

Changing Landscapes of Japan  
Sustainable Agriculture as Rural Revitalization

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## Chapter 1: Introduction



Tucked away amongst a sea of rice paddies at the end of an unpaved farm road in an inland community on the Japanese Island of Sado is a destination known as “Rice Paddy Art.” Beginning in 2017 to celebrate 10 years since the establishment of a sustainable rice growing program on the island,<sup>1</sup> a variety of rice with different colored stalks have been grown in configurations that create an image that illustrates a local feature or characteristic of the island. Rice Paddy Art, with the financial support of the local government, brings together artists, local school groups, and local farmers each year to make a different art piece. When I visited Sado in

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<sup>1</sup> “tanbo aato 田んぼアート [rice paddy art],” さど観光ナビ, accessed June 2, 2022, <https://www.visitsado.com/spot/detail0904/>.

the summer of 2021, the rice paddies featured the sustainable rice program: rice farmers at work, with the once nearly extinct bird species known as the crested ibis soaring in the background. As I was taking pictures, the island's mayor and former director of the city's agricultural department drove up; Mayor Watanabe Ryugo<sup>2</sup> had been influential in establishing the farming program that had supported farmers in creating habitat for the crested ibis. I spent a few minutes talking with Watanabe-san<sup>3</sup> about the program he had initiated. According to Watanabe-san, his program had many benefits, going well beyond the goal of habitat creation for the once nearly extinct bird. Thanks to his initiative, local biodiversity was thriving, the local traditions and culture related to farming were seeing renewed interest, and farmers were able to create a strong brand for their products and turn a profit.

Just as Watanabe-san shared with me that afternoon in front of Sado's rice mural, communities across Japan are bolstering the local region through creative activities that bring multiple benefits. "Revitalization" and "development" have become keywords in describing rural spaces, as every community searches for ways to show its uniqueness and combat an array of problems specific to rural Japan. Depopulation, aging, farmland abandonment, environmental degradation and loss of cultural practices have led to a decline in the countryside. While it would take volumes to chronicle the creative and diverse projects being undertaken across Japan, this thesis describes and evaluates two programs developed to combat these challenges by capitalizing on a key asset of rural life—its agriculture and farming heritage.

Agriculture provides a tool ripe for revitalization initiatives because it is so closely tied to Japanese conceptions of place and development. The word, *meibutsu* (名物) or specialty

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<sup>2</sup> In this thesis, I follow Japanese naming conventions and provide last name followed by first name.

<sup>3</sup> "san" is the gender-neutral polite title similar to Mr. Ms. etc. I use this title throughout out the text to refer to my interlocuters.

product— usually a food item— is a common topic of Japanese conversation. Different regions and places are associated with a certain cuisine or food product, which makes them distinct.

While *meibutsu* may simply be a way of cooking or preparing a dish, it is frequently made from a crop that grows well in the area. Through *meibutsu*, a region can brand itself as a locality and market itself as a tourist destination. This local product-based development is such an essential part of how Japanese communities define themselves, that it has become a core component of Japan's international aid and development programs.<sup>4</sup> Because of the ties between place, crop, and locality, as rural communities look for ways to revitalize, local agriculture provides what appears to be a low-hanging fruit in achieving this goal.

Moreover, agricultural revitalization offers a unique opportunity because of the role farming plays in the Japanese psyche as a symbol of nationality and heritage of sustainability. Japan's post-World War II economic transformation included movement of jobs from agriculture to industry and the service sector, leading to a romanticization of rural life and agriculture. As the country grappled with its relationship with Western countries during this period of development, rice and rice paddies became a symbol of a unique Japanese self.<sup>5</sup> Rice paddies are part of what is today called *satoyama* or a *satoyama* landscape, a term loosely defined as human-managed secondary nature that consists of forests, fields, agriculture, and nearby settlements. While the term encompasses a variety of different ecosystems in rural Japan, *satoyama* is predominately associated with flooded rice cultivation<sup>6</sup> and managed forests,<sup>7</sup> which is often

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<sup>4</sup> Pam Jagger, 2021.

<sup>5</sup> Emiko Ohnuki-Tierney, *Rice as Self: Japanese Identities through Time* (Princeton, N.J.: Princeton University Press, 1993), 113.

<sup>6</sup> Abhik Chakraborty and Shamik Chakraborty, "Satoyama: A Landscape Conservation Discourse of Romantic Nostalgia and Reflexive Modernity in 'Post Growth' Japan'," *Japan Studies Association Journal* 11 (January 2013): 61.

<sup>7</sup> Kazuhiko Takeuchi et al., *Satoyama The Traditional Rural Landscape of Japan* (Tokyo: Springer Japan : Imprint: Springer, 2003).

characterized as a way of living in harmony with nature.<sup>8</sup> Thus, *satoyama* suggests a uniquely Japanese heritage of sustainability.

### *Challenges in Agricultural Communities and Agro-Ecosystems*

Yet, despite the symbolic importance of agriculture, farming communities are increasingly facing challenges both in sustaining their community and the industry itself. In 1991, the term *genkai shuraku* 限界集落 (or marginal settlement) was coined to describe the phenomenon where more than 50 percent of the population is older than 65, and because of this aging, the settlement is on the verge of disappearing.<sup>9</sup> With an increasing elderly population and the concentration of opportunities in urban centers, young people no longer see rural communities as a place to settle, and farming is not seen as a career option. Currently, the average age of farmers in Japan stands at 67.8 years old.<sup>10</sup> Many of these farmers are retired from another career and are working part-time. Due to such changes, fields are going out of cultivation and fewer people now are working the land. Between 1960 and 2010, the number of people classified as farmers plummeted from 14.54 to 2.27 million. While part of this decrease can be attributed to the intensification of farming, the area of cultivated farmland decreased by 25 percent, suggesting that aging and a lower farming population are leading to farmland loss.<sup>11</sup> Moreover, because managing farming resources, like water reservoirs or farmland roads, are

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<sup>8</sup> Chakraborty and Chakraborty, "Satoyama."

<sup>9</sup> Wolfram Manzenreiter, Ralph Lützel, and Sebastian Polak-Rottmann, eds., *Japan's New Ruralities: Coping with Decline in the Periphery*, Nissan Institute/Routledge Japanese Studies (Abingdon, Oxon ; New York, NY: Routledge, 2020), 2, <https://doi.org/10.4324/9780429331268>.

<sup>10</sup> Ministry of Agriculture, Forestry and Fisheries, "Nourinsuisanshou Kihon De-Ta Shou (Basic Data on Agriculture, Forestry and Fisheries)," April 1, 2021, <https://www.maff.go.jp/j/tokei/sihyo/index.html>.

<sup>11</sup> Stephanie Assmann, *Sustainability in Contemporary Rural Japan: Challenges and Opportunities*, 2015, 54, <https://doi.org/10.4324/9781315739588>.

typically done by farmers, the loss of a few farmers in a community often leads to further challenges; as fewer farmers are available to manage communal resources, the workloads of existing farmers rise and the barriers for aspiring farmers increase.

Farmland loss is one of several environmental pressures facing agriculture in Japan as illustrated by changes to ecosystem services and biodiversity. While some, particularly those coming from a non-Japanese perspective, suggest that population loss can have positive ecological consequences,<sup>12</sup> given the cultural importance of *satoyama*, the scientific community in Japan tends to focus on how the loss of farmland leads to environmental challenges.<sup>13</sup>

*Satoyama* landscapes are associated with an array of ecosystem services, or environmental processes or functions that support human needs. As explained in a United Nations assessment of services of *satoyama* forests and agricultural lands, the loss of farmland decreases the ability of ecosystems to prevent floods and surface erosion as well as contribute to the community's ability to access recreational and relaxing spaces.<sup>14</sup> Moreover, the loss of heterogeneous habitats created by farmland surrounded by forests—a typical ecosystem, especially in more hilly or mountainous *satoyama* areas—impacts species. Abandoned rice fields also gradually dry, so aquatic plants and invertebrates lose habitat; this is accompanied by an increase in vegetative growth—often non-native species—which in turn makes nearby rice paddies less hospitable for bird species that rely on rice paddy wetland environments.<sup>15</sup> Similarly, the loss or the abandonment of reservoirs, traditionally used to store water for managing the water levels in rice

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<sup>12</sup> Peter C. D. Matanle, Anthony Rausch, and Shrinking Regions Research Group, *Japan's Shrinking Regions in the 21st Century* (Amherst, N.Y.: Cambria Press, 2011), 21.

<sup>13</sup> Utsunomiya, June 2021.

<sup>14</sup> Anantha K. Duraiappah and Anantha K. Duraiappah, *Satoyama--Satoumi Ecosystems and Human Well-Being : Socio-Ecological Production Landscapes of Japan* (New York: United Nations University Press, 2012), 146.

<sup>15</sup> Naoki Katayama et al., "A Review of Post-War Changes in Rice Farming and Biodiversity in Japan," *Agricultural Systems* 132 (n.d.): 80, <https://doi.org/10.1016/j.agsy.2014.09.001>.

paddies, has been associated with a decrease in species such as diving beetles and loaches, a type of freshwater fish.<sup>16</sup>

However, farmland loss and abandonment are not the only environmental challenges associated with agriculture; post-war agricultural intensification—the increase in the use of machinery, new technologies, and agrichemicals— has also led to significant challenges to biodiversity and water quality. For instance, the use of concrete ditches for irrigating rice paddies has disrupted fish movement and migration. In addition, studies have shown that bird species that rely on rice paddies have decreased at greater rates than other birds that do not require such habitats; while longitudinal studies of plants and invertebrate populations in rice paddies are rare, many such organisms are now on the “red list” meaning that their numbers are decreasing and may be endangered.<sup>17</sup> Moreover, Japan’s agrichemical usage is extreme in an international context. Japan is one of the top ten countries for the application of pesticides in the world.<sup>18</sup> While rates have decreased since the 1960s and 70s when several instances of pesticide poisoning led to farmer deaths,<sup>19</sup> this global figure suggests that the country has significant room for more environmentally friendly practices. Similar to pesticide use, fertilizer use in Japan is extremely high; as of 2014, fertilizer per hectare of farmland in Japan was 5.7 times higher than application rates in the EU and 18.5 times higher than levels in the US.<sup>20</sup> Overuse of fertilizers leads to runoff into waterways, leading to algae blooms and then dead zones.<sup>21</sup>

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<sup>16</sup> Utsunomiya, interview.

<sup>17</sup> Katayama et al., “A Review of Post-War Changes in Rice Farming and Biodiversity in Japan,” 74.

<sup>18</sup> Max Roser, “Pesticides,” *Our World in Data*, October 13, 2019, <https://ourworldindata.org/pesticides>.

<sup>19</sup> Katayama et al., “A Review of Post-War Changes in Rice Farming and Biodiversity in Japan,” 75.

<sup>20</sup> OECD, “OECD Territorial Reviews Japan 2016” (OECD Publishing, 2016), 214.

<sup>21</sup> Duraiappah and Duraiappah, *Satoyama--Satoumi Ecosystems and Human Well-Being*, 129.



## *National Influences on Agriculture and Rural Life*

To combat such challenges, at the national level, an array of different policies govern agriculture. Broadly speaking, the policies of Japan's Ministry of Agriculture, Forests, and Fisheries (MAFF), support two different farming trajectories: in the past couple of decades some policies have taken a neoliberal expansionist approach, focusing on developing large-scale farms that will produce food for the country, but many other policies continue to preserve the small family farm structure that makes up most of the agriculture in Japan. The latter approach includes laws to allow non-farming corporations to own and start farms, increasing the number of international laborers working on large-scale agribusinesses, expanding existing fields into larger fields, and advocating for the increase in cooperative forms of ownership of farming operations. While not directly the focus of this paper, this push for the expansion of farm size often influences the dynamics of the programs in this study.

MAFF attempts to preserve the status quo of agricultural communities and small shareholder farmers through an array of policies, several of which are particularly relevant to this study. Started in 2000, the Direct Payment to Farmers in Hilly and Mountainous Areas program was instituted to pay community members to continue to maintain agricultural production in areas with steep inclines.<sup>22</sup> Such areas have low productivity rates and require significant infrastructural maintenance, but they contribute to the creation of the heterogenous landscapes which are well known for biodiversity, aesthetically beautiful views, and even public safety (through contributing to the prevention of landslides). In addition to this measure, MAFF has

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<sup>22</sup> Takuya Hashiguchi, "Japan's Agricultural Policies After World War II: Agricultural Land Use Policies and Problems," in *Social-Ecological Restoration in Paddy-Dominated Landscapes*, ed. Nisikawa Usio and Tadashi Miyashita, Ecological Research Monographs (Tokyo: Springer Japan, 2014), 10, [https://doi.org/10.1007/978-4-431-55330-4\\_1](https://doi.org/10.1007/978-4-431-55330-4_1).

created the Next Generation of Farmers Investment Grant (農業次世代人材投資資金) which offers support for both aspiring farmers who enroll in an intensive training as well as those who are starting up their business. Administered by local-level governments, this grant provides a basic salary for those who are beginning their careers in agriculture. Through such programs, MAFF encourages Japanese farmers and community members to maintain agricultural practices and farm ownership systems.

MAFF is not the only body that plays a significant role in agriculture across the country; the Japanese Agriculture Cooperative (JA) is another organization that plays a critical role in farming throughout the nation. Created in the 1900s to combat issues of food shortages and distribution among its farmer members, JA today is often described as being member operated only in name; its practices tend to uphold its organizational power, or simply be a conduit through which MAFF can enact its policies. For instance, when Japan began to overproduce rice in the 1970s, MAFF instated *gentan* (減反), or a policy to limit acreage under rice production, and these reduction requirements were carried out by JA. Nonetheless, today, virtually all farmers are members of JA because the organization is deeply embedded in the lifestyle of farmers. As political scientist Nicole Freiner writes, “To say that the cooperative dominates country life is an understatement; it is the central mechanism for both the distribution and sales of agricultural products and financial services as well as a channel for distributing government monies and implementing national level policies.<sup>23</sup>” JA is particularly well known as the source of farm machinery, agrichemicals and technical support for farmers. In the decades proceeding World War II, it was through JA, that Japan’s agriculture intensified; through demonstrations

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<sup>23</sup> Nicole L. Freiner, *Rice and Agricultural Policies in Japan The Loss of a Traditional Lifestyle*, 1st ed. 2019. (Cham: Springer International Publishing : Imprint: Palgrave Macmillan, 2019), 87.

and trainings, new technologies were introduced and then adopted by farmers, making Japan's conventional growing practices what they are today.

### *At the "Crop" Roots Level*

While MAFF and JA exert significant influence over farming across Japan, these national bodies are not the only ones that are shaping the agricultural landscape; local communities—whether grassroots groups, NGOs, municipalities or prefectural governments—also play a formative role in agricultural communities. Due to the variety of actors and communities involved, scholarship, particularly in the English language, does not come close to covering the variety of different approaches taken to shape, support and revitalize agriculture in Japan's rural communities. Some studies, like Katsue Fukamachi's study on terraced rice paddy conservation, take a comparative approach to examining programs; Fukamachi examines two programs that operate through nongovernmental organizations and rely primarily on volunteer citizen labor.<sup>24</sup> Other studies focus on outcomes in a single place. This method has been particularly prevalent in areas that have been designated as Globally Important Agricultural Heritage Systems (GIAHS) by United Nations' Food and Agriculture Organization (FAO). This international designation honors areas that have "agricultural biodiversity, resilient ecosystems and a valuable cultural heritage;<sup>25</sup>" thanks to their status, these GIAHS sites have received substantial attention from academics and researchers. Studies like Evonne Yui's 2014 article on the Noto Peninsula, describe the benefits of prefectural and municipal efforts at agricultural revitalization—for

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<sup>24</sup> Katsue Fukamachi, "Sustainability of Terraced Paddy Fields in Traditional Satoyama Landscapes of Japan," *Journal of Environmental Management* 202, no. 3 (2017): 543–49, <https://doi.org/10.1016/j.jenvman.2016.11.061>.

<sup>25</sup> Food and Agriculture Organization of the United Nations, "Globally Important Agricultural Heritage Systems (GIAHS)," 2021, <http://www.fao.org/giahs/en/>.

instance, through providing startup funds and tax breaks to preserve *satoyama*.<sup>26</sup> A notable characteristic of both Yui and Fukamachi is that the authors only espouse the benefits these programs provide, failing to examine their shortfalls. Moreover, both these pieces, while relying on methods like participant observation and survey results, tend to share a more general description of the programs as opposed to providing an in-depth analysis of the perspectives of those involved in the program.

In Japanese language publications, however, some studies share more of the stakeholders' perspectives and critical commentary on agricultural revitalization at the local level. Farmer organizer and social scientist Toyoda Mitsuyo has a collection of pieces that evaluate one of the first sites to be designated as GIAHS, the island of Sado and its municipal-run sustainable certification described earlier. In her 2017 article, she critiques Sado's focus on species conservation as a mechanism to mobilize farmers; drawing on conversations with farmers, she argues that collective dialoguing about the needs and aspirations of farming communities is more valuable and effective.<sup>27</sup> In her 2021 article, she draws on survey data of farmers in the same program to illustrate both the successes as well as challenges faced by the program ten years after its establishment.<sup>28</sup> While Toyoda's research offers valuable insights into Sado's sustainable agricultural program, as a single case study, it is hard to know if her insights about Sado can be generalized to other communities grappling with similar challenges.

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<sup>26</sup> Evonne Yiu, "Noto Peninsula after GIAHS Designation: Conservation and Revitalization Efforts of Noto's Satoyama and Satoumi," *Journal of Resources and Ecology* 5, no. 4 (December 2014): 364–69, <https://doi.org/10.5814/j.issn.1674-764x.2014.04.012>.

<sup>27</sup> Toyoda, Mitsuyo, "Designing Consensus Building Processes for Co-Inhabitation with the Crested Ibis: A Challenge in the Age of Depopulation," 2017.

<sup>28</sup> Toyoda, Mitsuyo, "Challenges of Ecological Rice Certification System for the Co-Inhabitant with the Crested Ibis: A Survey Study in Sado," 2021.

Thus this study continues Toyoda's work by examining Sado's municipal-run agriculture program in conjunction with another municipal-run program in the same region of Hokuriku, in the city of Hakui. While using vastly different approaches to revitalizing agriculture, both share a key similarity: Sado and Hakui, despite advocating for the decreased use of agrichemicals have both garnered the support of local branches of JA, which is a deeply influential and key proponent of agrichemicals. As I compare these two programs, I ask the following questions: what are the mechanisms municipalities use to develop sustainable agriculture programs and thus support rural revitalization? How can we evaluate these programs, especially for farmers, who are the main constituents of these initiatives?

The first program, run by the city of Hakui, focuses on training and helping beginning farmers undertake a farming method called "natural cultivation" which eschews the use of all agrichemicals and fertilizers. Established by a non-farmer civil servant who has a history of using a variety of hair-brained schemes to garner attention and investment in his community, this program has its roots in community development. In contrast, Sado Island's "Living in Harmony with the Crested Ibis" is certification program for sustainable rice. This program developed out of dual challenges; the need to create habitat for the crested ibis when it was reintroduced to the wild in Sado, and the need to increase the reputation and sales of Sado's rice. As the following chapters will illustrate, both programs have left indelible marks on their communities; they have provided a more ecologically sound source of food while also bringing new farmers into the community—as illustrated in Hakui—and support robust marketing and sales of rice, as shown through Sado. However, both programs face challenges, whether due to national policies and market trends, the role of the program itself, or even the specific method undertaken. To sidestep external challenges and minimize internal limitations, I conclude by developing a framework to

evaluate sustainable agricultural programs which are steeped in local identity and function as a brand for their locality.

To develop this framework, I will begin with a close examination of each program individually before comparing the main benefits and challenges faced by both. Chapter Two examines Hakui's natural cultivation program. This chapter describes in detail the multi-pronged support system Hakui has developed for aspiring and beginning natural cultivation gardeners and farmers. Despite its comprehensive nature, numerous farmers and non-farmers in the program voiced concerns about the effectiveness of this support package due to mismanagement and the challenges of small-town relationships. Yet despite these flaws, Hakui's program has and continues to successfully attract new natural cultivation practitioners to the community. Chapter Three shares the history of Sado Island's crested ibis preservation program and how with the reintroduction of the crested ibis to the wild, the cooperation of farmers became crucial. Despite initial growth and the program's ability to create habitat for a burgeoning crested ibis population, the program is already beginning to face inevitable decline as the number of rice farmers dwindles and the size of farms increases. Chapter Four brings these two case studies together with several theories on place branding and program implementation best practices. This chapter shows how regional agricultural branding initiatives are regional development programs. To make them function smoothly, planning and implementation challenges need to be minimized through conducting baseline assessments and understanding components of policy implementation. Conceptualizing regional branding as a dialectic process for developing communities through fostering local identity offers agricultural communities a method to make the most of their existing resources and continue to tackle and overcome program limitations.

The paper concludes with a review of the limitations of the study and suggestions for further research.

### *Methods*

Study sites were selected based on similarities between the programs. Both Sado and the Noto Peninsula where Hakui is located, have been designated as GIAHS by the FAO. In Japan, communities achieve this designation through proposals that are written and submitted to the FAO by an array of local stakeholders, who are largely motivated by the “push factor” of the loss of traditional farming practices and culture, and the “pull factor” of the ecological benefits derived from these agricultural practices.<sup>29</sup> Both areas were designated in 2011, suggesting that they had, at that time, similar levels of local support and interest in sustainable agriculture, and that progress towards such goals would be measurable by the time of fieldwork in 2021. Originally, the city of Sado and the entire Noto Peninsula were chosen as study sites, but because Noto includes 6 municipalities, the city of Hakui was selected as the focal point of this study. Like Sado, Hakui’s municipal government has been actively involved in supporting sustainable agriculture and began several years before its designation. Moreover, in both cases, JA has been an active collaborator, a practice that was not necessarily true in other municipalities in Noto.

This study is based largely on interviews with stakeholders involved in the programs. These were primarily conducted over two months during the summer of 2021, with some additional interviews in the spring of 2022. Interlocutors were recruited largely through snowball sampling and interviews were semi-structured, ranging in length from 45 minutes to

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<sup>29</sup> Sheryl Rose C. Reyes et al., “Enhancing Sustainability in Traditional Agriculture: Indicators for Monitoring the Conservation of Globally Important Agricultural Heritage Systems (GIAHS) in Japan,” *Sustainability (Basel, Switzerland)* 12, no. 14 (January 1, 2020): 1, <https://doi.org/10.3390/su12145656>.

120 minutes. In total, 36 interviews of different individuals or small groups were conducted with three interlocutors agreeing to follow-up conversations. Interviews usually took place at relevant sites; government and organizational interviews were conducted in offices and conference rooms, and conversations with farmers were held on the outskirts of a field, in a farmer's house, or sitting in a truck. This oral data was supplemented by relevant secondary sources, written reports, a memoir, surveys, and government data, along with field visits, several conferences, and participant observation during a farming course. For the analysis, interviews were recorded, transcribed through an AI transcription service, and then summarized in English. A code for in each study site which encapsulated key themes was developed through a close reading of the original Japanese transcription of several interviews or English translations. These codes were then categorized by theme and manually applied to the English summaries. The coding schema is illustrated on the next page and the results of this coding are described in Chapters Two and Three.



<b>Coding Scheme for Sado's Living in Harmony with the Crested Ibis Certification</b>			
Identity	Local Importance		
	GIAHS		
	Global Importance		
	Unique Identity		
	National Importance/Satoyama		
Program Engagement	Accessibility		
	Requirement Challenges		
	Brand recognition		
	Financial support		
	Management Challenges		Diversion Ditch
			Weeds
			Grass Cutting
	Reasons for Involvement		Market
			Crested Ibis
			Income
Biodiversity/Environment			
Brand			
Value	Landscape		
	Cultural		
	Heritage		
	Safety/food safety		
	Other		
Relationship to Nature	Environmental Consciousness		
	Perception of Biodiversity Increase		
	Environmental Science		
	Increase Crested Ibis		
	Additional Sustainable Farming Practices		
Other Pressures on Farming	Farmer Population		
	Successor		
	Cost of Machinery		
	Dcrease Demand		
	Expansion of Operations		
	Quality of Rice		
	Consumer Expectations		

	Business Perspective	
	Terraces	

<b>Coding Scheme for Hakui's Natural Cultivation Program</b>	
Identity	Local Importance
	GIAHS
	(Inter)national Importance
	Unique Identity
	Satoyama
	Agency
Farming Practice and Thought	Environmental Consciousness
	Growing Process
	Multimethod
	Power of natural cultivation
	processing
	scale
	natural cultivation philosophy
Business Process and Development	Income/Finances
	Certification
	Consumers
	Farming as a Business
	Awareness
Social Relations	Experience with JA
	Community Relations
	Family
	Collaboration
	Key Connections
	Newcomer
	Rural Life
The Program	The Academy
	Kitchen
	Rental
	Housing
	Next Generation of Farmers Investment Grant
	Conservation Farming
	Direct Payment Grant

Farming Experience
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*From UFO Town to Mecca of Natural Cultivation*

Stepping off the train at Hakui Station in Ishikawa Japan, visitors are greeted by a cartoony mural—a relatively common sight at rural stations. Hakui marks itself as distinct with a green-faced alien flying out of a red UFO, with the caption, Hakui City “UFO town” (UFO のまち 羽咋市) . With a large UFO-shaped space museum featuring rockets and other tools of space exploration along with a lot of alien imagery, the city is perhaps best known for its association with UFOs. The same public servant responsible for fostering the city’s image with

UFOs also helped the city of 20,500<sup>30</sup> develop its image as the Mecca of Natural Cultivation (自然栽培の聖地) .

Hakui's association with this unique cultivation form started with Takano Johnsen, known as a "super civil servant," or a firebrand who works in local government. Super civil servants utilize their public office to make drastic changes to their municipalities, often without following standard government protocol.<sup>31</sup> As Takano-san told me, he first learned about natural cultivation in 2008 when another staff member at the city told him about an amazing farmer who was growing apples without the use of any external inputs. The farmer, Kimura Akinori is currently well known as the father of natural cultivation through his books and public television shows about him, which tell the story of his discovery that he could grow apples without any agrichemicals.

At first, Takano-san didn't believe the reports, but eventually he sent a team to test the soils and plants at Kimura-san's farm. This, along with a brief phone call with Kimura-san himself, convinced Takano-san that there was truth in Kimura-san's words. As Takano-san explained, the situation "reeked of true" [ホンモノ臭い]. Moreover, Kimura-san was rumored to have ridden in a UFO, which further intrigued Takano-san.<sup>32</sup> This exchange facilitated the organization of a public lecture in Hakui, where Kimura-san discussed his experiences growing

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<sup>30</sup> "Hakui-shi juumin jinkō 羽咋市住民人口," Hakui-shi kōshiki Hōmu Peiji 羽咋市公式ホームページ, accessed December 12, 2021, <https://www.city.hakui.lg.jp/soshiki/shimin/fukushibu/shimin/10/1/1779.html>.

<sup>31</sup> While Takano-san has retired from the city, and now works solely as the priest in his family's temple, one informant warned me that mentioning Takano-san's name in city hall was still taboo because of his penchant for ignoring the rules.

<sup>32</sup> Jōsen 高野誠鮮 Takano, *Rōma Hōō Ni Kome o Tabesasete Otoko : Kaso No Mura o Sukutta Sūpā Kōmuin Wa Nani o Shitaka* ローマ法王に米を食べさせた男：過疎の村を救ったスーパー公務員は何をしたか?, Kōdansha Purasu Arufa Shinsho ; 697-1-C (Tōkyō: Kōdansha, 2015), 219.

apples and his philosophy of natural cultivation. The city was not in support of the event, so Takano-san called the director of Hakui's Japan Agriculture Cooperative (JA Hakui), Shibata-san. Because of the good relations between the two, he eventually got JA Hakui to sponsor the natural cultivation lecture, despite JA's reputation as the behemoth of conventional agrichemical-based agriculture. Takano-san's narratives of this exchange vary, and Takano-san writes in his memoir that it was less the good relations that convinced Shibata-san to support natural cultivation and rather the desire to stop the Transpacific Partnership (TPP). This trade agreement would have eased trade of agricultural products and it was feared this would drive Japanese farmers out of business; As Takano writes, natural cultivation would allow Japanese farmers to distinguish their goods from farmers of other nations<sup>33</sup>

Regardless of the details, Kimura-san's speech left an impression on Takano-san and Shibata-san. Kimura-san's speech emphasized that ultimately his use of natural farming wasn't enough to make a difference. Rather, the world needed more practitioners, more farmers and growers applying the farming method he preached. This call to action led Takano-san and the director Shibata-san to start a course on the practice of natural cultivation (実践塾) in which Kimura-san could teach the basics and philosophy of natural cultivation to individuals interested in putting it into practice.

This course on natural cultivation, and the slew of support services that the city and JA Hakui developed for natural cultivation farmers, led Hakui to call itself the "Mecca of Natural Cultivation." I argue that the city has successfully cultivated the image of this title, but management and leadership issues, as well as the challenge of bringing new farmers—often

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<sup>33</sup> Takano, 219

outsiders to the community—to farm via a new farming method, have become significant barriers to successfully carrying out this agenda. To illustrate this challenge I will begin by introducing natural cultivation as a farming method before delving into support and recruitment efforts by the city. Next, I will introduce the farmers and their entry points into natural cultivation in Hakui before evaluating the different components of the support provided for the farming method. Finally, I will discuss the management and leadership challenges seen within JA and the city and share critiques leveraged against natural cultivation farmers and the farming method itself. Despite these challenges, the community remains hopeful about the possibilities of natural cultivation. I will conclude by sharing some of their hopes and aspirations.

### *The Philosophy of Natural Cultivation*

Natural cultivation is a farming method that seeks to use human management of agriculture to support and foster environmental processes and systems. At a basic level, it is defined as a practice that lies in between the relationship between nature and humans (自然と人の関係性の中にある).<sup>34</sup> In practice, this means that humans must prepare and cultivate (整える) the environment and the soil to create the ideal conditions for crop growth while allowing microorganisms, bacteria, and even other plants to create fertility for their crops. Weeds, particularly a diversity of different weeds are considered a driver of fertility. While developing water drainage systems, doing companion planting to increase nitrogen, and adding dead plant matter are presented as examples of critical human intervention; inputs are strictly limited. A key

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<sup>34</sup> *Oyako Taiken! Japonic (Shizen Saibai)! Vol.1 Daigesto 親子で体験! JAPONIC (自然栽培) ! Vol.1 ダイジェスト*, 2018, <https://mirai-ju.com/>.

component of the method is avoiding the use of all synthetic pesticides, herbicides, and fungicides because these chemicals will upset the stability of the ecosystem and kill off the microorganisms crucial to fertility.

Natural cultivation farming manuals elaborate on the tenets of the method while also sharing the basics of how to grow rice, tomatoes, and other vegetables. Throughout, supporting rich soils is emphasized along with controlling nitrogen, a limiting nutrient for crops. In the first few years of growing vegetables, planting soybeans around vegetables is recommended to increase nitrogen-fixing bacteria, and thus the availability of nitrogen for the crops.<sup>35</sup> Tilling is kept minimal for several reasons. Too much tilling disturbs the habitat of microorganisms that contribute to soil fertility. In addition, tilling in green material, like leaves and stalks, can lead to too much nitrogen in the soil. This, in turn, will upset the balance of the ecosystem, leading to outbreaks of pests or diseases. While not discussed directly in the manuals, farmers also often mention how certain soils are only suited to certain crops. Thus, one should not expect every location to produce the same results.

#### *From Learning to Practice: Hakui's Natural Cultivation Package*

Learning concepts like this became the core of what is now called the Noto Satoyama Farming Academy (のと里山農業塾); the academy has become one of the cornerstones of the slew of programming and support initiatives that are offered in Hakui to support farmers who are putting Kimura Akinori's natural cultivation into practice. While the first three years of the program involved bringing Kimura-san to Hakui as the instructor, the program now brings in a

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<sup>35</sup> JA Hakui and Noto Satoyama Shizensaibai Bukai, "Noto Satoyama Nōgyō Juku: Kōgi Shiryō のと里山農業塾：講義資料," n.d., 3.



farmer from Toyama, a neighboring prefecture, to teach the courses. Spread across 9 months, the class meets 12 times, bringing together both locals as well as individuals from across the country who are interested in natural cultivation. Two versions of the class are offered, one is focused on rice production and the second and more popular course is focused on growing vegetables. Both cost 55,000 yen. In 2021, the vegetable cultivation course was offered, and topics included in the course included planting, caring for, harvesting and marketing summer and fall crops. While in name the program is offered by JA Hakui, the operations have been contracted out to Noto no Mirai, a small company built to support natural farmers in Hakui.

While the course is the main recruitment tool for natural farmers, the city also offers a unique visit program catering to people interested in experiencing rural life and farming. Starting in 2016, the city began offering the “Learn about Hakui Experience” (羽咋を知る体験), where people living outside of the prefecture can rent out a furnished house for free for up to five days.<sup>36</sup> Along with renting the house, the city connects those who are interested with farmers. Visitors can spend up to three afternoons working on either a rice or vegetable farm for the low cost of 500 yen. According to the city, they get visitors from within the prefecture who take advantage of the farming program alone, as well as those coming from outside of the prefecture who stay in the house during their visit. Farming is the only industry for which the city offers this service, illustrating the importance of agriculture to the city as well as perhaps the challenges of recruiting the next generation of farmers.

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<sup>36</sup> Hakui General Affairs Department, “Hakui-shi Ijū Teijū Gaidobukku 2020 羽咋市移住定住ガイドブック 2020,” July 2020.

For those who decide to take up farming as an occupation, the city offers an array of grants. The most lucrative program is the Next Generation of Farmers Investment Grant (農業次世代人材投資資金) which offers support for both aspiring farmers who wish to enroll in an intensive farm training as well as those who are starting up their own business. This program is a national initiative to increase the number of new farmers, but applications are processed through the city. Most farmers involved in natural cultivation that I spoke with took advantage of the second grant for beginning businesses. While the grant amount and stipulations for receiving it have fluctuated since it was first implemented, the current iteration provides 1,500,000 yen annually for the first three years of business and 1,200,000 for years four and five. In addition to these national funds, the city provides additional support funds for first year beginning farmers, providing an additional 300,000 yen to individual farmers and 450,000 yen to couples. For farmers who are moving from outside of the city to Hakui, the city offers additional rent support for up to two years ranging from 20,000 to 25,000 yen per month.

Additional financial support specifically for sustainable farming practices is offered by the national government and the city to both beginning as well as established farmers. For farmers who practice natural cultivation, membership in JA Hakui's natural cultivation group is a prerequisite for receiving funds. Both the city and the national program are called Conservation Farming Direct Payment Grants (環境保全型農業直接支払交付金) but have different requirements. Because the national program is only available to organizations, the natural cultivation group has applied and its members who meet qualifications for internationally recognized sustainable farming practices— like buffer zones between conventional farms and their own—receive funding based on the use of specific techniques. These practices range from

cover cropping to reduced agrichemical usage to grants ranging from 800 to 7,000 yen per 10a (1000m<sup>2</sup>). The city sponsored funds go to any farmer practicing natural cultivation, as defined by being a member in the Hakui JA's natural cultivation group and farming for commercial purposes (as opposed to growing solely for home consumption). This grant provides members with 20 yen per square meter.

Finally, both the city and JA have invested in infrastructure to support various stages of the production processes and sales for natural cultivation farmers. JA Hakui has built an additional rice processing facility, equipped with a rice dryer and polishing and sorting equipment. JA buys the rice from farmers at a higher price point than they do for conventionally grown rice then sells the rice on behalf of the farmers to end users. Currently, the rice is primarily sold to the city's school system and served to school children in the city 6 times annually as well as purchased through *furusato nozei*, a tax system where people can donate money to rural areas outside of where they live and receive local goods in return. A small amount of the rice is sold at the roadside station Noto Chirihama which is a souvenir shop and tourist destination operated by the city. Both rice and vegetable farmers also have access to an array of farm equipment, like planters, combines, and plows, which the city has purchased to help minimize costs for beginning natural cultivation farmers. Rental fees are kept reasonable, with farmers being able to rent equipment for several thousand yen per day. For farmers, particularly those growing fruits and vegetables, value-added products can be a key part of their production line. To meet this need, the city has provided an industrial kitchen, which JA rents out to farmers. At the time of this writing, the use of this kitchen, including electricity was free to all users.

### *Coming to Natural Cultivation*

Given the extremeness of the philosophy and the program's unique formation, perhaps unsurprisingly farmers attracted to natural cultivation have unique stories and business strategies. From a retired professional belly-dancer and ex-military man to a self-proclaimed misanthropist who cares deeply for the environment and a Tokyo businessman who survived the Fukushima-Daichi triple disasters, many natural farmers shared moments of realization or turning points in their life that brought them to natural cultivation farming. As one natural cultivation couple explained to me, all the farmers in the program were very "unique" or "eccentric" (個性的). The types of businesses they develop are equally varied. Some, like Kawaii-san,<sup>37</sup> who had taken over his family's farming business after his father was diagnosed with cancer, produced natural cultivation, organic and conventional produce at a large commercial scale. The Kawabata's similarly focused on production, but specialized in preindustrial varieties of rice, which they found performed better with the input-free philosophy of natural cultivation. Others like Mako-san produced value-added products like fruit syrups and had additional income streams, including running a youtube channel on natural living and operating a pick-your-own business on part of her land. Sakurai-san, a former businessman from Tokyo, had a full-time position on a conventional farm and grew natural cultivation produce on the side, which he and his wife sold at a takeout restaurant they had opened.

Many of the natural cultivation farmers are newcomers, migrants from other parts of the country who came to Hakui because of the image and the connections the city had with natural cultivation. For early newcomers, Takano Johnsen had a large influence. Yamamoto-san, an

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<sup>37</sup> Names of farmers have been changed to preserve their privacy.

Ishikawa native who had been living abroad and in other regions of Japan, had been looking for a place where he could buy a home close to farmland. He went to his hometown and the neighboring cities but was unable to find an area that met his criteria. In Hakui however, with the support of Takano, he was able to secure a home and fields to get his farming business off the ground. For Nagai-san, it wasn't Takano himself but the President of JA Hakui, Shibata-san, that brought him to the area. Nagai-san had been living in Tokyo as a *salaryman* and had enrolled in an organic farming class. When he graduated, his instructor offered to introduce him to someone who could help him start a farming business. That individual was Shibata-san. Shibata-san introduced Nagai-san to a farming business that he could take over, making Hakui an appealing option to Nagai-san who had a wife and family to support. Through these connections, Hakui seemed like a location where he could make his dream to farm sustainably become a reality.

Since Takano-san's retirement, other factors have brought city people to try their hand at farming in Hakui, such as the Noto Satoyama Farming Academy and the support services provided by the city. For instance, Mako-san, a Tokyoite, first came to Hakui as a commuter student at the Noto Satoyama Farming Academy. Through the academy, she made a number of serendipitous connections that led her to start her farm in Hakui. Before attending the academy, she wasn't even planning to become a farmer. However, inspired by the classes, she decided to change her career plan. A parcel of land in Hakui soon fell into her hands, and the extensive support provided by the city was a bonus. As she explained, most other municipalities would not have allowed someone planning to start a business using natural cultivation to access the Next Generation of Farmers Investment Grant. Another farmer, Sakurai-san had a different story. He was able to secure a government position through the national rural development squad (地域お

こし協力隊),<sup>38</sup> that paid him for three years to learn how to be a natural cultivation farmer.

With two children at the time, this job security that didn't require certain commitments like the Next Generation of Farmers Investment Grant, was vital for him to make the decision to live his dream of being a sustainable farmer.

### *The Noto Satoyama Farming Academy*

Attending the Noto Satoyama Farming Academy was the introduction to natural farming for all but one of the natural cultivation farmers interviewed for this project. However, reviews and memories of the program varied. While inspirational for many of the farmers, most mentioned that the course was lacking in some way. Mako-san attributed attending the academy to be a major factor in her decision to farm. Another newcomer to farming explained that she remembered having trouble understanding what was being said because she had no farming experience. Three farmers explained the focus was primarily on the growing philosophy. Kamiyama-san found this focus on philosophy helpful as he continued to apply it to his work. However, others, such as Kawaii-san, the only vegetable farmer who was currently producing at a large scale, thought it was “a waste of time,” because most basics can be learned online, as opposed to more practical aspects like how to use farming equipment which are much easier to learn in person. Sakurai-san, the farmer starting a farm-to-table restaurant, wished that more time had been spent on business planning.

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<sup>38</sup> This is a program offers positions for those interested in doing work that will contribute to a local rural community in some capacity. They usually cater specifically to the needs and characteristics of that local community. Because Hakui was so invested in natural cultivation, there was a position in this area.

I spent several hours attending one session of the academy during my fieldwork, and my experience of the lecture aligned with the reviews given by farmers. Some aspects of the lecture were quite practical, focusing on companion planting, and biological pest control. Other parts of the lecture delved deeply into the philosophy and even cosmology of the method. The lecture began without any irony by sharing the connections between aliens and plants—they both react and communicate via sound waves. Bringing knowledge from historical figures who had studied plants such as German philosopher Johann Wolfgang von Goethe and American CIA officer Cleve Baxter, who started the agency’s polygraph program, the lesson featured a combination of ideas from a variety of disciplines with sections of practical farming knowledge thrown into the mix. I missed the second half of the day’s session, but caring and working with plants in the small vegetable patch beside the school building was on the agenda for the rest of the training. From this diverse content and focus on small-scale—getting to understand plants through hand planting and harvesting—the content seemed entertaining and applicable to a wide range of audience members. This was reflected in the type of participants. Attendees ranged from local housewives and an elementary school boy interested in UFOs and aliens, to weekend visitors from Tokyo who were considering a career shift to natural cultivation. Thus, the academy can be seen as a source of inspiration, entertainment and recruitment tool.

### *Subsidies and Grants*

On the other hand, the role of the farming support portions of the farming program was more focused on those interested in developing a career in natural cultivation. While perhaps not essential to their decision to live in Hakui, many farmers have taken advantage of the resources that the city provides, finding them highly useful in supporting their business. All full-time or

full-time aspiring natural cultivation farmers had taken advantage of the Next Generation of Farmers Investment Grant except for three farmers who came in with unique circumstances: Sakurai-san was supported by the national rural development squad, Kawaii-san inherited his family's business, and Yamamoto-san started farming before the grant program had been implemented. Yamamoto-san explained how he started his farming career, working a part-time job to make ends meet, and indicated he was envious of the system currently in place. Nagai-san, who had taken advantage of this program as well as the Conservation Farming Direct Payment Grants thought these grants were invaluable and had joined a city planning team to assure that such programs remained for future farmers. While less used, the kitchen and machine rental programs also received good reviews from those who utilize them. Mako-san for instance, relies both on the industrial kitchen and the machinery rental program. In fact, she has no plans to buy her own machines because of the convenience and cost-effectiveness of these options.

Two farmers have noticed a cultural shift in the city, thanks to the program. The Kawabatas remark on how the support of the city has also made it easier to be accepted by locals. Natural cultivation farmers in other communities have been ostracized by conventional farmers because of their radical growing techniques. Conventional farmers tend to view farmers who do not use agrichemicals as eccentric and even a problem for their crops; because natural cultivation farmers aren't spraying, pests are thought to be more likely to thrive in the area and even cause problems for conventional farmers despite their use of agrichemicals. Yet, in Hakui because of the backing of the city and JA Hakui, the Kawabatas have not experienced ill will from their neighbors. Moreover, as rice farmers—which have relatively extensive acreages compared to vegetable farmers—the 20 yen per meter squared has helped them cover costs, thus making their business more socially and financially viable.



Of the programs, subsidized housing appeared to be the service least used; of the farmers interviewed only Mako-san directly mentioned having received the grant. The city hall also reported similarly modest success with the program; as they explained, most farmers prefer to live in houses near their fields rather than renting an apartment in a more central part of the city. Renting a house is also possible but many homeowners worry about having their property become dirty or damaged when leasing to farmers who need to store farm equipment and machinery. Because of such issues, most farmers do not use this program.

### *Management and Leadership Challenges*

Uptake of the programs, however, was not only based upon farmer needs; changes in leadership and the management of the programs also greatly affected their use. In both the city and JA Haku changes in leadership appeared to have led to decreased investment in natural cultivation, posing challenges to certain parts of the support system provided to farmers.

The city seemed surprisingly uninterested in the program during my fieldwork, something which can likely be attributed to the origins of the program. As a firebrand, Takano-san was not well-liked in the city hall; I was warned before visiting city hall not to mention his name. Likely in part because of his reputation, the natural cultivation program did not seem to be a major priority of the city after he left. Management of the program was spread loosely across different parts of the Department of Agriculture and Forestry; the individual who purchased the equipment and had the keys to the equipment storage unit was not the staff member in charge of advertising the natural cultivation funding opportunities. Those overseeing the grants were new to the department and did not have a lot of long-term knowledge of the program. In addition,

while an array of pamphlets describing farming programs had been placed in racks in front of the office space, none were about natural cultivation. When asked, the staff produced some materials, suggesting that natural cultivation was not a priority program or had minimal popularity.

This lack of leadership was also illustrated by the lack of structure and protocols surrounding the use of the kitchen and machine rental programs. Around half of the interviewed farmers in the city used either one or both rental services, but all farmers had concerns about the execution of the program. No manuals or point people existed to oversee the system, and throughout its existence, users have experienced various levels of gatekeeping. Soon after the program's creation, only those deemed trustworthy were allowed to borrow equipment and use facilities. Mako-san explained how this was originally the case for her. While she now frequently uses both the machines and the kitchen, when she first arrived, she was not able to access the kitchen at all. While no farmers discussed current gatekeeping, the kitchen at least, appears only available to those that know farmers who are currently using it. Mako-san and several others who utilize the facilities have created an informal network, discussing amongst themselves when to schedule their use and passing the key around. For Sakurai-san this informal system has been a deterrent. Due to the lack of clear rules and management, he has not wanted to get involved despite his business being based upon value-added products.<sup>39</sup>

One informant described how she had seen a similar decrease in investment in natural cultivation due to leadership challenges in JA Hakui. While Shibata-san had been an advocate for natural cultivation, directing several staff to manage this program when the next director was

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<sup>39</sup> Interestingly, despite this assessment, Sakurai-san, does not necessarily think that the use of the kitchen can be improved. Rather, he attributes the challenges to sharing itself; no one feels full ownership over the shared equipment so will not take care of it as well as they would if it were their own.

elected, this emphasis also changed. Under the next director, the three staff was shrunk largely down to one staff member who could only dedicate part of his hours to the program. As a result, support for natural cultivation decreased dramatically. During its earlier years, JA hosted international guests and sold rice in specialty shops in the US. These opportunities seemed to have disappeared. As the vegan chef who had performed natural cultivation cooking demonstrations locally and internationally explained, it had been several years since her services had been called on.

However, it was not just leadership but management challenges that affected the program; JA was not prepared for some of the requirements for supporting the diverse crops produced by natural cultivation farmers. When the program first began, JA promised to buy crops from vegetable farmers, like the system currently in place for rice farmers, and even allowed farmers to set their own prices. While ideal for farmers, JA was not able to live up to its promises. JA Hakui, unaccustomed to working as a broker for perishable foods, was not able to successfully find stable markets for this produce. Moreover, as a current representative from Hakui explained, the yields were too variable, making it difficult to sustain contracts. Yield sizes were not the only challenge—unlike conventionally grown produce, the shapes, sizes, and quality of natural cultivation vegetables varied greatly contributing to difficulties in finding willing markets. An interlocutor, who worked at JA Hakui during this period, shared how she was shocked when she saw fresh naturally cultivated produce being thrown away by the crate. Eventually, JA Hakui backed down from its promise; the organization currently does not work as a broker for natural cultivation produce. While I did not speak directly to those involved in vegetable production who had these original agreements with JA, several other farmers, shared

that this early contingency of natural cultivation vegetable farmers feel abandoned and betrayed by JA Hakuui. Because of this lack of support, they must market and sell on their own.

### *A Career or Hobby?*

An array of stakeholders has voiced skepticism and criticism of the farming movement itself. While the city has no plans to withdraw its farming support systems, an adjustment in one of its programs and a discussion at the city hall suggested ongoing challenges. Originally, the city offered a grant of 300,000- 450,000 yen to beginning natural cultivation farmers. However, the scope of this program has been widened, and it now encompasses conventional farmers as well, a change that was made because farmer loss and land abandonment have not abated. In other words, the influx of natural cultivation farmers has not been significant enough to lessen these trends. Moreover, staff at the city hall voiced concern about the viability of natural cultivation as a career. As one staff member explained, when he receives calls from aspiring natural cultivation farmers, he urges them not to rely solely on natural cultivation for their livelihood. Instead, he advises they find work that can be done remotely in tandem with farming, or to plan to grow some crops conventionally. This advice aligns with the current state of natural cultivation farming. Of the ten natural cultivation farmers interviewed both within and outside the Hakuui city limits, only two depend solely on natural cultivation agriculture, and of these, one was working as a company employee, running a natural cultivation farm as part of the company's corporate responsibility initiatives. Only one independent farm, the Kawabatas, relied solely on sales of their natural cultivation produce for income. Finally, despite the city's clear financial and infrastructural investment in natural cultivation, the staff member in charge at the city stated he lacked knowledge of natural cultivation, explaining that JA Hakuui was in charge of

everything. This kind of response speaks to a lack of confidence in natural cultivation as a production-oriented growing method.

The director of Noto no Mirai, the company established to support natural cultivation also shared some limitations of the natural cultivation farming in the city. While enthusiastic about natural cultivation, the content of some of his comments was biting. “Those who enter natural cultivation are less into trying to grow as many vegetables as possible. Rather it is more like an *extension of home gardening*, carefully caring for each plant one at a time” (emphasis added). This is a condition that poses significant challenges for Noto no Mirai. The company plans to expand into value-added and processed foods. However, due to limited yields, production of new products, like doubanjiang, a spicy Chinese sauce made from fermented broad beans, has been put on hold. To increase yields and thus the ability for the company to make and sell natural cultivation food products, the director of Noto no Mirai explained that he was considering enlisting housewives and other home gardeners who use the growing method. Despite their status as professional farmers, he did not see natural cultivation farmers as a reliable or even possible option to expand the business. “I can’t really tell farmers what to do,” he said.

Practitioners of natural cultivation also shared misgivings about the natural cultivation movement. One hobby farmer and a full-time farmer critiqued their peers for the small scale of their farms, again making the analogy to home gardeners. Natural cultivation farmers’ hopes of making a living from such a small parcel of land were foolish, one voice shared. If they could barely make a living themselves, their aspirations to feed the next generation of children with their crops were farfetched. While less forthright, Sakurai-san shared similar misgivings; despite its moniker as the Mecca of Natural Cultivation, most people he saw as natural cultivation farmers didn’t meet his standards for being independent and successful.

Perhaps the harshest comments came from a local community member, who had tried to support beginning natural cultivation farmers. While not part of the natural cultivation movement, Masako-chan<sup>40</sup> was a widow—her former husband had been a rice farmer—who had long been an avid supporter of chemical free gardening. Masako-chan had several bountiful gardens, where she grew vegetables, berries and flowers. She frequently took up odd jobs around town, helping with food service or food processing tasks and was a well-known face at JA Hakui. Wanting to support the natural cultivation farmers’ mission and welcome them into the community, she took a couple of the odd jobs assisting them. For instance, she had helped one farmer prepare Chinese cabbage for kimchi. From her description of her time working for the farmer, it was clear that she disapproved of her employer’s practice. The Chinese cabbage was just so bug eaten, it didn’t seem worth selling, she said. Masako-chan reenacted how she ruthlessly and efficiently cut down the cabbage to something clean and useable, while her employer slowly and carefully carved out the bug-eaten bits, trying to preserve as much of the original as possible. Masako-chan’s story shared her criticism of the farmer’s abilities, as well as lack of standards, two things that her many years as a farmer’s wife and home gardener had taught her. Not only did she offer disparaging comments regarding the new farmer’s business, but she’d also been personally wronged by another farmer. One season she’d worked for one of the newcomers, helping provide much of the labor for some food processing. Perhaps because of miscommunications—something frequent enough in Japanese business exchanges which are often vague and easily misunderstood—she was never compensated for her time.

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<sup>40</sup> Instead of “san” the polite suffix for names I use “chan” which denotes a familiarity and a close connection. I was introduced to this interlocutor by a friend who was close to Masako-chan and used this form of address. I have kept this form of address to illustrate how by proxy, I was also close to Masako-can and therefore able to gain information and insights I might not have otherwise.

The lack of faith from city hall, the smears from their own members in the group, and the criticisms from the greater community, together illustrate the challenges Hakui faces in realizing its moniker as the Mecca of Natural Cultivation. Through these examples, it's clear that tensions between newcomers and the local residents have fomented.

### *Aspirations Remain*

Despite the many criticisms and challenges against the natural cultivation movement and support systems provided by JA Hakui and the city, the farmers remain hopeful and several other stakeholders also held their aspirations for the movement. For instance, while Sakurai-san found the status of natural cultivation farmers less than inspiring, he hoped that perhaps his restaurant and work could be a model for success, illustrating how natural farmers raising families can make a living through this farming method. Other farmers held similar sentiments, sharing their aspirations for building their businesses into the future. Moreover, natural cultivation farmers had a reputation for not giving up. As one staff member at the city hall explained, he had never heard of any natural cultivation farmers leaving farming even when faced with crop failures or economic downturns. Some might have adapted their business model to include agritourism, farm education, or value-added products, but ultimately were continuing to work the land in some way.

Despite yields for natural cultivation being a limiting factor, the director of Noto no Mirai nonetheless held numerous aspirations for the community. When we spoke, he was in the process of opening a natural cultivation café. To keep costs low, the restaurant was planned to begin with limited hours, only serving on the weekends. However, this did not lessen his aspirations. Beyond food service, he envisioned the café as becoming a community space, a place where

aspiring natural cultivation farmers would be able to get advice first-hand from the natural cultivation leaders like Takano-san and the manager of natural cultivation for JA Hakui. Moreover, he had started a crowdfunding initiative, hoping to start a line of ready-to-eat curry packs to sell as quick meals for children.<sup>41</sup> Moreover, Noto no Mirai was investing in farmers who had small and unstable yields. He frequently hired these farmers to support the operations of the Noto Satoyama Farming Academy, asking them to contribute skills and expertise, such as shooting and editing videos, from their previous careers. Along with providing financial support through such odd jobs, the company was also hosting workshops, giving opportunities for the farmers to build their agricultural skills. For the director of Noto no Mirai, despite ongoing production challenges, natural farming did to some extent appear to be the *noto no mirai* or the future of Noto—the region where Hakui is located—, just as the name of the organization suggested.

Nagai-san, who was ostracized when he first came to Hakui seven years prior, has established his business, become an accepted member of his community, and plans to support other natural cultivation farmers in the future. He is in the process of starting what he called a worker's cooperative (ワーカーズコープ) for him and other natural cultivation farmers to work together. The focus of this organization would be to create a structure for individual farmers to collectively support one another, and share supplies and branding. In part, this cooperative would help him, as he has upcoming expenses of sending his children to high school and college, but this also shows an investment in the community, thus illustrating the possibilities that he saw in natural cultivation and the reputation of the city as the Mecca for Natural Cultivation.

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<sup>41</sup> The produce for this vegetable curry all came from one natural cultivation vegetable grower Kubata-san who, unlike most of the natural cultivation farmers, was growing at a scale far larger than that of his peers.



Even the city held aspirations for natural cultivation. The city's strategic plan included benchmarks for the number of sustainable farmers—a population that included natural cultivation as well as organic—for 2018, 2020 and 2024. Between 2020 and 2024, the city hoped to increase sustainable farmers from 82 to 100. These benchmarks illustrate that the city values the opportunities created through its promotion of natural cultivation, like being able to serve school children lunch made from naturally cultivated rice or having visitors from Tokyo come to learn and get their hands dirty. Natural cultivation adds value to the city.

### *Conclusion*

As a program introduced on a whim by a maverick civil servant, the execution of natural cultivation support initiatives has suffered from management and leadership challenges. Issues like gatekeeping and broken promises mar the reputation of the program among farmers. However, the farmers themselves have also contributed to the challenges that the natural cultivation movement faces. As newcomers to the city and to farming, they face the challenges of learning how to farm, expanding their business, and getting along with their new community. However, despite these challenges, at least in reputation, Hakui seems to be living up to its aim to be the Mecca of Natural Cultivation. Whether through funding, personal connections, or sanctioning of the method, Hakui offers what other cities do not, attracting people to start farming using natural cultivation. Moreover, farmers, community members and staff in the city remain hopeful about building up natural cultivation in Hakui. Perhaps in the future, the city will not just be the Mecca in name but also in practice.

### Chapter 3: Harmony with the Crested Ibis



Crested Ibis milk cartons at a store in Sado.

Even from the ferry terminal on the mainland, visitors soon get a sense of the crested ibis craze that has come to be associated with Sado Island, an 855 kilometers squared island city in the Japan Sea. The crested ibis, a stork-like endangered species that is indigenous to Japan, makes an appearance on an array of merchandise from tote bags and tea cakes to milk and rice. This last product is actually closely connected to the crested ibis's existence. While once found throughout the Japanese archipelago, the crested ibis was nearly extinct before Sado Island initiated a breeding and reintroduction program; today the bird is only found in the wild on Sado

Island.<sup>42</sup> Because it feeds in rice paddies, one of the key factors for the species' reintroduction to Sado has been the cooperation of farmers, which has been achieved through a city sponsored rice certification program called Living in Harmony with the Crested Ibis. Thanks to this program, which began in 2007, and the successful reintroduction of the crested ibis to the island, Sado was also designated a Globally Important Agricultural Heritage System (GIAHS) by the FAO. Because of such impacts, community leaders describe the importance of the Crested Ibis Rice program as helping solidify Sado's reputation both nationally and internationally. From the perspective of farmers in the program, the certification and surrounding acclaim have been helpful for the environment and for marketing their product but do not impact the underlying conditions of rice farming such as demographic change, farmland expansion, a tightening rice market and a restrictive regulatory atmosphere. Thus, I argue, that the impact of the crested ibis rice program has been felt differently by different stakeholders in Sado, and that ultimately its current inability to tackle fundamental challenges with rice growing in Japan will inhibit its long-term sustainability.

To illustrate these dynamics, I will begin by introducing the history of crested ibis conservation on Sado, the rise of the crested ibis certification program, and the eventual designation as a Globally Important Agricultural Heritage System. Next, I will describe the crested ibis certification's requirements for farmers as well as the certification process. Afterwards, I will discuss how the program has contributed to creating Sado's reputation as a leader in rice production both nationally and internationally, through sharing the perspectives of different leaders of the program. Next, I will consider how farmers see the program contributing to their own operations as well as discuss why some farmers feel they cannot participate.

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<sup>42</sup> Populations are also found in China but Sado is the only place in Japan where the bird is found.

Afterward, I will turn to some of the underlying challenges faced by farmers, sharing how farmers, whether in the program or outside of it, are facing ongoing challenges that the program does not address. These challenges, unfortunately, affect the long-term viability of the program.

### *Ibis Island*

The Crested Ibis, known colloquially in Japan as *toki*, has had a precarious existence over the past half-century in Japan. Baring the taxonomic name of *Nipponia Nippon*—a variation and translation of the Japanese word for “Japan” in Japanese—the crested ibis used to be commonly found throughout the country. It became an internationally protected species in the 1960s and has been closely tied to the island since. Soon after its designation as protected, the Crested Ibis Conservation Center was built on the island. Despite its protected status, in the 1970s and early 1980s, the bird was on the verge of extinction. In 1970, the last bird on mainland Japan was captured and brought to Sado, which still had a population of wild birds. By 1980, only five birds remained living in the wild on the island. To preserve the species, these remaining birds were brought into captivity and attempts to breed them began. Ultimately, the breeding program was unsuccessful. Luckily, however, a small population of the same species was discovered in China. Beginning in 1994, Japan began borrowing couples of crested ibises from China and restarted attempts at breeding in Japan. In 1999, the first bird, named “Yūyū” was successfully born in captivity and in 2008, the Sado Ministry for Environment began releasing the birds back into the

wild.<sup>43</sup> By the fall of 2021, there were approximately 484 crested ibises living in the wild in Sado.<sup>44</sup>

Along with the rise of the crested ibis or, toki conservation movement, the island of Sado, particularly the Niibo hamlet, began to shape its identity around the bird. In 1994, the Toki<sup>45</sup> Forest Park, was built and opened to the public, allowing people from across Japan to view and learn about the bird that carries the country's name. In addition, the bird became part of the tourist culture of the island, with extensive merchandise being offered with the bird's image. However, along with using the bird to build the economy through tourism, Sado also had to assure that the island was able to sustain its image as the home of the crested ibis; this required creating a habitat conducive to the species. As the city prepared for the release of the birds, there was concern that the biotopes—or wetlands rich with organisms for the birds to feed on—would not adequately meet the birds' needs. Such concerns motivated the city to look for other means of supporting the birds.<sup>46</sup> Rice paddies, which played a significant role as part of the bird's feeding grounds in the past, seemed like a logical habitat to create and foster.

In the years leading up to the crested ibis' reintroduction into the wild, rice production on the island was struggling. A typhoon in 2004 decimated Sado's rice crop and less than 20 percent was able to be sold as first-grade rice that year. As Sado leaders and farmers described it, something needed to be done to reestablish the reputation of Sado's rice and make it

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<sup>43</sup> Sado City Toki Forest Park, "Niigata-Ken, Sado-Shi, Toki No Mori Koen 新潟県佐渡市トキの森公園 [Sado City, Niigata Prefecture: Toki Forest Park]," September 2019.

<sup>44</sup> Tokutaro Nakai, "Toki Yasei Fukki No Igi to GIAHS トキ野生復帰の意義と GIAHS [The Importance of the Crested Ibis's Reintroduction to the Wild and GIAHS]."

<sup>45</sup> *Toki* is the Japanese word for crested ibis.

<sup>46</sup> 豊田光世, "Challenges of Ecological Rice Certification System for the Co-Inhabitant with the Crested Ibis : A Survey Study in Sado, Niigata," *野生復帰 = Reintroduction* 9, no. 1 (March 2021): 1–9.

competitive on the rice market again. In 2008, the first crested ibis was released back into the wild. Leading up to the release of the bird, farmers in Niibo had been experimenting with crested ibis friendly growing practices with the support of nonprofit conservation organizations. These farmers had been marketing their rice as *Toki Hikari* (which translates to Hope or Glow of the Crest Ibis), but with the upcoming release, they worked with the municipal government and JA to expand and revise the program to include farmers across the island.<sup>47</sup> The goal of this initiative was to restore a positive image of Sado rice and rebrand the island's rice to be environmentally friendly through its creation of a habitat for crested ibis. In the process, the rice was rebranded, and the city-wide certification program is now called the Living in Harmony with the Crested Ibis rice certification (朱鷺と暮らす郷認証米).

In 2011, thanks in large part to the city's crested ibis rice program, Sado Island was designated as GIAHS. The FAO's website describing the island's designation features breathtaking scenery of terraced rice paddies that decline into the sea. Underneath this image, Sado is described as a farmscape that is "in harmony with the crested ibis." Interestingly, while both the crested ibis program and the terraced paddies are integral to farming on Sado, most terraced paddies are not actually the farmlands that are part of the crested ibis program. Farms that participate in the program are primarily in the larger paddies in the plains, while most terraced paddies follow less stringent growing methods. As the term agricultural system suggests, GIAHS focuses not just on the landscape and growing methods but also encompasses history and cultural practices. A pamphlet on Sado GIAHS describes Sado's farming history.

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<sup>47</sup> Shinichiro Saito, "In Search of Biodiversity-Oriented Farming," in *Social-Ecological Restoration in Paddy-Dominated Landscapes*, ed. Nisikawa Usio and Tadashi Miyashita, Ecological Research Monographs (Tokyo: Springer Japan, 2014), 240, [https://doi.org/10.1007/978-4-431-55330-4\\_16](https://doi.org/10.1007/978-4-431-55330-4_16).

Rice production began 2,000 years ago but it was not until the gold mining boom in the 17<sup>th</sup> century that rice production massively increased and terracing became commonplace. In Sado's agricultural villages arose unique events such as the *onidaiko* festivals that vary with local distinctions from village to village. In addition, the GIAHS pamphlet features a variety of other agricultural products that are produced on the island. Despite this representation of a broad agricultural heritage, the crested ibis and the rice fields where it makes its habitat remain core to the designation; the city's egg-shaped GIAHS trademark features a crested ibis hugging rice paddies and the villages where farmers live, symbolizing the certification, Living in Harmony with the Crested Ibis.

### *Living in Harmony with the Crested Ibis*

So what exactly does the certification entail? This program has several baseline cultivation requirements regarding inputs, which in the years following the program's inception, have been expanded to encompass all rice production in Sado. First, all farmers in Sado must decrease their use of chemical pesticides, herbicides, and synthetic fertilizers to 50 percent of the standards for rice production in the prefecture. According to 2014 statistics, conventional farms in the prefecture typically apply 18 different chemical fertilizers and 6kg/10a (1000m<sup>2</sup>) of synthetic fertilizers; thus farmers in the program must apply no more than 9 different types of agrichemicals and decrease the use of synthetic fertilizers to 3kg/10a.<sup>48</sup> However, to support high yields, the program allows organic fertilizers as a supplement to synthetic fertilizers, allowing for

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<sup>48</sup> Nisikawa Usio et al., "Effectiveness of Wildlife-Friendly Farming on Aquatic Macroinvertebrate Diversity on Sado Island in Japan," in *Social-Ecological Restoration in Paddy-Dominated Landscapes*, ed. Nisikawa Usio and Tadashi Miyashita, Ecological Research Monographs (Tokyo: Springer Japan, 2014), 97–98, [https://doi.org/10.1007/978-4-431-55330-4\\_7](https://doi.org/10.1007/978-4-431-55330-4_7).

a total application of fertilizer at a rate of 6kg/10a. Starting in 2017, the farmers were also required to avoid spraying herbicides on the *aze* (畦), or the ridges between rice paddies.

Farmers who want to participate in the program must take several additional steps to have their rice certified. At the beginning of the season, farmers apply to have their paddies certified by committing to follow the required protocol. Certification is done for each individual paddy, allowing farmers to engage in both the crested ibis certified rice as well as other rice growing practices, depending on the rice paddy. Twice during the growing season, participating farmers must carry out a biodiversity survey of their rice paddies. Along with these requirements, farmers must take up one or more of four different biodiversity enhancing practices (生き物を育農法), which based on their difficulty, are subsidized by the city at various rates. The simplest practice is winter flooding, or allowing some water to be retained in the rice paddy over the winter months, making the paddy more hospitable to the crested ibis that forages in low-water wetlands.<sup>49</sup> Farmers may also choose to make a diversion ditch (江) directly in their field which provides aquatic organisms a habitat during the mid-summer drainage of the fields.<sup>50</sup> Another option is to create fishways, or channels to allow fish to migrate from one paddy to another. Finally, farmers may also opt for going beyond the required 50 percent cut in agrichemicals, cultivating their paddies without the use of any agrichemicals at all. As of the 2021 growing season, these practices were subsidized at the following rates: 500 yen/10a for winter flooding, 3500 yen/10a for a diversion ditch, 4000 yen/waterway set, and an additional 2000 yen for avoiding the use of all agrichemicals or doing an additional one of the three previous practices.

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<sup>49</sup> Usio et al., 99.

<sup>50</sup> This is practice that strengthens the rice but tend to kill off aquatic organism that require water.



While no longer required, until 2020, getting certified as part of a prefectural certification Eco-Farmer, was also part of the baseline requirements.

In addition to these subsidies, branding and marketing is a key benefit of participating in the certification, both for farmers who sell their rice to JA and those who sell directly to consumers and rice shops. Particularly prior to COVID-19, JA and the city of Sado performed a number of different outreach and marketing practices, like getting buses in Tokyo to be wrapped, or covered with images and information about the crested ibis rice, and doing tastings at grocery chains or other events across the country. All the rice, whether sold through JA Sado or by farmers, gets a seal that signifies its certification. Farmers selling individually can stick this onto their rice bags. In addition, the city provides an array of different bag design ideas that can be used to sell crested ibis rice.

The effect on rice price and income to farmers of the crested ibis certification is less robust than the impact on marketing. Sado JA sells crested ibis-certified rice at a premium compared to rice that is not certified in the program; 60 kilograms of certified crested ibis rice sell at around 1500 yen higher than conventional rice. However, because the price is higher than conventional Sado rice, there is lower demand, and thus much of the rice that is certified through the program is actually not sold as crested ibis rice, but rather as conventional Sado rice.

According to a representative from JA, in practice, farmers in the program only get approximately 500-600 yen more per 60 kilograms, due to the challenges of selling crested ibis rice at a premium. Impact for farmers who manage their own sales also varies. Some farmers have utilized the program as an opportunity for selling at higher prices while others have simply

made the certification an added value for their consumers. Currently, about 20 percent of Sado's rice paddies and 10 percent of rice farmers are part of the program.<sup>51</sup>

### *The Value of Rice Cultivation*

For community leaders who were involved in developing the crested ibis certification program, the benefits have been vast, putting the island on the international stage. The current Mayor, Watanabe-san, who worked in the city's department of agriculture and spearheaded municipal efforts for certification, had much to say about the importance and success of the program. First, thanks to the crested ibis program, Sado was following international standards and ideals. He cited COP10, the Convention of Biological Diversity that took place in Nagoya in 2010, as an example that showed the importance of Sado's crested ibis rice program. Sado's initiative stimulates the economy while taking care of the environment—particularly biodiversity—which was a priority at the conference. The designation as a GIAHS site was equally important; highlighting the intrinsic values of Sado's rice farming—the ability of agriculture to not only support biodiversity but also foster a sense of community, create a landscape, and develop a local rural culture. The importance of these latter cultural facets of agriculture was echoed by a representative of JA, who cited how the GIAHS designation highlighted how the local festivals, like *onidaiko*, are still performed by the local “geezers” (おっちゃん); because of this local, nonprofessional involvement, these festivals are worthy of international attention.

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<sup>51</sup> 豊田, “Challenges of Ecological Rice Certification System for the Co-Inhabitant with the Crested Ibis.”

Not only is Sado's rice production and the crested ibis program globally important, community leaders also see it as important nationally; it is unique while also epitomizing the core characteristics of Japan. As the mayor explained, chemical-free farming is relatively common but farming practices that explicitly cultivate biodiversity are novel (新しい農業). Thus, one can see the crested ibis program as contributing to the unique sense of identity of the island. Sazae-san was one of the farmers leading early experiments with biodiversity-enhancing practices before the establishment of the certification program. Drawing on his experiences, he explained the crested ibis rice was illustrative of Sado's leadership in biodiversity. However, the program was also about protecting traditional landscapes of *satoyama* in Japan, suggesting that while being positioned as a leader it also typified a sense of a Japanese rural place. The mayor also shared similar sentiments alluding to the fact that the landscape created under the crested ibis certification was a nostalgic landscape from one's childhood (原風景).

These ideas of national and international importance were seen by leaders as helping benefit farmers and the greater community in Sado. For the Mayor, the crested ibis rice program was beneficial for Sado's farmers and farming future. As a program that is accessible to any farmer, he explained, it has made the entire island hospitable to the crested ibis and increased the overall branding of Sado rice. Sazae-san, shared similar perspectives about the environment; he explained how important the program was for helping create a habitat for the crested ibis. However, the impact, as he has seen it, has gone beyond increased biodiversity; thanks to this program and the return of the bird, locals have come to take pride in the island. Increased opportunities for exchange between rice farmers and students, consumers, researchers, and trainees have been an example of this, changes that are making the community more vibrant.

### *Voices of Certified Farmers*

While the program founders and managers tended to view the crested rice program as important not just for islanders, but for Japan and the greater global community, farmers involved in the program were more pragmatic about the impacts. Farmers similarly saw their work as valuable due to its role in landscape creation, the continuation of their heritage and support of cultural traditions, but the crested ibis program did not necessarily evoke those ideals. Many saw the program and their involvement in it as being beneficial for the environment, biodiversity, and the crested ibis, and were motivated to participate because of their concern for the environment. The board director of the large-scale farm Seven Systems, Masada-san shared how the crested ibis certification fit with their values; from the company's founding, its leaders had wanted to preserve the environment. Currently, except for rice paddies that the farm acquired in the past year, all their rice for human consumption is part of the program. Moreover, as a result, they have seen an increase in wildlife in the rice paddies, such as tadpoles and frogs. For the family farmer Onishi-san, his continued participation in the program is fueled by the benefits he is seeing for wildlife. The increase in the number of organisms feeding the rice paddy and the fact that his rice paddies have become a feeding ground for the crested ibis have encouraged him to continue to be part of the program. To illustrate the recent abundance of the crested ibis, he explained he often startles the birds when driving through the paddies. "I'm sorry! I didn't know you were there!" he says when this occurs.

Interestingly, most farmers' care for the environment extended beyond just following the requirements laid out by the crested ibis program. Thanks to Sazae-san's leadership, Sado has a research group as well as a market through JA for natural cultivation (自然栽培) rice. Besides farmers who were growing in the steep terraced paddies, all farmers interviewed, even those who

were not in the program, had had some experience with natural cultivation, or at least limiting inputs below the standards given for the crested ibis rice.<sup>52</sup> While no longer practicing these more environmentally friendly methods, large-scale farmers mentioned having experimented with natural cultivation or 80 percent cuts in agrichemicals in the past. However, due to size, and thus labor constraints, of cultivating large areas under such methods, they had moved away from such practices. Smaller farmers, like Onishi-san and Aikawa-san, utilize a mix of methods, practicing natural cultivation in some paddies, while using less strict input practices in others. Others like Imai-san, a single farmer in his thirties and a transplant from Niigata City, try to cut his usage of chemicals to around 40 percent. Whether the crested ibis program has been a gateway for greater environmental awareness and concern, or that program was simply one way for farmers who already cared about the environment to practice their values remains unclear.

In addition to being a structured way for farmers to care for and appreciate the environment, the crested ibis program's economic and business benefits were also an important incentive for farmers. The director of a farming cooperative, Tanaka-san, explained how the farm program had been integral to their success in breaking into the direct sales market for rice (as opposed to selling through JA). Being part of the crested ibis rice certification helped make the farm's rice appealing to rice stores. Currently, Tanaka-san's farm sells about two-thirds of its rice either directly to consumers or to rice shops and only one-third to JA. On the other hand, Imai-san was particularly attracted to the program because of its elegant logo. While he only joined the program in the last few years, when he started farming he preemptively designed his rice packages to leave a space to paste the Living in Harmony with the Crested Ibis seal. For Masada-san, the subsidies were an important aspect of his farm's participation. He mentioned

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<sup>52</sup> As discussed earlier, currently these are the standards for all farmers, regardless of whether they are participating in the program or not.

early in his interview how the organization puts to use the subsidies for implementing different biodiversity enhancing practices.

While environmental motivations were discussed more frequently and in more detail in interviews, community leaders and survey results share a more complex relationship between economic and environmental concerns. Sazae-san lamented that the economic incentives were taking priority over the core values of environmental stewardship that should be guiding farmers. There are many farmers who just participate in the program to get subsidies, not to protect biodiversity and support the crested ibis, he explained, citing the large decrease in participation of the crested ibis certification trainings as evidence. In 2018, a survey of all crested ibis farmers was conducted which also delved into the motivations and benefits of the program. Of the 72 percent of farmers that responded, 36 percent of respondents explained that they joined the program because of economic reasons, naming increasing the price of their rice and receiving the subsidies for biodiversity enhancing practices as their primary reason for joining the program. This was greater than the 24 percent, who cited environmental concerns as their reason for joining. On the other hand, approximately 61 percent of respondents felt motivation (やりがい) from contributing to the return of the crested ibis to the wild or increasing the abundance of wildlife, while only 25 percent cited their increase in income as motivating their involvement.<sup>53</sup> Ultimately however, whether economic or environmental reasons are given priority, farmers saw the crested ibis program as connected to their everyday life, providing a way to care for the environment, promote sales, and increase income.

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<sup>53</sup> Toyoda, Mitsuyo, “朱鷺と暮らす郷づくり：認証制度の評価レポート Toki to Kurasu Sato Zukuri: Ninshōmai Seido No Hyōka Repōto” (Niigata University Center for Toki and Ecological Restoration 新潟大学 研究推進機構 朱鷺 自然再生研究センター, March 25, 2019).

### *Habitat Too Steep for Certification*

Not all farmers have been eager to join the crested ibis certification program, a trend that is particularly clear in the mountainous and terraced areas farther from the central part of Sado. Around 30 percent of rice paddies in Sado are in mountainous areas,<sup>54</sup> which faces a very different set of conditions than rice terraces that are in the lower areas. These farms lie primarily outside of Niibo, where the crested ibis rice certification originated. According to farmer researcher and organizer Toyoda Mitsuyo, farmers outside of Niibo and its immediate proximity tend to feel less connected to the program, thinking it was not originally made to fit their needs.<sup>55</sup> This lack of connection to the program is further enhanced because of the growing conditions in terraced paddies. According to the farmer organizer Ogawa-san, terraced paddies take 1.5 times the amount of work as rice paddies have in flat areas but their productivity is only 60 percent of plains paddies. Unsurprisingly, in these steep terraced areas, farmers tend not to follow the requirement for biodiversity enhancing practices, and thus are not certified as producing crested ibis rice. Adding extra work to low productivity fields is difficult to justify, especially when practices like making diversion ditches decrease the area of land that can be cultivated in the paddy.

Despite the lack of connection to the program, these areas are critical to the image of the GIAHS and the revival of the crested ibis. The terraced paddies of Iwakubi, which have a

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<sup>54</sup> Minori Ujiuchi, "GIAHS Sekai Nōgyō Isan 'Toki to Kyōseisuru Sado No Satoyama' GIAHS 世界農業遺産「トキと共生する佐渡の里山」 [GIAHS Globally Important Agricultural Heritage System: The Satoyama of Sado's Living in Harmony with the Crested Ibis]."

<sup>55</sup> One reason for this is that until 2004, Sado island was divided into different smaller towns and municipalities, with Niibo being its own town. Thus a sense of city or island wide identity tended to be weak when the crested ibis program was formally established as a city wide initiative in 2008.

winding cascade down to the ocean have become symbolic of the GIAHS designation. Thanks to the enthusiasm and dedication of Ogawa-san who started a small organization to promote the local area and sell rice, Iwakubi is now a host to a rural revitalization squad member, a young person who is paid by the national government to work at promoting the community, and in the case of Iwakubi, promoting tourism of the GIAHS designated rice paddies. While these paddies are not under their certification, perhaps because of their symbolic status, Iwakubi still has representation at the biannual meeting on the status of the crested ibis. In a similar vein, Haitsubaki, a set of terraced paddies deep in one of Sado's mountain ranges, is closely connected with conservation efforts but is not certified under the city's program. Haitsubaki, own by Takano-san, one of the sons of one the top conservationists of the crested ibis, is considered the sacred lands (聖地) of the crested ibis because the mountainous rice terraces were one of the last sites where the crested ibis was spotted in the wild and has been the site of two releases of the bird back into the wild.<sup>56</sup> However, as Takano-san explained, he has refused to join the program because the requirements for the certification are too stringent. He has no interest in doing the twice annual wildlife survey and because he grows so little rice, he does not think it makes sense for farmers like himself in mountainous regions to have to follow requirements that work best for farmers in flatland areas. Moreover, because of his location, he sees his work of cultivating rice as contributing greatly to conservation, evidenced by the abundance of tadpoles, frogs, and other wildlife that make their home in and around his paddies.

The contentious nature of crested ibis farmland was evident in the biannual crested ibis conservation meeting held in the summer of 2021. This meeting brings together farm leaders,

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<sup>56</sup> “トキの聖地で10羽大空へ,” 新潟日報デジタルプラス, accessed March 1, 2022, <https://www.niigata-nippo.co.jp/articles/-/8064>.



conservation officials, NGO leaders and researchers to discuss the efforts and impacts of the crested ibis conservation efforts twice a year. Most of the meeting proceeded smoothly with few comments outside of those presenting or reporting back. However, one farmer brought up the direct payments for mountainous and hilly regions, a national funding opportunity that supports farms in lands that butt against and are part of mountain ranges. This fund supports farmers who agree to cultivate their lands for a few years at a time. Because of the aging population in his community, he was not going to be able to apply again; aging community members were not willing to commit for this period time. Soon, others started raising their hands and chiming in, having thoughts and comments they wanted to share. This support for these less productive and higher maintenance lands was clearly a topic of contention that took precedence over the state of the crest ibis for many leaders in the room.

These hilly and mountainous farmlands are connected to conservation efforts of the crested ibis and image of Sado as a GIAHS site. In some cases, like Haitsubaki, mountainous farmlands play a role in supporting spawning grounds for different organisms and have a special connection to the crested ibis. In others, the continued maintenance of shared resources is of concern. For instance, the upkeep of the water systems and roads is generally managed collectively by all the farmers who use them. Thus, as some farmers quit, the burden becomes greater for the remaining farmers, including those participating in the program. In Imai-san's hamlet, there used to be 6 different farmers who were growing rice in the same area. Now, it is just Imai-san. Luckily thus far he has been able to get some help with some of the labor of maintaining the waterways because the workload is too much for just one individual. Hamano-san from Ogura rice terraces, another set of terraced that are part of the island's agritourism

scene, predicts similar challenges. If the farmer who is maintaining the reservoir retires, it will no longer be viable for him and others to grow rice in the terraces.

### *Program Challenges*

The issues of aging farmers and retirement were also an underlying challenge for plains farmers in the crested ibis certification program. In fact, challenges specific to the crested ibis program often had roots in changes that are occurring in agriculture and farming more broadly in Japan. Through the coding process, these challenges were divided into five different categories: 1) land management, 2) demographic transition and 3) farming expansion, 4) high costs and decreasing demand, and 5) regulatory constraints. Further analysis suggests management challenges often originate in the second category of demographic transition and farming expansion. These interlocking issues in particular pose challenges to the longevity of the crested ibis certification.

Farmland management was frequently described by farmers in the program as a challenge both in the 2018 survey and during interviews. According to the 2018 survey, participating in the certification increased workloads for over 70 percent of farmers. While the survey does not specify how work has increased, it is likely due to carrying out biodiversity enhancing practices, which were discussed in the interviews. However, examining the background characteristics suggest that the ability of farmers to deal with workload or land management related challenges varied depending on the size of the farm.

Two of the largest farms interviewed found the biodiversity enhancing practices challenging, specifically because of their size. Over the years, these farms had been continuing to expand and take over rice paddies because of the increase in retired farmers and abandonment of

farmlands. For instance, there are two types of diversion ditches, one which is more labor intensive but is more long lasting and effective at creating habitat, and the other which is easier to install but only lasts during the winter months. Because of the size of his farm, Sazae-san can only do the latter option. Masada-san provided a similar rationale for his choice of biodiversity enhancing practices. He explained that his farm mainly practices winter flooding because it is the easiest of the practices. Approximately 50 percent of the land area in the program is cultivated with this biodiversity enhancing practice because, with 500 rice paddies, efficient and easy management is important.

Smaller farmers in the program, however, seemed to have fewer and less severe challenges in fulfilling the biodiversity enhancing practices. While Imai-san mentioned challenges with maintaining water in the diversion ditches, this answer required several moments of thought, suggesting it was not a major issue for him. Onishi-san has had some challenges in the past with weeding and managing the diversion ditch, but he has since overcome these challenges. With the help of a new weeding machine, the problem of increased weeds has been mitigated and after some experimentation, he's figured out a way for creating a diversion ditch that minimized the time he must spend cutting grass. Such stories suggest that smaller farms may be better equipped to carry out some of the practices required by the crested ibis program, which if trends continue, could be difficult in the future.

Despite being better more agile and better able to incorporate biodiversity enhancing practices, smaller farmers have more challenges in finding and assuring a successor. Most farmers interviewed appeared to be in their sixties and seventies. Of farmers in this age range, those that had organized as a cooperative (組合) spoke of having younger members who could continue their farm after them. However, Onishi-san, a family farmer who had not joined a

cooperative, did not think rice farming would be a major part of his son's future. His son had married a non-farmer and because of that, he did not expect him to be able to continue to farm rice, which usually involves at least two people. Moreover, the high costs of machinery and minimal profits for rice made him think that it did not make financial sense for his son to continue after him. Instead, he was looking into growing grapes or mushrooms because they required less equipment, could be taken care of by one person, and had a higher price point. Onishi-san's story is reflected in the 2018 survey results on farmers in the crested ibis certification. Individual farmers were asked if they have prospects for their farm after they retire, and out of 283 responses, 62 percent responded that they did not. While farmers like Onishi-san likely fell in the 38 percent that did have prospects because the questionnaire did not specify rice production, it is possible those 38 percent of farmers may not see their farm continuing to produce rice for market consumption. Together, Onishi-san's story along with the survey results suggest that in the coming years, the practice of larger farmers taking on smaller farmers' rice paddies will continue, which in turn could limit the types of biodiversity enhancing practices that farmers will be able to perform.

This demographic shift and loss of farmers are publicly visible in several ways. In the 2018 survey, the average age of farmers in the crested ibis program was 66<sup>57</sup> and each year Sado loses more and more farmers to retirement. Moreover, as a prefectural level agricultural department staff member explained, because of the low returns of profits in rice production, it is nearly impossible for beginning farmers interested in growing rice to access the national beginning farmer grants that the beginning farmers in Hakui accessed. Rather, farmers that are awarded these funds are usually in fruit or vegetable production. This challenge was exemplified

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<sup>57</sup> 豊田, "Challenges of Ecological Rice Certification System for the Co-Inhabitant with the Crested Ibis."

during the 10-year anniversary GIAHS symposium that was held in October 2021. Two young farmers were brought in to share their stories; one was a rice farmer who inherited his family business while the other was a female farming trainee, a newcomer to Sado Island who was learning how to grow persimmons and start her own orchard. While bringing a fresh perspective to Sado's agricultural scene, the latter panelist seemed out of place. The panel conversation primarily focused on the future of rice production on the island and the trainee often admitted she had nothing to say about the issue being discussed. Her presence highlighted the disconnect between attempts to pass on agricultural traditions and the reality that few young people actually have the resources to produce rice, the most important marker of the island's agricultural identity.

Other challenges faced by the farmers included costs and decreasing demand for rice. Like Onishi-san, nearly all farmers mentioned the cost of machines. Both small and large-scale farms mentioned the cost of machines as being a burden, and thus that new purchases had to be minimized. Two of the cooperatives had in fact formed specifically because the cost of machines was prohibitively high for individual members to purchase. Two farms as well as JA, mentioned the decreased demand for rice as being a challenge. Tanaka-san thought the government should be doing more to incentivize rice consumption particularly among children and young people because it would help his business and support part of Japan's heritage which was facing decline. Masada-san did not seem too concerned about demand currently but saw it as a potential challenge his farm would face in the future. For JA, decrease in demand was the reason why the crested ibis rice sales had not caught up with production; the lower per capita consumption rate was working against them, so despite expanding their customer base, sales had not increased.

Two farmers had very specific challenges with the crested ibis certification program that is connected to market regulations and policies governing rice production throughout Japan. One of the requirements for the crested ibis rice is that it must be top grade rice; meaning that it can not have more than 1 darkened or spotted rice grain per 1000 rice grains.<sup>58</sup> Discoloration is caused by the stink bug, so following the crested ibis certification's requirement of decreasing agrichemicals, rice that does not meet the cut for first grade rice may increase. Rice that does not meet this ratio can be cleaned by the running the grains through a machine that filters out discolored rice. For Tanaka-san, in some years damage by the stink bug is high and he has to spend extensive amounts of time running and rerunning his rice through the sorting machines to maximize the amount of rice he can sell as crested ibis rice. The discolored rice that is filtered out must be sold mixed with other farms' rice at a lower price point. He does not see the importance of this grading system because neither rice shops nor consumers care about the grade of rice. Most consumers, he explained do not even know what the rice grading system is.

Imai-san's challenges arise with policies put in place to limit acreage under production. This national policy to prevent the overproduction of rice requires farmers to take 30 to 40 percent of their rice fields out of rice production. While farmers are able to cultivate other crops like soybeans or grow rice for nonhuman consumption, such as rice for feed grain or whole crop silage, they are penalized if they are growing rice for human consumption. As a beginning rice farmer coming from outside the island who did not have access to the beginning farmer grants, Imai-san has had additional costs and challenges to establish his farm. To make ends meet he has prioritized growing as much rice as possible, a practice that is particularly common in his

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<sup>58</sup> Greenpeace, "Okome to Hachimtsu No Igai No Kankei お米とミツバチの意外は関係 [The Unexpected Connection between Rice and Bees]," 2019, <https://www.greenpeace.org/static/planet4-japan-stateless/2019/05/a71511bc-hantenmai2019.pdf>.

mountainous hamlet where the loss of farmers, and thus an increase in land abandonment, is an ongoing challenge. Following national government protocol for farming is required to receive subsidies for the crested ibis program and thus Imai-san does not get the extra support that he could.

*Conclusion: The Future of Crested Ibis Rice*

This array of challenges with rice farming makes sustaining the crested ibis rice certification in Sado challenging. In fact, participation in the program peaked in 2012, the fifth year of the program with 1367 hectares under cultivation while in 2020, 1044 hectares were certified.<sup>59</sup> The underlying challenges farmers face in their business—high machinery costs and decreasing demand—make rice production a difficult and precarious industry. For farmers, this, combined with rice grading systems and production limitation requirements makes it more difficult for farmers to get ahead and also get the most out of programs like the crested ibis rice certification. Ultimately, however, the biggest challenge rises from the restructuring of the agriculture and rice sector due to decreasing farmers and increasing farm size. While this ultimately may allow more land to stay under cultivation, the agility that small farms bring—for instance, to practice certain more difficult biodiversity enhancing practices—is lost. Finally, the difficulty faced by the terraced rice farmers shows further limitations of the program—its requirements do not take into account the constraints of terraces, despite the fact that these rice paddies are still critical to the restoration of the crested ibis and the island’s image as a GIAHS site.

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<sup>59</sup> Toyoda, Mitsuyo, “朱鷺と暮らす郷づくり：認証制度の評価レポート Toki to Kurasu Sato Zukuri: Ninnshōmai Seido No Hyōka Repōto,” 2.

Community leaders, at least to a certain extent, are aware of these challenges and are beginning to think creatively to reimagine rice sales and the crested ibis program. Researcher-organizer Toyoda explained how she has been helping farmers create virtual tours to help them sell the true value that they believe their work earns, which is much higher than the current rate for rice. Similarly, the mayor acknowledged that the current program had its limitations; however, he explained that through revisioning, the program had the possibility to bring young farmer intrapreneurs to the island. Specifically, he saw the opportunities to develop businesses that could market the values—whether, cultural, ecological, traditional or landscape based – embodied by the crested ibis program and Sado’s rice production more broadly. While less visionary, the representative from JA seconded this positive outlook, explaining that he expected the program to continue in the coming years. “It will continue,” he stated with certainty, “It must.”

Since its establishment, the Living in Harmony with the Crested Ibis rice certification has had several positive impacts in Sado. It has helped Sado establish a good reputation for its rice while supporting farmers in expanding their sales, marketing their goods, and increasing their prices for rice. Moreover, through the program, Sado’s farmers have had a way to take care of the environment, helping to support the crested ibis and live their values of caring for the environment. Along with these local impacts, the program has helped bring Sado national and international attention with its designation as a GIAHS site. However, as the number of farmers and acreage in the program decline, an examination of some of the underlying challenges, particularly the increase in farm size and decrease in independent farmers, is needed. During my fieldwork in the summer of 2021, different stakeholders were reviewing the crested ibis program, assessing its weaknesses, and considering opportunities for improvement. The results of their



assessment remain to be seen but some key changes will go a long way in increasing the long-term viability of the program. While enacting measures that will overcome all the market, landscape, and regularity barriers to the program will not be possible, hopefully, this review will address some of the barriers for bringing in young rice farmers and supporting smaller farmers. Such changes will allow the program to continue to play an important role for farmers, make the greatest impact to the biodiversity, and help the program sustain itself for the next generation of farmers.

## Chapter 4: Agricultural Revitalization as Regional Brand

“In the end, you can’t make a living just by growing rice. My son is a carpenter so his income is unstable. When he has work it’s great but when he doesn’t... he is the boss so it's unstable... I think right now he’s trying to figure out what to do in the future.

As a parent, I want to be able to do farming that I’ve tried and know will be lucrative. I want to be able to pass on this kind of farming on to him. So, as I was mentioning, grapes might be a good option. Or *kinoko* mushrooms...”

- *Onishi-san, Rice Farmer Sado*

“At JA, they don't have a marketing team. They never needed to do sales because they sell straight to JA Zenno. So they don't need to sell to customers. It's not like B to C—Before it was B to B, business to business. Farmer to JA to marketplace to a supermarket. But for natural cultivation, it’s like farmer to JA to a customer. Or a small store or restaurant. So JA has never had anyone who knows how to do marketing or sales. And they don't have any contracts. Just like verbal conversation.”

- *Natural Cultivation Farmer, Hakui*

“I started [changing my farming practices about 20 years ago] because of the crested ibis. There were efforts to return the crested ibis to the skies of Sado, and included in that is farming-- it’s farming that makes the environment for these birds. Like decreasing agrichemicals and increasing wildlife through various practices. So I started low-chemical and chemical free farming.”

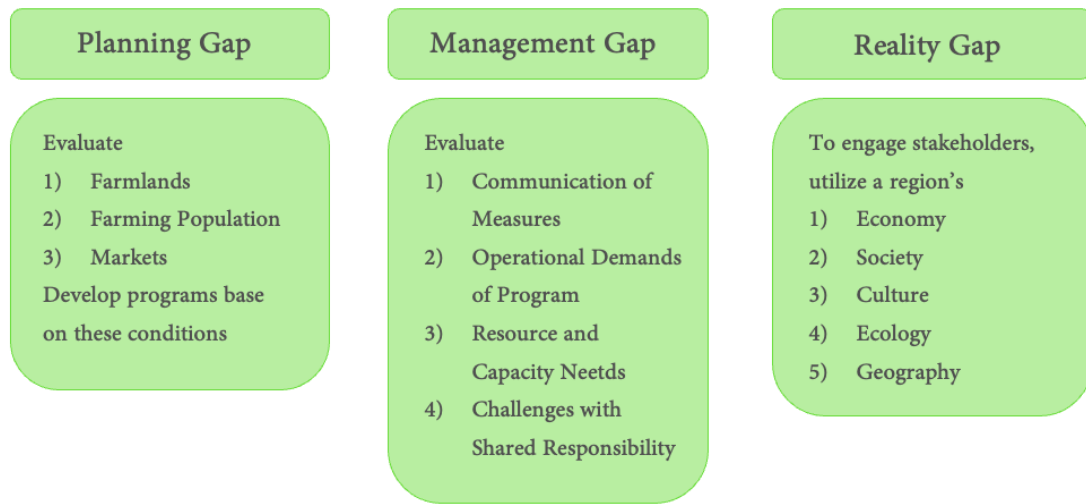
- *Sazae-san, Rice Farmer, Sado*

These quotes are a snapshot of the various perspectives and conditions that go into developing and sustaining agriculture based rural revitalization programs like those found in Sado and Hakui. They involved a farming population, with individuals like Onishi-san who bring their own personal concerns and worries about the future. They include organizations such as JA Hakui, taking on new practices, some of which vary greatly from pre-established procedures. And finally, program participation involves being inspired and having aspirations, similar to the experiences of Sazae-san in Sado. These factors—the baseline characteristics of those involved, the organizational changes, and the place-based motivations—can be systematically understood and categorized by drawing on frameworks from planning, place-based branding, and policy implementation best practices. This final chapter draws on theories in these areas to develop a

framework for implementing successful local level sustainable agriculture programs in struggling rural communities in Japan.

Through this diversity of fields, I suggest that sustainable agriculture revitalization requires planning that takes into consideration the socio-economic-environmental background of the community, follows best practices for implementation and management, and understands rural revitalization and place-based branding as an iterative process. To show how this is the case, I begin by providing an overview of the theory of place-based branding. Next, by drawing on examples from Hakui and Sado, I describe three key characteristics that should be evaluated when developing an agricultural rural revitalization strategy. Afterward, I break down the programs in Hakui and Sado following a policy studies framework for troubleshooting implementation, showing how understanding the dynamics of implementation allow future rural revitalization practitioners to disaggregate and anticipate successes and shortfalls. Finally, I examine conceptions of place-based branding as procedural, opposed to static, illustrating the positive impacts the programs in Sado and Hakui have had as rural revitalization strategies and their potential for further change. These characteristics are summarized in Figure 1. Taking these into consideration, I hope will improve similar programs in the future.

## Developing and Evaluating Strategic Regional Brands through Revitalizing Sustainable Agriculture



*Figure 1*

### *Regional Branding Theory*

Studies on regional branding in Japan have posited frameworks for assessing the success of regional branding initiatives. As Ikuta et al. define in their work on regional brands in Japan, a “brand” signifies a symbol that is distinct from others of its kind.<sup>60</sup> At the level of a place or region, this brand is often closely connected to “solving policy issues that are directly linked to regional development by acquiring direct brand benefits such as product sales.<sup>61</sup>” Ikuta continues to layout a typology for the various theories of change that inform this idea, arguing that most challenges from regional branding initiative arise from three separate issues: 1) gaps in planning that arise from a mismatch between the regional development goals and the approaches

<sup>60</sup> Takafumi Ikuta, Yukawa Kou, and Hamasaki Hiroshi, “Regional Branding Measures in Japan - Efforts in 12 Major Prefectural and City Governments,” *Place Branding and Public Diplomacy* 3, no. 2 (2007): 141, <https://doi.org/10.1057/palgrave.pb.6000056>.

<sup>61</sup> Ikuta, Kou, and Hiroshi, 132.

that achieve these goals; 2) gaps in implementation due to challenges with coordination; and 3) gaps in the images portrayed by the brand and the reality in the region. Anthony Rausch further develops this typology by breaking down the reality gap. Drawing on a theory that geographic and place-based characteristics can influence a brand, he argues that certain products are more conducive to regional branding initiatives than others. Cultural commodities, such as lacquerware products produced in Tsuruga, Japan, are uniquely positioned to be objects of place branding because they are well positioned to symbolize the key characteristics of a locality—its economy, society, polity, culture, ecology and geography.<sup>62</sup> While focusing on a specific product may be useful when a community had cultural commodities or other products that lend themselves to such a process, Rausch’s approach of searching for the perfect product limits the types of policy problems that can be tackled through place branding.

Kavaratzis and Hatch add another dimension to regional branding theory that allows for a greater range of challenges, like agricultural challenges, to successfully utilize regional branding. First, they reconceptualize the idea of a brand not as fixed but rather as dynamic. They argue that regional branding should be linked closely to a place-based identity: “place branding is best understood as dialogue, debate, and contestation. This is obviously a dialogue between stakeholders because brands are built out of the ‘raw material’ of identity and identity emerges in the conversation between stakeholders and what brings them together.<sup>63</sup>” In other words, brands are developed collaboratively by drawing on elements of the local identity and reshaping and developing them through the branding process. This idea suggests that instead of worrying whether a certain product can best encapsulate a location’s economy, society, polity, culture,

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<sup>62</sup> Anthony S. Rausch, “Place Branding in Rural Japan: Cultural Commodities as Local Brands,” *Place Branding and Public Diplomacy* 4, no. 2 (2008): 142–44, <https://doi.org/10.1057/pb.2008.2>.

<sup>63</sup> Mihalis Kavaratzis and Mary Jo Hatch, “The Dynamics of Place Brands: An Identity-Based Approach to Place Branding Theory,” *Marketing Theory* 13, no. 1 (2013): 80, <https://doi.org/10.1177/1470593112467268>.

ecology and geography, greater focus should be on how these elements can be reworked and envisioned through the regional development and branding process.

Through drawing on examples from the programs in Hakui and Sado, I build upon the three gap theory for troubleshooting place-based branding initiatives, focusing particularly on characteristics relevant to revitalization through agriculture. Planning gaps can be minimized by conducting baseline assessments and taking three factors—farmland, farmer demographics, and markets—into consideration during the planning stages. Along with this extension of Ikuta’s typology, I draw on Steven Yaffee’s “Framework for Political and Institutional Analysis,” to break down the challenges of Ikuta’s second gap, that of coordination challenges. Yaffee suggests that in addition to the need for smooth coordination, program implementation also involves 1) clear communication of objectives; 2) program alignment with operational procedures; 3) ample capacity and resources and 4) appropriately shared responsibilities.<sup>64</sup> Many of the successes and challenges that are faced in Hakui and Sado illustrate the dynamics of this gap. Finally, I turn to the reality gap—the differences between the reality on the ground and its reputation or image. Instead of searching for a product that best encapsulates a given place, understanding a regional brand as procedural suggests that this gap is not a shortfall, but rather an opportunity. When there are aspirations, stakeholders have the possibility of continuing to develop and revitalize their region.

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<sup>64</sup> Steve Yaffee, “Framework for Political and Institutional Analysis” (University of Michigan School for Environment and Sustainability, 2022).

### *Understanding Baseline Conditions*

Following Ikuta et al.'s framework for regional branding, planning can be seen as a critical process for developing successful regional development and branding. Ikuta's typology suggests that planning challenges arise from a gap between the goals and the measures used to achieve them. Below I focus on three factors that should be taken into consideration when developing specific policy measures for rural revitalization through sustainable agriculture in Japan. Since my research takes place at least ten years after the original planning process, these factors have been developed through examining some foundational challenges that were faced in Hakui and Sado. Specifically, I find that the farmland, farmers, and markets greatly impact the program.

The types of farmlands and geography greatly affected farmers' relationships with the program and ability to grow crops in Hakui and Sado. In Hakui, many of the farmers using natural cultivation had to rely on whatever farmland local farmers were willing to part with, which tended to be more marginal farmlands; for instance, land that was hillier had been left out of cultivation for some time, or had issues with drainage or water retention. While in Hakui, the conditions of the farmland did not appear to influence whether aspiring farmers would take up natural cultivation, it likely contributed to challenges these farmers had in crop production and establishing their business. Several farmers mentioned the conditions of their farms as being unideal; in contrast, Kawaii-san, who inherited prime farmlands for cultivation from his family is considered by some in community to be the most successful natural cultivation farmer.

In Sado, the uptake of the Living in Harmony with the Crested Ibis program was greatly influenced by geography and type of farmland. Many certified farmers grew rice in the plains area, where the flat lands and large paddies make rice cultivation relatively easy, compared to the

steeply terraced areas. Moreover, farmers who lived in these latter communities often felt that they did not have the capacity to become certified because it would require extra work, something they could not afford given their comparatively heavier workload and lower yield rates. Thus, an understanding of the farmland, or the types of farmland, farmers participating in a program may access, contributes to participation rates or cultivation success.

The second factor that has greatly influenced the trajectory a program faces are the demographic characteristics of the farming population. Stakeholders in Hakui frequently pointed to specific characteristics of farmers that influenced the effect the program was having. As many involved said, those who were completely new to farming were the ideal candidates for natural farming. These individuals did not come with any preconceived understanding of farming best practices, which allowed them to adopt the tenets of natural farming more easily, many of which were antithetical to basic frameworks and practices of conventional farming. Moreover, given Japan's aging farming population and the ever-increasing amount of abandoned farmland, a program that brings in new farmers is strategic in many Japanese municipalities. As Awaki-san points out, JA Hakui continues to support natural cultivation because it is seen as a solution to this fundamental challenge facing Japanese agriculture. However, the newness of the farmers to the industry also poses challenges. Many have trouble accessing prime farmland as well as struggling with successfully growing crops given their lack of knowledge of agricultural systems. Ultimately, the fact that many of the farmers in this program are beginning farmers has likely contributed to the challenges of creating successful farming businesses. Given Takano-san's enthusiasm for increasing practitioners of natural cultivation, these tradeoffs were likely overlooked as the program was developed but would be useful considerations in the planning of similar programs in the future.



Sado's focus on supporting existing, and thus aging farmers makes it face different kinds of success and challenges. Uptake of the program requires less effort than a program recruiting new farmers –participants are not changing occupations—contributing to the accessibility and uptake rates of the program. While at its height, Sado had 684 rice farmers participating in the program,<sup>65</sup> only about 10-14 full-time farmers and 41 individuals participate in the program in Hakui.<sup>66</sup> However, this focus does pose challenges given the demographic transition currently facing the farming community. This reality suggests that the program may face decreasing participation, which has been the case with the certification program in Sado.

The market for targeted crops also greatly impacts the ability of the farming programs to garner sales and farmers to make a living. As Shimizu and McLachlan explain, rice, particularly specialty rice like the rice produced in Sado and Hakui, is one of the most challenging ways for JA to diversify production given the steep competition in the market.<sup>67</sup> Moreover, decreasing consumption rates have further intensified competition. In the decade before the establishment of these programs, annual consumption per capita of rice had decreased by approximately 5kg per person, and between 2010 and 2020 and it decreased further by nearly 9 kg per person.<sup>68</sup> Sado's ongoing challenge with selling the certified rice at the higher price point, likely arose in part because of these factors. While the extent of the decline in consumption rates would have likely been difficult to anticipate, a decrease in consumption could have been anticipated and measures

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<sup>65</sup> Ujiuchi, "GIAHS Sekai Nōgyō Isan 'Toki to Kyōseisuru Sado No Satoyama' GIAHS 世界農業遺産「トキと共生する佐渡の里山」 [GIAHS Globally Important Agricultural Heritage System: The Satoyama of Sado's Living in Harmony with the Crested Ibis]."

<sup>66</sup> Satoshi Nitta, "Intabyuu No Onnegai (Daigaku Insei, Yoshida Desu) インタビューのお願い (大学院生、吉田です) [Interview Request from Graduate Student Yoshida]," August 3, 2021.

<sup>67</sup> Kay Shimizu and Patricia L. Maclachlan, *Betting on the Farm: Institutional Change in Japanese Agriculture* (Ithaca: Cornell University Press, 2022), 147, <https://muse.jhu.edu/pub/255/monograph/book/97577>.

<sup>68</sup> [https://www.maff.go.jp/j/heya/kodomo\\_sodan/0405/05.html](https://www.maff.go.jp/j/heya/kodomo_sodan/0405/05.html)

to compensate for this squeeze could have been developed. Hakui's approach to rice sales offers one example of a creative approach to the stiff competition. Hakui, by using unique markets for its rice such as the local school lunch and *furusato nozai*, appears to have overcome the challenges of this specialty rice glut. Although Hakui produces much smaller volumes than does Sado, their success suggests opportunities for Sado.

The vegetable market, which farmers in Hakui sell into, involves its own set of requirements and challenges. The importance of uniformity and size of vegetables has made it difficult for natural cultivation farmers to sell through conventional routes such as large distributors and grocery stores. While roadside stations (*michino-eki*) and other smaller venues that focus on local foods offer an alternative, the competition can be challenging given that most local vegetable farmers and hobby farmers are producing similar produce during the same season. Conventional producers may sometimes have the upper hand in these local markets because if their produce is grown with fertilizers and pesticides, it may be larger, less damaged, and cheaper than their natural cultivation counterparts. At an individual level, farmers like Yamamoto-san, have found their own ways to market their produce and make it stand out; others like Mako-san have been able to create a market for themselves through value adding. However, at the program level, the nature of the conventional and alternative vegetable markets has acted as a barrier. The difficulties of breaking into conventional markets likely contributed to JA's challenges with selling natural cultivation vegetables as they originally promised they would. In other words, an understanding of the market requirements for vegetables may have allowed JA Hakui to anticipate or work around the challenge as they have done for natural cultivation rice.

#### *Anticipating Implementation Challenges*

The second gap in place-based branding—challenges with implementation— can be disaggregated by following best practices for program implementation. Both programs draw on typical policy tools to influence environmental and agricultural conditions by changing human behavior. Hakui focuses on building capacity primarily via training and offering incentives in the form of funds and grants, while Sado’s certification system is a different policy mechanism: a standard or regulation. Both programs also invest in awareness raising/publicity. Given the differences between the two programs, the effectiveness of the policy tools themselves cannot be evaluated, but their execution follows the same premise. This section examines this implementation through a framework used by policy analysts and other related professionals. According to Steven Yaffee, implementation can be broken down into four categories 1) Communication; 2) Operational Demands; 3) Capacity and Resources; and finally 4) Shared Responsibility<sup>69</sup>, which are detailed and explored through examples from Hakui and Sado below.

### *1. Communications*

Communication in implementation refers to communications regarding policy or program objectives. Clarity and precision are critical for successfully carrying out a program.<sup>70</sup> Both Hakui’s natural cultivation project and Sado’s living in Harmony with the Crested Ibis started out with relatively narrow objectives. Takano-san’s original goal with the natural cultivation course—now the Noto Satoyama Farming Academy— was to develop and inspire more practitioners of natural cultivation. Sado’s impetus for developing its branded rice was first to increase the reputation and thus sales of the island’s rice, followed by the goal of creating habitat for the crested ibis. Both sets of goals lack clear, quantifiable benchmarks for denoting success

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<sup>69</sup> Yaffee, “Framework for Political and Institutional Analysis.”

<sup>70</sup> Yaffee, 4.

and therefore are lacking in precision. However as illustrated in more detail in the case studies, both programs appear to be achieving these goals. By the time of this writing, 484 crested ibis were living in the wild in Sado,<sup>71</sup> and Sado's rice had made a name for itself nationally. Natural farmers in Hakui numbered 41,<sup>72</sup> a figure that does not include natural farmers who have passed through the academy but farm outside of the city's limits or who are home gardeners. Given the lack of precision in these goals, both programs seem generally successful.

While less well articulated, both programs are also connected to the broader goal of branding their respective city. The Living in Harmony with the Crested Ibis rice certification became a tool for upholding Sado's image as ibis island, and similarly, making Hakui the Mecca of Natural Cultivation became an objective in Hakui program. This point reinforces Ikuta's finding that the connection between measures and goals is frequently not well defined in regional branding initiatives in Japan and suggests that iterative goal setting and re-evaluation should be included in the implementation process.

## *2. Operational Demands and Motivation*

Operational demands are the type of activities required by a program or policy; how well these align with an organization's preexisting procedures and operations influences success. When a program's requirements stray from the organization's existing operations, challenges are likely to arise. This can clearly be seen in JA Hakui through staff capacities and responsibilities. Currently, the staff member overseeing natural cultivation works in the finance department and oversees a number of other initiatives. Managing natural cultivation programming thus becomes

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<sup>71</sup> Nakai, "Toki Yasei Fukki No Igi to GIAHS トキ野生復帰の意義と GIAHS [The Importance of the Crested Ibis's Reintroduction to the Wild and GIAHS]."

<sup>72</sup> Nitta, "Intabyuu No Onnegai (Daigaku Insei, Yoshida Desu) インタビューのお願い (大学院生、吉田です) [Interview Request from Graduate Student Yoshida]," August 3, 2021.

an added responsibility on top of his primary work responsibilities. Furthermore, the work of running a training program and marketing rice fall outside of the scope of skills held by employees. As described in one of the quotes at the beginning of this chapter, JA could secure buyers for natural cultivation products but was not skilled enough to negotiate a long-term contract and did not have a marketing team to continue to expand sales. The challenges Hakui faced in selling and processing produce illustrate this mismatch between existing operations and supporting natural cultivation in the city. JA staff did not have experience working in the short time frames required for getting fresh foods from farms to customers. Moreover, at the organizational level, there is a significant mismatch between the organization's business model and the program's approach to revitalization and increasing farmers in the community. Supporting natural cultivation, which requires no inputs, clashes with the organization's reliance on the sales of agrichemicals and inputs as a major source of revenue. As a farmer-member cooperative, JA has justified the support for natural cultivation because it brings in new farmers, but this internal incongruency likely leads to challenges with organizational motivation and support for the program.

With fewer interlocutors who are intimately familiar with JA Sado's operations, the extent to which Living in Harmony with the Crest Ibis aligned with JA Sado is difficult to evaluate. However, the challenges of selling Living in Harmony with the Crested Ibis at a premium price might be attributed in part to an operational mismatch between the requirements of the program and skills of JA Sado and/or operational procedures of the organization. JA Sado manages the marketing and selling of certified rice directly to rice stores and other specialty shops. Supporting direct sales may not be a process that staff have experience in, and it may fall outside of existing procedures.

### 3. *Capacity and Resources*

Closely related to operational demands are capacity and resources used to implement a program. These include a program's funding, human resources, information, and equipment.<sup>73</sup> As an incentive-based program, Hakui was well resourced in some areas but others like human resources and information were less well supplied. As described in Chapter 2, the monetary resources provided through the grants were one of the most well received aspects of the support offerings for farmers in Hakui. However, less investment was made into the human resources which manage the program. For instance, training or hiring staff who had experience in marketing or selling fresh produce may have allowed JA Hakui to successfully support natural cultivation vegetable farmers. Resources can also include information; given the newness of natural cultivation as a growing method, a detailed understanding of how to grow crops using these methods and their impact on the environment is lacking. This in turn impacts the effectiveness of the courses and the ability of the city, JA, and the farmers themselves to market and show the full benefits of natural cultivation.

Similarly, the areas where Sado has invested resources have paid off, while parts of the program with fewer resources tend to face challenges. Sado has created a beautiful logo for the certification and has an array of different package designs that could be utilized for certified rice. Outside of general frustrations with having to complete paperwork, farmers seemed to be satisfied with the certification process. However, Sado faces capacity challenges around information, as well as staffing in different areas of the program. The rationale behind the practices deemed to be biodiversity enhancing practices was not necessarily backed by ecological research. Similarly, the city's attitude toward the ecological data it was collecting

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<sup>73</sup> Yaffee, "Framework for Political and Institutional Analysis," 5–6.

through the monitoring surveys also suggests a lack of capacity, perhaps in combination with a clash in preexisting operations. An analysis of this data could be valuable, reinforcing the importance of the certification, but the city had simply inputted the data and left it in a database. Thus, this lack of analysis suggests a lack of capacity, or a lack of know-how and motivation, two characteristics of operational mismatches.

Critical to the success of a sustainable agriculture initiative is the ability to predict and allocate the required resources to a project. Both these programs excelled at increasing capacity in certain key areas like material, financial, and branding support, but some of the less flashy parts of the program, like procedures for kitchen rental, or the analysis of the required survey did not receive investment. Paying attention to the details of the program, not just the main components, facilitates overall smooth operations.

#### *4. Shared Responsibilities*

As pointed out by Ikuta et al., the implementation of programs invariably requires the support and efforts of different parties, whether other organizations, leadership, or other outside constituents or groups. In Sado and Hakui, responsibilities are divided largely between the local JA and the city. In addition to coordination between these groups, leaders in each organization also share the responsibility and ownership of a program. In both cases, farmers are also key constituents acting as the beneficiaries of the program but have agency themselves to shape the trajectory of farming in their community. Other groups, like Noto no Mirai and Hakui also take roles in executing key tasks. While these shared responsibilities are essential to success, they can also lead to challenges as has been the case in both Sado and Hakui.

In Hakui, the shared responsibilities for the implementation of natural cultivation are successful in situations where responsibilities are clearly delineated and fit within expected roles

but less so when they were more ambiguous. Besides the effort of filling out paperwork, none of the farmers based in Hakui complained about how the system of support grants operated.<sup>74</sup> These were all managed by the city and seemed to be accessible to farmers. While funds came from various sources, applying for these grants took place in the city hall. Similarly, rice farmers who sold natural cultivation rice through JA did not voice complaints about the system; the Kawabatas for instance, were happy to have a secure market for their rice, even if it brought in less income than when they sold directly to customers. Both these practices, issuing subsidies and purchasing rice were within the scope of the respective organizations' general operations. The academy, and the equipment and kitchen rental however, were organized jointly, often in collaboration with Noto no Mirai, and seemed to be the less successful aspects of the program, receiving mixed reviews from those who utilized them. Because of shared responsibility, it was likely easier for different stakeholders to invest less or shrug off challenges, leading to overall lower success rates.

In addition to the responsibility of executing the program, the leadership of the organizations and their involvement also affected outcomes. This was stark in JA because the program's basic operating processes were at odds with input free farming. Through the leadership of the president, Shibata-san, JA had been able to incorporate and invest in natural cultivation but when leadership changed, this program faced disinvestment. At the city, similar issues can be seen since Takano-san's retirement from civil service. Without him to champion the cause, there was likely less enthusiasm and support for natural cultivation. Finally, farmers and nonfarmers alike held expectations regarding new, natural cultivation farmers. As one informant explained, after JA failed to secure a market for natural cultivation farmers, there was

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<sup>74</sup> One farmer who had gotten in his Next Generation Investment Farmers Grant in another municipality complained did however complain about the requirements and found the application process burdensome.



an expectation that the farmers would work together to produce in bulk and find markets. While through Noto no Mirai and Nagai-san's vision for a worker cooperative this may come to fruition in the future, at the time of this writing, the farmers had not self-organized to fill this need.

While limited knowledge of the workings of city hall and JA limit the analysis, the certification program in Sado seemed to face fewer issues with shared responsibilities. Moreover, given the current mayor's work in establishing the certification program, Sado's program had the benefit of having electoral support. The number of farmers, particularly rice farmers, who were not involved, and felt that the program was not for them suggests that in some instances, farmers could have been taking more responsibility. However, many of the farmers who did not participate in the certification system still seemed invested in creating habitat for the crested ibis. Ogawa-san had been part of the committee that discussed habitat creation for the ibis, and Takano-san was proud of the fact that his property had been the site of the release of the birds and that his paddies supported critical habitat for wildlife key to the crested ibis's existence. In other words, while these farmers were not involved in the certification itself, they were still invested in the cause of supporting the bird and the vision of Sado as an island where people lived in harmony with this keystone species.

### *Closing the Reality Gap*

The final gap that Ikuta addresses in place-based branding initiatives is the gap between the image of the program, or its brand, and the circumstances on the ground. While Ikuta and Rausch see this as a challenge, I argue through examples in Sado and Hakui that this gap in fact offers an opportunity for increased regional development when paired with a brand that incorporates place-based dimensions. Pike lays out how corporate brands tend to be intertwined

with seven place-based characteristics: economy, society, polity, culture, ecology and geography.<sup>75</sup> As Rausch explains these characteristics can be utilized when developing a strong regional brand.

Sado's program exemplifies the use of economics, polity and geography in the development of the crested ibis certification, which can be seen as a motivating force for farmers. Long before the development of the branded rice, the island had been associated with the crested ibis and its rice paddies were known as feeding grounds for the birds. Thus, the certification program was integral to the ecology of the island. Furthermore, through attractions like the Toki Forest Park the brand is connected to tourism, and through governmental and nonprofit conservation networks it symbolizes the polity. As illustrated by Sazae-san in his quote in the beginning of this chapter, farmers were inspired to take on certain practices because of the birds. Others, like Ogawa-san of Iwakubi, were not part of the program but still felt connected, likely in part because of the environmental and social factors that connected the certification and the brand to the place and landscape that he and his family had called home for generations. In contrast, Imai-san described how years before he joined the certification program, he had made plans to add the certification sticker to his rice packages because he had been inspired by the beautiful logo. These efforts suggest that because of the crested ibis's place-based association and the act of branding it, residents were inspired to improve and thereby contribute to the revitalization of their community.

While the connection to these place-based dimensions is helpful in closing the reality gap, this approach alone does not solve all the challenges, as can be seen through farmers who felt alienated from this program. Researcher and farmer organizer Toyoda was hired by Niigata

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<sup>75</sup> Andy Pike, "Geographies of Brands and Branding," *Progress in Human Geography* 33, no. 5 (October 1, 2009): 619–45, <https://doi.org/10.1177/0309132508101601>.

University because of the interest in crested ibis habitat creation through farming. However, as her work as a farmer organizer in Sado shows, this program's focus on the ecological goals of habitat preservation left many feeling left out. They did not think these efforts adequately met their own needs as farmers. She describes how she started community meetings with farmers who had no hope for the future; they did not see farming as having a future and did not believe the crested ibis's program would solve their core needs of continuing their business. Gradually, however, through a series of community meetings, Toyoda and a few leaders in the community were able to instill a sense of possibility within the group. During the time of this fieldwork, they had several business ideas for how to better support their livelihoods and revitalize their community. Thus, following Kavaratzis and Hatch's analysis of seeing branding as dialectic, the conversations among stakeholders are crucial. Further outreach and dialogues earlier in the process may have avoided the alienation felt by the farmers Toyoda-san works with. However, by conceptualizing the regional brand as procedural, we can see how this oversight earlier in the process still supports regional development. The regional branding initiative was the impetus for the beginning of Toyoda-san's work which led to the opportunity for these conversations. In the future, one can imagine the crested ibis certification transforming to better capture these needs, and thus better illustrate the diverse place dimensions that characterize Sado.

Hakui's use of branding did not necessarily have the place-based dimensions that Sado did but did creatively repurposed existing branding and geographic and environmental characteristics of the region. Natural cultivation is loosely associated with outer space and thus connects with Takano-san's previous efforts to revitalize the community through association with UFOs; this is evidenced through the natural cultivation's founder's own experience with UFOs and the curriculum in the training program, which at least on one occasion, made

connections to extraterrestrial life. Moreover, both were extreme and straddled positions between science and superstition. As Takano-san showed me at the beginning of his interview, vegetables farmed through natural cultivation do not rot but rather shrivel and dry up. This is a sign of their purity, which he compared to monks who were found mummified after retreating to nature to pray and chant. Additionally, Hakui's leaders have made strategic connections between natural cultivation and tradition. The academy has *satoyama* in the title, referring to the traditional farming-forestry landscapes of Japan and its agricultural heritage. Takano-san and leaders at JA further developed a connection to Japanese heritage by dubbing natural cultivation as "Japonic." According to Takano-san natural cultivation's input-free approaches opposes Cartesian Dualism, which sees agricultural systems as requiring inputs (agrichemicals) and outputs (harvests). This mindset makes the farming method, uniquely Japanese or "Japonic." Therefore, while Hakui did not have a built-in environmental connection to the farming method through messaging, leaders made connections between the method and preexisting conditions of the farming landscape, national identity and the UFO related tourism industry.

As discussed in Chapter 2, despite the shortcomings of Hakui's natural cultivation program, the farmers involved remained hopeful and aspirational, looking for opportunities to improve their situation and further Hakui's image as the Mecca of Natural Cultivation. While Hakui's natural cultivation branding was originally top down and it is unclear how many farmers engage or are motivated by the alien connection and its branding as Japonic, the aspirations held by individual natural cultivation farmers illustrate collective ownership over Hakui as the Mecca of Natural Cultivation. Examples of this ownership include Nagai-san's aspirations to start a worker cooperative, Noto no Mirai's plans to begin a natural cultivation café and consultation services, and Sakurai-san's vision of becoming an example of how one can "make it"

economically and raise a family while practicing natural cultivation. Through such examples, we can conceptualize regional branding as a process of regional development.

### *Conclusion*

As illustrated through the analysis of Hakui and Sado's programs, combining regional branding theories and policy implementation tools create a framework for developing and executing more effective local level efforts for sustainable agriculture revitalization initiatives. Ikuta's theory on the gaps in regional branding in Japan provide an overarching framework for understanding the key factors that shape the success of regional branding. The initial planning stages should take into consideration baseline socio-economic and environmental conditions to develop measures most useful for the agricultural challenges faced in a locality. To anticipate and troubleshoot management challenges, programs should examine the articulation of goals, alignment of measures with organizational operations, capacity and resources allocated, and how responsibilities are divided amongst different organizations and stakeholders. Paying attention to these factors before and during implementation can allow for the most effective agricultural programs. The final gap—the gap between the brand and existing conditions—can be seen as part of the course when understanding a regional brand as a process where stakeholders are motivated by branding efforts as well as motivate and shape the brand itself. This thesis focuses primarily on conditions within the existing communities and the experiences of farmers. However, to further develop best practices for regional agricultural branding, further research should be conducted on how outsiders, whether tourists, consumers, or other regional development experts, understand and interact with the brand and community. Such research will provide a more holistic view of the characteristics of successful regional revitalization.



## Chapter 5: Closing Thoughts

From marginal settlements on the verge of disappearing and aging farmers who lack hope for the future, to species loss and farmland abandonment, rural farming communities across Japan are facing a variety of changes that affect community well-being. The programs developed through collaboration between municipal governments and JAs in Hakui and Sado are two responses to these intersecting issues. This thesis lays open the inner workings of these programs, showing how each program, through institutional support, offers mechanisms to farmers to revitalize their communities. The programs must negotiate local conditions such as farmland quality and external forces like stiff market competition while recalibrating institutional procedures, and individual practices and lifestyles to create a new name and a different future for the city.

Neither Sado nor Hakui has fully figured out how to carry out such an initiative. Whether it is decreasing participation or mismanaged machinery, each program faces challenges in implementing its programs. Through laying out each program in detail, I hope to provide a source of inspiration and words of caution for policymakers, civil servants, JA staff, farmers and other community members hoping to transform farming conditions and the brand of their community. In addition to providing detailed examples as a basis for learning, I offer a framework for gauging best practices to develop farming for regional branding. The guidelines laid out in Chapter 4 provide a way for future practitioners to evaluate their own ideas and create farming programs that fit the unique conditions of their community.

These resources however lead to as many questions as they answer. What have been the ecological implications of this farming, particularly through Hakui's natural cultivation initiatives? Will the beginning farmers in Hakui be able to create long term livelihoods? In Sado

are more inclusive certification systems possible, which bring together terraced farmers and flatland farmers? How will community organizing efforts transform the regional brand? Comparatively speaking, are there ways to quantify and compare the success of these two programs? Regarding the framework for developing programs, what modifications can be made to increase usability? These questions offer just a few opportunities for further digging into local farm-based revitalization of Japan.



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