

CONSERVATION OF RICE TERRACES IN JAPAN – ROLES OF THE SAKAORI RICE TERRACE CONSERVATION ASSOCIATION

Koji Kobayashi

Ph.D., Professor
Department of Geography
Faculty of Education
Gifu University
Yanagido 1-1, Gifu-Shi 501-1193, Japan
e-mail: kojik@gifu-u.ac.jp

Chisato Harada

Elementary School Teacher
Iwami Elementary School
Kurokawa-Cho 3738-4, Hamada-Shi 697-0024, Japan
e-mail: mienai-chikara.7.ecshmm@docomo.ne.jp

UDK: 631.1(520)

COBISS: 1.02 – Review article

Abstract

Conservation of Rice Terraces in Japan - Roles of the Sakaori Rice Terrace Conservation Association

Since the 1960s, many farming fields have been left abandoned in Japan. However, rice terrace conservation activities have been spreading extensively in recent years as many people have reconfirmed the multi-functionality of rice terraces in Japan. This paper introduces rice terraces in the Sakaori District of Gifu Prefecture in Japan, and describes the current state of conservation activities as well as challenges ahead that people will face in preserving rice terraces in Japan. It is shown that the efforts and contributions of the Sakaori Rice Terrace Conservation Association members are the primary driving force for conservation and development of the rice terraces in the Sakaori District. However, it is also noteworthy that the farming workforce supporting the Sakaori Rice Terrace Conservation Association is continually diminishing and that the aging of this workforce is causing serious problems as well.

Keywords

rice terrace (tanada), farming villages, the Sakaori Rice Terrace Conservation Association, rice terrace ownership system

The editor received the article on 15.1.2010.

1. Introduction

1.1 Research Objectives and Methods

The basis of Japan's regional policy in the post-war period has been to redress the gaps between urban and rural areas (central and local areas). Though the income gap between urban and rural areas narrowed during the nation's robust economic growth period from the mid-1960s, the gap between the two started to widen again after the burst of the asset-inflated bubble economy in the 1990s (Okuno 2008, 153-155).

Farming villages in Japan have been left behind in the rapid economic growth in urban areas and remain underdeveloped even now. In such rural areas, local businesses and industries have kept on declining and thus offer fewer job opportunities. Worse still, because of a declining birth rate and a growing population of elderly people, depopulation is posing a great threat to survival of these farming villages. The number of abandoned fields and the amount of fallow land keep on rising, causing the disappearance of many beautiful and idyllic farming landscapes. A number of crucial functions of farming villages are already gone. Multi-functional roles that these villages used to play for local communities and society have also diminished to a considerable degree.

However, in recent years there are some movements aiming to revive farming villages in Japan. When we take a closer look at already-revived farming villages, we come to understand that a lot of local citizens are actively engaged in these movements. They are putting their natural environment and human resources to good use for the conservation of traditional farming villages.

In this paper, the authors introduce rice terrace ("*tanada*" in Japanese) conservation activities as an example of Japanese people's efforts to reinvigorate farming villages. The numerous steep slopes of Japan's traditional rice terraces represent some of the unique aspects of the nation's geography. Since the 1960s, due to the dwindling workforce, many farmed fields were left abandoned. Among other things, farmers gave up tending rice terraces one after another because of poor geographical conditions such as lack of sunshine, distance from villages, plots of land so steep and so small that farmers could not manoeuvre agricultural machines and tools, all in addition to poor harvests. Despite all these disadvantages, rice terrace conservation activities have been spreading extensively in recent years as many people reconfirm the multi-functionality of rice terraces in Japan. Strong public awareness of rice terrace conservation can be attributed to people's ardent efforts to combine preservation of beautiful rice terrace scenery and regional revitalization (Haruyama 2004, 15-29; Nakanishi 2007, 154-155).

In this paper, the authors describe current rice terrace conservation activities in the Sakaori District of Gifu Prefecture, Japan, as well as note the challenges ahead that people would be faced with in preserving them.

A rice terrace is defined as "a small plot of terraced paddy field with an average inclination of one-twentieth or more" (Ministry of Agriculture, Forestry and Fisheries of Japan). As of 2005, rice terraces were found in 54,000 different locations, with a combined total area of 138,000 ha and accounting for 8% of the total paddy fields in Japan.

Rice terraces in the Sakaori District of Gifu Prefecture were selected as one of the "Best 100 Rice Terraces in Japan" in 1999 by the Ministry of Agriculture, Forestry and Fisheries (Nakajima 2004, 69-74) (Note: The Ministry of Agriculture, Forestry and Fisheries of Japan selected rice terraces in 134 regions to be the "Best 100 Rice Terraces in Japan" with the aim of making them popular tourist destinations).

The terraces in this district have been well preserved and developed for years by the members of the Ena City Sakaori Rice Terraces Conservation Association (hereinafter called, "Sakaori Rice Terrace Conservation Association"). The Sakaori District is located near the centre of Japan in the southeast of Gifu Prefecture. Its terraces lie on both sides of a small valley at the foot of a mountain, at an altitude of 500 to 600 meters above sea level (Fig. 1).

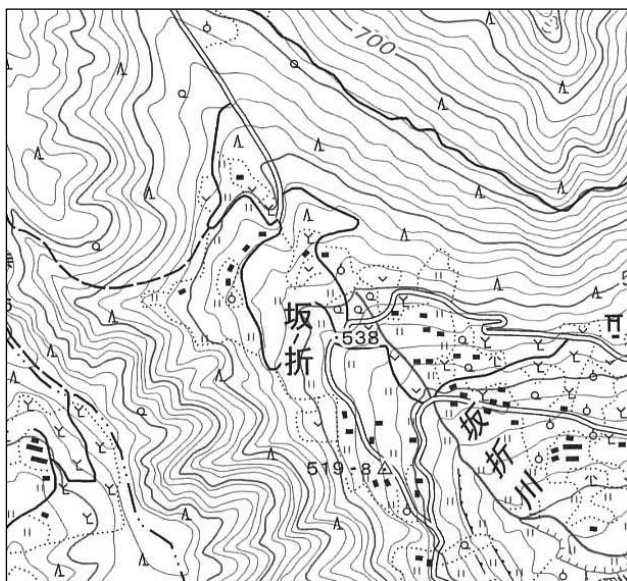


Fig. 1: Research Area (Sakaori).
Source: Topographical Map (1:25,000).

Our research on these rice terraces was carried out by interviewing some members of the Sakaori Rice Terrace Conservation Association and the officials of the Ena Municipal Government and by making direct observations of the present state of land use and of rice terrace scenery in the Sakaori District.

1.2 Outline and Characteristics of the Sakaori Rice Terraces

As of 2008, the area of the Sakaori rice terraces was 14.2 ha, the number of rice terraces was 360, and the average area per rice terrace was 3.8 a. The number of farm households owning rice terraces was 35, but 11 farm households had already moved out and their rice terraces were leased to other farmers. This means that only 24 farm households are tending their rice terraces today.

The Sakaori rice terraces have four main features:

- The walls supporting the terraces are made of stacked rocks and stones.
- The terrace slopes are steep; the slope angle varying from 1/4-1/7 (Fig. 2).

- Cold water from nearby streams or springs is used for irrigation. For this purpose, water channels like the Ato Channel and the Shimizu Channel were built decades ago. Fig. 3 shows cold water coming from the nearby streams or springs via the Shimizu Channel.
- In 2000, the rice terraces were divided into 4 different zones. Zone 1: Readjusted rice terraces. These terraces have rather large plots of land. Some parts of the stone walls had already disappeared. The area of this zone is 5.8 ha, which accounts for 40.9% of the total area of the Sakaori rice terraces. Zone 2: Traditional rice terraces with repaired farm roads. The area is 3.2 ha, accounting for 22.5% of the total area. Zone 3: Traditional rice terraces with no man-made changes. The area is 4.9 ha, accounting for 34.5% of the total area. Zone 4: Rice terraces already transformed into dry fields producing different agricultural products. The area is 0.3 ha, accounting for 2.1% of the total area.



Fig. 2: A steep slope (1/4 - 1/7).
Source: Ena City



Fig. 3: Nearby streams or spring water are brought through the Shimizu Canal.

The purpose of this zoning is to make the following three goals compatible with one another; to enhance agricultural productivity, to make more effective use of the workforce, and to preserve rice terrace scenery.

2. Activities of the Sakaori Rice Terrace Conservation Association

2.1 Objectives of the Sakaori Rice Terrace Conservation Association

This association was established by the residents of the Sakaori District in 2000. It was later reorganized and renamed the Ena City Sakaori Rice Terrace Conservation Association (henceforth called the Sakaori Rice Terrace Conservation Association) in 2006.

The objectives of the Sakaori Rice Terrace Conservation Association include rice terrace conservation, continuation and development of agriculture as well as creation of a prosperous and lively local community (Article 1 of the Sakaori Rice

Terrace Conservation Association). The number of Association members reached 113 in 2008. They include Sakaori residents as well as people from other prefectures and regions such as Tokyo and Kyoto.

The Organization of the Sakaori Rice Terrace Conservation Association is managed by two groups, a Board and a Planning Committee. The Board is composed of one president, twelve board members and two auditors. The Planning Committee consists of 33 members as of 2009, and it drafts and proposes action programs for the Association. These action programs are finalized and approved at the General Meeting. In short, these two meetings determine various programs and put them into action.

2.2 Main Activities of the Sakaori Rice Terrace Conservation Association

The main activities of the Sakaori Rice Terrace Conservation Association fall into five main areas:

- Conservation of rice terraces: This includes a masonry workshop, a rice terrace biotope, a rice terrace experience program, recovery of abandoned fields, and a rice terrace newsletter issued 4 times per year.
- Human exchanges between urban and rural areas: This includes a rice terrace ownership system, a rice terrace music concert, a rice terrace photo competition, and creation of rice terrace calendars.
- Development and sale of rice and rice wine as Sakaori brand items.
- Cultural inheritance activities: This includes education of volunteer persons, enabling them to pass on for future generations the great achievements made by people of the past.
- Participation in the Japan Rice Terrace Summit meeting every year.

(Note: A Japan Rice Terrace Summit was held for the first time in 1995 in order to promote networking between local residents, municipalities with rice terraces, organizations and individuals engaged in rice terrace conservation and to support their activities. Since 1994, the Japan Rice Terrace Summit meeting has been held regularly. It was hosted by the Sakaori District in 2002.)

3. Uniqueness of activities of the Sakaori Rice Terrace Conservation Association

In this chapter, some of the unique activities of the Sakaori Rice Terrace Conservation Association are described in detail. These are: rice terrace ownership system, rice terrace photo competition, creation of rice terrace calendar, masonry workshop and rice terrace experience program.

3.1 Rice Terrace Ownership System

The rice terrace ownership system brings together two types of participants, owners of rice terraces and those who lease some paddy fields from the owners. The leasers are mainly urban residents, who can then engage in various agricultural activities. Through this system, both urban residents and local people can jointly promote conservation of rice terraces and mutually exchange their ideas and experiences. The leasing fee is 30,000 Yen (about 230 Euros) per acre per year.

Agricultural activities range from rice planting, weeding, and harvesting to joining

harvest festivals. These events and activities are held four times a year from June to October. Special gifts are given to the leasers, including 30 kg of rice and other agricultural products harvested from the Sakaori Rice Terraces. The number of participants in 2008 was 102.

Fig. 4 shows the age structure of the participants in 2008. While younger persons in their 20s and 30s account for almost 50% of all the participants, a large number of senior citizens in their 70s and 80s are also participating. The level of satisfaction of the participants in the rice terrace ownership system is high. The percentage of those who feel very satisfied stands at 21%, satisfied 63%, unsatisfied 16% and very unsatisfied 0% (Note: Based on a questionnaire by K. Kobayashi and C. Harada which was carried out in 2008). This indicates that most of the participants are content with the rice terrace ownership system.

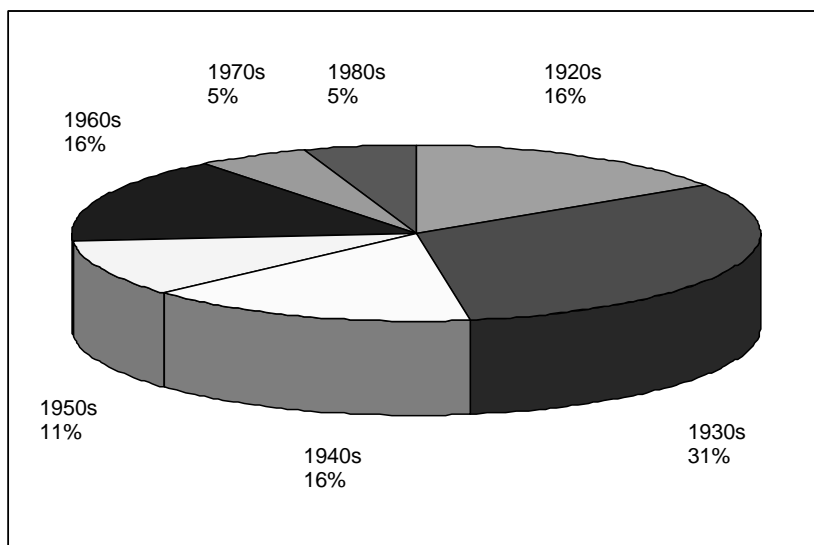


Fig. 4: Age of rice terrace leasers.
Source: Kobayashi, K. / Harada, C. Questionnaire 2008.

3.2 Photo Competition and Rice Terrace Calendar

The Rice Terrace Photo Competition is an annual event. First, a public announcement of competition is made, including the theme, "Four Seasons in Sakaori Rice Terraces." Every entry is screened and the winners are finalized and announced. In 2008, 17 photos were awarded out of 139 entries from 52 people. Prize-winners and their photos were introduced in local newspapers and the Ena City Government webpage. Prize-winning photos were also used for rice terrace calendars.

3.3 Masonry Workshop

Participants in a masonry workshop can acquire traditional masonry skills. They study traditional techniques of masonry under the guidance of skilled masons. Their activities include conducting inspections and recording the current state of the stone walls, removing damaged or collapsed stone walls, and building new walls with

stones and rocks. Masonry workshops are held for two days in November. The number of participants is 20 to 30, and those who have completed this workshop are given the "Certificate of Masonry Engineer".

3.4 Rice Terrace Experience Program

The rice terrace experience program gives local senior high school and elementary school students a great opportunity to experience various agricultural activities such as rice planting, weeding of stone walls, cleaning up roads, etc. The number of participants is about 80; 40 senior high school students and 40 elementary school students. Senior high school students participate in this program in June and elementary school students in May and September (Fig. 5, Fig. 6).



Fig. 5, Fig. 6: Rice Terrace Experience Program (elementary school children).
Source: Ena City

Tab. 1: Main Activities of the Sakaori Rice Terrace Conservation Association.

Main activities	2003	2004	2005	2006	2007	2008
Masonry workshop				X	X	X
Rice terrace biotope					X	X
Rice terrace experience programs	X	X	X	X	X	X
Issuing of rice terrace newsletters				X	X	X
Rice terrace ownership system				X	X	X
Rice terrace music concert		X	X	X	X	X
Rice terrace photo competition					X	X
Rice terrace calendars					X	X
Development and sale of Sakaori brand items (rice and rice wine)					X	X
Training of volunteers					X	X
Participation in the "Japan Rice Terrace Summit"	X	X	X	X	X	X

Tab. 1 lists the activities of the Sakaori Rice Terrace Conservation Association from 2003 to 2008. Their activities have been gaining impetus since 2006, the year when the Association became the present Sakaori Rice Terrace Conservation Association. Their activities have been strongly supported by many related bodies or organizations (Fig. 7), for instance, by the Rice Terrace Lease System. The Sakaori Rice Terrace Conservation Association leases rice terraces to local residents, companies and NPOs, etc. In return, they work hard for the conservation of rice

terraces. It is hoped that the participants in this system will settle down in Sakaori as farmers in the future.

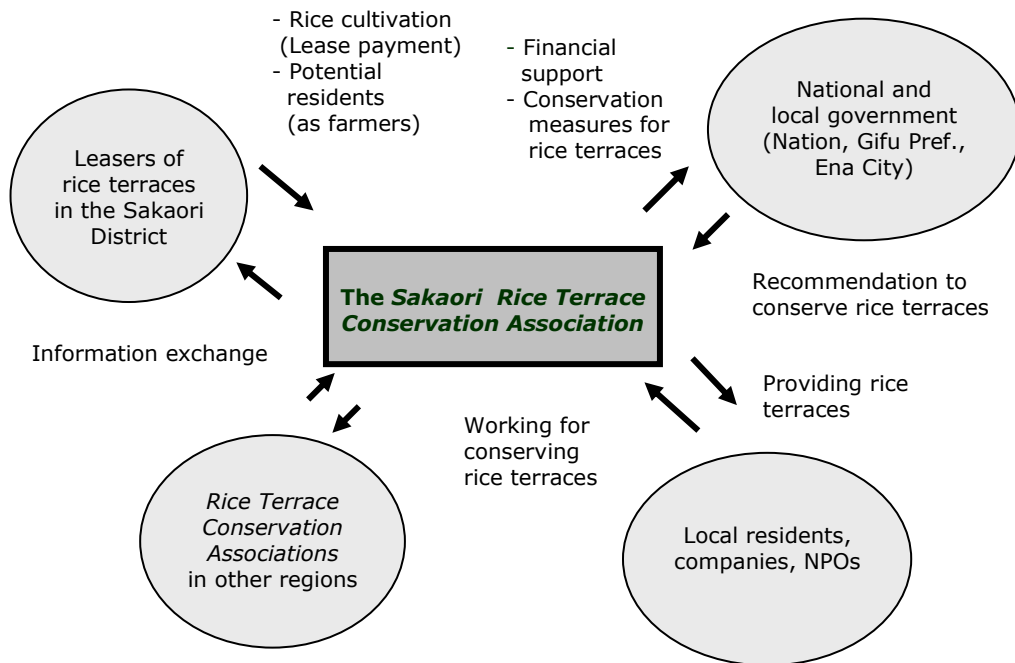


Fig. 7: Relations between the Sakaori Rice Terrace Conservation Association and Related Bodies/Organizations.

4. Characteristics of the Sakaori District Regarding Its Rice Terraces

The Sakaori District displays three main characteristics. First, diverse and unique activities are initiated by the members of the Sakaori Rice Terrace Conservation Association. Second, the workforce in farm households is decreasing and aging.

Tab. 2: Agricultural Labour Force in 24 Farm Households in the Sakaori District. Source: Kobayashi - Questionnaire 2008.

Household	Sex	Age	Working situation	Household	Sex	Age	Working situation
1	M	82	Full-time	13	M	80	Full-time
2	M	62	Full-time	14	F	71	Full-time
3	F	76	Full-time	15	M	75	Full-time
4	M	83	Full-time	16	M	72	Full-time
5	M	62	+ Carpenter	17	M	72	Full-time
6	M	83	Full-time	18	M	81	Full-time
7	M	78	Part-time	19	F	77	Full-time
8	M	72	Full-time	20	M	58	Full-time
9	M	54	Part-time	21	F	60	Part-time
10	M	62	Full-time	22	M	60	Part-time
11	M	68	Full-time	23	F	60	Part-time
12	F	74	Full-time	24	M	57	Full-time
					F	75	Full-time

Tab. 2 details the situation in 24 farm households in the Sakaori District. Note that in almost all the farm households, only one person is engaged in agricultural work. Aging in the workforce is also quite serious. Farmers aged 70 years and older account for 60% of the total farm workforce in Sakaori. Third, there are many visible changes in the traditional rice terrace scenery. For instance, some parts of the stone walls have collapsed and disappeared. Fallow land has emerged in many different locations. Rice fields have been replaced with orchards where kiwi fruit and chestnuts are being produced. Many new modern houses are being built whereas traditional farm houses are disappearing. Coniferous trees are increasing in the mountains surrounding the rice terraces. The traditional rice terrace landscape that is paddy fields with rock and stone walls, traditional farm houses and broad-leaf trees on the mountains are now undergoing significant changes in Japan.

5. Conclusion

The members of the Sakaori Rice Terrace Conservation Association have long been engaged in their various activities: preservation of rice terrace scenery, human exchanges between urban and rural areas, development and sale of Sakaori brand items, cultural inheritance activities, etc. These activities have been carried out through continued support and assistance from the central and local governments, local citizens, NPO members, local businesses and industries, landowners of rice terraces, and other rice terrace conservation associations in Japan. Information sharing with related bodies and organizations has been indispensable to the activities of the Sakaori Rice Terrace Conservation Association. It is now shown that the efforts and contributions by the Association members are the main driving force for conservation and development of the Sakaori Rice Terraces.

However, it is important to note that the farming workforce supporting the Sakaori Rice Terrace Conservation Association continues to diminish and that the aging of this workforce is causing serious problems. The Sakaori Rice Terrace Conservation Association, therefore, needs to reinforce its ties with the central and local governments, local citizens, etc., and secure supporters of rice terraces all across Japan, encouraging them to take part in various rice terrace conservation activities.

Japanese traditional rice terrace scenery is comprised of not only rice terraces but also surrounding areas including old stone walls, agricultural roads, farm houses and forests. In short, Japanese rice terrace landscapes should be maintained and preserved as comprehensive, all-inclusive scenery and be handed down intact to future generations.

References

- Nobuhiro, O. 2008: Can Areas Become Independent? (Chiiki wa jiritu dekirunoka). Iwanami-Shoten, 156p.
- Shigeko, H. 2004: Natural Scenery and Cultural Landscape of Rice Terraces (Tanada no shizen keikan to bunka keikan). Kokon-Shoin, 215p.
- Minehiron, N. 2004: Walking the Top 100 Rice Terraces (Hyakusen no tanada wo aruku). Kokon-Shoin, 228p.
- Ryotaro, N. 2007: Enlargement of Fallow Land and Conservation of Rice Terraces in Southern Boso (Minami-boso ni okeru kousaku hokichi no kakudai to tanada no hozon). In *Regional Problems of the World*, ed. K. Urushibara et al. Nakanisiya-Shuppan.

CONSERVATION OF RICE TERRACES IN JAPAN - ROLES OF THE SAKAORI RICE TERRACE CONSERVATION ASSOCIATION

Summary

Since the 1960s, due to a dwindling farm workforce in Japan, many farming fields have been left abandoned. Among other things, farmers gave up tending rice terraces one after another due to poor geographical conditions (lack of sunshine, distance from villages, small plots of land with steep inclination, which makes it hard for farmers to maneuver agricultural machines and tools) in addition to poor harvests. Despite all these disadvantages, rice terrace conservation activities have been spreading extensively in recent years as many people reconfirm the multi-functionality of rice terraces in Japan. Strong public awareness of rice terrace conservation could be attributed to people's ardent efforts to combine preservation of beautiful rice terrace scenery and regional revitalization. This thesis introduces rice terraces in the Sakaori District, Gifu Prefecture, Japan, and the current state of conservation activities as well as challenges ahead that people will be faced with in preserving rice terraces in Japan.

This paper details that the efforts and contributions of the members of the Sakaori Rice Terrace Conservation Association are significant major driving force for conservation and development of the Sakaori rice terraces. However, the farming workforce, which is being supported by the Association, is diminishing and aging as well, which are serious problems. The Sakaori Rice Terrace Conservation Association therefore needs to reinforce its ties with the central and local governments, local citizens, members of NPOs, local businesses and industries, landowners of rice terraces, and other rice terrace conservation associations in Japan. The Association also needs to secure supporters of rice terraces across Japan and encourage them to take part in various rice terrace conservation activities.

Japanese traditional rice terrace scenery is comprised of not only rice terraces but also the surrounding areas, including old stone walls, agricultural roads, farming houses and forests. These traditional rice terrace landscapes are going through significant changes these days, but they must be maintained and preserved in their wholeness as comprehensive, all-inclusive scenery for future generations.