

Urban-Rural Exchange for Rice Farming Areas Development: A Case Study of Iketani and Iriyama Villages, Japan

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ABSTRACT

Iketani Iriyama is the name of a non-profit organization focusing on revitalizing rural village areas named after two villages in Japan. Potentially, these villages have rice farming culture due to the planting of a special rice called Yamashimizu with a unique natural irrigation method based around melting snow. Apart from the potential that these villages possess, they have a shrinking population. Therefore, the revitalization program was carried out by Iketani Iriyama through an urban-rural exchange approach. This research aims to understand the development pattern through direct interviews, focusing on background analysis, event design process, analysis of sustainability, and evaluation. According to this research, there are two categories of activities designed, which use an urban-rural collaboration approach that considers local potential, both cultural and natural. Internal activities aim to preserve agricultural areas through an ownership system approach and workshop activities related to local culture and facilitating immigrants through housing development. External activities include lectures, seminars, and discussions related to the success stories achieved. In carrying out these activities, there are six supporting aspects support the sustainability of the program, including the economic aspect, immigrants and volunteers, the character of the local community, agricultural potential, ongoing collaboration, and the role of social media.

Keywords: urban-rural, exchange, revitalization, development, Iketani Iriyama

INTRODUCTION

In the last three decades, the population of Japan began to decline, with the percentage of elderly or those aged 65 years or above totaling 28% of the total population, making it the most aged society in the world (T. Suzuki et al., 2021). The population of Japan, which in the 2020 population census was 126.15 million, is projected to fall to 87 million in 2070 or 69% of the total population (National Institute of Population and Social Security Research, 2023). Population-related problems have a direct impact on agricultural activities in rural areas. Japan is the only country that has experienced this rapid urbanization, seeing a more than 50% growth between 1920 and 1970 (PwC, 2016). Urbanization into large cities such as Tokyo, which are centers of finance, commerce, and government, coupled with shrinking populations, poses serious issues for small- and medium-scale regional communities that are beginning to shrink at an unprecedented rate (Anna, 2019). Since 2015, 790 cities including designated cities, 745 towns, and 183 villages have been recognized as cities, a municipality that must have a population of more than 50,000 people (The World Bank, 2019). Therefore, current urbanization also has an impact on the increasing number of abandoned villages, where it is predicted that, by 2024, there will be 896 towns and villages throughout Japan that will no longer be viable (Barrett, 2018).

In the village itself, villagers are getting older and older and are no longer able to cultivate the rice fields by themselves. In 2020, farmers aged 65 and represented a percentage of 70% or a total of 950,000, whereas those aged 49 years and under only amounted to 11% or 150,000 people (MAFF, 2022). Most farmers also choose to abandon agricultural activities after the age of 80 years. Therefore, approximately, in the next 20 years, 80% of these farmers will retire. The phenomenon of aging farmers and the reduction of young agricultural workers continues to increase, as is happening in Asia, Europe, and America (Casmidin et al., 2021). However, Japan's population is decreasing, and it may be possible that the agricultural products produced decreases. On the other hand, the global population is increasing, and the global demand for food will increase. Japan needs to have everything that it needs domestically including food. If the country cannot secure these necessities, then it is possible that it will not be able to survive in the future. Therefore, the agricultural sector in rural areas must continue to exist.

In line with the declining farming population, abandoned rice farming areas have also become a longstanding issue in Japan. The depreciation of agricultural arable land decreased from 6.09 million hectares in 1961 to 4.52 million hectares in 2014, where initially abandonment had occurred in mountainous agricultural areas (Su et al., 2018). According to the 2007 Annual Report on Food, Agriculture, and Rural Areas from the Ministry of Agriculture, Forestry, and Fisheries of Japan (MAFF), abandoned agricultural land increased from 6% of all agricultural land in 1995 to 10% in 2005, or a total 386,000 hectares, an area 1.8 times the size of Tokyo. Meanwhile, in recent years, more than 10% of Japan's traditional agricultural land has been abandoned, and this trend is expected to increase (Sasaki et al., 2021). Rice terraces are located in mountainous areas where they play a crucial role in preserving land areas and also food production (Wang et al., 2024). This area also has tourism potential due to its attractive views. Therefore, MAFF supports the preservation of terraces area through the 100 most beautiful rice terraces in Japan program, which aims to popularize the rice terraces to the wider community (Ishida, 2013).

To increase the interest of urban residents in village activities or migration, several approaches have also been taken by the government, private sector, and non-profit organizations (NPOs). For example, a scheme from the city government to attract new immigrants to rural Japan was registered by the Japan Organization for Internal Migration (JOIN), where incentives were given to those who migrate to villages, including financial assistance to cover moving costs, settlement allowance, and subsidies for renovating *akiya* or empty old houses (Dilley et al., 2022). The effort to attract the interest of other new residents is the *chiiki okoshi kyouryokutai* (local revitalization cooperation group) program by the Ministry of Internal Affairs and Communications to encourage urban residents to move to depopulating rural areas and participate in revitalization (Zollet & Qu, 2019).

A number of NPOs have rice terrace area preservation programs at both local and national levels, where the majority of approaches are conducted using the rice terrace ownership system. The rice terrace ownership system scheme is a method through which city residents can rent rice fields from landowners and participate in agricultural production and conservation supported by local farmers and experts in various ways (Kieninger et al., 2011). The urban-rural exchange approach is one solution to preserve agricultural areas in Japan with human resource issue because it invites urban communities to carry out activities in rural areas, also actively involving local communities in the design process and

implementation of activities. Through this approach, in Japan, several NPOs have succeeded in increasing the interest of urban communities in renting out agricultural land, with an increasing trend in the number of urban rice farming groups collaborating with local communities.

Niigata Prefecture is ranked one of Japan's three largest rice producers, surpassing Hokkaido and Akita Prefecture (Li, 2023). Tokamachi City is in Niigata Prefecture, an agricultural town 150 kilometers north of Tokyo. As of July 2017, the population was 54,515, with 20,089 people aged 65 years or older. The area of this city is about 590 square kilometers, with a low population density of 87.8 people per square kilometer (Shobugawa et al., 2020). With the high population of senior citizens, human resources are a problem for long-term agricultural sustainability in the region.

To provide a solution to this problem, one of the NPOs, Iketani Iriyama, which is located in Tokamachi, Niigata Prefecture has adopted an ownership system to preserve rice terrace areas. This organization was initiated in March 2007 through the formation of the Tokamachi City Regional Revitalization Executive Committee, and most of its members were residents of Iketani and Iriyama villages, which initially carried out reconstruction after the Niigata Chuetsu earthquake. From the beginning of post-earthquake recovery, activities have progressed to the development and preservation of rice farming areas and maintained the function of hilly and mountainous areas (Iketani-Iriyama, 2012).

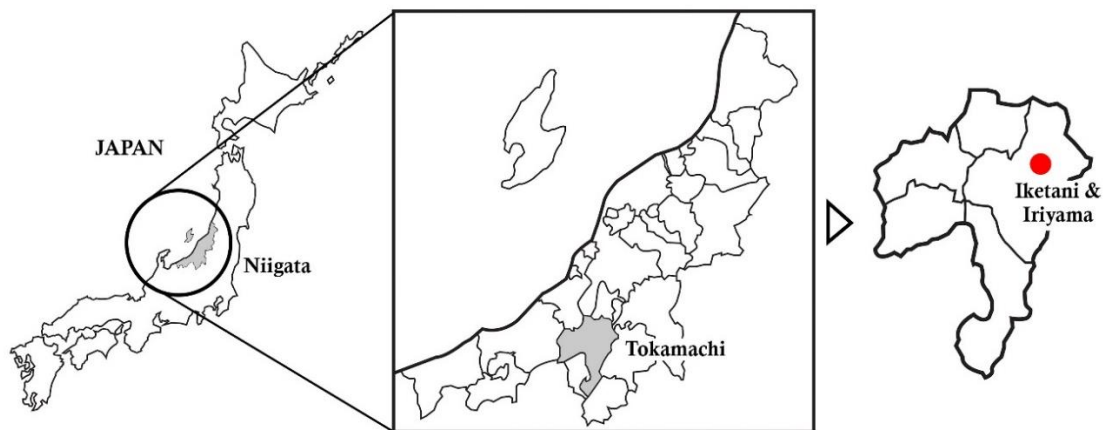


Figure 1. Iketani and Iriyama location

Iketani Iriyama has succeeded in sustainably implementing rice farming preservation activities through an urban-rural exchange approach and attracting people's interest in living in the area. Based on local potentials i.e. culture, nature, and houses, this NPO has also developed program designs both held in Iketani Iriyama and outside the area. Therefore, this research analyzes the design of urban-rural activity programs and aspects related to sustainability in preservation projects in rural areas.

METHODS

This research was conducted in October 2023 based on data from direct interviews with PIC from Iketani Iriyama, who is actively in charge of regional revitalization. Additional data related to the evaluation results were also obtained from presentations and references provided by the organization. The focus of this research is to understand development patterns based on an urban-rural exchange approach divided into four analyses. The first analysis was related to background understanding the historical aspects of the initial pioneering method and the vision of the organization that was formed. In this context, activities carried out both internally and externally were analyzed to determine the types and patterns of activities. After these aspects have been analyzed, the second analysis aimed to understand how the design process carried out in creating events, in which the committee carries out a problem analysis used as the foundation for designing event activities. The third analysis examined sustainability, which is important for the long-term revitalization program. Therefore, an analysis was carried out to understand which aspects support success in terms of program sustainability at Iketani Iriyama. In these three analysis processes in the research flow, the background is categorized as an analysis related to the foundation of the revitalization program associated with the currently existing conditions. The design

process and sustainability analysis are related to the development patterns carried out with supporting elements in creating events. The final analysis stage evaluates activity programs, examining testimonies from immigrants and local communities to understand the motivation underlying collaborative activities. This is done to understand the correlation between the resulting program and the effectiveness in attracting immigrants to Iketani Iriyama, which is the primary goal of the revitalization program.

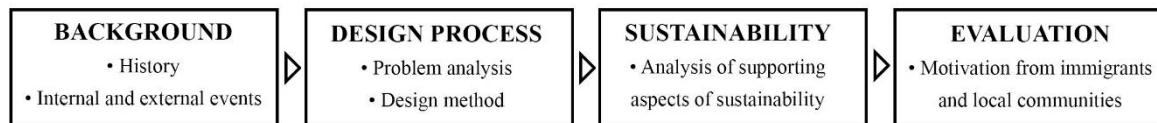


Figure 2. Research flow diagram

RESULTS AND DISCUSSION

Iketani Iriyama History

Tokamachi is divided into five districts, and Iketani and Iriyama are located in a mountainous area near Uonuma and Minamiuonuma, an area characterized by rice agriculture and forestry. In 1950, Iketani had 37 houses and 211 residents, whereas Iriyama was smaller with 15 houses and 85 residents (Abe & Sugawara, 2015). In 2004 Iriyama was devastated by the Chuetsu Earthquake, and the number of houses in the village was reduced from eight to six. Since this incident, the community has continuously interacted with civic groups and residents outside of the village for post-earthquake reconstruction programs. These villages are located on a land on a relatively steep slope and, compared to other villages, have fewer rice fields. Therefore, apart from rice farming, local residents cultivate vegetables, tobacco leaves, and silkworms, which are rare things in the city. Some former village residents who currently live outside of the area still have farmland areas in Iketani and Iriyama and continue to carry out agricultural activities there, though abandoned agricultural areas have also increased. Because these villages experience heavy snowfall, vacant houses also become difficult to manage and are quickly demolished.

After the Chuetsu earthquake in 2016, residents of the village discussed closing down the village, but, because there were volunteers who came and learned about various attractions that local people had not noticed before, their awareness came back to living in Iketani and Iriyama. At the beginning of the reconstruction of Iketani following the Chuetsu earthquake, Japan Earthquake NGO (JEN) supported the reconstruction with the aim of providing support activities internationally related to conflict, natural disasters, and others (JEN, 2010). In its activities, JEN not only supports the post-disaster reconstruction process, but also aids in the formulation of "regional revitalization designs" supported by other NPOs with the intention of helping villages accept "outsiders" and overcome the issue of depopulation. Along with JEN's support, a volunteer organization called the "Tokamachi City Regional Revitalization Executive Committee" was established with 89 members in its first year and is based at the Ikeya branch of Hito Daiichi Elementary School, which was previously a school that had been closed down. In other activities apart from rebuilding after the earthquake, another aim of this organization is to ensure the revitalization process in villages, and conducting activities related to housing to minimize depopulation, which was increasingly felt after the earthquake.

In Japan, the village government implements U-turn and I-turn policies to encourage migration from the city. The key to the success of this program lies in providing detailed information about the location, attractions, and jobs offered. U-turner is the definition of an urban worker who chooses to return to their hometown (Lee & Sugiura, 2018). While I-turner is a city resident who migrates to rural areas other than their hometowns (Obikwelu et al., 2018), the JEN program also includes securing "I-turners" and "U-turners" to migrate to Iketani Iriyama. In its development in 2012, the revitalization volunteer organization was formed from the JEN formulation officially became an NPO with the majority of committee members coming from I-turners and U-turners. This NPO was formed to ensure the sustainability of the revitalization program. In 2010, JEN completed its project support program. NPOs are legal entities responsible for collecting or distributing funds for philanthropic, cultural, educational, or social (Sirait & Rangkuti, 2023).

Program Vision

In terms of vision, the activities held by the Iketani Iriyama organization have targets from local to global. The main target at the start is to preserve the villages of Iketani and Iriyama and create a business model that reflects the sustainable village model by promoting the settlement of successors from urban areas and creating an enjoyable community in which people can see one another. The next step is revitalizing on a larger scale, namely Tokamachi, and eventually showing a model that has been successfully implemented in relation to areas experiencing depopulation and the context of its revitalization in Japan and globally. Responding to this vision, the activities currently being designed by Iketani Iriyama are divided into two scopes, including those internally held in Iketani and Iriyama and externally carried out outside of the village, the majority of which are in urban areas.

Internal Activities

Internal activities have an agricultural scope with an ownership system approach, food culture, clearing snowy areas, and housing development for facilitating new farmers from outside the village with the following activities:

Yamashimizu rice terraces for everyone

The rice terrace ownership system in Iketani Iriyama is a land tenure system in which volunteer farmers from the city are invited to rent a plot of terraced rice fields for a specific fee and cultivate them under the supervision of the landowner or other experienced local farmers. The rice terrace ownership activities in Iketani Iriyama are carried out through experiencing traditional rice farming activities. The rice variety planted in this activity is the nationally famous "Uonuma Koshihikari," which was rebranded as "Yamashimizu rice" and was certified as specially cultivated rice in Niigata Prefecture. Since 2018, the rice terrace ownership system has been called "Yamashimizu Rice Terraces for Everyone. "



Figure 3. Planting, *hazakake* rice drying method, and Yamashimizu rice products (Tada, 2023)

In 2022, the agricultural areas in the rice terrace ownership program were carried out in five towns. In total, there are four rice fields with an area of approximately 24,000 m². In the implementation of the ownership system, the urban participants are renting agricultural land with four-course options with different fees, including the "Specially grown rice" course, where rice is grown using more than 50% less nitrogen from synthetic pesticides and chemical fertilizers than conventional levels, with options a small planting area of 25 m², and a standard area with 100 m². The second is the "Pesticide-free rice" course, with option courses of a small area of 12.5 m² and a standard course of 50 m². Pesticide-free rice requires more effort to grow than specially grown rice. Each member gets the opportunity to participate in the work experience with their family with the main tasks including planting, weeding, mowing, harvesting, and drying harvested rice using the *hazakake* method or drying rice using bamboo as a place to dry under direct sunlight (Purwandaru, 2023). The schedule of activities is determined according to the general rice farming schedule, which begins in late April for social gatherings, planting in mid-May, and threshing rice in early October. In the ownership program, participants will also receive rice dividends in November, ranging from 3.75 kg to 45 kg, depending on the course program and the harvest total quantity.

A party to enjoy wild vegetables

This party is a one-day event that involves harvesting wild vegetables and cooking them using local ingredients with villagers. This activity was carried out in April, when conditions were still snowy with many participants from outside the village area, representing approximately 20 to 36 participants per year. To support these activities, the agricultural areas of Iketani and Iriyama are planted with garlic, potatoes and corn, where the harvest is also used to supply school lunches.



Figure 4. Activities of harvesting wildlife vegetables and cooking them using traditional recipes (Tada, 2023)

Ikeya snow shovel dojo and Kamakura event

At the winter, Iketani and Iriyama are covered by snow with a thickness of more than three meters. In spring, the snow melts slowly and becomes water that is rich in minerals and irrigates the rice farming area later. At peak times, the accumulation of piles of snow causes single-story houses to "disappear." Therefore, it is important to carry out snow clearing activities, particularly for road areas, which serve as the main access for various types of vehicles, especially cars. This program is supported by Chuetsu Disaster Prevention Frontier, which is the NPO that organizes the "Echigo snow shovel dojo." In this activity, beginners will receive instruction on snowshoes and snow dumping, and intermediate students will receive lifeline training using safety belts.

Meanwhile, for the *kamakura* event, people from Todoroki village, next to Ikeya village, came to teach to make and collaboratively build a large *kamakura* that can accommodate 20 people and deepen friendships by eating ice together. *Kamakura* is a traditional *ko-shogatsu* (little new year) event in which snow is compacted, and the inside hollowed out to create a space in which worship the deity of water (Sato, 2022). Making *kamakura* has been practiced since 450 years ago to pray for their household's abundant harvest and safety.



Figure 5. *Kamakura* design and outdoor ice eating activities (Tada, 2023)

Mebuki

Mebuki is a housing development program for new farmers completed in 2015 with the aim of attracting new immigrants to Iketani and Iriyama villages, neither of which has vacant housing. This activity was carried out in collaboration with a group of architects in Tokamachi City, creating a workshop format to create a house where, in the process, it will provide various experiences and knowledge but keep production costs low. Mebuki can accommodate up to three individuals with basic appliances and was built through crowdfunding, which involves as many people as possible. This building is specifically

used for immigrants who find it difficult to move to Iketani Iriyama by renting a room for a limited period.



Figure 6. Mebuki condominium for immigrants (Tada, 2023)

External Activities

Meanwhile, external activities in general are those that involve participating in events in the city or becoming an invited lecturer, where the overall aim is to convey success stories. The details of these activities are as follows.

Lecture/training session

This activity is an invitation for classes or training related to the scope of rural area development and visits to participate in conferences or community activities. This activity is also targeted at providing awareness of external elements regarding revitalization activities being carried out in Iketani Iriyama, as well as attracting immigrants to the villages. Lecture and training activities carried out include regional revitalization conferences, hometown creation symposiums, urban-rural symposiums, guest teachers at high schools, economic research groups, cooperation training, entrepreneurship seminars, etc.

"Thank you meeting" and cooking event in Tokyo

The "thank you meeting" is held in Kanda, Tokyo, through discussions to exchange opinions with participants regarding the issues faced by NPO regional revitalization while eating dishes made with ingredients brought from Ikeya. Meanwhile, a cooking event is held to get to know, eat in, and learn about Tokamachi city with the cooperation of a nutritionist living in Tokyo.

Development Analysis

The program at Iketani Iriyama was designed with a collaborative approach between volunteers, immigrants, and the community. This process was carried out by sharing discussions in the village meeting hall regarding how the program would be designed for a year and in the long term, namely for the next five years. The program design has a corporate direction and allows the program to attract people to engage in activities, the economic aspects of the program, and the products sold, as well as how to facilitate the younger generation to be able to live in the village. To support the realization of the revitalization program, a business plan proposal was created to obtain grant support from both the government and the private sector through a program designed based on the abundant local potential in the Iketani Iriyama villages.

In the revitalization activities, there have been four problems identified for consideration. The first of these problems are abandoned farming areas and agricultural activities. As such, the activities designed by the committee include rice terrace ownership program and the cultivation of various vegetable crops, as well as aspects of downstream agricultural products, including rice and food culture events. The second problem is lack of housing for immigrants because the heavy snowfall area makes houses easily damaged, meaning that there are only a few houses left in the area. Therefore, several programs have been designed, such as having residents live together with local residents, the Mebuki program, a shared housing for new immigrants.

The third problem is associated with human resources, in that approximately 80% of agricultural workers are over 60 years old (Tada, 2023). In Iketani and Iriyama, residents over 60 are most active

because they have free time and sufficient money. However, at the age of 70 and over, these individuals will experience a decline in physical strength, meaning that it becomes a long-term problem if there are no young people living in the village to continue their activities. Therefore, immigrants are needed to be able to continue the revitalization program in the long term. However, employment and income factors are the fourth problem relevant to the program inviting immigrants to villages, where the income of the committee members is not sufficient to cover the needs for childcare for those who are already married. Grants from the Tokamachi government to cover the current living costs of immigrants in the village, such as transportation (rental cars), have been stopped. New jobs also have been designed by the committee through the potential of ecotourism and agricultural products in order to attract the interest of immigrants to return to the villages.

In the design process, urban-rural exchange becomes the main foundation of activities involving programs and initiatives to encourage people to move to or return to rural areas, aiming to revitalize local economies and agriculture. The urban-rural exchange approach emphasizes immigrants' contributions as a solution to its development. Iketani Iriyama implemented the design of activities based on this approach, mainly in the agricultural sector, as the main potential of the area by highlighting traditional farming as its attraction through a land rental system, farming activities, and dividends on agricultural products. In designing the activities, especially those related to local culture such as agriculture, clearing snowy areas, and building houses, village residents are asked to take on the role of mentor to teach people from outside the village about agricultural activities. This process is relevant to the important role of design for indigenous-led regional development, which is to involve members of each community as "main actors" and teachers in the process of developing their community in a context of their change (N. Suzuki & Miyazaki, 2008).

In the urban-rural exchange approach, it is also essential to maintain communication between local communities and external participants. Therefore, in the process of developing the program, it is important to collaborate properly, that is, external participants do not create activity designs unilaterally or work only in relation to what the local community wants. Therefore, it is important to be able to communicate, namely by communicating frequently and ensuring that all parties have the same understanding, by meeting at least once a month with food and drink provided, and asking how members are doing. Through eating delicious food and drinking together, members are able to create an atmosphere of discussion that is deeper and more intimate, both in the process of brainstorming and evaluating the activities that have been carried out.

In the design of activities that have been carried out to date, Iketani Iriyama has succeeded in achieving sustainability, and there are four factors supporting this sustainability. The first of these factors describes immigrants and volunteers, with the committee accepting trial immigrants so that they know about the various programs that have been created. The committee accepts approximately 10 immigrants per year from various villages and cities, the majority of which are from the Kanto region. Meanwhile, there is a category of volunteers who do not intend to become immigrants and will only participate or help when activities are held. The role of external communities is particularly important in the design process because they have a new perspective on local potential, as seen in the following statements: "There are many wild vegetables here;" "It's amazing that there are fireflies;" etc. Local people usually say, "There's nothing here," they would gradually say, "Let's go pick wild vegetables next time." Throughout this process, urban and rural communities will gradually have confidence in developing programs based on local potential. The second factor is local communities. The local communities in Iketani and Iriyama have two characters that are the key to the success of developing activity programs, namely cooperativeness, where they are interested in carrying out revitalization programs, and welcoming characters towards immigrants and visitors from outside the village area, giving a positive impression to newcomers when they come to the village.

The third factor is the economy, for which there are several income schemes from the Iketani Iriyama program, including the production and sales of agricultural products, such as Yamashimizu rice, where sales are carried out using various schemes, namely direct sales via the internet or fax, and also through the *furosato nouzei* scheme, a program for people to make donations to their favorite municipalities and those from municipalities that have received donations and provided reciprocal gifts in return (Fukasawa et al., 2020). Rice sales are carried out online, including using e-commerce platforms popular in Japan such as Rakuten, Gurunavi, and others.

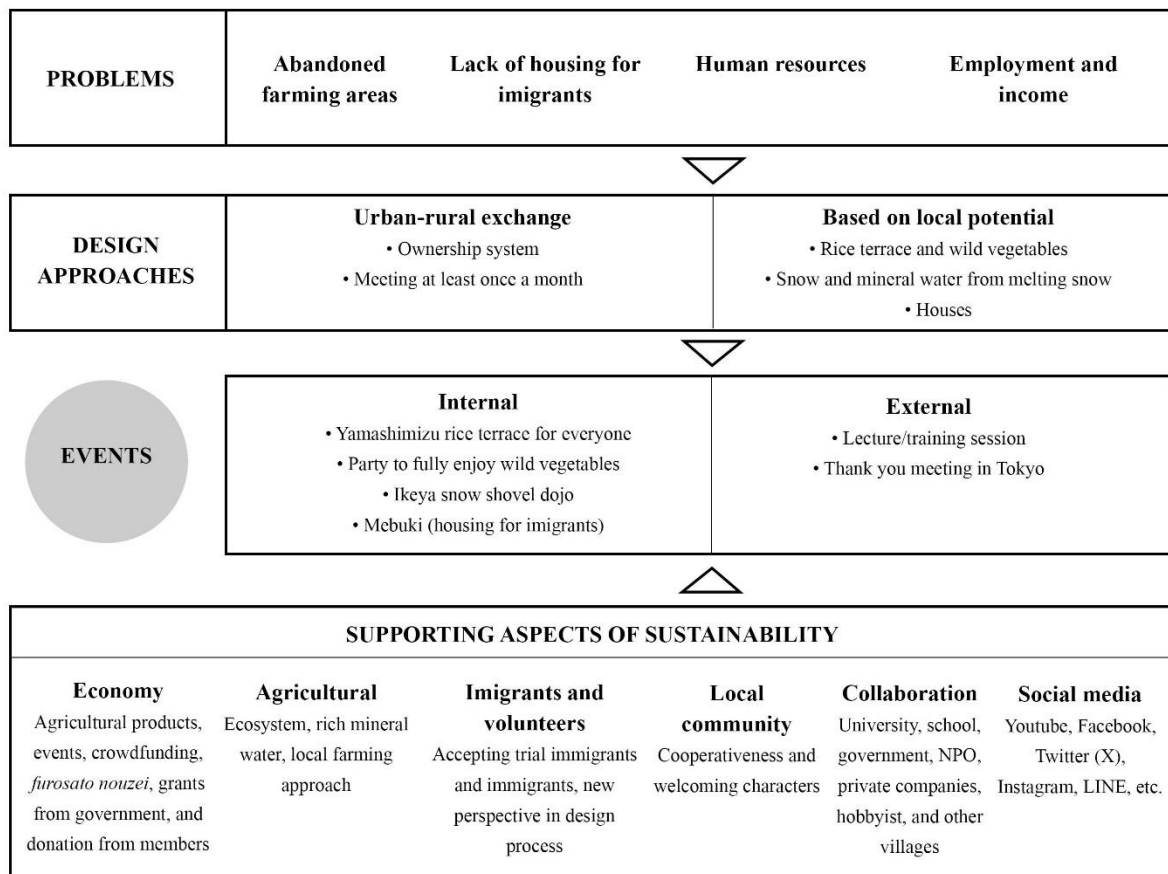


Figure 7. Iketani Iriyama activities design process chart

Further income comes from experience exchange programs, such as fees for participating in the rice terrace ownership system, a party to enjoy the wild vegetables, the Iketani snow shovel dojo, Mebuki, as well as activities invited to workshops or training by external parties. From the online scheme, income is also obtained from social media, particularly YouTube, where the most videos reach between 100,000 and 12 million people, and the crowdfunding for which began in May 2022. When the committee made a leveraging effort for direct sales of rice in this way, sales recovered considerably, and the 10 tons of rice that had been difficult to sell began to be purchased by many people. Using crowdfunding, the committee may also purchase agricultural equipment, such as a 33-horsepower tractor, which is used for mowing the rice field. In terms of subsidies, Iketani Iriyama is also part of government schemes such as from Niigata Prefecture, the Furusato Cares Project, Echigo hometown tree usage project, and Tokamachi City new business support subsidy. Income from donations is also obtained from various parties, including organizational members.

Fourth is agricultural potential; Iketani Iriyama is an area of eco-systemically supported by water full of minerals suitable for cultivating various food crops such as rice and vegetables. Many living creatures, including frogs, loaches, and aquatic insects, live in the rice fields, providing natural balance and vital for the agricultural process. Despite their agricultural potential, the small number of farmers makes the exchange program essential to preserve agricultural activities by bringing in immigrants to continue the activities. The exchange program in the farming context promotes local cultivation, and the downstream process of farm products, such as harvesting and cooking, becomes an attraction with a traditional approach, where these activities provide a different social experience for urban residents.

The fifth factor is collaboration, which is based around several contextual elements, such as education built with universities and schools, grant support, and the facilitation of revitalization activities from the government, other NPOs, and businesses with private companies for the distribution of rice for companies to process it on consignment and make porridge for temple needs. In terms of publications, aside from the government and social media, the hobbyist community was approached, including photographers, who, through photography, may help to publicize local potential, especially in the context of scenery, which encourages people to visit village areas. Iketani Iriyama aims to expand the

scope of the revitalization area. Therefore, currently, collaboration is also being carried out with other areas such as Tobitari-Chiku, an elementary school district consisting of 14 villages with the formation of the "Tobitari Association for Food and Agriculture." Villages may have a rice paddy art program and begin to sell surplus vegetables produced by the elderly to restaurants in the city, which would otherwise have no place to go, creating direct sales to outlets and restaurants in the city.

The sixth factor is social media and the role of the internet. Platforms such as YouTube influence people to visit and even migrate to Iketani Iriyama. Moreover, Iketani Iriyama has social media accounts on Facebook, Twitter (currently X), and Instagram, where almost every week, activities are updated. In terms of crowdfunding, YouTube plays the most significant role in contributing to income with a 47% contribution, followed by Facebook. To increase awareness among the wider community regarding activities at Iketani Iriyama, in 2019, a YouTube channel was started called "regional revitalization channel from former marginal village" with the aim of promoting Yamashimizu Rice. Staff also posted daily videos of rice cultivation, life, and culture in the village. Through this activity, the number of subscribers to this channel is steadily increasing, and the committee receives many comments every day, motivating them to continue their efforts.

Program Evaluation

Through the revitalization of Iketani Iriyama, which has been through a collaborative urban-rural approach, there has been a "mirror effect of exchange," where, through the urban-rural exchange program, people re-evaluate their values as if they were mirrored (Odagiri, 2011). To understand the feedback from the Iketani Iriyama program, data collected from several samples of participants. This included two sources from I-turners, Ms. A, a woman in her 30s, and Ms. B, a woman in her 20s, both from Tokyo and have settled in Iketani. There are three samples from village residents: Mr. A, in his 70s, and two married couples around 70 years old. Each has children living in cities such as Tokyo, Nagaoka City, and Niigata City who visit their parents almost every week for farming activities.

Based on the results of the discussion of activity testimonials with immigrants, the motivation for carrying out activities at Iketani Iriyama can be divided into five backgrounds, the first of which is enthusiasm for rice farming practice activities and summer barbeques by completely leaving work as to eliminate a lot of stress, which is called "the mindfulness effect." In the farming process, owners can also feel the difficulty and joy associated with growing their own rice and eating what they grow. Secondly, being able to socialize in discussions with village communities, staff, and other participants allows members who want to be closer and more familiar with the local community. Thirdly, with activities in the village, people can enjoy nature, rice fields, ecosystems, and areas that survive due to the melting snow. Fourthly, marrying into committees from the local community is a motivation for outsiders to become immigrants that occupy empty houses and become a permanent committee member of the Iketani Iriyama organization. Finally, after seeing the revitalization program, which includes video tutorials on YouTube, participants wanted to participate in managing and inheriting the natural environment and traditional culture. On the other hand, the motivation for local communities in collaboration activities with immigrants or volunteers is that they are able to understand that the potential of farmland and inherited houses are valuable, motivating local communities to be able to develop and prevent agricultural land and empty houses from becoming neglected.

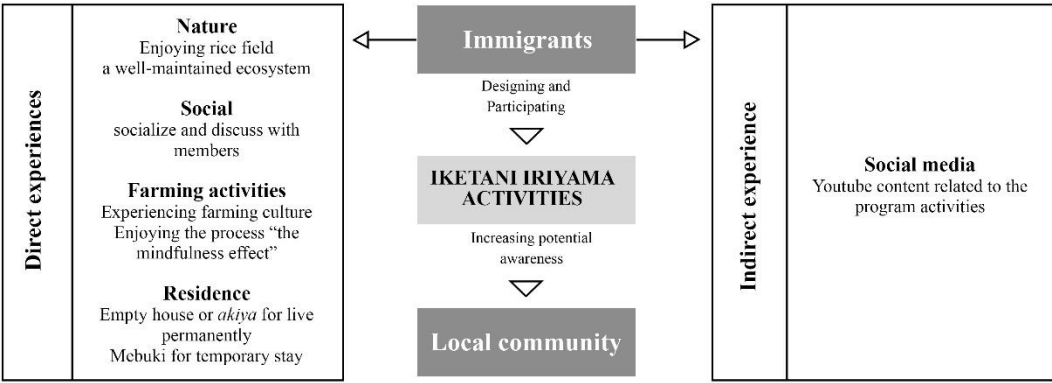


Figure 8. Immigrants and local community motivation to Iketani Iriyama Activities

Through the evaluation results above, it can be analyzed that the design of the Iketani Iriyama activity program has succeeded in effectively attracting immigrants through several considerations, including direct experiences inside the village, such as enjoying the natural potential and ecosystem inside the town, traditional agricultural activities which become attractions for city residents, and a social experience of interaction between members. Residential both permanent and temporary facilities are also considerations for prospective immigrants who want to come and do activities in the village. Indirect experience is also an attraction through online media such as YouTube video contents, which is also a reason for immigrants to come to Iketani Iriyama directly and experience activities. Activities carried out by immigrants in the village area include the design process and becoming event participants, which greatly influence the motivation of the local community to preserve culture; this is because the external perspective can refresh the local community's perspectives on their potential.

From the various positive aspects, there is an evaluation from the sampling participants that become obstacles to permanently living in Iketani Iriyama, especially for the young generation, including the education aspect, since educational facilities are limited. Second is the income aspect, i.e. the salary of permanent committee members is insufficient, thus requiring additional work. Third is the lack of housing for immigrants because the location is a heavy snow area. However, Mebuki has become a solution that increased its population to 11 households and 24 people, with an elderly population rate of 38% and a young population rate of 21%.

Urban-rural exchange approach-based agriculture in Iketani Iriyama is an interesting project for urban participants, and most desire to engage in this project continuously and even become immigrants. However, rural areas are still facing obstacles to the economy and access. With support from the city, especially economic support through the ownership program, agricultural areas can be revitalized. Also, unlike rice fields on flat land, in the rice terrace area, many creatures are recognized as endangered species, and depending on the season, there are also plenty of mountain blessings such as wild vegetables and mushrooms. This is a potential for knowledge exchange with local communities stimulated by external communities' awareness.

The urban-rural exchange approach is currently being implemented in several regions in Japan, with one of its goals being to revitalize agricultural areas. For example, in the Oyama Senmaida area, Chiba Prefecture, through the urban-rural exchange approach, the Oyama Senmaida Preservation Society as an NPO has succeeded in increasing the interest of urban communities in renting agricultural land; this can be seen from the number of participants which in 1997 was only 20 groups, and in 2023 there were 162 groups (Purwandaru & Hironobu, 2024). The urban-rural exchange approach has been implemented in about 90 agricultural areas across Japan, and this demonstrates the effectiveness of this approach especially in revitalizing rural areas.

CONCLUSION

The urban-rural exchange approach is adopted to tackle the problem of limited human resources in rural areas. Learning from the program created by Iketani Iriyama, the active role of external elements is crucial in the design process of revitalization programs because they have a "fresh" perspective in seeing local potential. In designing activities, it is essential to maintain the naturalness of the ecosystem and various activities based on local contexts to attract immigrants to come and facilitate them with housing. In supporting the urban-rural exchange program, the role of educational institutions, government, and other villages, especially those nearby, is significant in the context of financial support, activity facilitation, marketing, and participants for activities. Through a sustainable urban-rural exchange program, the people in the village have gradually become more upbeat when interacting with the outside world regularly, their resistance to strangers decreases, and the percentage of outsiders who want to live in the village increases. If members of external communities go to a village where there is an atmosphere that does not accept foreigners, it will be difficult for them to decide to live or do activities there. In terms of long-term program sustainability, the Iketani Iriyama organization must also look for successors. It is still, to date, difficult for young people to work as volunteers for a long time because committees members' income is low, and many have had to work another job. Therefore, members hope that the company has a stable financial base and establish a profitable business to attract the younger generation to take up activities and live in the area. Through future trends, when people are starting to realize the importance of enjoying life and a healthy lifestyle through slow living with activities in nature, there exists potential for Iketani Iriyama programs. Moreover, after the pandemic, a new trend of remote hybrid work offers potential for migration.

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