenomenon made by people while has no relation to the physical environment (Figure 4). “Object” is the physical and visible part of a cultural landscape. It is not only a single or significant object, but also common and general objects made by people in a site. It must not virtual idea or imagination, but a physical material which may represent idea or imagination.

Finally, with the component of “time”, a cultural landscape has become the “Text” of a site, accompany with other components, which may describe the development history through time. In this sense, all elements in a cultural landscape must be changing through time, and also a dynamic process which will be continuing changing. Even the changing process may be stopped in the past, the influences should be still recognizable in the present.

2.2 The Brief History of Jianan Irrigation System

The southern part of Taiwan is a flat plain area. However, before Jianan Irrigation System was built, there were only local irrigation systems in the rural area, which could only depend on the occasional rain water. In 1920, Japanese Colonial Government decided to build an irrigation system, to improve the agricultural productivity of the plain. The construction work started from 1920, and finished in 1930. More than 150,000 hectares dry farmland which could only depend on rain falls in the past had been transformed into productive paddy fields. The system, stretching over 160,000 km, is consisted of not only reservoir, waterways, water gates, tunnels, aqueducts, inverted siphons and other facilities, but also the irrigation operation systems and the management organization which still function today (Figure 5, Figure 6).



Figure 5: The operation map of Jianan Irrigation System.

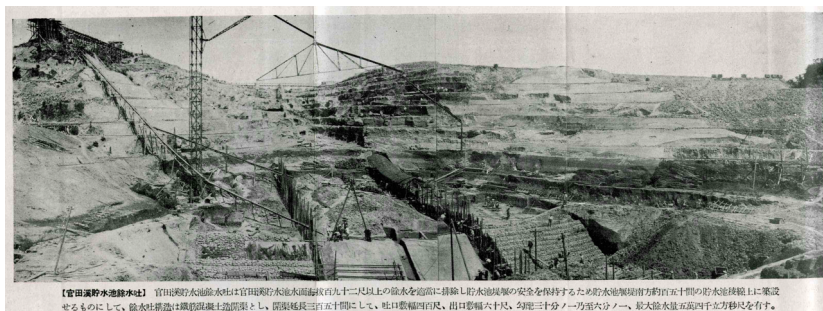


Figure 6: The construction work of the reservoir of Jianan Irrigation System. Source: Jianan Irrigation Association, 1930

To operate the system, Jianan Irrigation Association was also founded in 1920. This association is still functioning today, which control, operate, and manage the system, according to the necessary of water. The maintenance of the system is also the responsibility of the Association, which include the renovation of related facilities and the repair of the waterways. However, the main structure and the important elements of the systems, such as reservoir, main waterways, and aqueducts, were still preserved as its original status (Figure 7).

From the historical point of view, this system was an important mile stone for Taiwan agricultural development. From the technological point of view, the construction and operation of the system represent the knowledge of human beings. From the landscape point of view, the system had created a harmonious rural landscape, and the elements of the system had been also integrated in it. From the heritage point of view, it could be seen as an organically evolved cultural landscape, for the important elements of the system represent the evolution of human under the influence of the physical constraints and/or opportunities presented by the natural environment.

After the amendment of the Cultural Heritage Preservation Act in 2005, the category of the Cultural Landscape had been added to the Act. In 2009, the System had been registered as a legal cultural landscape of Taiwan.



Figure 7: The facilities related to Jianan Irrigation System.

2.3 Conservation Concept

Although the concept of cultural landscape is a new category in cultural heritage field, it provides a new integral conservation idea by which various elements in a site may have different contribution(Wang and Fu, 2014). The conservation of cultural landscape should not mean the protection of “objects” only. It should also be expanded to broader aspects. The conservation works no longer involve the preservation of buildings and facilities alone, the related environment and the function of the industry should be considered as a whole (Wang and Fu, 2011). The core of the management of cultural landscape focuses on the relationship of the interaction between people and their environment (Mitchell et al., 2009). From the integrity and authenticity point of view, the conservation of cultural landscape should remain wholeness, which include all those features, patterns and dynamic use and management process which are directly associated with the

outstanding value; besides, the material genuineness, genuineness of organization of space and form, continuity of function and continuity of setting should be also involved in conservation strategies (Stovel, 2007). The conservation of cultural landscape should conserve characteristics of landscape in its entirety and its ever-changing features, rather than the static condition of “objects”. The functions which may continue the operation of landscape should be kept so that the objects and sceneries derived from the functions may be preserved or represented.

The strategy of “sustainability” may inspire the conservation of cultural landscape. The Declaration of San Antonio (1996) stated: “sustainable development may be a necessity for those who inhabit cultural landscapes, and that a process for mediation must be developed to address the dynamic nature of these sites so that all values may be properly taken into account.” Selman(2007) argued that the essence of sustainable cultural landscapes is that they need to “regenerate” themselves rather than trend inexorably towards banality and dysfunction. From the strategy of sustainability, the conservation of cultural landscape implies that besides the preservation of the historical aspects of cultural landscape, the ability to adapt to change over time is also necessary; the character of the landscape should not be frozen; rather, the functions in cultural landscape should be maintained with the changes. In this sense, three major conservation concepts are discussed as follows.

First, the historical testimony should be preserved. Many historical testimonies should be preserved as connections between the past and the present (Figure 8).

Second, the working or functioning system in a cultural landscape should be kept operating. A cultural landscape is dynamic and evolves continuously. If the primary historic function(s) of a landscape contributes to its outstanding value, then every effort should be made to ensure continuity of these functions over time (Figure 9) (Stovel, 2007).



Figure 8: The aqueduct of Jianan Irrigation System operating since 1930.



Figure 9: Continuing cultivation in the irrigated area of Jianan Irrigation System

Third, the integral instruments for conservation should be used. The concept of ‘monument’ has evolved from the individual building to the cultural landscape, while the preservation work has changed to protect its environment and all the activities that have traditionally supported the life in the site (Bonnette, 2001).

3. CONSERVATION OF CULTURAL LANDSCAPE AND RURAL LIFE

3.1 *Economic Support*

The economic requirement of local people in a cultural landscape should be fulfilled. The concept of sustainable management would not pursue economic growth only. On the other hand, it would try to ensure a balance condition of six components through suitable and reasonable economic model. Sustaining ordinary traditional landscapes based upon rural economies such as agriculture, stock raising and forestry demands an adapted policy and supporting actions (Antrop, 2006), while the feature and value of cultural heritage should not be changed or substituted. Strategies for marketing and branding traditional products and crafts produced in and around parks as a way of strengthening economic sustainability, resource stewardship, and ties between local communities and cultural landscape sites (Diamant et al., 2007).

The sustainable agriculture in Taiwan would be more emphasis on the problem of the economic viability, and the quality of life for farmers. Besides, since the change of the economic features, the agriculture is also declining. This also results in the population outflow in the rural village, sometimes only the elder farmers and their grand-children still live in the village. For the economic development of the agricultural system, some strategies try to help promote the farm products and diversify farm income, such as direct marketing, agritourism, etc., many farms

would rely on non-farm source of income (Committee on Twenty-First Century Systems Agriculture; National Research Council, 2010). Specific marketing strategies direct related to the feature of cultural landscape site would provide unique brand of products (Figure 10), and identification of local people may be also enhanced through the products and benefits from selling products.



Figure 10: Rice products from the irrigated area of Jianan Irrigation System

3.2 Local People

For the conservation of an environment, it's important that the awareness from people who lived in it. Identity within people will be one of key factors in the conservation of cultural landscape. The identity is not only the appearance of heritage, but also the story behind it, and about the extend in which it gives identity both to the elements and the community (Kuipers, 2005). Cultural landscape as at the interface between nature and culture, tangible and intangible heritage, and biological and cultural diversity; represent a tightly woven net of relationships that are the essence of culture and people's identity (Mitchell et al., 2009). It is possible to conserve the significance of rural area through the integral concepts advocated by the idea of cultural landscape. If we try to enhance the identification of local people on the rural village, they might be willing to conserve specific living tradition and values. Especially under the threats of globalization, the continuing and traditional operation of a specific rural area may become more significant than those eroded gradually following general values. This also echoes with the idea of cultural landscape with cultural heritage value - basic components of theme, people, function, environment, objects, and time, which also implies the conservation method should not be limited on the "objects", but extended to other components.

Thus, the education of environment for those people and students in it is essential part for the conservation. From the re-discovering of local environment, values embedded in the landscape of ordinary life may be revealed and understood. This is much more obvious to children and younger students, since they might be eager for “modern” and “get-rich-quick” style of life described from internet and mass media information, and might escape from dull and poor rural life. Not until the value of environment is re-discovered and appreciated through social network can the treasures they hold be understood. Especially for those with lower self-esteem gained more from their use of online social networks in terms of bridging social capital. (Steinfeld et al., 2008)

In the irrigated land of Jianan Irrigation System, only few young generations start to cultivate, while others seldom participate in the cultivation even their parents or grand parents are still doing so. More important, those who start to cultivate seem unwilling to tell others, since most of young generations do not. Through the environmental education courses, a junior high school student who cultivate 0.5 hectare by himself start to understand the unique value of what he is doing. Especially, through sharing this news on online social network and other NPO, this student feels much more confident: not only products of this season sold out successfully, it is expected to expand cultivation area in next season (Figure 11).



Figure 11: The junior high school student and his mother stood in front of his farm

On the other hand, for most students, it is an important method to learn and understand environment around and its heritage value through learning local agriculture products and making foods from these products. Although these issues in education are still new to Taiwan, it is obvious that the close connection of the education and living environment, livelihood skill, food safety and health. When students learn to use local and in season products to make food (it might be just what their parents and grand parents grow and work for), the education in school is not only the learning of knowledge, but the learning of life (Figure 12).



Figure 12: Young students learnt how to make food with local and in season products

4. AGRITOURISM AND THE CONSERVATION OF CULTURAL LANDSCAPE

4.1 Visitors Education and Experience

Visitors are strange to the “local” environment. Most of them from cities may only visit or travel to rural landscape only occasionally. To provide different travel experiences to visitors which come from cities may become a new business benefiting to local people. The agritourism reflects new tendencies of contemporary tourism for whom prefer explore traditions and a strong accent on the authenticity of the experience and environmental sustainability which area uncommon to everyday life (Visentin, 2011). In the cultural landscape of Jianan Irrigation System, people, functions, environment, and objects with heritage value may become the foundation for the development of agritourism. Besides, creating stronger linkages between the agricultural and tourist sectors can increase the profitability of farming, stimulating agricultural expansion and production and enhancing food security (Beckford, 2013).

According to essence of agritourism, the agricultural activities of the farm, and not its tourism activities, must be predominant which is evaluated by the working hours not by income of each sector (Figure 13) (Sidali, 2011). For providing best agriculture and tourism experiences for visitors, the agricultural process of host farms should be the principle factor which reflects the nature of agriculture. In the cultural landscape of Jianan Irrigation System, it may be a typical connection of agriculture and tourism: the host farmer guides visitors to join the agricultural process with irrigation facilities and functions which completely reflect the core value of a cultural landscape with heritage value. Participating from visitors may also encourage the continuous working of the hosts.



Figure 13: Potato harvest without visitor participating

In 2014, the Florence Declaration adopted by ICOMOS, it is also recognized that the necessary to foster cultural education of travellers and residents in a balanced relationship between consumption and values of the place to be able to address the presence of tourists in the balance of mutual knowledge and towards the valorisation of its territory. Therefore, the concept of agritourism should be used in the conservation work on a rural landscape, by which the essence of agriculture would be reflected, and the whole process would be emphasized other than products selling only. Activities related to agriculture might be noticed that the whole process should be revealed, while the focus on the final harvest or products only should be avoided (Figure 14).



Figure 14: Strawberry farm for tourist purpose

4.2 Challenges on Conservation and Tourism

Agritourism and/or cultural tourism based on cultural meaning in it, are difficult and require intensive education to visitors and local people, since most people may be strange to its meanings, importance and consequences once it losses. Local culture may be altered to meet the perceived expectations of tourists, and the integrity and authenticity of the culture would be lost (MacDonald and Jolliffe, 2003). However, the relationship between heritage place and tourism is dynamic and may involve conflicting values; it should be managed in a sustainable way for present and future generations (ICOMOS, 1999). It is necessary to avoid changes just for tourism only, since most of these changes may focus on recent profit, while the possibilities of understanding and experiencing environment for future generations are obliterated. Some of villages located in the irrigation area have been “decorated” with cartoon wall painting, even these graphics are totally irrelevant to the environment and culture. Although the benefit for local people has increased, it is a serious destruction for cultural landscape with cultural heritage value, and may not be considered as a type of agritourism or cultural tourism.



Figure 15: Irrelevant decoration painting in the village

Therefore, it should be noticed for tourism sectors that the possible harm to the environment caused by low quality and nearsighted tourism activities. Agritourism requires long term government subsidy and support, by which it can be an effective vehicle of socioeconomic regeneration in rural areas (Sharpley, 2002). It is necessary for government to support the agritourism in the cultural landscape area in aspects of policies and/or tax deduction, while controls and guidance on the environment are also implemented. At same time, the balance between people life, tourist development and authenticity/integrity of heritage and its value should be also involved (Figure 16).



Figure 16: Beautiful rice paddy and village in the irrigated area

5. CONCLUSION

The cultural landscape is an integral heritage category in World Heritage. Due to various aspects are involved in the conservation work, local people and community must be the primary elements. Conservation projects neglecting these considerations may not conserve the environmental features around effectively, since the feature with heritage value were created by people. However, it also means much more works are required to face various and difficult tasks.

Conservation with people and community is usually a political issue, not a technical solution. With the economic support, local people, especially younger generations, may be willing to participate conservation continuously. Self-esteem and identification are considered as important factors to local people, too. Although agritourism is a good concept to integrate with agriculture and tourism, heritage value in the environment should be considered even tourist services are provided. Key features as heritage in the environment should not be ignored due to the development of tourism.

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