Conserving Agricultural Heritage and Revitalizing Communities in the Asia Pacific Region

Conserving Agricultural Heritage and Revitalizing Communities in the Asia Pacific Region

By

Kazem Vafadari-Mehrizi
and Yukio Yotsumoto

Cambridge
Scholars
Publishing

Conserving Agricultural Heritage and Revitalizing Communities
in the Asia Pacific Region

By Kazem Vafadari-Mehrizi and Yukio Yotsumoto

This book first published 2024

Cambridge Scholars Publishing

Lady Stephenson Library, Newcastle upon Tyne, NE6 2PA, UK

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

This work was supported by KAKENHI grant no. 23K21819, "Rural Development and Community Resiliency through Agricultural Heritage Tourism," from Japan

ISBN: 978-1-0364-1092-6
ISBN (Ebook): 978-1-0364-1093-3

CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACKNOWLEDGMENTS

I would like to express my sincere gratitude to Dr. Parviz Koohafkan, former Director of the Land and Water Division of the FAO, who was the first to introduce me to the concept of GIAHS and its applications. My gratitude goes to Professor Koji Nakamura, former Vice President of Kanazawa University for his extensive support of my work in Ishikawa Prefecture and the Noto Peninsula GIAHS site and to Professor Anne Macdonald, former Director of the United Nations University's Institute for Advanced Studies during my work in the Institute. I would like to thank Mr. Hirose Katsusada, former Governor of Oita Prefecture, the Mayors of Kunisaki City, Kitsuki City, and Usa City, and the staff of the GIAHS Divisions in Oita Prefecture and Ishikawa Prefecture.

Kazem Vafadari

PROLOGUE

This book chronicles the development and use of the Globally Important Agricultural Heritage System (GIAHS) and Building Back Better (BBB) community resilience initiatives first promulgated in 2002 by the United Nations Food and Agriculture Organization (FAO) as part of the Sendai Framework for Disaster Risk Reduction and a way to revitalize rural communities. GIAHS was designed by the FAO to conserve important agricultural heritage sites of the world through active coordination with local farming communities. Beginning in 2002, the program has recognized several extraordinary agricultural systems in the Asia Pacific and in Japan. This book looks at GIAHS and BBB through the lens of the Japanese experience of rural ecosystem protection known as Satoyama (the coastal version is called Satoumi), which we outline at the beginning.

Prior to 2013, Japan had two registered GIAHS sites, the Satoyama-Satoumi Traditional Landscapes in the Noto Peninsula, and a Satoyama system based on the Crested Ibis Habitat in the Sado Island of Niigata Prefecture. In 2013, a total of three new sites were accredited as GIAHS: the tea gardens of Kakegawa in Shizuoka Prefecture, the managed grasslands of the Aso Volcanic area in Kumamoto Prefecture and the traditional resource circulation-integrated forest landscape of Kunisaki-Usa in Oita prefecture. Among these, the Kunisaki-Usa GIAHS is unique as it is based on a historic philosophy of utilizing resource circulation to sustain rice-farming societies and is located in a region that was a center of religious activities in Kyushu for over one thousand years. Other sites are discussed in this book as case studies.

The GIAHS in Kunisaki is important for another reason. The value of the site was recognized by a local promotion council comprising administrative and academic professionals. The first author was the main advisor to this council, and to the Governor's Office of Oita Prefecture. Ritsumeikan Asia Pacific University, which is known as a 'university with a difference' due to its multinational faculty and student bodies—is a major stakeholder in this GIAHS, and we aim to promote this site as a model for rural revitalization in remote areas of Japan. A key part of the dynamic action plan for the Kunisaki-Usa GIAHS is multilateral engagement, which means the integration of local, regional, and international perspectives through a variety of approaches like promotion of conservation, traditional knowledge, and rural tourism. In this sense, the GIAHS in Oita represents

an ongoing effort, to link traditional societies with modern ones, and explore the ways to build sustainable communities in the process.

Apart from integrating people and ideas, the core of GIAHS itself is based upon this concept of integration—historically, the land features and farming techniques in the area were seen as interdependent, and a rich body of integrated agricultural, conservation and community building practices has resulted out of this legacy. The combination of Shintoism and Buddhism is a special feature of the area that is observable even today, and landscapes like Sawtooth Oak forests, tameike reservoirs and rice paddies have been managed in an integrated manner by local societies. GIAHS thus represents a vital window of revitalization for local communities that have continued to shrink in recent years due to depopulation and aging. GIAHS sites are also remarkable for the visual capital they offer: the Kunisaki sites are some of the most well-known 'Satoyama' and 'Satoumi' areas of rural and coastal Japan. These capitals are readily transformed into tourism resources, and local communities were very welcoming towards such opportunities. But there are many challenges too, such as the lack of adequate infrastructure, provisioning of tourist services, and effective pathways to disseminate knowledge

A wider challenge comes from the Build Back Better (BBB) initiative that has arisen out of the COVID-19 experience. This is a move aimed at reducing the risk to communities of disasters and other. Disaster risk reduction measures are introduced as a precursor to a likely event and involve policies for the restoration of physical infrastructure and livelihoods, supporting affected communities, and providing shelter (UNISDR 2020). This approach was first officially raised in the United Nations' *Sendai Framework for Disaster Risk Reduction*, and settled during the *Third UN World Conference on Disaster Risk Reduction* in 2015. The UN subsequently adopted it as one of the four priorities in the framework.

During the discussions on the Sendai Framework, the concept of 'Build Back Better' was proposed by the Japanese delegation: 'This principle is generally understood to use the disaster as a trigger to create more resilient nations and societies than before.' BBB thus has its foundations in the improvement of land use, and the introduction of more effective spatial planning and construction standards that should be part of the recovery process (Mannakkara, Wilkinson, and Potangaroa 2019). The concept has grown to represent building in greater resilience to the recovery process by systematically addressing the causes of vulnerability to disasters (Hallegatte, Rentschler, and Walsh 2018). The term first received international interest in 2006 after the 2004 Indian Ocean Tsunami relief effort (Clinton 2006), and the following approach to BBB was laid out:

- Governments, donors, and aid agencies should recognize that families and communities can and will drive their own recovery given the right resources and support;
- BBB must promote fairness and equity;
- It is the government's role to build resilience to future disasters into communities;
- Local government must be empowered and resourced to manage recovery efforts, and external donors must devote greater resources to strengthen recovery systems at the local level;
- Good recovery planning and effective coordination depend on reliable information;
- The UN, World Bank, and other multilateral agencies must clarify their roles and relationships with governments, especially when addressing the early stage of the recovery process;
- The expanding role of NGOs and the Red Cross/Red Crescent Movements carries greater responsibilities for synchronizing quality recovery efforts;
- From the start of the recovery cycle governments and aid agencies must create conditions for private entrepreneurs to also deliver support, thus expanding the resources available;
- But beneficiaries deserve the kind of agency/private involvement that is not based on rivalry; and
- The BBB recovery process must leave communities safer and more resilient than they were before the disaster event.

This prologue has set the scene for our discussion. The book is an effort to sum up what we understand rural revitalization to be and to offer some practical examples of how to achieve this. It also offers an outline of what we will expect out of a community in the coming years, and what the significance of a project is likely to be, at local and international levels, as well as practical and academic levels. As an ongoing work, this is by no means a final account of rural revitalization in Japan and other Asia Pacific countries, our aim is to produce sequels to this study in the future, to compare the vision and aims of an increasingly important methodology for rural redevelopment with the agricultural practices formerly undertaken and the actual results achieved in revitalization.

Before we describe specific GIAHS systems in later chapters, Chapter 1 discusses the role of agricultural landscape conservation in general. The initial phase dated back to the 1930s, which was the phase of germination of this concept. This phase was characterized by a few sporadic uses of the term, and limited activities by early pioneers. The situation changed

substantially during the 1970s to 1980s, which was the period of maturity for the discipline. Especially during the 1980s, publication on agroecology flourished, and numerous scholars helped establish agroecology as a scientific discipline. Since the 1990s, nature conservation initiatives have been integrated into the agroecology discipline. This has helped give the discipline a more community-rooted, and global outlook. The key to this transformation was the Rio Earth Summit (United Nations) held in 1992, which was a milestone event, as it established nature and landscape conservation as a mainstream agenda for science. How agricultural landscapes provide and maintain different ecosystem services became a major theme of research after this event. Later, as the Millennium Ecosystems Assessment Project (2005) pointed out: agriculture was recognized as the single most important human land use, and its stake in biodiversity conservation became widely recognized. Particularly interesting in this regard has been the concept of sustainable human use of the natural landscape, this is otherwise referred to as an integrative concept of nature and agriculture.

Chapter 2 shows that it is possible to bring agriculture and tourism together as major livelihood strategies. This is important because a rural sector based on agriculture alone is now not sustainable in many countries. Tourism contributes to the rural economy by its better use of the natural carrying capacity of a site and lower outmigration from the local community. To achieve this though tourism has to be integrated through effective planning with the conservation of rural activities. Responsible tourism does not overuse local products and boosts the involvement of local communities in its operations.

In Chapter 3 the Globally Important Agricultural Heritage Systems (GIAHS) approach to rural revitalization is introduced and how it can help manage natural resources through community involvement is discussed. As an initiative, GIAHS is very young, and will mature in the coming years through the different experiences of many regions, but already, it has become a major rallying point for agroecosystem conservation—and designing sustainable communities. Despite the many challenges about its implementation discussed repeatedly in the past decade, GIAHS is a dynamic example of human creativity and the ability of human societies to live in a sustainable way. The main task in the coming years is to integrate the findings of ongoing research across different agricultural heritage landscapes, design interaction pathways between managing communities, and promote agriculture as a vital resource through raising awareness about it—through tourism applications in these landscapes.

The World Agricultural Heritage is a system under which the Food and Agriculture Organization of the United Nations (FAO) recognizes region-specific agricultural systems that combine food and livelihood security, biodiversity, farming methods, culture, and outstanding landscapes as dynamic heritage of global importance. In Japan, 11 regions have been recognized. In Chapter 4 we analyze Japanese-language articles collected from three major article search systems (CiNii Articles, J-Stage, and Google Scholar) to determine the issues and challenges in agriculture based rural revitalization, and which of the five FAO criteria for recognition of GIAHS are mentioned in the context of Japan. This is very useful background material for our evaluation of the GIAHS concept.

The Globally Important Agricultural Heritage System is officially called *Sekai nougyo isan* in Japanese and is translated as 'World Agricultural Heritage.' The name was purposefully created by Japanese proponents who wanted to have a brand power like UNESCO's World Cultural Heritage sites and World Natural Heritage sites (Takeuchi 2016). In its adaptation to Japan, the Japanese promoters, scholars and policy makers, envisaged the possibility that GIAHS could increase the power of community brands and contribute to community revitalization through sustainable agricultural production and tourism promotion. Chapter 5 further discusses the current situation and issues around this concept.

Creating a sustainable rural sector has attracted much attention from rural tourism operators. There is agreement that rural tourism, if well managed, can contribute greatly to the wellbeing of local communities by generating greater income, reducing out-migration, and increasing the quality of local livelihoods (Vafadari 2012). tourism within the requirements of tourists and an inadequate capacity to adopt rural tourism on the part of the aging rural population is a common problem. Chapter 6 shows how the Japanese concept and practice of *Satoyama* can assist in the establishment and progress of rural tourism.

A parallel method of rural revitalization that is found in Japan and elsewhere is the Geopark. To round out the discussion of globally important but localized revitalization methodologies, Chapter 7 assesses the Japanese engagement with Geoparks. It provides a brief overview of the processes and patterns to be found in this area and is based on trends identified by the authors and their colleagues over the past 15 years. The threads that make up the current community interest in geo-conservation, rural decline and revitalization, globally important agricultural and other forms of heritage conservation (Geoparks, GIAHS and cultural heritage, Satoyama), and geotourism in Japan are covered. These help in our further identification of

the impact of GIAHS and Geoparks on the community and its involvement with them.

One example is the Kunisaki area of Oita Prefecture, Kyushu, Japan. In Chapter 8 the agricultural heritage in Kunisaki is shown to be focused on the tameike or retention ponds that provide local water storage as well as significant species habitats. Associated resources such as the *kunugi* forests that specialize in shiitake mushroom production, and the *shichitoui* grass that supports tatami mat production are important socio-ecological production landscapes on their own. Integration of these landscapes to conserve and revitalize this unique agricultural heritage is a critical function of GIAHS in the Geopark environment.

Chapter 9 provides a parallel case study of an important agri-heritage site in the Philippines. Ifugao is a GIAHS landscape that has succeeded in attracting tourists. The biggest challenge in saving the Ifugao terraces through tourism is first to support GIAHS-based tourism sustainable through attracting visitors. However, management of any adverse impacts from rural tourism is not yet seen as a priority as development is recent, and the available natural resources are still not fully used, but this does need to be understood as an indispensable part of GIAHS, if that is based on tourism.

The concept of rural livelihoods known as Satoyama is further examined in Chapter 10. With out-migration and the resulting aging communities as major concerns, the development of rural tourism is expected to bring with it new sources of labor to the rural environment. To show how this may be possible, Chapter 10 provides a case study, *Shunran-no-Sato*. This case study is significant as it is one of the few areas where the local community has succeeded with this concept. Some 3000 people have been attracted to the Noto Peninsula of Japan over the few years since the community adopted rural tourism as a strategy. The biggest challenges of Satoyama revitalization through tourism as shown in this Chapter are again how to achieve sustainable tourism enterprises, and how to attract new populations to move into an area by creating the required job opportunities.

Chapter 11 shows how to gain FAO GIAHS status by outlining the experience of the Kunisaki Peninsula of Oita Prefecture, Japan. The concept of using the resource cycle between mountains, rivers, forests, agricultural communities, and seas, focusing on human society's co-evolution with nature as the source for community well-being was developed. By identifying a dynamic agricultural tradition with an equally dynamic cultural heritage, the Kunisaki pond system-shiitake-oyster farming and associated landscapes of production and resource sustenance takes the idea of 'human well-being' one step further: into 'community well-being.' This is a key theme for postmodern Japan, which must address issues like

degradation of communal ties, and resource governance and communal levels, and must devise solutions for alternative growth, regional revitalization, and conservation of the unique natural assets that this archipelago has.

Chapter 12 is the final case study in this book, and in it the primary focus is on the natural resource of water as it is in the previous chapter that looked at the Kunisaki environment of Oita Prefecture in Japan. This is why Yazd city and province of Iran have been included in this book. It provides a useful counterpoint to the material from Japan and the Philippines, also based on water and cultural heritage as a primary resource for local development and revitalization. Yazd province, situated in central Iran, has rich cultural attractions, such as impressive archaeological sites and historical monuments, and it has also been a vital link in the intercontinental trade route known as the Silk Road because of one of its important geological resources and the cultures based on it.

Finally, the Epilogue summarizes the book. In this book the authors have sought to integrate different examples of GIAHS: such as Noto, Kunisaki, Ifugao and design a model of GIAHS tourism. As noted earlier, though tourism by itself cannot rejuvenate rural communities, and it must not take over as the main livelihood option, though when conducted carefully, nature-based and rural tourism projects can successfully promote GIAHS communities and create a robust pathway for multi-sectoral collaboration for GIAHS management. In addition, such tourism has a strong potential to generate materials for education about sustainability and traditional knowledge. Typical approaches may be through an SLA analysis of target areas, participant observation or experimental designing of tourism projects with active collaboration from local societies.

Policies and intentions should always be concrete! Those being developed and being delivered in the Kunisaki Peninsula and other contexts show how the value chain described in this book can be extended, therefore hopefully fulfilling the intent of this work to provide usable examples of the impact of tourism set in the real world. For example, the designation of Kunisaki in Oita as one of the newest GIAHS in Japan has opened up a new vista for agroecology research, GIAHS management and community revitalization research.

References

Clinton, William J. 2006. *Key Propositions for Building Back Better: Lessons learnt from Tsunami Recovery*. New York: UNDRR, Office of the Secretary-General's Special Envoy for Tsunami Recovery.

Hallegatte, S., J. Rentschler, and B. Walsh. 2018. *Building Back Better: Achieving resilience through stronger, faster, and more inclusive post-disaster reconstruction*. Washington DC: World Bank/GFDRR.

Mannakkara S., S. Wilkinson, and R. Potangaroa. 2019. *Resilient Post-Disaster Recovery Through Building Back Better*. New York: Routledge.

Takeuchi, K., and R. D. Brown, eds. 2003. *Satoyama: The traditional rural landscape of Japan*. Tokyo: Springer.

Vafadari, K. 2012. "Rural Tourism and Preservation of Landscapes in Japan: A Spotlight on Satoyama in the Noto Peninsula." *Journal of Hospitality and Tourism* 10(2): 87-103.

CHAPTER ONE

AGRICULTURAL HERITAGE LANDSCAPE CONSERVATION

Agroecosystems: Linking Theory and Practice

The twentieth century saw a dramatic global decline of agriculture as a source of community livelihoods. Urban growth based on the offer of better standards of living brought about migration from rural to urban areas (Oostervier and Sonnelfield 2011). Late in the twentieth century efforts to counteract the decline in agricultural sector activity by redefining the sector as *heritage* began (Meadows 1972; Meadows et al. 2004), while sustainable food production (Lichtfouse et al. 2011) from what was left of its productive ability also became important (Beaulieu and Jordan

2013). A key feature of this re-evaluation was seeing agriculture as an ecosystem (Gliessman 2000). Another important aspect was the holistic reappraisal of landscapes that support specific agricultural practices (Altieri 1999). Flora (2001) shows how the role of 'traditional knowledge' in managing such systems is critical in the conservation and reevaluation of such landscapes (Augustyn 1998; Ballasteros 2017).

New studies have begun to shed light on how specific agricultural systems and environments have become 'commons,' essential to the culture and management of a rural community (Cocks 2010; Peloquin and Berkes 2010; Beaulieu and Jordan 2013). Wezel and Jauneau (2011) divide this approach into three: a scientific discipline (the agricultural products themselves); a movement in the environment (the social and environmental conditions in a community); and practice (techniques on which the agricultural production of an area is based). In this way, nature conservation has increasingly become a dominant thread in agricultural science, and this has gained momentum since the 2000s.

Along with this change in our approach to agricultural systems and their environments, several international initiatives have actively sought their conservation, in coordination with the local communities who have traditionally managed them for generations. As outlined in the Prologue to

this book the Globally Important Agricultural Heritage System (GIAHS), a brainchild of the Food and Agriculture Organization (FAO), is one prominent example (Vafadari 2013). The GIAHS concept lists and protects extraordinary agricultural landscapes in a manner similar to the World Heritage list. These are areas that have been preserved through traditional knowledge and are home to rich biodiversity, and as a result show how human societies have co-evolved with nature. The FAO's main objectives for this program are (Koohafkan 2009):

- The GIAHS concept allows farmers to nurture and adapt the systems and biodiversity they have developed while ensuring food security and human well-being;
- GIAHS supports protective government policies and incentives while working for the conservation of biodiversity and traditional knowledge;
- GIAHS recognizes the right to food and the cultural diversity and achievements of local communities and indigenous peoples;
- GIAHS is based on the need for approaches that integrate the *in situ* conservation of genetic resources with related traditional knowledge and local institutions for natural resource management, as a way to ensure continuous co-adaptation to a changing physical and socio-economic environment, by strengthening the social-environmental resilience and co-evolutionary balance of agricultural systems.

GIAHS thus has four major areas: biodiversity, traditional knowledge, cultural diversity related to agriculture, and adaptive management and seeks to increase social-environmental resilience based on these resources. Thus, the GIAHS initiative is a part of the efforts described earlier in the prologue to assess traditional agriculture in relation to sustainable livelihood solutions in a future that does not require the agriculture products themselves.

Before describing specific GIAHS systems in later chapters, it is useful to discuss the role of agricultural landscape conservation in general. Wezel and Jauneau (2011) outline how the discipline of Agroecology evolved through the late years of the 20th century. The initial phase dated back to the 1930s, which was the phase of germination of this concept. This phase is characterized by a few sporadic uses of the term, and limited activities by early pioneers. The situation changed substantially during the 1970s to 1980s, which was the period of maturity for the discipline. Especially during the 1980s, publication on agroecology flourished, and numerous scholars helped establish agroecology as a scientific discipline (Altieri 1989). In the following decade of the 1990s, agroecology underwent a phase of

consolidation (Wezel and Jauneau 2011). Notably, agroecology came to be seen as a part of the sustainability initiative, which sought to integrate science and practice and broadened its scope as an integrative study of the ecology of entire food systems (Francis et al. 2003). Another notable trend in these recent years has been the focus on sustainable agricultural practices and agrobiodiversity. also describe how agroecology has simultaneously developed in three distinct, yet interlinked, ways: as a scientific approach to agriculture, as a movement, and as practice.

Since the 1990s, nature conservation initiatives have been integrated into the agroecology discipline. This has helped the discipline get a more community-rooted, and global outlook. The key to this transformation was the Rio Conference of the UN, held in 1992. The Rio Conference was a milestone event, as it established nature and landscape conservation as a mainstream agenda for science. How agricultural landscapes provide and maintain different ecosystem services became a major theme of research after this event. Later as the *Millennium Ecosystems Assessment Project* pointed out (Koohafkan 2009), agriculture was recognized as the single most important human land use, and its stake in biodiversity conservation became widely recognized. Particularly interesting in this regard has been the concept of sustainable human use of the natural landscape, this is otherwise referred to as an integrative concept of nature and agriculture.

From this brief outline of agroecology as a discipline and its development, we can make out that agricultural landscapes are simultaneously valued for their agricultural and ecosystem properties, and that these two properties are seen as interlinked. This concept provides the platform to launch our discussion on global initiatives like the GIAHS, their roles in protecting agricultural communities, and significance for conservation of the natural environment.

GIAHS and the Sustainable Livelihoods Approach

As we have seen, GIAHS is a United Nations Food and Agricultural Organization initiative (Koohafkan 2009). In summary, the concept is to provide examples of outstanding agricultural landscapes for registration as important heritage items. The initiative was aimed at enhancing our awareness such systems and facilitating their protection. It also calls for initiatives designed to ensure the sustainability of traditional agriculture and the livelihood of communities within each registered GIAHS landscape through a focus on existing agricultural systems.

The guidelines provide advice and support for stakeholders to benefit from collaboration leading to the retention of productive rural activities and

at the same time ensure that these activities are sustainable and will contribute to the protection of natural and cultural resources in a destination. Since its inception, GIAHS has attracted positive response from across the world. The program is designed to select between 100 and 150 GIAHS sites to promote the conservation and management of a sufficiently large range of agricultural heritage items to fully describe the history attached to agriculture from a world-wide perspective. According to the FAO (http://www.thegef.org/), pilot sites had been selected from 10 countries by the year 2000, including sites from The Philippines, Chile, Kenya, Tunisia, Peru, China, and Japan, while 9 other 'candidate' sites from Mexico, Italy, India, Poland, Iran, and Sri Lanka are also being considered for GIAHS listing at the present time. The program has attracted interest from some national protection initiatives with similar aims, such as the Satoyama and Satoumi programs of Japan. Selection of the Satoyama sites on the Noto Peninsula and Sado Island in Japan as GIAHS sites in May 2011 is an example of how these ways of preserving valuable traditional landscapes through collaboration between regional and national governance organs and international organizations.

At present, a total of 62 sites are designated as GIAHS across the world. Japan has long described agriculture as the nation's foundation and there are 11 GIAHS sites recognized by FAO throughout the country (Koohafkan 2009). Nevertheless, the challenges for Japan's rural communities are dominated by internal migration towards urban areas and their poor access to services (Chen et al. 2016). These obstacles mean that many communities in GIAHS areas find it difficult to utilize GIAHS resources for resilience and sustainability. Although recent studies have found that GIAHS communities attempt to create stories to show the continuity of the community and to sell their agriculture products, the difficulty of attracting new or younger generations to move into the community means they are still facing the need to preserve traditional techniques and prevent knowledge loss due to farmer aging. The issue of knowledge retention has meant that lost collective memory is at the forefront of GIAHS development, along with declining agricultural production and poor upkeep of existing farmlands, which in turn threaten GIAHS's sustainability and revitalization prospects.

Farmers and their local communities are the key stakeholders of any GIAHS as well as the co-managers of natural resources through designated rules and practices (Reyes et al. 2020). GIAHS can only survive if the land in rural communities is well managed. Rural revitalization and sustainability depend on a healthy, working, rural community as well as the support of accumulated traditional agri-knowledge. Continuation of knowledge and

traditional farming practices has been considered part of the responsibility of local communities because they have local knowledge of the practices related to agricultural production and diversity. However, they are not very familiar with the extended assistance of the GIAHS concept and the value of their traditional farming methods. Traditionally, local communities have passed their accumulated knowledge to the next generations in the form of thoughts, opinions, work patterns and experiences. While this has resulted in sustainability and resiliency in the traditional agriculture landscape, today such communities are facing challenges in maintaining the continuity of traditional knowledge because rural-urban drift takes away the next generation, which may result in a knowledge deficit that is unlikely to be filled over time. The lack of a systematic platform makes it difficult to store and to transfer this invaluable knowledge from older to younger minds without the functionality and strength of GIAHS communities worldwide and in Japan.

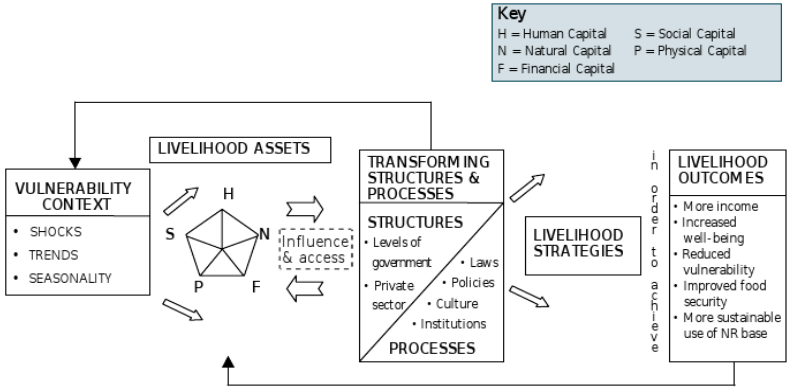
Existing studies related to GIAHS have explored various areas including the evaluation of the impact and values of the GIAHS in local communities (Chen et al. 2016), its application to tourism development (Yotsumoto and Vafadari 2021), and exploration of the best ways to achieve sustainability using such methods. A particular focus has been on the preferences and perceptions of visitors/tourists towards GIAHS in an area (Chen et al. 2016; Nomura et al. 2018). While these insights have contributed considerably to the quality enhancement of GIAHS projects, the research to date has tended to focus on the application of agri-knowledge in building GIAHS-based communities rather than adopting a proactive approach through searching, gathering, evaluating, and storing the traditional knowledge and intangible heritage, and transferring it to the next generation.

Indeed, planning for, recording traditional agricultural knowledge, and facilitating the dissemination of knowledge from local communities to the next generation are extremely important for the future development of GIAHS as well as for Japan, and ultimately have this has implications for rural resilience and sustainability. To date, there has been no systematic study to address such matters. Drawing upon ideas from knowledge management there are four main interrelated processes we need to consider: the creation/acquisition, storage, transfer and application of knowledge (Alavi and Leidner 2001), this book takes a step towards developing a systematic platform that can be used to record and document agri-knowledge from the supply side as well as to manage the knowledge transfer process from the rural communities to contemporary urban society.

The Sustainable Livelihood Approach (SLA)

The Department for International Development in the United Kingdom (DFID 1999) considers the livelihood assets (resources) that may be used in any location and community for sustainable development purposes to be: Human Capital (H), Social Capital (S), Natural Capital (N), Economic Capital (E) and Physical Capital (P), as mediated by Institutional (I) and Attraction Capital (A) (Figure 1.1).

Figure 1.1: Community and Personal Livelihood Assets



Natural capital is provided by natural resources that can be used by communities to building livelihood strategies (Conroy and Litvinoff 1988). Physical capital is the infrastructure that supports communities. Economic capital refers to employment levels, economic development opportunities, and the source of finance used by a community to achieve its sustainable development goals. Human capital is the skills, knowledge, demographic characteristics and ability of people that enables communities to use their livelihoods. Social capital (DFID 1999; Koohafkan 2009) includes the social and cultural resources that are used to community livelihood objectives.

Attraction capital is not a single independent variable but is made up from each of the other five types of capital that are used to attract people to visit an area. The Financial and Physical capital parameters identified in Figure 1.1 can be considered together, under Economic capital. Institutional capital is the political and administrative framework that allows people access to the tourist market, participation in local tourism policy making, and a share in the benefits of tourism development.

Rebuilding systems and making progress are also central parts of the SLA model (Tao and Wall 2009), which variously help to form Livelihood assets, control outcomes and have an influence on access to those livelihoods (DFID 1999). This is determined by the institutions, organizational structures, power relationships, and policies that define the level and condition of access to resources by different groups of people (their Institutional Capital (I)). Notable variables include a community's political and legal structures, access to private sector and markets, cultural traditions, the level of local involvement in policymaking, and the systems for sharing the benefits of development in a particular community (Mikano and Wa 2008; Shen et al. 2008).

Finally, because each of the assets depicted in Figure 1.1 may attract people from outside the immediate geographical boundaries of a site to visit an area, Attraction Capital (A) is recognized as a factor that allows evaluation of livelihood assets as tourist attractions. All of these assets and their ultimate use also have a vulnerability context. The SLA model introduces vulnerability as an important variable within the analysis (Vafadari 2013). The existence of external shocks affects livelihoods at different spatial levels. Such assets are in turn sustained, managed and utilized by people who have to cope with numerous threats and challenges, some of which originate outside their area (as defined in the Vulnerability Context) requires learning from the past and effective strategies to counter future threats—in other words, a strengthening of the resilience of the concerned community.

Contemporary Significance

Since 2005 the GIAHS scheme has identified some 200 extraordinary agricultural landscapes so far, and as of 2019, 62 sites spread across 22 countries have been accredited with GIAHS status (FAO 2022). These systems are recognized for their age-old traditions. The authors point out that often these systems are characterized by some of the most rudimentary forms of agriculture, but their timeless value lies in the fact that they are based on human creativity, and they have sustained many generations and communities over a very long span of time. The importance of these landscapes for food and livelihood security, biodiversity, Indigenous knowledge, culture and landscape beauty, and therefore transcends space and time. Koohafkan (2009) also mentions that the GIAHS have outstanding universal value, they are different from the UNESCO World Heritage Sites in the sense that they are not specific landscape or cultural

relics frozen in time, but they constitute dynamic systems and cultures and are very much 'living' entities in this sense.

The GIAHS initiative has recently begun to focus on the rice farming landscapes in East and Southeast Asia, such as the Rice/Fish Agriculture System in China, the rice terraces of the Philippine Cordillera, and the Satoyama-Satoumi of Noto Peninsula in Japan (FAO 2022; Nakajima 1999). In Japan, rice paddies have performed significant ecological roles, and the traditional landscape of agricultural communities is characterized by rice cultivation in the valley bottoms of steep and fast flowing rivers, forests in the valleys and low to moderately high mountains. This landscape also retained a large share of forests, which were intensively managed by local farming communities. In historical times, this landscape offered both direct livelihood sources, in the form of food and fuel, and also indirect sources to sustain communities. When the populations were small, and mostly agrarian, these mountains, forests, rivers and rice paddies encompassed livelihood options for most people and managing them across generations became a culture. This changed, quite rapidly, in the postwar period, when Japan became an advanced, industrialized, and modern country. Increased people abandoned villages and moved into large urban hubs, where life was easier, jobs generated quick money, and within a single generation or two, most of the Japanese population became dependent on urban and industrial provisions. As far as food and fuel are concerned, traditional charcoal and farm produce gave way to petroleum fuel and imported food.

In recent years, the Satoyama concept has reemerged as a major focus for rural conservation activities in Japan. This landscape is '…a mosaic of different types including, secondary forest agricultural lands, irrigation ponds, and grasslands along with human settlements' (Duraiappah et al. 2012). This nature of Satoyama, i.e., the 'integration' of different landscape types, which allow a large variety of agricultural produce—has attracted scholarly interest: as these traditional rural landscapes of Japan are seen as important models of self-sustaining, and resource-circulating, local societies.

There is one other property of these landscapes that has a significant contemporary relevance. This is the potential for developing sustainable rural tourism. For advanced countries like Japan, the rural areas are witnessing rapid depopulation and aging. This means that these communities will become smaller and smaller with time and sustaining the culture of resource circulation will be increasingly difficult for the villagers. Rural tourism is often seen as a revitalization pathway for these communities. The rural landscape is appreciated for its value as an attraction,

and the community knowledge of sustainable living is recognized as a major potential for linking urban and rural populations.

Backing this up, agro-ecological landscapes, and their food provisioning services, are seen as an emerging area of study (and policy determinant): one which links and preserves the market for local agriculture products and communities through innovative approaches (Sidali et al. 2011). Additionally, traditional rural landscapes providing excellent resources for rural tourism, can in turn be linked to a meaningful community-academia partnership: as local universities or research institutions stand to gain insight into community lifestyles sustainability, and a host of other issues with high academic relevance. The wet-rice farming landscapes of Kunisaki Peninsula in Oita are important in this context as they are an inclusive mixture of high-altitude forests, agricultural rice terracing, and fish farming forming a dynamic mosaic, based on water resources obtained from interlinked *tameike* reservoirs (see Chapter 8).

References

Alavi, M., and D. E. Leidner. 2001. "Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues." *MIS Quarterly* 25: 107-136.

Altieri M. A. 1999. "The ecological role of biodiversity in ecosystems." *Agriculture, Ecosystem and Environment* 74(1-3): 19-31.

Augustyn, M. 1998. "National strategies for rural tourism development and sustainability: The Polish experience." *Journal of Sustainable Tourism* 6(3): 191–209.

Ballasteros, E. R. 2017. "Keys for approaching community-based tourism." *Gazeta de Antropologia* 33(1): Articulo 01.

Beaulieu L J., and J. L. Jordan. 2013. *Developing sustainable agriculture and community*. London: Routledge.

Chen, B., Z. Qui, and K. Nakamura. 2016. "Tourist Preferences for Agricultural Landscapes: A case study of terraced paddy fields in the Noto Peninsula, Japan." *Journal of Mountain Science* 13(10): 1880-1889.

Cocks M. 2010. "What is biocultural diversity? A theoretical review." In: *Human Ecology: Contemporary Research and Practice,* edited by D. G. Bates and J. Tucker, 67-78. New York: Springer.

Conroy, C., and M. Litvinoff. 1988. T*he Greening of Aid: Sustainable Livelihoods in Practice*. London: Earthscan Publications Ltd.

DFID. (1999). *Sustainable Livelihoods Guidance Sheets*. London, UK: DFID.

Duraiappah, A., K. Nakamura, and K. Takeuchi. 2012. *Satoyama Satoumi ecosystems and human well-being: Socio-Ecological production landscapes of Japan*. Tokyo: UNU Press.

FAO. 2022. GIAHS: *Globally Important Agricultural Heritage Systems*. Rome: UNESCO, FAO.

Flora C. 2001. *Interactions between agroecosystems and rural communities*. Boca Raton: CRC Press.

Francis, C., G. Lieblein, S. Gliessman, T. A. Breland, N. Creamer, R. Harwood, L. Salomonsson, J. Helenius, D. Rickerl, R. Salvador, M. Wiedenhoeft, S. Simmons, P. Allen, M. Altieri, C. Flora, and R. Poincelot. 2003. "Agroecology: The Ecology of Food Systems." *Journal of Sustainable Agriculture* 22(3): 99-118.

Gliesmann, S. R. 2000. *Agroecosystem sustainability: Developing practical strategies*. Boca Raton: CRC Press.

Koohafkan, P. 2009. "The Conservation and Adaptive Management of Globally Important Agricultural Heritage Systems (GIAHS)." *Journal of Resource Science* 31(1): 4-9.

Lichtfouse E, M. Hamelin, M. Navarrete, and P. Debaeke. 2011. *Sustainable Agriculture*. Volume 2. New York: Springer.

Meadows, D. H., J. Randers, W. W. Behrens, and D. L. Meadows. 1972. *The limits to growth: A report for the club of Rome's Project on the predicament of mankind*. New York: Universe Books.

Meadows, D. H., and D. L. Meadows. 2004. *Limits to growth*. White River Junction, Vt: Chelsea Green Publishing Co.

Mikano, M., and W. Y. G. Wa. 2008. "Understanding the Challenges of Japanese Mountain Villages in the light of the Sustainable Livelihood Approach." *University of Hyogo Working Paper* 215(3): 1-22.

Nakajima M. 1999. *Stepped rice paddies of Japan: Conservation methods*. Tokyo: KokonShoin.

Nomura, H., N. B. Hong, and M. Yabe. 2018. "Effective Use and Management of Kunisaki Peninsula USA GI AHS Long Trail-A Sustainable Tourism Model leading to Regional Development." *Sustainability* 10(2): 497-511.

Oosterveer, P., and D. A. Sonnenfeld. 2011. *Food, globalization and sustainability*. London: Routledge.

Peloquin, C., and F. Berkes. 2010. "Local knowledge and changing subsistence strategies in James Bay, Canada." In: *Human Ecology: Contemporary Research and Practice*, edited by D. G. Bates and J. Tucker, 281-296. New York: Springer.

Reyes, S. R. C., A. Miyazaki, E. Yiu, and O. Saito. 2020. "Enhancing Sustainability in Traditional Agriculture: Indicators for Monitoring the Conservation of Globally Important Agricultural Heritage Systems (GIAHS) in Japan" *Sustainability* 12(14): 5656.

Shen, F., K. F. D. Hugey, and D. G. Simmons. 2008. "Connecting Sustainable Livelihoods Approach and Tourism: A Review of the literature." *Journal of Hospitality and Tourism Management* 15: 19-31.

Sidali, K. L., A. Spiller, A, and B. Schulze. 2011. *Food, Agriculture and Tourism: Linking Local Gastronomy and Rural Tourism: Interdisciplinary Perspectives*. Springer: New York.

Takeuchi, K., and R. D. Brown. 2003. *Satoyama: The traditional rural landscape of Japan*. Tokyo: Springer.

Tao, T., and G. Wall. 2009. "A Livelihood approach to Sustainability." *Asia Pacific Journal of Tourism Research* 14(2):137-152.

Vafadari, K. 2013. "Review: Planning Sustainable Tourism for Agricultural Landscapes." *Ritsumeikan Journal of Asia Pacific Studies* 32: 75-89.

Wezel, A., and J-C Jauneau. 2011. "Agroecology: Interpretations, approaches and their links to nature conservation, rural development and ecotourism." In *Agriculture, Conservation and Ecotourism: Examples from the Field,* edited by W. B. Campbell and S. Lopez-Ortiz, 1-26. New York: Springer.

Yotsumoto , Y., and K. Vafadari, 2021. "Comparing cultural world heritage sites and globally important agricultural heritage systems and their potential for tourism." *Journal of Heritage Tourism* 16(1): 43-61.

CHAPTER TWO

PLANNING FOR SUSTAINABLE AGRICULTURAL LANDSCAPES

Introduction

Less than 50% of the world's population now live in rural areas (UNDP 2006), but 75% of the poor still do (World Bank 2008). In developed nations like Japan this pattern of urban-rural dichotomy also occurs but in this case results from the marginalization of the agricultural sector itself that leaves behind remnant populations. Today, more than 60% of the remnant farming population in Japan is 65 or over and the reduction of the rural population for economic reasons is made worse by the aging of those who remain.

Agriculture remains an important sector of the world economy but its contribution to local livelihoods by providing jobs as well as food for the urban populations is now limited in many countries. Farm tourism is however a possible alternative, and if communities can create synergies between the two this would be a very important outcome for the retention of agriculture in the future. This chapter discusses the feasibility of this approach to revitalizing rural areas using examples from Japan and other countries. This discussion is based on the fact that the tourism industry has turned into one of the most important and fastest-growing economic sectors worldwide in recent years.

The socio-cultural impact of the decline in agriculture in Japan is that it has meant the loss of traditional farming practices and rural cultural capital (Eades 2009). At the national level there is worry about this process of depopulation and this has resulted in the rural areas of Japan (Sorensen 2008) being heavily marketed as Furusato (place of origin) destinations to try to attract people back to them (Wolfgang 2006). However, this policy has not been successful largely due to the fact that it did not/does not change the reasons for the rural-urban drift in the first place; the decline in the relevance of the agricultural sector in an industrialized community. Complicating this situation is the concern about the condition of the natural environment that also spread in Japan during the 1990s. In 1992 Japan