

Towards sustainability transitions in Japanese agri-food systems: the role of new entrant organic farmers in rural areas of Hiroshima prefecture, Japan

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Abstract: *The consequences of the structural changes in agriculture, such as the socio-economic decline of rural communities and the degradation of rural landscapes, have sparked considerable interest not only in the ways of increasing the number of new entrant farmers, but also in agroecology-based farming. In this respect, the situation of the farming sector in Japan has many points in common with the European Union. One phenomenon that is common to both contexts is the increase of new entrant farmers, many of whom are urban-to-rural migrants, who choose to farm in marginal rural areas and to employ agroecological approaches to agriculture, such as organic farming. In the case of Japan, the topic of new entrant organic farmers has attracted some interest from non-Japanese researchers, but it has not been explored using a farming system approach. This paper employs data gathered through participant observation and interviews with new organic farmers in Hiroshima prefecture, Japan, to explore their pathways into agriculture, interactions with local communities, territories, and consumers, and to describe the types of farming arrangements they create. The significance of these new farming arrangements for sustainability transitions in rural areas is also discussed, focusing on the 'clustering' behavior of organic farmers. This, in addition to representing a form of mutual support among farmers, might also help them increase their adaptive capacity, fight the pressure of conforming to conventional models of agriculture, encourage experimentation with agroecological practices, and therefore contribute to the transition towards agroecological farming systems at territorial level.*

Keywords: *New entrants, organic farming, agroecological transition, farming systems, marginal rural areas, Japan*

1. Introduction

The topics of sustainability transitions and resilience of food and farming systems are becoming increasingly central in the current context of rapid social, environmental and economic changes at both global and local level (Darnhofer, Fairweather, and Moller, 2010; Lamine, 2015). However, there are contrasting views on how to achieve these objectives, polarized between productivity-oriented 'efficiency substitution' approaches and socially and environmentally oriented 'biodiversity based' models (Duru, Therond, Roger-Estrade, and Richard, 2016).

The current situation of agriculture in Japan can be taken as an example, as it is characterized by contrasting development dynamics: on one hand, a government-promoted, productivist-oriented model that supports 'efficient' agriculture, large-scale corporate farming and technology-based solutions. On the other, the socio-economic and ecological deterioration of marginal rural areas (Fujimoto, 2012), is increasing awareness in the need for solutions that go beyond technological fixes.

In this scenario, the increase in new entrant farmers, especially those with no farming background who move to rural areas to start organic farming, is a relatively new phenomenon. A few studies have explored the trend of Japanese new entrant organic farmers from various perspectives of analysis (Knight, 2003; Kurochkina, 2015; McGreevy,

2012; Rosenberger, 2014, 2017). Most of these studies, however, are attempts to understand contemporary dynamics of Japanese society through the lenses of ‘alternative’ lifestyles. They do not examine aspects more pertinent to farming systems research, nor the implications for sustainability transitions in agri-food systems. This paper aims at exploring the characteristics of new entrant organic farmers in Japan and the types of farming arrangements they create or participate in. This in turn can help understand the issues that represent key factors in supporting sustainability transitions within local farming systems (Darnhofer et al., 2010; Darnhofer, Gibbon, and Dedieu, 2012).

2. Background

While the need for a transition towards sustainable systems of food production, distribution and consumption has been widely recognized (Blay-Palmer, Sonnino, and Custot, 2016; Sutherland, Darnhofer, Wilson, and Zagata, 2015), the concept of sustainability remains a contested one. In relation to sustainability transitions in agriculture, two major paradigms have emerged, defined by Duru et al. (2015) as ‘efficiency-substitution agriculture’ and ‘biodiversity-based agriculture’. The former focuses on minimizing the environmental impacts of agriculture through more efficient input use and reliance on new technologies, while the latter focuses on increasing biological diversity on farms to develop natural ecosystem processes (Duru et al., 2015). There is also an ongoing debate concerning how to best ‘scale-up’ sustainable practices across the whole agri-food system (Mount, 2012). Claims that ‘niche’ agri-food systems cannot compete with more productive, highly efficient businesses contrast with increasing evidence of how small farms using integrated and biodiversity-based farming methods can be more productive and energy- and resource-efficient than large conventional farms (Pretty et al., 2006). Small scale farmers can create highly diversified, knowledge-intensive farming systems (Altieri, Funes-Monzote, and Petersen, 2012; Carlisle and Miles, 2013; Pretty, 2008), difficult to replicate by large-scale, mechanized farming operations (Kremen, Iles, and Bacon, 2012).

A different view of rural development, stemming from the changes occurring in rural areas and from shifting perceptions of the role of agriculture (van der Ploeg and Roep, 2003) is also emerging. The emphasis on commodity production is changing to accommodate a more nuanced view of the multiple roles played by agriculture, often described in terms of multifunctionality (Renting et al., 2009; Wilson, 2007, 2008). In this conceptualization of agriculture, farms that from the point of view of the modernization paradigm would have been considered ‘inefficient’ are now being re-evaluated from the point of view of the social, environmental and economic services they provide (Renting et al., 2009; van der Ploeg et al., 2000). As a result, the decline of agriculture, especially in marginal or remote areas (Benayas, Martins, Nicolau, and Schulz, 2007; MacDonald et al., 2000), is not seen as an unavoidable side-effect of modernization anymore, but rather as a threat to the local environment, economy, culture and society.

Multifunctional transformation pathways at farm and territorial level have been interpreted as strategies aimed at creating more resilient agri-food systems, in response to the pressures of agricultural modernization and globalization (van der Ploeg et al., 2000). Some scholars claim that we are assisting to a process of ‘repeasantization’ (van der Ploeg, 2010, 2012; van der Ploeg et al., 2000; Willis and Campbell, 2004). This is characterized by the shift towards less intensified, biodiversity-based and alternative production models (such as organic farming), and by the increasing importance of synergies at territorial level (for example those arising from place-based food networks) (van der Ploeg et al., 2000).

A category of ‘new peasants’ that hasn’t received much attention from mainstream agricultural research is that of new entrant organic¹ farmers, in particular those from non-

¹ In this research, the author chose to use the term ‘organic farming’ as a proxy for other alternative, biodiversity-based forms of agriculture. The reason behind this choice is that ‘organic farming’ is

farming families (Mailfert, 2007; Sutherland, Darnhofer, et al., 2015; Zagata and Sutherland, 2015). There is a significant body of academic evidence showing how organic farmers are often new entrants in agriculture (Lobley, Butler, and Reed, 2009; Sutherland, 2015; Sutherland, Zagata, and Wilson, 2015). There is also evidence of a growing trend for these new entrants to come from non-farming backgrounds (Mailfert, 2007; Sutherland, 2015; Wilbur, 2014), and to be 'lifestyle migrants' (Halfacree, 2006, 2007; Kneafsey, Ilbery, and Jenkins, 2001; Wilbur, 2013), indicating that entrance into the organic farming is driven not only by profit-seeking motivations, but also by lifestyle preferences (Renting et al., 2009). New entrants are also more interested in the environmental and social aspects of their farming activities (Wilbur, 2013, 2014). This suggests that new entrants should receive more attention from academic research on sustainability transitions in rural areas and in agri-food systems (Zagata and Sutherland, 2015).

Sutherland et al. (2015) highlight that new entrants are also more likely to be involved in alternative agri-food networks, defined by Lamine et al. (2012, p.231) as "localised initiatives aimed at re-connecting production and consumption on the basis of shared goals of environmental and social sustainability". Types of alternative food networks include initiatives such as Community Supported Agriculture (CSA) programs, box schemes, direct/on-farm sales, farmer's markets, and solidarity purchasing groups (Berti and Mulligan, 2016; Lamine et al., 2012). These systems are often forms of resistance to modern, industrial modes of food production, distribution and consumption, and for small-scale farms struggling to interface with conventional markets they also represent opportunities to create viable economic alternatives to existing market arrangements (Berti and Mulligan, 2016).

3. The case of Japan

The Japanese agricultural sector represents a relatively unique case among OECD countries, as it is composed mainly of part-time farmers, focusing primarily on rice and vegetable production, and with an average farm size of 2.41 ha (1.72 ha if excluding Hokkaido, where farm holdings are unusually large compared to the rest of Japan) (MAFF, 2017a). This situation is a result of postwar agrarian reforms which gave small tenant farmers the right to own farmland, and established restrictions to prevent the return of the pre-war landlord system. These restrictions also had the effect of excluding corporations from the agricultural sector until 1999, when the first of a series of agricultural reforms started changing the system (Brady, 2016; Mulgan, 2000).

Since the 1960s, Japanese agriculture has been experiencing a steady decline, characterized by a greying farming population, the steep decrease in the number of farmers, and lack of farm successors (Fujimoto, 2012). Farm abandonment, especially in upland and remote areas, is a widespread problem: abandoned land now represents 10% of the total arable land, more than double compared to 1995 levels (MAFF, 2016). Food calorie self-sufficiency has also dropped to 39%, the lowest among major industrialized countries (MAFF, 2016).

Recently, agricultural reforms have been implemented as a response to these issues and in the hope of increasing the global competitiveness of Japanese agriculture in preparation of anticipated free trade deals, such as the Trans-Pacific Partnership (Rosenberger, 2014; Tabayashi, 2009). Consolidation of land in the hands of individuals or companies seeking to establish large scale, highly productive and presumably more 'efficient' farm operations is seen as the solution of the problems afflicting Japanese agriculture (Brady, 2016; Jentzsch, 2017), together with a strong support towards the development of 'agri-tech' innovations such as robot automation and AI (JapanToday, 2016).

widely understood and recognized as a term and represents the most widespread form of alternative agriculture (Reganold and Wachter, 2016).

A significant amount of farmland, however, is located in hard to access, mountainous, and increasingly depopulated areas, and it is not likely to represent an attractive option for large-scale farmers or corporations (Jentzsch, 2017). Upland regions cover 70 per cent of Japan's total land area, and are disproportionately impacted by the consequences of agricultural decline, farmland abandonment and population loss (Fujimoto, 2012). Depopulation is resulting in the closure or deterioration of basic services and infrastructures (public transportation, hospitals, schools, etc.) and this impacts the residents' quality of life, increasing the feeling of isolation and neglect (Love, 2013).

In addition to its socio-economic consequences, agricultural abandonment and the progressive hollowing out of rural communities have highlighted the degradation of the rural environment and landscape and the disappearance of traditional rural lifestyles. In the mind of Japanese people, the countryside is strongly associated with traditional values and with culturally important landscapes (Knight, 1994; Tabayashi, 2009), such as terraced rice fields (*tanada*) and *satoyama*. The term *satoyama* indicates a type of traditional rural landscape and agricultural system formed by a village, water-catchment ponds and irrigation canals for paddy fields, agricultural land, and the surrounding forest, in which human and natural elements coexist in a way that is perceived to be balanced and harmonious. The complex landscape mosaic created by pre-modernization agricultural practices supported high biodiversity levels, especially in paddy fields, while forest management provided important resources, such as fuel, fertilizer and food, and fundamental ecosystem services such as water retention and purification (Cetinkaya, 2009). *Satoyama* can therefore be considered a multifunctional landscape, a conceptualization later adopted by Japanese researchers (Muramoto, Hidaka, and Mineta, 2010) and policymakers.

In an effort to preserve rural settlements and the surrounding environment, many rural municipalities have been intensifying their attempts towards attracting new residents from urban areas, in particular those interested in farming (Chang, 2015; Love, 2013). There is some evidence of an increasing trend of urban-to-rural migration among younger people (Obikwelu, Ikegami, and Tsuruta, 2017), despite the shortcomings in terms of conventional employment opportunities and availability of services. In popular media, individuals belonging to this group are called 'I-turners' (in-migrants) and 'U-turners' (return migrants) (Kurochkina, 2015; Obikwelu et al., 2017).

Obikwelu et al. (2017)'s study highlights that the desire to start farming ranks high among the reasons drawing urban migrants to rural areas. There is also evidence that a significant number of new entrants in agriculture are involved in organic farming, both as lifestyle-oriented and commercial farmers (Knight, 2003; Kurochkina, 2015; Rosenberger, 2017), but official data about new entrants to the organic sector do not exist. Literature on new entrant organic farmers in Japan has emphasized their role as a positive force for rural development (Knight, 2003; Rosenberger, 2017). They are willing to live and farm in marginal areas, and often settle in depopulating mountain hamlets, contributing to their survival (Knight, 2003; Rosenberger, 2014, 2017). This is partly the result of a specific choice, and partly the consequence of the higher availability of land and houses in areas not coveted by larger commercial farmers or developers, and where land owners are absent, less likely to return, or glad to rent out their farms to save them from abandonment (Kurochkina, 2015). Organic farmers also tend to be younger than conventional farmers (Davis, 2012; Rosenberger, 2014), a significant aspect when considering the average age of the farming population in the country.

Another important aspect related to organic farmers is the development of alternative food networks. The Japanese *teikei* system, established in the mid-1960s, is believed to be the first example of a community supported agriculture initiative (Kondoh, 2014; McGreevy and Akitsu, 2016). Reliance on the *teikei* distribution model is one of the basic tenets of the Japan Organic Agriculture Association (JOAA)², founded in 1971 (JOAA, 1993; Jordan, 2010; Rosenberger, 2014). While this model has been cited as an example of sustainability in agri-food networks, however, the participation of farmers and consumers in this kind of

² JOAA website: <http://www.joaa.net/english/index-eng.htm>

arrangements has been slowly declining. This can be attributed to several reasons: for example, supermarkets have started stocking organic products, many of which imported, becoming a source of competition for farmers. The introduction of the Organic JAS certification in 2001 is another factor that negatively impacted non-certified organic producers, cutting them out of mainstream distribution channels. Consumers also tend to pay more attention to product attributes such as 'local', which are implicitly believed to be wholesome and trustworthy (Kimura and Nishiyama, 2008; Takeda, 2008), rather than specifically to 'organic' (Rosenberger, 2017). A final aspect is the declining willingness to participate in the volunteer activities that traditionally characterized the teikei system, mainly due to the increased participation of women in the workforce (Jordan, 2010; Kondoh, 2014). These factors, together with the specificities of the Japanese agricultural sector in general, help to explain why organic farming in Japan has been growing so slowly: domestic certified organic products represent the 0.25% of the total. The area occupied by certified and not certified organic production is estimated to be around 0.6 percent of the total agricultural area (MAFF, 2017b), but the number of non-certified organic producers is unknown.

4. Methods

4.1 Study Area



Figure 1: map showing the position of Hiroshima prefecture within Japan. Dots represent the location of the farmers interviewed.

The study area is the south-eastern part of Hiroshima prefecture, in Western Japan (Fig.1). The dots show the approximate location of the farmers interviewed. We can loosely group the rural areas in which the farmers are located into three types: one constituted by the more mountainous regions in the north (represented here by Sera and Jinsekikougen), which suffer the most from issues related to depopulation and land abandonment; a 'middle' region (Higashihiroshima, Mihara), which is partly affected by such issues, but is also closer to larger urban centers; and an 'island' region (Mukoujima), which is heterogeneous in nature but generally characterized by agricultural abandonment due to the difficult farming conditions.

4.2 Data collection and analysis

This study represents the first, exploratory stage of a wider research project about new entrant organic farmers in rural areas of Hiroshima Prefecture, Japan. The bulk of the data for the study was collected from ten in-depth interviews with farmers. The type of sampling was purposive, and individual farmers were chosen for the interviews based on their socio-demographic characteristics, to better identify information-rich cases (Creswell, 2009). The main criteria used for the purposive sampling was the status of new entrant (defined here as ‘an individual having been in the agricultural sector for less than 10 years’) in the organic farming sector. The study focused on new entrants from non-agricultural backgrounds who had in-migrated from urban areas (I-turners), and on inheritors returning to the family land after a prolonged experience of living in urban areas (U-turners). Two aspiring farmers who are currently involved in a training program were also interviewed, as well as an older ‘veteran’ farmer who is a well-known figure among the local organic farmers.

Interview questions were designed to obtain a detailed account of each participant’s pathway into organic farming and related challenges, farming activities and relationships with customers and with other local actors. Further information was also collected through participant observation conducted while working as a volunteer (WWOOFer) in three of the farms, and while attending on-farm events and organic farmers’ meetings. The interviews, ranging in length between one to two and half hours, were conducted in Japanese and subsequently transcribed and translated into English. Interview data and field notes were then analyzed using thematic analysis (Braun and Clarke, 2006): the content was first coded, and then the codes were organized and grouped to identify patterns (themes) within the dataset. Since the objective of this paper was to give an overview of the most significant themes related to the under researched topic of organic farming systems in Japan, themes were identified in an inductive (data-driven) way, rather than by using a pre-determined theoretical framework (Braun and Clarke, 2006). This paper will give a broad description of the themes, leaving a more in-depth analysis to future works.

5. Results and Discussion

The discussion considers three levels of analysis: individual farmer level (motivations and individual pathways into farming); farm level (organic farming practices); and territorial level (farmer clusters and alternative food networks). The qualitative approach and small sample used in this phase of the study limits the scope of the findings, which aim mainly at displaying a range of diverse contexts and situations and to provide material and insights for discussion and further research.

5.1 Organic farming as the convergence of livelihood and lifestyle

Table 1 summarizes the basic information about gender, age and year of entrance into farming (intended as the establishment of their own farm) of participants, as well as the main characteristics of their agricultural operations and their migration pathways. Age of entrance into farming ranges from 25 to 46 years old, or 33 years old on average. Most new farmers have a high education level and worked in non-farming jobs for several years before taking the decision to become farmers. This is significant, because in many cases individuals are able to move to the countryside and start farming only after accumulating sufficient savings from their previous employment. In most cases, they quit their previous jobs before relocating to rural areas. New organic farmers also come from a mix of farming and non-farming family backgrounds. In all cases, however, the participants were either born in urban areas or had work and/or education experience in urban areas. Individuals with farming backgrounds typically have non-farming parents, and went back to farm their grandparents’ land. There is only one case of a direct heir (the son of a ‘first generation’ organic farmer). I-turners, despite not having family ties within Hiroshima prefecture, usually have been living and working there for a long time.

The average farmland size is 1.9 ha, in line with the Japanese average. Only one farmer has a significantly larger land size (6 ha), that resulted from pooling the land owned by two different branches of the family. Almost all I-turners are renting farmland, while U-turners are predominantly working on their family's property, as well as renting additional land; in all cases, however, farmers were farming up to 4-5 scattered plots. Purchasing farmland is difficult, even after years of farming: only one farmer was able to buy part of the farmland he was renting, and only because the owner had no direct successors. For some farmers the loss of carefully tended and improved farmland to returning farm successors is a concrete fear, while others rule out this possibility on the grounds of the land being too 'inconvenient' to farm. Similar findings about land issues emerge, for example, from Rosenberger (2017)'s study.

Table 1: Basic information about participant farmers

#	Gender	Age of starting own farm (beginning year)	Farm type	Total land size	Main migration pathway
1	M	44 (2013)	Organic vegetables - part time, farming is the primary occupation	0.5 ha (rented)	I-turner (from outside of the prefecture)
2	M	31 (2011)	Organic vegetables and rice - full time	2.3 ha (0.7 ha rented, 1.6 ha purchased)	I-turner (from inside of the prefecture)
3	M	29 (2014)	Organic vegetables and rice - full time	1.8 ha (rented)	Local (farm successor)
4	F	39 (2013)	Natural (no-till) vegetables, rice and cereals (wheat, spelt) - full time	1.2 ha (1 ha owned, 0.2 ha rented)	U-turner (grandparents' hometown)
5	F	34 (2008)	Organic vegetables and rice - full time	6 ha (owned by extended family)	U-turner (grandparents' hometown)
6	M	25 (2014)	Organic vegetables - part time, farming is the primary occupation	0.4 ha (rented)	I-turner (from outside of Japan)
7	M	29 (2010)	Organic wheat and vegetables - part time, farming is the secondary occupation	0.9 ha (rented)	I-turner (from outside of Japan)
8	M	25 (1987)	Organic vegetables, rice, eggs, wheat - full time	2.3 ha (1.5 ha rented, 0.7 ha owned)	U-turner (grandparents' hometown)
9	M	46 (2017)	Not started (planned organic vegetables, full time)	2 ha (rented)	I-turner (from inside of the prefecture)
10	M	37 (2017)	Not started (planned organic vegetables, full time)	Not acquired yet	I-turner (from inside of the prefecture)

Considering individual motivations to start organic farming, two main group of themes emerge. The first centers around discourses about producing 'safe and secure' (*anzen, anshin*) food with 'one's own hands' for themselves, their families and consumers. The

Fukushima nuclear disaster, and the sense of dread and insecurity it created about food safety (Rosenberger, 2014) was often mentioned as a turning point in the decision to become organic farmers by those who became farmers after 2011. Living a self-sufficient, simpler and more meaningful lifestyle, as well as concerns about environmental problems, represent a second set of motivations to begin agriculture. Political engagement or activism, however, are not as strong as that of pioneer organic farmers in the 1970s (JOAA, 1993), and new organic farmers tend to engage in a “politics of engagement rather than of contestation” (Rosenberger, 2017, p.18).

These motivations partly reflect those discussed in Western counter-urbanization and lifestyle migration literature (Benson and O’Reilly, 2009; Pinto-Correia, Gonzalez, Sutherland, and Peneva, 2015; Wilbur, 2014). In the case of Japanese new organic farmers, however, the desire to realize a rural lifestyle is grounded by practical concerns, rather than being guided by idealized or ‘idyllic’ notions of country life. Before taking the decision to commit to farming, most respondents spent extended periods of time – up to one year – working part-time or full time as apprentices in other organic farms. Another significant difference is that within lifestyle farming literature, decisions to move to the countryside are motivated mainly by lifestyle preferences, while livelihood or profit-seeking aspirations tend to be a secondary or non-existent concern (Pinto-Correia et al., 2015; Willis and Campbell, 2004). In this study, however, most participants are full-time farmers, and depend mainly from farm profits for their livelihood. Similar findings are reported by studies on new organic farmers in other areas of Japan (Davis, 2012; McGreevy, 2012; Rosenberger, 2014, 2017). Therefore, although the ‘lifestyle’ aspects of their motivations are evident, they do not perfectly fit the profile of ‘lifestyle farmers’. While they do not emphasize profit, they all stress the importance of being able to make a living from organic farming. In this sense, they are more similar to the ‘neo peasantries’ discussed by van der Ploeg (2010, 2012).

5.2 Organic farming in practice: farm-level and territorial-level practices

The term ‘organic farming’ (*yuuki nougyou* in Japanese) is one all farmers readily identify with, and it acts as an umbrella term that brings together distinct types of alternative, biodiversity-based farming methods practiced in Japan (e.g. the natural farming practices inspired by Fukuoka Masanobu or Okada Mokichi). New organic farmers claim a sense of affinity with pre-modernization Japanese techniques and agricultural tools, that they consider more suitable for small scale farming than what is currently available on the market. The degree of interest in new organic farming techniques, on the contrary, varies: while some farmers are actively engaged in learning and even developing innovations, others hold a more traditionalistic view of going ‘back to the basics’, and have little interest in keeping up with new techniques. They favor holistic, diversity-based pest and fertility management strategies. Fertility is maintained through the application of compost and other organic fertilizers made on the farm or freely sourced from the local area, and through crop rotations and green manures. There is a consensus among farmers that the type of agriculture they practice is essentially ‘soil making’ (*tsuchizukuri*). This is described as most defining practice of organic farming, together with the rejection of pesticides and chemical fertilizers. As such, there is widespread skepticism towards the Organic JAS certification, that allows the use of some types of pesticides, and most farmers manifest little or no interest to acquire it. Organic farmers also grow a wide diversity of crops, both in terms of species and of varieties; most farmers indicated a range of 30-40 species/varieties (up to 70) grown over the course of one year. In addition to promoting biodiversity-based systems, growing relatively rare and heirloom breeds is also a way to attract consumers who appreciate niche products.

Farmers owning livestock, including small sized livestock such as poultry, are rare. Despite it being a widespread practice until a few decades ago, it has almost disappeared from the countryside, and farmers who own livestock often receive complaints from neighbors about smell and noise. One farmer built a coop to house his 70 laying hens in the middle of the forest, so it would be out of sight and smell of other residents. This constitutes a problem for organic farmers who want to move towards more integrated crop-livestock systems, and

many have resorted to the exclusive use of plant-based compost due to the impossibility of sourcing organic manure.

Finally, the practices of organic farmers often extend to include the surrounding territory. Organic farmers embrace the concept of *satoyama* and its philosophy of sustainably harvesting resources from the local environment: for example, gathering forest leaf litter (*ochiba*) and other forest materials to use as a source of compost is a widespread practice among them, despite having been virtually abandoned by conventional farmers. This practice, in addition to providing farmers with local, widely available and free fertilizer, is considered a necessary form of management for maintaining a good condition of the forest and the ecosystem services it provides to the nearby farmland and settlements. This can be seen a form of integrated territorial management, one that is often carried out jointly by organic farmers, conventional farmers and other rural residents. Population decline and aging often mean a lack of manpower for forest maintenance, and in this sense locals appreciate the contribution of new organic farmers. As Rosenberger (2017, p. 23) notes, “young organic farmers cross boundaries between organic and conventional because alliances contribute to survival of their village and small-scale agriculture overall.”

5.3 Relationship with consumers and alternative food systems

The theme of ‘safe and secure’ food is central to the relationship of organic farmers with consumers. As mentioned earlier, food safety has become a core issue in the aftermath of the Fukushima disaster, which has led many Japanese people to doubt of the safety of domestically-produced food, including organic (Kondoh, 2014). Organic farmers stress the importance of establishing a ‘face-to-face’ relationship of trust with customers, rather than relying on certifications. This is coherent with the principles of the *teikei* system, even though many other aspects have changed since the 1960s. New organic farmers, despite admiring and sometimes yearning for a return to the ‘original’ *teikei* spirit, are skeptical about the possibility to scale-up the *teikei* model. Among the participants, only the older organic farmer, now in his late 60s, has practiced a ‘pure’ version of the *teikei* system, and even in his case mail deliveries have become the norm, although he still maintains the original group of *teikei* customers to whom he delivers produce boxes personally. Organic farmers’ customers now tend to live further away, often in metropolises such as Tokyo and Osaka, and have less time and commitment to engage with *teikei*-like relationships.

Nowadays, most new organic farmers prefer to engage in produce box schemes that are similar to *teikei*, but demand much less involvement on the consumer’s part and do not require advanced payments to support the farmer. The proliferation of fast and economical express delivery services also means that organic farmers can now ship their produce all over Japan, which goes against the principle of local consumption of the original *teikei* model (Kondoh, 2014). Organic farmers wish for a more ‘local’ customer base, but people who already live closer to the countryside have easy access to fresh, local, and relatively cheap products, and are not motivated to seek out organic produce. The concept of ‘local’, however, is difficult to define: among the farmers interviewed, most reported selling around 60%-80% of their produce within the Hiroshima prefecture. They deliver mainly to individual customers, restaurants, and natural food shops, and to a small extent to local ‘direct selling shops’ (*chokubaijo*). Another important venue, not only for selling, but especially for meeting consumers face to face, is the ‘*marché*’, similar to a farmer’s market but less focused on produce and more on a mix of local products, crafts and food stalls, and held less frequently. This is a recent development in Japan, where farmer’s markets did not exist until recently, but it is providing organic farmers with a novel and important way to reach out to local consumers. Farmers also organize on-farm events, which serve the multiple purposes of maintaining the connection and trust between the farmers and his/her customers, educating the participants about organic farming, and, more generally, of reconnecting urban consumers with the rural territory from which their food comes from.

Virtual connections through social networks and websites are growing in importance, and having an active online presence is becoming a key factor in the ability of farmers to attract

new customers. Farmers post attractive images of rural life and work in the farm, through which they communicate with, but also entertain, customers. By enjoying this kind of virtual connection, customers may also be more invested in keep supporting the farmer even though they don't have a conventional 'face to face' relationship with him/her. Many farmers believe in the importance of investing time in maintaining this kind of connection, which is seen as an imperfect but necessary way of bridging the increasing physical and mental distance between producers and consumers.

5.4 Organic farmer 'clusters'

Preliminary findings of this study show a propensity of new entrant organic farmers to cluster in areas where other organic farmers are already settled. For example, in the village where two of the farmers interviewed live there are other 10 new organic farm families, all I-turners who in-migrated independently from each other after the first organic farmer settled there. The two trainees, who are interning with the same farmer, also confirmed their intention to settle down there, and one of them has already found farmland to rent in the village. This is not the result of an intentional choice towards building a 'community', but rather a process that occurs in a mostly spontaneous, non-organized way, but that has several advantages.

First, many aspiring organic farmers go through a traineeship period, during which they work and learn in one or more organic farms. This gives the would-be farmer a chance to build connections with local land owners and to find farmland available for rent. As mentioned by Jentzsch (2017), farmland lease deals in Japan are mostly conducted in an informal way, and typically among members of the same local co-op, or friends, relatives or neighbors. Without this kind of connection, it can be extremely hard for newcomers to find land and housing, and the entire process takes considerably more time. Established organic farmers, therefore, represent a 'bridge' between the local farming community and newcomers. This also explains why trainees are likely to find available land in the same area where they conducted their apprenticeship.

Another major reason is that organic farming still represents a deviation from the norm in rural Japan, and is far from being considered a sensible practice by conventional farmers (Palacios, 2005). This, together with the conservative and group-oriented nature of Japanese farming communities, tends to put pressure on those farmers who do not conform to the 'standard'. A "cultural resistance" (Kneafsey et al., 2001, p. 304) towards organic farming, which is seen as best as a naïve 'utopia' and at worst a threat for conventional farmers, still persists. By forming loose 'clusters', rather than organized organic farming communities such as the one described by Knight (2003), Japanese organic farmers create supportive 'communities within the community', without at the same time distancing themselves from the local society. This strategy allows them to fight the pressure of conforming to a more conventional and 'locally acceptable' model of agriculture without outright opposing it, which also helps in slowly increasing acceptance towards organic methods among local conventional farmers.

Another advantage is the possibility of receiving support for the marketing of products: it is not uncommon among organic farmers living in the same area to buy or exchange produce, in order to have a sufficient variety or quantity of product to send to their customers. Some farmers also establish more formal groups. One of the farmers interviewed, for example, belongs to a small local cooperative that delivers produce and rice jointly to nearby restaurants and natural food shops.

Settling near more experienced organic farmers also offers to newcomers the possibility of seeking advice about local agri-environmental characteristics, cultivation methods, and crop choices. One of the most common problems of new farmers (especially in-migrants), is the lack of knowledge or experience regarding local growing conditions, so having someone willing to provide information facilitates the beginning stages of farming. As shown by previous studies conducted in Japan (Knight, 2003; McGreevy, 2012) and elsewhere (Mailfert, 2007; Wilbur, 2014), it is not always easy for newcomers to 'tap into' the knowledge of local conventional farmers. This situation might also encourage experimentation and

development of innovative farming practices and facilitate their dissemination among the local organic farming community through farmer-to-farmer learning processes. Many farmers participate in study sessions and farm visits aimed at discussing and demonstrating new techniques, organized by the farmers themselves. Newly settled farmers and trainees are particularly encouraged to participate: older organic farmers are aware that the number of new farmers quitting within the first few years is very high, and thus emphasize the need of acquiring the necessary skills as quickly as possible.

For the same reason, organic farmers tend not to apply for government subsidies for new entrant farmers. Subsidies are perceived as a double-edged sword, because over-reliance of new farmers on subsidy money is believed to have a negative effect on their ability to create an economically sustainable farming operation. Many farmers also feel that subsidies come with ‘strings attached’, in the sense that they limit farmers’ freedom and push them towards a productivist pathway they may not wish to follow. They see this as a direct consequence of the national government policy, perceived as being strongly biased against small-scale farming. The same goes for the prefectural government, but in this case there seem to be significant differences in the support granted to organic farming by different prefectures, which represents the main source of complaints.

6. Conclusions and implication for further research

What emerges from the analysis of new entrant organic farmers’ characteristics and motivations is that for this group of people farming is both a livelihood strategy and a lifestyle choice. New entrant organic farmers occupy a small but well-defined and growing space in Japan’s contemporary agri-food system, and their practices offer a glimpse into innovative development pathways for rural areas, alternative to the technocentric vision sponsored by the government. In the case of Japanese organic farming, the best way to ‘scale-up’ this model seems to be through multiplication, rather than through the increase in the size of organic farms. A promising example in this sense is given by organic farming clusters, which can be thought of as an endogenous rural development model with the potential to contribute to the transition towards more sustainable farming systems. Moreover, considering the process of rural abandonment that is occurring in Japan, supporting the recruitment of new farmers is necessary, without focusing institutional support only on specific types of farmers. This study has also highlighted the prevalence of in-migrants and return migrants among new entrant farmers, which suggests the need of focusing more on this category. These aspects should be examined more in-depth through further research, in order to devise more specific support systems suitable for different types of farmers and of farming systems. Another promising direction for future research is the adaptive capacity of the various types of farming systems present in Japan in connection with wider community-level strategies, particularly in the case of linkages between new entrant organic farmers and local communities.

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