

Alternative Sustainable Rural Development Approach:

A Case Study of a Social Innovation Initiative, ‘Time for Agri’

Lu Yang

Graduate School of Economics, Kyoto University, JAPAN.
(E-mail: emilyluyang@gmail.com, lu.yang.58s@st.kyoto-u.ac.jp)

1. Introduction

Since the 1950s, rural development has emerged as a distinct field of policy, practice, and research, and is mainly focused on the themes surrounding poverty alleviation and inequality in the world (Harriss, 1982). There have been significant paradigm shifts in rural development studies, starting with topics focused on modernization, state intervention, market liberalization, participation, and empowerment, to topics focusing on sustainable livelihoods approaches (Ellis and Biggs, 2001). Recently, the term ‘sustainable rural development’ has replaced the conventional ‘rural development’, particularly in regard to, the often-conflicting dichotomy, of achieving economic growth while benefiting the well-being of the poor in rural areas. Furthermore, due to prevailing environmental concerns, such as climate change, sustainability has become the forefront of the rural development agenda. Some scholars assert that rural areas are equal nodes of social change to urban areas and may actually contribute more substantially to a more sustainable and resilient future (Schermer and Kroismayr, 2020). Moreover, the International Fund for Agricultural Development (IFAD) stresses the necessity of driving structural transformations closer to the Sustainable Development Goals (SDG) targeted by the United Nations. IFAD policies highlight the need to strengthen the capacities, opportunities, and levels of well-being in rural communities, aligning with SDG targets (IFAD, 2018).

However, Japan is currently facing substantial social and economic challenges that impede Japan's ability to achieve sustainable rural development. The most severe and urgent of these challenges are the demographic changes and their consequences. First, Japan's total population is shrinking due to low birthrate nationwide. The population began to decline after peaking at about 128 million in 2008 after the first generation of baby boomers¹ reached retirement age. Since then, the total population has been consistently declining, dropping to 125.71 million in 2020 (Statistics Bureau, 2020). Furthermore, the total fertility rate (TFR)² stopped a 10-year-long bouncing trend and began to drop dramatically from 1.049 in 2013 to 1.368 in 2021 (Statistics Bureau, 2021). In addition, coupled with low birthrates, the rapidly ageing population adds increasing challenges to Japan's demographics, including increasing pension and health system costs for future generations. Second, increasing unbalanced geographic distribution of the population can contribute to, and often aggravates, substantial socio-economic issues in Japan's rural areas. Currently, 38 out of 47 prefectures experience depopulation (see Fig. 1, pg. 3), while the main concentration of the population has been migrating to large metropolitan regions (Tokyo, Kansai, and Chukyo regions). For example, the population in Tokyo Megalopolis Region³ constitutes 29.38% of the total population (36.94 million) as of 2020 (Statistics Bureau, 2020), and continues to attract young workers from rural areas due to more opportunities for high paying jobs and leisure activities. This out-migration trend has generated challenges for rural areas including, households/individual residents' inaccessibility to medical care, infrequent public transportation, resident isolation and loneliness, regional economic decline, and an overall decline in community vitality (Kudo, 2020). Moreover, the pernicious consequences of the aforementioned demographic issues also apply to rural farmers and contribute significantly to farmland

¹ People born between 1947 and 1949.

² TFR refers to the average number of children per woman. According to the UN Population Division, a TFR of [about 2.1 children per woman](#) is called replacement-level fertility. If replacement level fertility is sustained over a sufficiently long period, each generation will exactly replace itself. ([United Nations - World Population Prospects](#), 2019)

³ Tokyo Megalopolis Region constitutes Tokyo and its three neighboring prefectures of Saitama, Chiba, and Kanagawa.

management issues. The total number of agricultural management entities⁴ decreased from 1.38 million in 2015 to 1.08 million in 2020. The total acreage of cultivated land shrank from 4.49 million hectares in 2015 to 4.37 million hectares in 2020. This downward trend is due to farm households' inability to continue cultivation, leaving the farmlands lying abandoned (Usman, et al., 2021).

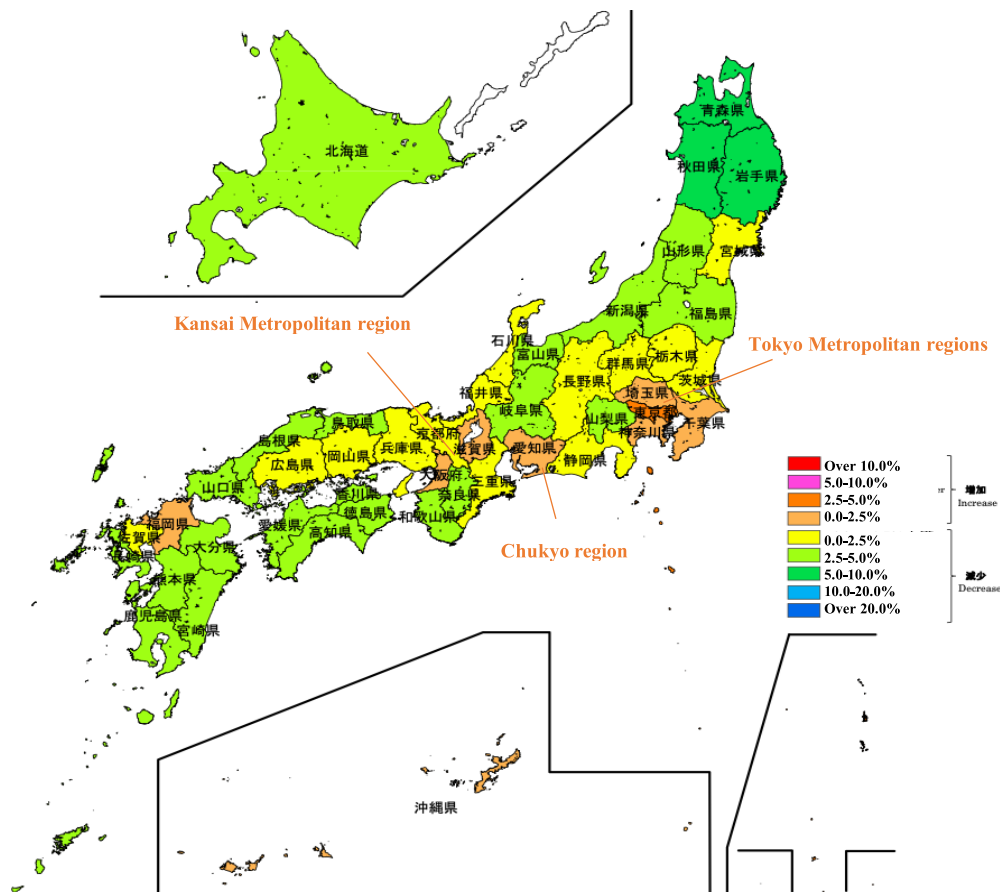


Figure 1. Rate of Population Change by Prefectures and by Municipalities (2015 , 2020)

Source: author modified on data from Statistics Bureau of Japan and MLIT

Insofar, technological innovation (e.g., R&D) has been closely linked with sustainability and is perceived as an effective tactic for solving issues and meeting social needs. Such innovations focus on, material and technological inventions,

⁴ The total number of agricultural and forestry entities decreased from 1.4 million in 2015 to about 1.09 million in 2020. Independent management entities (non-corporative and non-cooperative entities) constituted most and shared about 97% of the total agricultural management entities (Source: [the census of agriculture and forestry, 2021](#)).

scientific knowledge, and the economic rationale of innovation (Bock, 2012). Coccia (2009) stressed that the diffusion of technology and patterns of innovations can be predicted and controlled in order to support economic and social planning oriented at sustainable development. Fujinami (2017) believes that by introducing new technologies and ideas in depopulated communities, and other areas with poor living conditions, significant benefits can be observed, including enhanced sustainability. Following this trend, Japanese government has been promoting technological innovation through the transdisciplinary scheme, (e.g., 6th STI Basic Plan, Integrated innovation strategy), smart agriculture, (e.g., big data, AI, Internet of Things (IoT), information and communications technology (ICT), and Digital Transformation (DX) for agriculture) (MAFF, 2020b). A 'catch-up with the West' and production-oriented 'sustainable development' can be seen in these policies' discourses. However, such economics-centric policies tend to overlook capacities, opportunities, and levels of well-being of the rural communities. In this sense, the technical innovation approach has been insufficient in addressing issues surrounding, population decline, aging populations, and/or alleviating increasing out-migrant youth from rural areas, showcasing 'government failure', 'market failure' and, 'volunteer failure' (Păunescu, 2014). Therefore, it is crucial to explore alternative strategies for sustainable rural development in Japan.

2. Social Innovation as an Alternative Approach

With the neoliberalism paradigm dominating since the 1980s, and growing concerns surrounding environmental and social issues within development studies since the 1990s, there was a renewed interest in debates surrounding the concept of social innovation (SI). SI is understood as, "... a new form of innovation meant to solve social and economic issues and generate social change and a response to crises of government failure, market failure and voluntary failure that are inherent to all societies" (Păunescu, 2014:106). SI is an essential theoretical framework used to recognize and address societal challenges in

agriculture and rural development. In addition, SI is crucial to achieving more sustainable transitions, no matter how radical the changes proposed (Bock, 2012). In practice, SI has been introduced as the new panacea for realizing development and growth in many countries' regional policies (e.g., Horizon 2020 framework as EU's regional policy) while, at the same time, warranting social inclusion and counteracting social inequality (Bock, 2016).

Over the past two decades, four main perspectives have dominated SI studies. First, a group of institutionalists have examined the role of SI in economic and social improvement through reforms of the public system in areas such as welfare, education, and medical care. This perspective is mainly focused at the national level. (Hamalaine and Heiskala, 2007). Second, researchers from management studied how SI solves various social issues through business activities. They mainly regard business entities, such as companies and non-profit organizations, at the market level as the object of analysis (Tanimoto, 2006). Third, another group of management scholars have explored corporate technological innovation (R&D), and evaluate their impacts on social issues (Christensen, 1997). Finally, sociologists focus on how SI solves complicated social issues through market and civic activities (Westley et al., 2006; Mulgan et al., 2007; Phills et al., 2008).

SI, however, is a vague buzzword and "...presupposes a critical attitude towards the existing systems and their inherent failures, as well as a search for social justice and the public good" (Bock, 2012: 62). In other words, different geographical locations, cultures, history, and social climates will produce very different, or even paradoxical, social issues and public goods. Therefore, what should be changed and how to change them are debatable and should depend on the context of where the SI is placed. Second, thus far, SI studies in Japan predominantly focus on SI's role at the market level and top-down reforms at the national level (Tanimoto et al., 2013), yet have neglected the substantial bottom-up force from SI in civil society. In particular, alternative public and/or citizen-led social innovation initiatives trying to address the demographic challenges have been

ignored by policymakers and scholars, remaining in niche groups, scattered in local and civil society throughout rural Japan. For example, although some projects effectively relocated young people in urban areas to rural areas⁵, such as ‘Ennou-caravan⁶,’ and ‘Time for Agri’, these findings are seldom found in official documents or academic works of literature.

Therefore, this paper aims to enrich the empirical research of SI focusing on how SI addresses societal challenges and measuring its impact on rural societies in Japan. To do so, I have utilized a small-scale citizen-led project cases study under the SI framework to seek insights for an alternative sustainable rural development approach in Japan.

3. Analytical Framework

There are some noteworthy points when one considers the term ‘social innovation (SI)’. First, as of now, there is no concrete consensus on the definition of SI in current scientific literature (Bock, 2012; Păunescu, 2014). However, for the purpose of this study, it is necessary to choose one proper framework from the vast array of understandings. Among them, I found Polman et al. (2017)'s definition to be the most suitable for the context in Japan. In their study, though a critical lens, they analyzed various theoretical approaches and understandings of social innovation (SI) in Marginalized Rural Areas (MRA), which resulted in an improved definition in SI (Polman et al., 2017). In doing so, the authors applied this definition in order to create an advanced framework of social innovation to analyze their case. Their definition of SI, including its key characteristics, are stated below:

⁵Based to interviews conducted the founder of the ‘Time for Agri’ project and a farmer, conducted on August 16 and 23, 2021.

⁶This is an orange farming recruitment support project in Wakayama (<http://www.from-farm.com>, accessed on August 24, 2021). A ‘Ennou’ project refers to a project intending on facilitate months of stay and work for young people who are considering becoming farmers or working in agriculture in the future but have no or little agricultural experience and connections in rural areas. The ennou workers are usually paid hourly from farmers.

“...the reconfiguring of social practices, in response to societal challenges, which seeks to enhance outcomes on societal well-being and necessarily includes the engagement of civil society actors” (Polman et al., 2017: 28-29).

The second point to consider is the necessity to measure the outcomes⁷ of SI. Some researchers have argued that SI should be evaluated in all phases of the innovation process and should take into account different players involved in its process (e.g., Echeverria, 2013). In other words, social innovation and every stakeholder should be evaluated and assessed frequently. However, while this may be theoretically possible, practically, particularly for large-scale social innovation projects, implementing evaluation systems in their practices may be difficult. This is due to the unstable characteristics of social innovation and its embedded context, and an evaluation system may include higher financial and more labor costs when compared to small-scale projects. Hence, some researchers contend that a stable, accurate measurement of social innovation is neither possible nor is it accepted in general (e.g., Păunescu, 2014). To overcome these obstacles in measuring SI, I chose one small-scale citizen-led social innovation project in rural Japan, focusing on demographic issues in particular.

The case study identified was analyzed in accordance with two key steps from the sociological perspective (Westley et al., 2006). First, this paper examines the SI's stakeholders who intend on addressing the particular social issue including the innovator's perceived societal issues, their mission for society, the content of their business and scales. Second, this paper will measure the SI impact on society utilizing the 'The Impact Compass'⁸, an impact measurement tool developed by The Social Innovation Center (CSI) at the Stanford University Business School. In accordance with the standards developed in The Impact Compass, the object of analysis should be economically and socially effective, avoid negative social outcomes, and behave ethically.

⁷ According to Polman et al. (2017)'s interpretation of outcomes, they refer to the social, economic, and environmental consequences of social innovation (or any other action or event).

⁸ For details refer to the impact compass website (<https://www.gsb.stanford.edu/experience/about/centers-institutes/csi/impact-compass>).

According to The Impact Compass, the SI's impacts on society are evaluated by a three-point scale with six dimensions (see Table 1, pg. 8): value to society, environmental and social governance (ESG), efficacy, scalability, mission alignment, and impact magnitude.

Table 1. Impact compass 3-point-scale

Six Dimensions of Impact	Gauging Impact Measurement	3-point-scale
Value to Society	To what extent does the intended outcome deliver societal value?	
	Positive contributions to society	★
	Advances social progress where it's particularly needed	★★
	Advances social progress where it's needed most	★★★
ESG (Environmental and social governance)	How responsible is the intervention with regard to environmental and social governance?	
	No severe deficiency in any dimension	★
	Exemplary in at least one dimension	★★
	Exemplary in two or more dimensions	★★★
Verified Efficacy	How certain are we of the effects of the solution?	
	Unknown but promising, with commitment to measuring outcomes	★
	Positive pilot, not statistically significant, or transposable	★★
	Proven results	★★★
Scalability Potential	How much of the affected community can this model address	
	thousands(direct service)	★
	10 thousands (Scaled direct service) *	★★
	10 millions (System change/ Framework change) *	★★★
Mission Alignment 1. A well-articulated theory of change; 2. A commitment to impact measurement and reporting; 3. Structural and capital choices that protect the mission; 4. Aligned economic and impact models	To what extent is the organization driving toward outcomes?	
	Fewer than two indicators in place	★
	Two or three indicators in place	★★
	All indicators in place	★★★
Impact Magnitude	How complete is the solution for each beneficiary?	
	Small but measurable progress at unit level	★
	Substantial progress at unit level	★★
	Problem eliminated at unit level	★★★

Source : CSI (the Center for Social Innovation at the Stanford Graduate School of Business, partially modified by the author).

Since the case study of this research focuses on issues in Japan, the indicators in three dimensions have been modified accordingly to fit its contemporary context. First, for the dimension of value to society, I refer to the results provided by Michael Porter's social progress index⁹ as well as documents released by the Japanese government in order to identify the most important values in the current Japanese society. This social

⁹ For detailed index items refer to the official website of Social progress Imperative (www.socialprogress.org).

progress index based on three items: social and basic human needs¹⁰, basics of happiness, and opportunities. Second, for the dimension of ESG¹¹, I refer to the FTSE Russell standard to set concrete indicators to supplement the three original questions¹² of the ESG dimension in the Impact Compass. Finally, I reconfigured the original indicators for the dimension of scalability from millions and billions to 10 thousand and 10 million, accordingly, to receive a more significant result. The population of Kyoto Prefecture, where SI case study has embedded in, is about 2.57 million (estimated in 2020), therefore, such modification is necessary to fit into the case context.

4. Brief Introduction of the Case of ‘Time for Agri’ and Research Methods

I chose the ‘Time for Agri’ project as my case study due to its *reconfigured social practices, in response to societal challenges*, and its explicit outcomes. This citizen-led small-scale project, initially established in 2014 as the ‘Time for Wazuka’, provides consulting and coordinating services between local farmers in need of help during harvest season and people living in urban areas interested in agriculture or considering starting a new life in Wazuka town. In 2019, the project's founder expanded the ‘Time for Wazuka’ project by establishing a new social enterprise, Agrinajican Co., Ltd., retitling the project as ‘Time for Agri’, which expanded its geographical coverage from Wazuka town to nine

¹⁰According to the Social Progress Index, Japan was given 90.14 points overall in 2020. Specifically, 97.78 points were given to ‘social and basic human needs,’ 92.15 points were given to ‘basics of happiness’, and 80.5 points were given to ‘opportunities’. (See <https://www.socialprogress.org/?tab=2&code=JPN>). In this paper, in addition to this standard, the issues of aging and declining birthrate, and depopulation in rural areas, which are becoming more serious in Japanese society, are also included in the standards.

¹¹ ESG metrics are likely to be quite different for different research institutions. In this article, FTSE Russell's standards (social themes: customer responsibility, health, and safety, human rights and communities, labor standards, supply chains; environment: biodiversity, water security, pollution, and resource use, climate change, governance: risk management, tax transparency, corporate governance, corruption prevention (see details at www.ftserussell.com). If the published material is incomplete or difficult to measure, measurement in this dimension is based on the information obtained from the interviews.

¹² First, how does the targeting organization affect society (including employees, customers, suppliers)? Second, how will it affect the natural environment (water, air, weather, wildlife)? Third, is a consideration for transparency of governance and legal compliance?

different communities located in six prefectures from all over Japan¹³. Most of these communities are suffering from severe depopulation and lack labor during harvest seasons. To date, about 25 registered farmers and 200 registered ‘Agri’ workers have engaged in the new project. Since the spring of 2021, 14 young people have worked for 11 tea farming entities in Wazuka town. Also, within the past seven years, 11 of the young people actually immigrated to the rural communities after their participating in the project.

This research employed four qualitative methods to collect data, (1) unstructured and semi-structured interviews, (2) on-site direct observation and participant research, (3) questionnaire survey for participated workers, and (4) document and media analysis. First, interviews were carried out in the field of Wazuka town (Kyoto) on December 6, 2017, followed by a visit and semi-structured interview on June 13, 2019. In addition, semi-structured interviews with a tea farmer and NPO staff members were conducted virtually through the Facebook Messenger application on August 8, 2020. Also, subsequent on-site trips and unstructured interviews with the leader of an NPO in the community, which included topics regarding the region’s issues and strategies of rural revitalization, were conducted in Wazuka town on November 6 and 9, 2020. Several unstructured interviews with the plum farmers and their successors were conducted during a one-month participant research trip in Minabe town (Wakayama), which included information regarding the current issues of agriculture and rural Japan in general, as well as their attitudes towards their young workers. Three interviews with five government officers from the Ministry of Agriculture, Forestry and Fisheries (MAFF) in Kyoto and Wakayama prefectures were conducted on December 5, 12, 2019, and August 29, 2021. Also, five individuals associated closely with this project constituting a social innovator/coordinator, a tea farmer, staff of NPO in Wazuka town, and a plum farmer, were interviewed in person. Interview sessions were conducted either through on-site observation or through a virtual tool such as Zoom or the Facebook Messenger application.

¹³ To date, the project has expanded its coverage from just Wazuka (Kyoto) to Minamiyamashiro village (Kyoto), Tsukigase area in Nara City (Nara), Minabe (Wakayama), Hidakagawa (Wakayama), West Yoshino area in Gojo City (Nara), Abu (Yamaguchi). The agricultural produce constitutes tea, plums, oranges, persimmons, watermelon, and spinach.

Each interview lasted anywhere from 30 minutes to 6 hours. All semi-structured interviews were recorded with permission and transcribed.

Second, participant research was conducted in Minabe town, Wakayama prefecture, from August 13 to September 10, 2021. Before the research trip, several short meetings with the coordinator for the project were conducted virtually through Zoom. During this trip, I worked as a plum sorter for around 7 to 10 hours per day¹⁴ with the other part-time workers.

Third, a questionnaire about participant experience in the project was delivered through a project coordinator to about 60 participants in July 2021. Besides basic personal information and agricultural experience, this questionnaire encompassed six topics: participants' goals and motivation, self-identification of roles in the project, dignity in the workplace, opinions about success, reflections of the project, and future outlook. Aside from 'dignity in the workplace', all other topics are constituted with open questions. I collected ten responses from these participants who worked in Minabe town (Wakayama), Wazuka¹⁵ town (Kyoto), and Abu town (Yamaguchi) for a period of an average of one to five months. The respondents were people aged from 24 to 46, located in different prefectures from all over the country. Very few of them have had previous experience in agriculture before this project. Their work includes plucking and carrying tea, picking up plums, and planting watermelon.

Finally, an analysis of documents and media was conducted based on the data obtained from the official accounts of 'Time for Wazuka' and 'Time for Agri' on their Facebook, YouTube, and official website¹⁶. Secondary data analysis from ministries, additional authority reports, publications produced by business associations, civil society organizations, newspaper articles, and existing literature related to the topic was carried out throughout the research process.

¹⁴ The work day was typically from 6 a.m. to 5 p.m. with a one-hour lunch break and several 10 minutes breaks.

¹⁵ According to the 2015 MAFF agricultural census, there are 263 agricultural (including 230 tea farming entities) business entities and 19 villages in Wazuka town. There are a total of 544 farmers and over half of them are over 65 years old.

¹⁶ The official website of 'Time for Agri' is <https://agrinajikan.jp/> (accessed on August 26, 2021).

5. Case Study and Discussion

5.1 From ‘Time for Wazuka’ to ‘Time for Agri’

Wazuka town is a significant production area of Uji tea. The population averages at about 3,000, though is declining at a pace of around 100 people every year. The town faces issues such as, a lack of successors on tea farms, a rapidly aging population, and economic decline in various industries. To solve these issues, ‘Time for Wazuka’ was launched by ‘You and village LLC’ in 2014 as a farming support project to coordinate between local tea farmers with young people who want to experience the rural life and agriculture. Specifically, young people from urban areas were recruited as vital labor force during the tea harvest period (three months from May to July). These young workers live in a share house called ‘Tsunaguba,’ which is a rebuilt warehouse provided by the founder. Workers are to harvest and carry tea bags, and some of them also engage in processing work. The founder of ‘Time for Agri’ project is a ‘U-turner’¹⁷, moving back to Wazuka from Osaka city a decade before, motivated by concerns about need for access to healthier and fresh food, as well as children-rearing services in their hometown. In terms of the mission and purpose for launching ‘Time for Wazuka’, the founder explained the necessity and urgency to solve the labor shortage issue for the 300 tea farmers, whom the founder worked with in the town for years. Moreover, the founder stressed the concern for the prevailing depopulation and aging issues in rural areas, and young people’s exhausting lifestyle in urban areas, including their difficulty in accessing and experiencing nature and agriculture.

Table 2. Outlooks of ‘Time for Wazuka’ and ‘Time for Agri’

Project	Time for Wazuka	Time for Agri
Management Company	You and Village LLC	Agrinajican Co., Ltd.

¹⁷ According to MAFF, U-turner means the person who born and raised in the rural areas left for higher education or job once, but returned again.

Period	2014-2019	2019-Present
Targeting Societal Problem	Population decline, lack successor of tea farmers, aging and industrial decline in town, issues of young people in cities	Demographic issues such as aging and the lack of labor in agriculture and rural communities
Mission	Connecting local tea farmers with young people who want to revitalize the region	Ennou: support those who want to get involved in agriculture and start a new life in rural areas; only build partnerships with farmers who can share the same value with this project; solve the labor shortage
Business Content	‘Time for Wazuka’ project; tea culture experience event; Promoting direct sales(Wazuka Tea Cafe); Tea Gengo Festival; Lectures on Community Contribution Activities	Paid employment agency; Real estate agency; Agricultural product sales business; Mail-order business; Housing accommodation management; Accommodation management; Planning/management of seminars and events; Consultant work
Scale	Wazuka town (Kyoto); tea.	Nine communities in six different prefectures: Wazuka (Kyoto), Minamiyamashiro village(Kyoto), Tsukigase area in Nara City(Nara), Minabe (Wakayama), Hidakagawa (Wakayama), West Yoshino area in Gojo City(Nara), Abu (Yamaguchi), Nayoro City(Hokkaidou).

Due to these concerns, the founder started ‘Agrinajican Co., Ltd.’ in 2019 and served as the representative director in the new business. The geographical coverage expanded, and the agricultural products diversified to include farms producing tea, plums, oranges, persimmons, watermelon, spinach, potatoes, sweet corn, soybeans, pumpkin, and beet. The founder hopes to alleviate the consequences caused by demographic issues, while at the same time, create new possibilities for young people and rural communities. Thus, this is the reason for the ‘Time for Agri’ project developing its business in remote, and severely underpopulated, communities. Moreover, it provides access and support to urban young people that live in overcrowded cities and are interested in experiencing agriculture and life in the rural areas. They call this kind of support, ‘Ennou’ or a ‘new farmer

incubator'. In addition, to further commit themselves to the mission, the innovator and coordinators deliberately build long-term business partnerships with the small-scale farmers who share similar values to the project, rather than creating partnerships with large-scale farms, which may also experience a labor shortage, but tend to value the pursuit of profit above all else.

5.2 Network of stakeholders and its mechanism in “Time for Agri” project

By examining the constitution of stakeholders, six kinds of actors can be categorized in this project: innovators, coordinators, farmers, registered ‘Agri’ workers, the local government, and various NPO/NGOs in the local communities. These six stakeholders build up a network (see Fig. 2, pg. 15), and generated a mechanism to create and sustain newcomers in the local communities.

First, the registered ‘Agri’ workers, who usually reside in urban or suburban areas, are introduced to farmers in need of labor through the local innovator/coordinators. The destined local village and content of work are all decided and negotiated between coordinator and workers, and the farmers via the coordinator beforehand several times via Zoom. Then, these workers live together in the share houses provided by the social innovator/coordinators or farmers while conducting their work on the farms. Finally, when the work is completed, some workers may decide to stay and become new farmers or newcomers (non-agricultural actors) in the local area after their participation in the project. These new farmers can apply for the financial and technical support from their respective local governments. In addition, local NPO/NGOs, financially supported by the local government, also provide newcomers with administrative support such as providing information on accommodations and jobs.

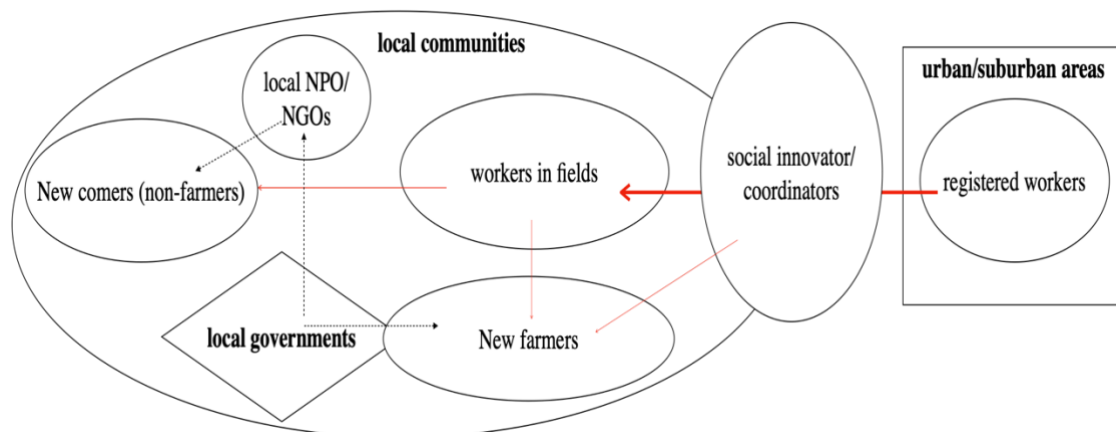


Figure 2. The network of stakeholders in the ‘Time for Agri’ project

5.3 Evaluation of ‘Time for Agri’ through the Impact Compass

By examining ‘Time for Agri’ under The Impact Compass framework and its six dimensions, Table 3 (pg. 18) summarizes and demonstrates its performance and points obtained for each dimension.

First, the project provides farm workers from urban places to rural farms in need of labor during harvest seasons, which revitalizes the local communities by creating entry pathways for newcomers. As a result, it alleviates the negative consequences caused by demographic changes and innovates new possibilities for the rural communities, i.e., it achieved advances in social progress where it was needed most.

Second, according to the interviews with farmers and MAFF officers, hilly and mountainous areas are at risk of soil erosion and landslides due to the increasing abandoned farmlands. Farmlands in these marginalized areas are critical for the balance of the local ecosystem, especially under climate change circumstances. Moreover, most abandoned farmland requires immense effort to recover and make them arable again, i.e., the abandoned status for farm is fatal and is almost always irreversible. Therefore, good and consistent management of farmlands is not only crucial for agricultural production but also indispensable for the local environmental function of soil and water maintenance. The labor provided by this project can prevent further abandonment of farmland, which

is a direct result of the lack of labor. In addition, this project creates an innovative route to introduce economically and demographically declining communities with newcomers to alleviate the negative consequences caused by changes such as aging and young people migrating from rural communities. Therefore, this project can be regarded as exemplary in at least two dimensions.

Third, this project exhibited results that included the immigration of 11 young people into the communities where they served and stayed after the project. These young migrants contribute considerably to local revitalization by becoming new farmers or starting new businesses in the local communities.

Fourth, other than the 200 registered workers and their 25 farmers and partners, NPO/NGOs and local governments in nine communities located in six different prefectures, have in some way collaborated with this project. Furthermore, the innovator and coordinators take advantage of digital media such as Facebook, YouTube, and LINE to spread information. Also, several local newspapers and other media have reported on this project and share their expectations for the project to address the issues of aging and lack of successor in the local area. Therefore, taking into account the increasing number of participants and stakeholders, the expanding scalability of the project, and the amount of distribution of all of these traditional and new media, the information of this project has the potential to be accessed and covers over 10 thousand people, placing it in the second rank of the indicator of this dimension.

Fifth, a clear economic incentive is helping sustain this project's mission. The project charges each owner of the farm a 250-yen (about 2.2 USD) service fee per worker, per hour. In addition, the innovator or coordinators usually summarize and distribute literal or verbal reports through channels such as the official website and YouTube after the harvest seasons in diverse communities. The reports mainly focus on difficulties and trade-offs met by jobs and workers and can provide an outlook and direction for future improvement. Therefore, this project fulfills two indicators in the Mission Alignment dimension.

Finally, ‘Time for Agri’ provides a complete solution for each beneficiary. For example, this project helps small-scale farmers find labor during harvest seasons and provides urban young people a chance to experience rural and agricultural settings. According to the founder, most of these young people are freeters or freelancers. Besides the work opportunity, accommodations were provided for these young people by the founder or farmers. The form of share house offered the young people a chance to exchange ideas and information with each other and make friends. Some of them claimed that this kind of lifestyle and peer communication helped them rebuilt their self-confidence and even found the meaning of the life. At the same time, local communities are being revitalized by bringing in new people and new ideas from urban areas. Therefore, this project is helpful for each beneficiary in the network to eliminate their issues.

As a result, ‘Time for Agri’ achieved a high impact potential score of 324 points according to the Impact Compass. This score lands in the middle range of 200 to 729, which suggests its exceptionally high and positive impact on the society. Evaluating the impact on society of SI through the Impact Compass confirms the important role and function of SI in rural development and provides crucial insights to making a sustainable society. In this case study, the SI indeed accomplishes its mission to alleviate demographic tensions and encourages economic and social revitalization in the rural communities. Unfortunately, however, these local, small-scale SIs in civil society are often neglected in policy-making and receive little to no direct support from both prefectural and local governments. Despite the emphasis of the importance of technological innovation in Cabinet or MAFF documents, there is little to no information about these local SIs. Therefore, in conclusion, I argue that taking bottom-up SI initiatives into consideration for current rural development policy and providing them with sufficient governmental support is one way to steer Japanese rural areas towards a sustainable society.

Table 3 Evaluation of ‘Time for Agri’

Six Dimensions of Impact	Gauging Impact Measurement	3-point-scale	Time for Agri
Value to Society	To what extent does the intended outcome deliver societal value?		alleviated the negative consequences caused by demographic changes and innovated new possibilities in the rural communities
	Advances in social progress where it has needed most	★★★	
ESG (Environmental and social governance)	How responsible is the intervention concerning environmental and social governance?		maintain the farming land in mountainous areas; respect and value the worker
	Exemplary in two dimensions	★★★	
Verified Efficacy	How certain are we of the effects of the solution?		provide labor for farmers in need annually; 11 young immigrants
	Proven results	★★★	
Scalability Potential	How much of the affected community can this model address		200 registered workers, 25 farmers; published articles in a local newspaper; spread information through new media such as Facebook, YouTube, Line.
	Ten thousand (Scaled direct service)	★★	
Mission Alignment	To what extent is the organization driving toward outcomes?		charge 250 yen service fee; impact measurement and reporting via the official website and YouTube
	Two or three indicators in place	★★	
Impact Magnitude	How complete is the solution for each beneficiary?		Meet small-scale farmers’ need; fulfill urban young people; bring newcomers to the community
	Problem eliminated at the unit level	★★★	

6. Conclusion

In conclusion, rural communities are faced with issues such as aging and the increasing number of outflow of young people. The current sustainable rural development approach is guided by technical innovation logic which seemingly unsuccessfully address nor alleviate the negative consequences caused by demographic issues in rural Japan. Therefore, we need to seek new strategies for this situation. SI has already been applied as a theoretical tool and policy guide in the field of agriculture and rural development in

several countries (e.g., Horizon 2020 framework as EU's regional policy) and suggested its important role in sustainability. Moreover, it is impossible to neglect the fact that substantial SI initiatives already exist in rural civil society in Japan. Some of them are desperate to solve aforementioned social challenges in which governmental, market and volunteer tactics have failed in. Both facts generate a necessity to examine how citizen-led SI address the demographic issues to achieve sustainable rural development in Japan. To elucidate, the answer to this research question is the main aim of this paper.

First, through a case study approach, I examined 'Time for Agri', a small-scale citizen led Ennou project that serves farmers, urban young people and under-populated communities. Second, I found a network consisting with six main stakeholders in different communities, they include: innovators, coordinators, farmers, registered 'Agri' workers, local government entities, and NPO/NGOs in the local communities. Furthermore, a mechanism of creating and sustaining newcomers and new farmers in local communities was subsequently created. Finally, by measuring the SI's economic, social and environmental impact on society through the Impact Compass, I have demonstrated its highly positive influence and contribution to its rural communities. This process and result of confirming the positive impact is closely relevant to the paradigm of making a sustainable society. Specifically, the SI indeed showed its unique and indispensable role of revitalization and alleviating the damage caused by demographic challenges in rural Japan. Therefore, I argue that integrating bottom-up SI into the current rural development schema and offering sufficient government support is an effective way to steer Japanese rural areas towards a sustainable society.

There are two limitations in this research. First, for the case study of "Time for Agri", I was limited to conducting interviews and participant research in just two of the nine communities (tea in Wazuka town and plum in Minabe town). These two communities have a long-standing, positive reputation in regard to their production of tea or plums in Japan. The context of these communities and their matured agricultural industry might be the main factors that incentivize young people to work there over other communities.

Second, identifying the motivation for young people who moved into the communities is also necessary but not mentioned in this paper. This kind of understanding will be important for the future diffusion of this SI in rural Japan.

Finally, several directions for future research about how SI can address demographic issues and sustainable rural development in Japan have been illuminated. First, delving deeper into the motivation of registered young workers is a possible research direction. Second, more case studies of SI initiatives addressing the societal issues in rural Japan based in diverse areas are needed. Alongside other SI scholars, I call for more in-depth empirical studies in diverse contexts to investigate how SI as bottom-up forces affect and steer rural governance toward sustainability. I believe that SI reconfigures social practice with the engagement of civil society actors may become the new cornerstone of rural development towards sustainability in the future.

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