Comparing the Cultural Landscapes of Japan and China: An Example of Preserved Food Production in Yamagata Prefecture, Japan, and Sichuan Province, China

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Abstract: This study examines the development of cultural landscape research in Japan and China, focusing on the underrepresentation of studies addressing cultural landscapes associated with food production, which is particularly evident in China. Employing a case study methodology, this research investigates the production of pickles in Sichuan Province, China, and Yamagata Prefecture, Japan. This study elucidates the components and characteristics of cultural landscapes related to pickle production in these regions. It was found that residential and transportation conditions significantly influence the composition and landscape patterns of these cultural landscapes. The integration of food production practices with local dietary systems and community awareness is emphasized in this research. The findings offer insights and serve as a reference for understanding and preserving food production cultural landscapes in other countries and regions.

Keywords: Comparative study; Cultural landscape; Preserved food production

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1. Introduction

Since 1992, following the official inclusion of cultural landscapes in the World Heritage List, both China and Japan have seen examples of their landscapes being included. In China, there are five instances such as the West Lake Cultural Landscape of Hangzhou and the Cultural Landscape of Honghe Hani Rice Terraces. Additionally, some landscapes have not been categorized as cultural landscapes but are included in the World Heritage List under cultural landscape identities or related titles, such as the Cultural Landscape of Old Tea Forests of Jingmai Mountain in Pu’er¹. Japan has two instances of cultural landscapes being included: Sacred Sites and Pilgrimage Routes in the Kii Mountain Range, and Iwami Ginzan Silver Mine and its Cultural Landscape ². Furthermore, in Japan, the
Agency for Cultural Affairs has established the Important Cultural Landscape system to protect landscapes of cultural significance, with a total of 72 selections as of September 2023. We searched CINII and JSTAGE, the largest literature search websites in Japan, and CNKI, the largest literature search website in China, and found 117,097 existing studies on the topic of cultural landscape. The existing studies were categorized by subject and content.

The first category comprises studies that examine unique living or rural landscapes as cultural landscapes. For example, in Japan, some studies focus on the boathouse landscape, while in China, studies focus on the traditional village landscape. In China, rural cultural landscapes are a subject of considerable scholarly interest, with these studies emphasizing that in addition to the tangible elements in the landscape, indigenous ecological knowledge and imagery are also the focus of attention. The second category comprises studies that examine cultural landscapes based on region-specific industries or crafts. In Japan, existing research on traditional industries, particularly pottery, is extensive. Several regions have been included in related studies, including the Hizen region, Bizen City in Okayama, Shigaraki in Shiga Prefecture, and Kasama City in Ibaraki Prefecture. These studies identified the characteristics of main buildings and landscape elements associated with pottery as an industry, as well as the requirements for preserving cultural landscapes from the perspective of pottery. Furthermore, Japan’s paper industry, fisheries, and pastoralism have also been discussed. There are also studies on Chinese pottery, and regional specialty foods such as sweet potatoes, persimmons, wasabi, and tea. Scholars have demonstrated that the cultural landscape system was superior to the conventional legal system for the preservation of landscapes related to life and livelihood, and there was value and significance in considering traditional crafts as cultural landscapes.

The third category consists of studies on cases that have been selected by the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the respective management agencies of both countries. For example, there are studies on the distribution of historical buildings in the Sazawa area of Oe-cho, Yamagata Prefecture, designated as an important cultural landscape in Japan, as well as studies on the Iwami Ginzan Silver Mine, a UNESCO World Heritage Site. In China, there were also a certain number of studies on the five cultural landscapes that were selected. The fourth category includes studies discussing the concept and system of cultural landscapes, such as discussions on the positioning of cultural landscapes under existing landscape laws in Japan. In Japan, scholars have also focused on how to locate cultural landscapes under the country’s existing landscape law system, while in China, such reflections on the cultural landscape system itself were less common.

Existing literature mainly employs quantitative research methodologies or mixed research methodologies. It is common for researchers to use fieldwork to measure and visualize the constituent elements of each cultural landscape, and geographic information systems (GIS) is a commonly used research tool.

In Japan and China, the concept of cultural landscapes is widely discussed in fields such as landscape architecture, human geography, and tourism, overlapping with concepts such as cultural heritage, intangible heritage, and agricultural heritage. Similar to the concept of cultural landscapes, France’s Site Remarquable du Gout (SRG) system has become a reference for administrative studies in Japan, leading to the creation of the “Famous Agricultural and Scenic Areas” system. Furthermore, the Agency for Cultural Affairs in Japan has established the Japan Heritage selection, through which the kilns, extensively discussed within Japan as part of the “Six Ancient Kilns of Japan,” were registered as a Japan Heritage in the fiscal year 2017. These systems and organizations share overlapping components. For example, within the cultural assets constituting the “800 Years of Japanese Tea History Walk,” which was recognized as a Japan Heritage, there are elements such as the Aonoyama Tea Plantation, tea fields in Shirakawa District, streetscapes in Nakagyo Uji, Tsuen Tea House, Uji River, and Uji Bridge, as well as intangible folk cultural assets designated by the prefecture, including the
Uji Tea Hand-rolling Tea-making technique. Additionally, both countries have multiple cities recognized as UNESCO Creative Cities of Gastronomy and examples designated as World Agricultural Heritage Sites by the Food and Agriculture Organization (FAO) of the United Nations.

There are fewer instances of existing studies discussing productive cultural landscapes, especially in China, a trend that is related to the current situation where fewer and less diverse cultural landscapes have been selected for inclusion in the cultural landscape lists. Food production and processing are common human practices, and cultural landscapes based on food and eating have been examined as cultural phenomena by a large number of overseas scholars, such as the production of coffee and wine \(^{19,20}\). Preserved food production is the object of this study. The production of preserved food is an extremely unique practice, in which the produced food is often not consumed immediately but stored for continuous consumption. This practice enriches the landscape of preserved food production and satisfies the basic needs of humanity. Pickle production is a dynamic process that changes over a year from cultivation to consumption and sale, where all of its agricultural activities are closely tied to the local community. Hence, the landscape shaped by such an act of producing preserved food satisfies the definition of a cultural landscape.

In this study, the cultural landscape of pickle production in Sichuan Province, China, and Yamagata Prefecture, Japan, was selected as the object of comparative study from the definition of the cultural landscape by UNESCO, and among the diverse examples of preserved food production in the two countries. The main raw material for pickles in Yamagata Prefecture, bok choy, was imported from the Sichuan and Chongqing regions of China, and pickle production in the two regions started from the same source, which is the same as that of the other two \(^{21,22}\). The comparative study of cultural landscape based on unchanging elements like raw materials and the changing landscape can clarify the elements that affect the shape and pattern of the cultural landscape. Furthermore, the influence of the living culture and folklore of the two regions on the cultural landscape can be understood. Therefore, this study chooses the cultural landscape of pickle production in Yamagata Prefecture, Japan, and in Sichuan Province, China, as the object of comparative study. This study elucidated the differences in culture, technology, and inheritance related to preserved food production in East Asia through the comparative study of Japan and China in the field of cultural landscape, thus supplementing the research gaps in the related fields.

2. Methods

This research employed a case study approach, specifically investigating pickle production in Sichuan Province, China, and Yamagata Prefecture, Japan. For methodological consistency, the scope of pickle production in Sichuan Province was limited to areas predominantly inhabited by the Han ethnic group. Additionally, we examined other food preservation practices in both regions. The objective of this study was to elucidate the production methods, habits, and local knowledge associated with pickle production in the two regions, while also identifying the constituent elements and characteristics of the cultural landscapes associated with pickle production. Through comparative analysis of these two cases, we aimed to identify the differences and similarities between the regions, uncover common patterns, identify factors influencing cultural landscapes, and comprehend the impact of local lifestyles and folk customs on cultural landscapes.

We employed a mixed-method approach, where information on cultural landscape concepts in both regions was gathered through a literature review. Interviews were conducted with individuals involved in various roles in the pickle-making process, and we elucidated the specific steps of pickle production in each region. The documents were then manually transcribed, by meticulously documenting and summarizing mainstream
and unique pickle-making methods. Through fieldwork and drone photography, data on the distribution and extent of tangible scenes were collected, capturing high-definition aerial images of pickle-making facilities. Various landscape elements, including buildings, forests, vegetation, farmland, parking spaces, processing areas, and storage facilities, were distinguished using distinct colors on aerial images. These elements were then classified into cultivation areas, other cash crops, washing places, drying sites, storage spaces, edible areas, residential areas, cooking areas, sales areas, and transportation fields. Further categorization into different land using typologies, such as agricultural land, public areas, facilities, and urban settlements, was followed by differentiation into land systems, including agrarian, residential, commercial, industrial, and residential systems. Through analysis of the area and adjacency relationships of each element, we determined whether the elements were adjacent, separate, overlapping, or partially overlapping, thereby summarizing the landscape patterns of pickle production in each region. Finally, the analysis results of the two cases were compared, focusing on two aspects. First, comparing cultural landscape concepts and conservation status in the two regions were compared. Second, the constituent elements and characteristics of pickle-producing cultural landscapes, including the production processes and landscape patterns were compared.

We conducted fieldwork in Sichuan Province and its neighboring Chongqing Municipality from June to August 2022, followed by fieldwork in Yamagata Prefecture in November 2022.

3. Results

3.1. Concepts of cultural landscapes in two regions and the current status of their preservation

Through a literature survey, we clarified that cultural landscapes in China are under the authority of the State Administration of Cultural Heritage of the Ministry of Construction of China, that all cultural landscapes that have been inscribed on the list have their regulations, and that lists of representative items of intangible cultural heritage exist at various levels in China. Sichuan and Chongqing areas were selected for their fermented black bean fermentation technology, pixian chili bean paste production technique, and Luzhou City’s Luzhou Laojiao liquor brewing technique. The Cultural Landscape of Japan is under the supervision of the Agency for Cultural Affairs, and the Tsuruoka traditional confectionery project in Tsuruoka City is included in the Food Culture Stories Project. Additionally, Tsuruoka City has been designated as a scenic spot for Food and Agriculture by the Ministry of Agriculture, Forestry, and Fisheries. Seisaizuke and Omizuke in the Yamagata Prefecture are included in the “Our Hometown Cuisine - Important Tastes to Pass on to the Next Generation” project by the Ministry of Agriculture, Forestry, and Fisheries. Food cultures from both regions have garnered national-level attention and documentation, demonstrating a certain level of interest and experience in the culinary landscapes of both countries.

3.2. Components and characteristics of pickle-production cultural landscape in Japan and China

Through investigation and analysis, we distinguished the cultural landscapes of pickle production in the two regions by intangible and tangible elements. The similarities and differences in their production processes and landscape patterns were compared.

3.2.1. Comparison of production processes

Through our investigation, we found that as intangible elements of cultural landscapes, there were similarities and differences in the pickle production processes between the two regions.
The similarities and differences between the two regions in terms of vegetable varieties are summarized in Figure 1. Both Sichuan Province, China, and Yamagata Prefecture, Japan, used a variety of green vegetables (formally: *Brassica juncea*) in pickle production, and focused on seasonality and color combinations of ingredients. Both regions also had a dyeing habit in their pickle production. The differences observed were divided into two types. In China, raw vegetables and boiled vegetables were directly preserved, whereas in Yamagata Prefecture, only raw vegetables were preserved. There is also a wider variety of pickles in Sichuan, ranging from watery pickles, which are soaked for as little as one night, to aged pickles, which are left to stand in pickle jars. The means of pickling *Brassica juncea* is quite different between the two regions. In the Sichuan Province, *Brassica juncea* is often called Qingcai (green vegetable), or big-leaf mustard, and is quickly blanched in boiling water and allowed to ferment on its own in an altar. The finished product of this type of pickle is known as “local traditional sauerkraut,” and is often used as a marinade for noodles or as a common ingredient in fried rice. In the Yamagata Prefecture, *Brassica juncea* is soaked directly in salt water when raw and is either kept in the shape of a whole green vegetable or cut into small pieces. The finished product is eaten directly and not used for secondary cooking.

Figure 1. Differences in vegetable varieties

Figure 2. Differences in consumption methods
The similarities and differences between the two regions in terms of consumption methods are summarized in Figure 2. Pickles in both regions are usually consumed in their current state. In restaurants in the Sichuan Province, pickles are often free of charge and placed in a corner of the store, where they are freely available to customers. In the Yamagata Prefecture, pickles are priced reasonably and are often sold as a platter. In both regions, pickles are normally used for secondary cooking, with those in Sichuan Province being mainly used for noodles, fried rice, and congee, and those in Yamagata Prefecture for onigiri. In addition to pairing with staple foods, we observed that pickles in Sichuan Province have become a regular seasoning in Sichuan cuisine, and common Sichuan dishes are often flavored with pickled peppers, pickled ginger, and other pickled vegetables.

There are major differences in the production methods between the two regions, with the pickling method in Sichuan Province being more specific, and the process is summarized in Figure 3. The pickling liquid used in the production of pickles in the Yamagata Prefecture is disposable, whereas the pickling liquid used for the production of pickles in the Sichuan Province is continuously utilized. In Figure 3, the various colors of the pickle jar markings indicate the different compositions of the pickling liquid inside, and the composition of the brine varies slightly among families in Sichuan. In Sichuan, pickle jars have a long history as a type of dowry. As family members marry into other households, the pickle jars and the brine are inherited or divided among the new families. In the Yamagata Prefecture, pickle production is independent within a separate family and the act of sharing and gifting is rare.

![Figure 3. Differences in pickling methods](image-url)
3.2.2. Comparison of landscape patterns

There is a consistency in the landscape between the growing and drying of vegetables in the two regions, with an open-air growing method for planting and an open-air drying method for drying. In both Sichuan and Yamagata, we observed the behavior of drying greens in their courtyards, and both used a clothesline or a drying rack to secure the roots of the heavy greens on the rope and the rack so that the leaves would droop downward. In some areas of Sichuan where housing is tight and people are unable to own independent homes, the use of drying racks to dry vegetables in the interior corridors of high-rise buildings is also common, and many residents have shifted their drying sites from outdoors to indoors, and from private to public spaces. In Yamagata, independent houses are still the mainstay of housing, hence the processing method of pickle making has not changed dramatically.

After labeling and categorizing the components of the pickle-making cultural landscape in the two regions, we summarized the patterns of the cultural landscapes of the two regions (Figures 4–7). We found significant differences in the landscape patterns between homemade pickle production that occurs within households and factories. There were also distinct landscape patterns between pickle production in rural areas compared to urban areas, a commonality observed across both regions.

In rural areas, the residential space tends to be surrounded by agrarian space, cash crops tend to be planted around the vegetables used for pickles, where the vegetables used for pickles are planted in a small area adjacent to the main residence, and the distance from the residential area to the planting area is very close. In addition, the drying area, the washing space, and the storage space are located outdoors. Only the consumption scenario occurred indoors.

When the act of pickle production occurs in the urban fringe area of the Sichuan Province, the drying area is shifted indoors, and occasionally one can see assemblage-type dwellings that provide outdoor communal washing pools. When the conditions for growing vegetables are not met in one’s own home, finished pickles in the market can be bought for consumption. Such pickles are usually sourced from large-scale mass-produced factories that are transported from outside the region to be sold within the region.
When the act of pickle production occurs in the urban area of the Sichuan Province, the process of urbanization leads to the further compression of landscape elements, and residential space becomes the main planting space. In the city, the reduction of the space available for private cultivation has led to a larger proportion of the pickle sales scene and large food outlets have been added as an additional element.

The elements of the cultural landscape in the Yamagata Prefecture are more stable than those in the Sichuan Province, and there is no major change in the landscape between different regions. The major difference was observed in pickle production at home and in the factory, and there is a wider variety of elements in the cultural landscape of pickle making in the Yamagata Prefecture than in the Sichuan Province. A clear boundary was observed between the managerial office and the transportation field, which is not found in Sichuan Province. More commercial and industrial areas are also concentrated within the region, while the vegetable growing areas are focused outside the region.

The living and transportation conditions can affect the composition and landscape patterns of the cultural landscapes of pickle production. The cultural landscapes of pickle production that occur in rural areas are closed, with all activities contained within a specific area, while cultural landscapes of pickle production in
urban areas are more dispersed, with uneven distribution of individual scenes that cannot be examined in a single space. The cultural landscape of pickle production has transformed with urbanization, yet the type of elements has remained stable. Nonetheless, there is a change in the geographic location of the elements from centralized to decentralized.

4. Discussion

Both Japan and China have a certain amount of attention and experience with landscape sites related to their national cuisines. Pickle production in the two regions has commonalities in raw materials, consumption methods, and aesthetics, and differences in the timing of pickling, collaboration, and representation in local cuisine.

As a cultural landscape of food production, the intangible elements of pickle production include a large amount of local knowledge, production methods, and habits. Whether or not they are rooted in the mainstream diet of the region is the key to whether or not the intangible elements can be stabilized and maintained. For instance, the pickle self-service area in a restaurant, the cultural landscape of pickle making in the Sichuan Province is more scenic and it is a complementary dish. Furthermore, pickles in Sichuan Province are rooted in the local daily diet and have become an indispensable condiment in Sichuan cuisine, like salt and pepper. However, pickles in the Yamagata prefecture are only used as an accompaniment to a meal. The important characteristics of Sichuan cuisine, “Sichuan fragrance” and “fish aroma,” are all due to the flavoring of pickled peppers, pickled ginger, and other pickled vegetables. Therefore, the cultural landscape of pickle production does not only include the landscape and intangible elements of the pickle itself but is also rooted in the entire pattern of Sichuan cuisine, hence the frequency of pickle consumption is much higher than that in Yamagata Prefecture. The high demand contributes to the stability of the cultural landscape of pickle production in Sichuan.

Pickles hold a significant status in the minds of the Sichuan people and are closely associated with marriage and kinship. The inheritance behavior of pickle jars and brines within and across families contributes to the familial and inheritable characteristics of pickle production. The added value of emotions can further enhance the sustainability and inheritability of the cultural landscape. Pickles in both regions are consumed in conjunction with the most dominant staple food. While existing studies have focused on the production of staple foods like paddy or rice, this study focused on complementary foods that embellish and serve as a seasoning in the daily diet. Such dietary practices and their associative landscapes allow for a more comprehensive understanding of local terroir and local human-nature interactions.

5. Conclusion

This study clarified the components and characteristics of cultural landscapes based on pickle production in Yamagata Prefecture, Japan, and Sichuan Province, China. We found that residential and transportation conditions affected the composition and landscape patterns of cultural landscapes. In rural areas, pickle production areas tend to be contained within one specific area, whereas in urban areas, they are dispersed, with unevenly distributed scenes. The cultural landscape of pickle production has changed along with urbanization, yet the types of elements remained stable, and the change in the geographic location of the elements tended to evolve from centralized to decentralized.

By comparing the different styles of landscapes developed based on the same vegetable in the two regions, we found that whether or not the food is rooted in the local mainstream daily diet is the key to whether or
not the intangible elements can be maintained stably. It was determined that a high demand contributes to the stability of the cultural landscapes and that the added value of emotions enhances the sustainability and inheritability of cultural landscapes. By recognizing and promoting foods deeply embedded in local cuisines, communities can safeguard their cultural identity and traditions for future generations.

There are many other cultural landscapes of food production with the same origin but different status between China and Japan, such as the Japanese Asamiya Tea, developed from the tea leaves brought back from China [23]. The different landscapes based on the development of the unchanging elements are a suitable example for comparative study. Hence, the exploration of more comparative studies of the cultural landscapes of traditional food production in a regional context should be carried out to provide experiences and references for the examination and preservation of cultural landscapes in Asia and globally.

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