

A Brief Analysis of the Conservation and Management of the Honghe Hani Rice Terraces in China



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■ Abstract

The cultivation of traditional rice has deeply moulded the landscape and shaped the farming culture of the Honghe Hani Rice Terraces (HHRT). During long-term interactions with their natural environment, the Hani people have generated a unique farming system that has sustained these terraces for centuries. The cultural and natural values and their linkages are exemplary in this system; the Hani people need to be recognized for the conservation and management of the terraces. However, deep social changes make the further sustainability of the HHRT uncertain. Both the environment and culture are severely challenged. This paper examines the relationship between the irrigation systems and water culture based on the values of the HHRT. Through case analysis, this paper suggests that the HHRT can be sustained through protecting the linkages between nature and culture. These findings could be used to broaden the vision and enhance the practical experience of the rice terraces conservation.

KEY WORDS: agricultural landscape, rice terraces, cultural heritage, conservation, culture and nature linkages

■ 1. Introduction

1.1 Overview of the Heritage Site

The Honghe Hani Terraces (HHRT) are located in Yuanyang County, Honghe Prefecture, Yunnan Province in southwest China. These terraces are over 1,300 years old. Around the century, the ancestors of the Hani people, now officially recognized as an ethnic group, migrated and ploughed terraces, multiplied, and lived in this territory. There are six long-dwelling ethnic groups in this area, among which the Hani people have the largest farming population on the rice terraces.

The rice terraces, created by the Hani people, are mainly distributed over four counties, Yuanyang, Honghe, Lvchun, and Jinping, with a total area of approximately 54,700 hectares. They are located on the

eastern border of the Hengduan Mountains, which is known as Mount Ailao, famous for its high-mountainous landscape, deep valleys, and rich biodiversity. Rice terraces, within this area, are irrigated by the mother river, the Red River, which is an international river stretching through China and Vietnam.

1.2 Brief Description of the Landscape

There are many complex components regarding land use. There are four elements that constitute the organic components and are responsible for maintaining the sustainable development of the agriculture in the HHRT (Jiao 1999). These four elements are the forest, the village, the terraces, and the river, which are all integrated vertically in order to take advantage of the environment of high mountainous terrains, tropical climates, and



Figure 1. Schematic Map of Forest-Village-Terrace-Water System (Photographed by author, Duoyishu Area, February 2017)

heavy rainfall. The forest plays the role of a natural reservoir, helping to conserve water and soil. The village is the central focus of the landscape, providing active labor, livestock, and technology. The terraces are the guarantors of the agricultural products that sustain life, and the landscape provides a backdrop containing the other elements (Jiao 2003). The principal function of the river, at the bottom, is that of a climate regulator. Furthermore, due to the natural surface runoff and artificial irrigation system, soil, organic fertilizer, and water flow down from the top of the mountain to the bottom of the valley via the villages and terraces, enabling each element to contribute fully to the terraces' sustainability through the flow of water (Yao and Cui 2006; Zhu and Wang 2005).

The HHRT has been managed and maintained through the local knowledge of the Hani people. The unique environment and long-term farming practices promoted the Hani culture to form a set of traditions, with farming terraces at the core, including belief-systems, the agricultural calendar, farming techniques, water management systems, folk festivals, and other aspects. Therefore, activities driven

by the cultural traditions of the Hani people, in this terraced landscape, deeply affect the environmental stability.

■ 2. Significance of the Heritage Place including Cultural and Natural Values

The rice terraces of Laohuzui, Duoyishu, and Bada villages in Yuanyang County were inscribed as World Cultural Heritage sites in 2013 (under criteria iii, v), covering a total area of about 17,536 hectares. Compared to the terraces in the other three counties, the terraces in Yuanyang County are not the largest, but they contain the most representative landscape elements.

This landscape reflects great harmony between people and environment in spiritual, cultural, social, and ecological aspects. A resilient land management system, integrated farming and breeding systems, and water management systems illustrates a concept of sustainability through the four-element landscape pattern of "Forest-Village-Terraces-River" (UNESCO 2013). These systems comprise of a unique agriculture tradition in Asia, with a distinctive style which contains ecological balance, biodiversity, and cultural diversity

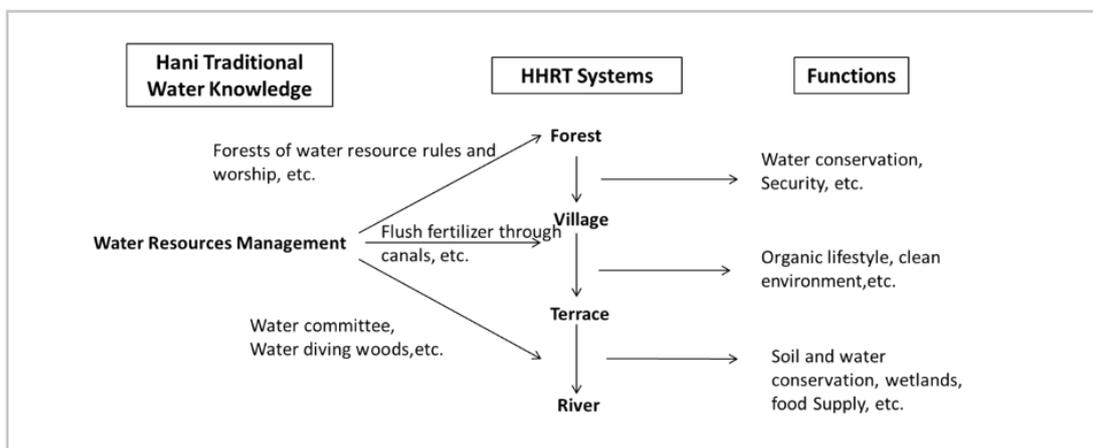


Figure 2. Links of traditional water knowledge and the landscape (Li et al., 2016)

(Deng et al. 2010). This work shown at higher altitudes and on a larger scale provides evidence of the Asian traditional rice cultivation and agricultural civilization.

3. Current Management Arrangements

3.1 Management Institutions

Because of the territorial jurisdiction principle for cultural relics in China, Honghe Prefecture is subject to the liability of conserving and managing the HHRT. The World Heritage Management Administration Office, established in 2013, is the protection and management organization for the HHRT at the prefectural level; it is also responsible for coordinating and arranging projects for the management offices of Yuanyang, Lvchun, Honghe, and Jinping counties at the county level.

3.2 Management System

In the overall management system of the HHRT, state, provincial, and prefectural governments provide funds and guidance. In practice, the prefecture government is the leading coordination agency that plans and deals with the comprehensive affairs of the overall heritage site, the County Terraces Management Offices are entrusted to implement daily conservation actions on site and administrative work. Farmers are responsible for the specific issues, such as forest protection, villages and terrace maintenance, and so on. Planning, implementation, supervision, evaluation, and feedback make up the principal work procedure.

3.3 Conservation and Management Practice

Case: Protecting culture by reintroducing water management system

Yakou Village is located in the HHRT property area in Yuanyang County. Starting in 2010, a continuous three-year drought occurred in the Yunnan province and destroyed considerable farmland. Even though they had a well-developed water management system, drought and the shortage of agriculture water aggravated poverty in Yakou Village. As a result of this drought, traditional sacred activities, related to water management regimes, began to disappear. The economic, social, and environmental situations were under serious threat.

In order to revive life in this village and sustain the landscape, a field study was conducted by the Terraces Management Office of Yuanyang County in 2012. After investigation, it was found that the destruction of the water environment and the loss of traditional water management, as well as the death of the old Migu (leader of village in the traditional social system), were major reasons for the situation. By reconnecting culture and nature, the vitality of economic, social, and environmental development has started to revert to sustainability. A series of actions, such as restoring the water environment, reintroducing the traditional water management regime of Yakou Village, and cultural and sacred activities related to the water resources were conducted by the new leader of the village. Meanwhile, the traditional water committee was reorganized in order to execute the regular checks on

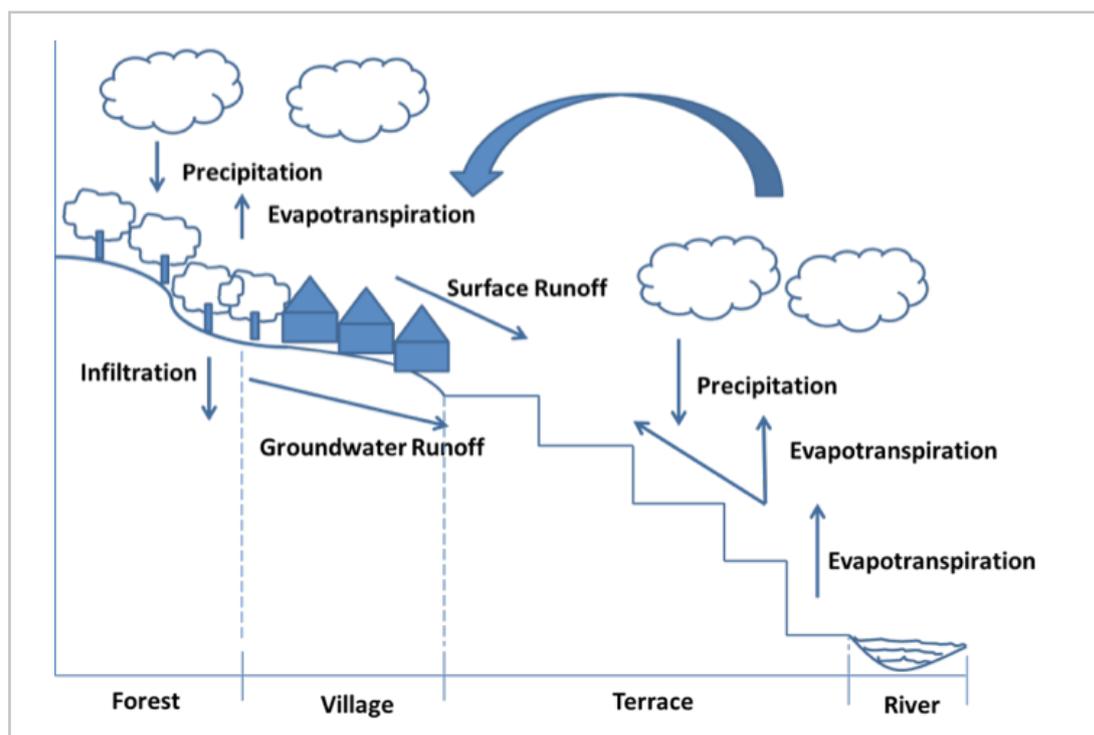


Figure 3. Water Circulation System in the HHRT (Bai, 2013)

the canal system and terraces. At the same time, Yakou benefited from a comprehensive environmental project with priority within the area of the Honghe prefecture.

The return of a good water environment gave relief to the effects of the drought. Apart from this, the historic scenery and the water environment are the main attractions for tourists. Compared with other villages, the understanding of nature, culture, and their linkages is deeper in this village.

■ 4. Current State of Conservation and Challenges for Sustainability

Generally, the current state of the conservation of the HHRT is good. This is due to the efforts made by the local community and conservation departments, in both the ecological and the cultural aspects. The terraces and forests within the property area have been maintained well.

However, the conservation efforts are being challenged by the following problems:

(1) The labor: The influences of modern culture and lifestyles are placing the traditional knowledge and its transmission in danger. The young workforce, which is the major provider of labor in the maintenance of the terraces, is gradually moving to the cities, while the farmers staying in the villages are mainly elderly. It is unattractive to the younger generation to engage in the highly labor-intensive work and complex activities related to terrace farming.

(2) The environment: Unordered construction, chemical fertilizers, and plastic pollution, as well as the increasing amount of tourists, have negatively impacted the original self-cleaning system of this terraced landscape. The quality of the local ecological environment faces a high risk of damage as the result of pollution.

(3) The knowledge: Although the awareness of the importance of traditional culture in sustaining this cultural landscape is increasing, there is an absence of an adaptive and effective mechanism to continuously transmit indigenous knowledge and skills, which includes cultural and natural recognition.

(4) The conservation: The conservation plans and fieldworks, specifically aimed at the wetland function, biodiversity, and cultural diversity, are still not perfect. Furthermore, owing to the complex situations of tangible and intangible heritage, it is difficult to enact specialised laws and regulations to protect this environment.

■ 5. Conclusions and Recommendations

The HHRT is the result of interactions between people and the environment, it represents a complex land use system with diverse ecological and cultural functions. Although it is challenged by some cultural, natural, and social issues, it is believed that protecting the linkages between nature and culture in the HHRT is a feasible way to help in sustaining the landscape and the quality of people's life. This does not only need to be realized in the research of values, but also in conservation practices, as this harmonious interaction has been developed and achieved between humans and the environment over centuries.

In order to enhance the protection and management of the HHRT through conserving nature-culture linkages, it is recommended that the ecological preservation knowledge of the local community be utilized. From the aspect of cultural promotion, the necessary steps are investigation, recording, and dissemination of the indigenous culture-nature linkages. Subsequently, the current situation and development trends should be clarified. To increase the interest in farming and maintaining terraces in the local community, special farming courses in formal schools, effective agricultural compensation (Liu et al. 2017), and farming methods that meet the needs of modern life could be implemented. Moreover, to enhance protection and promote awareness of culture-nature linkages, it is necessary to emphasize traditional social organizations and enact specific legislation. From the aspect of ecological preservation, training courses and construction guidelines in the local community are important on site, as well as a tourism management plan for the heritage site, to prevent or limit negative environmental changes. The encouragement of ecological tourism could be attempted to entertain and educate both villagers and tourists as well. To summarize, deepening research on the culture-nature linkages from both traditional and modern perspectives is necessary in order to enhance the state of conservation and support the sustainability of the HHRT.

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