

A Geographical Study of the Transfer of Farmland
Rights in Terms of Social Relationships

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Abstract

This study aims at revealing how farmlands are managed by examining the roles played by the transfer of farmland rights in farm management and agricultural settlements; the study's analysis is based on the social relationships among farmers that are involved in the process of transferring farmland rights for farmland maintenance. This study focuses on the spread and connection of social relationships among farm households. Past studies have often integrated the ties between farm households with territorial and kinship relations. This study focuses on the spread and connection of social relationships among farm households. This study classifies territorial relations on the basis of spatial spread as well as kin relations by degree of kinship. It also classifies various other social relationships after a careful consideration of each of their characteristics and analyzes them based on how these social relationships form layers, as explanatory variables, and who uses farmland through the transfer of farmland rights as explained variables. The target of analysis is, therefore, the transfer of farmland rights of individual farm households in the study area. Based on this analysis, the study examines the role played by each transfer of farmland rights in the farm management of individual farm households.

The following areas were selected as study areas: the Omaki and Kouwa settlements in Otofuke Town, Kato county, Hokkaido, located in the center of Tokachi Plain, where scale expansion has advanced the most in Japan, and the Kamihata settlement in Minami Awaji City, Hyogo prefecture, located in Mihara Plain, where even small farms in the settlement show an effective use of farmland.

As a result, in Tokachi Plain, it was observed that all the farm households carried out transfers of farmland rights in order to increase their profitability from farming. The farmlands traded in these cases were mainly located within the same settlement or district. Since each farm household accumulated farmland for economic purposes, they preferred farmland located in a spatially small range to ensure work efficiency. The transfer of farmland rights based on multilayered social relationships contributed to stable large-scale farming, since hardly any lease contracts were cancelled in regions where there were many farmland recipients. The transfers based on economic motivation, as a result, contributed to the

maintenance of farmland within the settlement. On the other hand, transfers extending outside the settlement were based on the economic motivations of farm households that were competing with each other for scale expansion. Farmland recipients proactively sought to accumulate farmland from beyond the settlement through relations limited to economic transactions. In this way, despite the influence of economic motivation, farmland management within the settlement was predominantly founded on the multilayered social relationships, such as neighborhood relations, in the settlement. In addition, social relations limited to economic transactions contributed to the management of farmlands that were bought or borrowed from outside the district.

In Mihara Plain, the recipients did not attempt to increase profitability and the farmland transfers were motivated by non-economic factors. In the past, after a farm's retirement, its farmland was generally transferred among farm households through kinship or same neighborhood relations in order to maintain the "farmland as a family property" and as a "farmland of the settlement." However, it gradually became difficult to secure farmland recipients solely through such relations. In order to sustain farmland within the settlement, farm households with a sufficient labor force were passively forced to undertake the farmlands of landowners with whom they had no neighborhood or kinship relations. Consequently, full-time farmers with sufficient labor force undertook the farming of additional farmland simply because they were located in the same settlement. On the other hand, in the case of transfers of farmland rights extending to farms in other settlements, the main recipients were part-time farm households who undertook these farmlands to sustain social relationships such as *kessyaen* or kinship relations with the landowners. In addition to transfers of farmland rights within the settlement, those outside the settlement were promoted based on the same district, *kessyaen*, or kinship relations. While same settlement relations were the basis for sustaining farmlands within a settlement, territorial relations of a wider range than a settlement, *kessyaen*, and kinship relations contributed to the sustainability of farmlands outside a settlement.

Key words: Transfer of Farmland Rights, Social Relationships, Large Scale Upland Farming, Group Farming, Settlement, Farmland as Family Property, Hokkaido, Awaji Island

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Chapter 1

Introduction

1. Research Objectives

Thus far, Japanese agriculture has survived in the form of small, family-run farms that also carry out some non-agricultural business. There are few independent agricultural businesses, and the existing ones face numerous challenges that threaten their very survival (Tabayashi 2007). Ever since the period of high economic growth, the concerned authorities have promoted the self-reliance of agriculture, as an industry, in order to correct the income disparity between farmers and workers in urban industries. This, however, requires the scale expansion of farm management, which is a very crucial issue facing the agricultural industry. In response, a kind of part-time farming households has emerged, where the farmers have also availed of opportunities to enter other industries during the high economic growth period. Consequently, farm households have maintained stable income levels, and coupled with the advances in mechanization, small part-time farmers have managed to continue farming (Kawakami 1979; Takahashi 1980; Suzuki 1994). Since the small-scale part-time farmers continued to possess their farmland, which

cannot spread the farmland liquidity, the expansion of the operational scale of farms remained a limited issue and did not become a pressing one (Goudo 2006). Furthermore, although the authorities have implemented various measures for farmland accumulation, they have not smoothly promoted the transfer of farmland rights for large-scale operations (Shimamoto 2001).

Since the 1990s, many of these small part-time farmers have retired from farming due to their advancing age. This has given rise to the issue of how to continuously utilize the farmland of these retired farmers (Tabayashi and Iguchi 2005). Moreover, at present, in addition to the utilization of accumulated farmland to ensure the independence of agriculture, as an industry, the challenges of how to effectively and sustainably use, maintain, and manage farmland are attracting much attention. The following have been pointed out as specific measures to address the above challenges: farmland accumulation into farm households of “prospective farmers” comprised of approved farmers as well as non-agricultural enterprises such as stock companies, which will carry out collective farmland use such as group farming. This gives rise to the issue of how to transfer the farmland ownership and cultivation rights to these specific farm households and business groups.

In recent years, Japan has seen the growth of large-scale farm management by full-time farmers. Transfers of farmland rights, for example, are now widely implemented; there used to be few

such transfers in the past (Ito and Yamaki 1993; Yamaki 1997; Saito 2003; Hosoyama 2004). In particular, large-scale cultivated land management is being promoted in regions such as Hokkaido, Tohoku, and Hokuiriku. The transfers of farmland rights have been carried out with the view of increasing the profitability by expanding the scale of farming.

Despite the widespread practice of transferring farmland rights for scale expansion, there have been reports that it cannot enhance profitability (Yamadera and Arai 2003). In specific terms, as regards rice cultivation, a production cost of 118,605 yen (including the labor cost of the family labor force) is required to yield a gross profit of 113,036 yen per 10 a, as per the national average (Ministry of Agriculture, Forestry and Fisheries of Japan 2008). In these regions, the focus is on the non-economic aspects of farmlands, for example, the role of the “family property” of a certain kin group (Takahashi 2002; Nagahama 2003). Originally, farmland played a role as the basic factor or component of a society, called “*mura*,” apart from its role as a supplier of economic goods (Fukuda 1980; Yagi 1988). Therefore, individual farm households cannot treat their farmlands as mere economic goods (Kawamoto 1986). Over time, farmlands have been maintained by various entities, including individual farmers as well as social groups comprising individual farmers who are mutually involved in agriculture.

With regard to the non-economic aspects of farmland, several

studies have focused on the social geography and rural sociology of farming (Hamatani 1969; Takayama 1986). For example, numerous studies have considered the methods of farmland management and promoted various forms of land use, based on their analysis of the feudalistic landlord system and the relation between ownership and tenant rights (Abiko 1986; Iwamoto 1987). All rural residents used to be farmer in the past, and individual farmers used their own farmlands for economic activities within the settlement, which maintained the farmland of the settlement. However, the main purpose of these studies is to understand the spatial order of community and the social structure itself. Therefore, few studies have discussed the non-economic aspects of farmland. Hence, it is necessary for future studies to conduct empirical research on the relationship between farmland maintenance and farm management by individual farmers (Azuma and Yoshizawa 1988; Ikegami 1988).

In addition, at present, full-time farmers, part-time farmers, and non-farm households are blended together within a settlement, and the connections that agriculture forged between households have changed (Takahashi 1997). The social structure of the agricultural settlement has changed due to the increasing trend of part-time farming and farm retirement, as have the roles played by farmland management and the various forms of land use (Hasegawa 1987; Takayama 1988). In other words, present-day farm households have differing degrees of

economic dependency on agriculture; their presence in the same agricultural settlement and individuals farmers' continuation of the self-contained farmland use of the past cannot always ensure the maintenance of all the farmland within a settlement. At the same time, there have been changes in the practice of farmland use adjustment, which was done by the entire settlement as a unit. However, few empirical researches study the changes in farmland maintenance and management as the number of non-farm households increases within a settlement (Takahashi 1997).

On the other hand, studies addressing the economic aspects of farmland have mainly focused on agricultural geography and agricultural economics (Kawakami 1969; Suzuki and Arai 1980; Saito 2006). Previous studies have described the process of the establishment of large-scale farms and the actual stratified conditions of farmers by focusing on the economic aspects of the transfer of farmland rights and by examining the managerial conditions under which each farm household deals with its farmland as economic goods. However, these studies were primarily aimed at the managerial conditions of farmers who could expand their farm management and the actual stratification conditions. Therefore, economic aspects such as scale expansion have not been sufficiently studied thus far, especially with regard to their functioning within the framework of the settlement as a social group.

Several studies have focused on the non-economic aspects of the process of transferring farmland rights. Based on a study covering multiple agricultural areas, Miyatake (2007) pointed out that farmers who wish to expand in scale need to “work with” the sellers and lenders of farmland for a negotiated deal between the individual households. Furthermore, with regard to the process of how individual tenant farmers accumulate farmland and expand their management scale, Tojo (1992) noted that social relationships forged through the daily lives of farmland consigners and tenants provide a significant opportunity for this; the researchers also discussed the economic aspects of farmland accumulation by analyzing the relationship between land rent and the acquisition of leased land. The study indicates that most of the farmers who accumulated farmland utilized their social relationships formed by belonging to various social groups. In areas where paddy rice is cultivated nationwide, it is necessary to manage common forests, water resources, and farm roads in order to maintain agricultural production; therefore, social groups such as settlements decide the form of farmland use (Miyatake 2007). As mentioned above, social relationships among farm households and social groups such as settlements have an impact on the transfer of farmland rights and farmland maintenance. In the case of rice production, there appear to be many transfers of farmland rights based on the territorial and kinship relations within settlements

(Ito and Yamaki 1993; Suzuki 1994). Kawakami (1985) highlighted the need for protected horticulture and Sakamoto (2002), for open field vegetable cultivation. Moreover, according to Yanagimura (1999) and Takenaka (2004), in the farming zones of Hokkaido, which have a shorter history of agricultural settlement than those in the Honshu area, it appears that farmlands are often sold and leased through negotiations between individual farm households based on territorial and kinship relations.

On the other hand, human relationships associated with farmland management have been spatially advancing from the erstwhile ties centering on settlements due to developments in agricultural technology and transportation devices (Akitsu 1998). Hosoyama (2004) specified that in spatially extensive tenant farming management, it is essential to cultivate human relationships with lenders and surrounding farm households for the termination of a lease agreement. In the same manner, Miyatake (2007) mentioned that it is necessary to socially recognize farmers who have changed from those in charge of mere farm households to prospective farmers of surrounding settlements for farmland accumulation beyond the settlement border. In this manner, the development of human relationships is an essential aspect in the transfer of farmland rights, which is required to analyze the background of social relationships among farmers. Even though previous studies

have examined these social relationships in general terms or among specific farmers, they have not yet performed a detailed analysis of the social relations that have developed among individual farmers in farming settlements through the transfer of farmland rights (Hosoyama and Wakabayashi 2007).

As mentioned above, farmlands possess non-economic aspects as well as economic ones such as scale expansion, and these aspects are strongly related to each other. Prior studies have separately analyzed these two aspects; however, in this study, they will be consolidated and analyzed concurrently. Furthermore, the transfer of farmland rights always involves some recipients (i.e., buyers or borrowers) and providers (i.e., sellers or lenders) who have certain social relationships such as territorial or kinship bonds between them. Hence, it is possible that analyzing social relationships such as those mentioned above between recipients and providers will enable us to examine the transfer of farmland rights from a broader standpoint without restricting ourselves to the economic and non-economic aspects.

This study aims at revealing how farmlands are managed by examining the roles played by the transfer of farmland rights in farm management and agricultural settlements; the study's analysis is based on the social relationships among farmers that are involved in the process of transferring farmland rights for farmland maintenance.

The transfer of farmland rights refers to the phenomena of the transfer of farmland ownership based on the Agricultural Land Act and the establishment of the right to use farmlands through leasing (Shimamoto 2001). However, actual farmland transactions include leases and farm contracts that are considered to be an extension of labor-force exchange, such as illegal tenant farmers; therefore, farmers do not clearly distinguish between leasing and farm contracts. In addition, the laws and regulations pertaining to farm transactions vary widely, such as the ones based on the Agricultural Management Reinforcement Law. Based on this current situation, this study collectively defines the transfer of farmland rights as the phenomena of farmland trade and leasing, which specifically includes both farm contracts and farmland accumulation as well as all the other activities through which individual farm households attempting to expand collect farmland for individual transactions. Furthermore, the study defines the farm households that provide or take farmland as farmland providers or recipients, respectively, corresponding to the phenomeon of transferring farmland rights from seller or lender to buyer or borrower for individual transactions.

2. Study Methodology and Selection of Study Area

Social Network Analysis (Lewis 1979; Murdoch 2000, 2006) is one of the methods used to analyze the spread and connection of

social relationships. Social Network Analysis targets and seeks to explain not only the social relationships formed by intentional and unintentional interactions between individuals or groups as actors following the norm within groups but also the relationships that human beings build themselves (Morioka 1995; Kanamitsu 2003).

Social Network Analysis frequently analyzes human relations based on the presence or strength of ties between nodes and the distance between such nodes and the node parameters from a quantitative standpoint. However, economic activity and social life are inseparable in rural areas and villages, and the ties between farm households are characterized by various roles existing in a multilayered structure (Clout 1972). Therefore, it becomes necessary to perform a qualitative analysis of how the ties connecting nodes are layered; it is only in recent years, however, that such empirical studies have been initiated (Shortall 2008; Birkenholtz 2009; Magnani and Stufi 2009; Yoshida et al. 2010).

This study focuses on the spread and connection of social relationships among farm households. Past studies have often integrated the ties between farm households with territorial and kinship relations. However, the characteristics of territorial relations depend on the spatial range of groups such as settlements or districts, and there also exist certain relations among multiple settlements based on shrines, primary schools,

or irrigation associations. Furthermore, kinship relations differ according to the degree of kinship such as the relations between parents and children or relatives by marriage, those between head and branch families, or those with other relatives. This study classifies territorial relations on the basis of spatial spread as well as kin relations by degree of kinship. It also classifies various other social relationships after a careful consideration of each of their characteristics and analyzes them based on how these social relationships form layers, as explanatory variables, and who uses farmland through the transfer of farmland rights as explained variables. The target of analysis is, therefore, the transfer of farmland rights of individual farm households in the study area. Based on this analysis, the study examines the role played by each transfer of farmland rights in the farm management of individual farm households. It also reveals how farmland use, in terms of the physical space, has been maintained in settlements through such transfers. This study focuses on rural settlements since they are the primary unit of agriculture and forestry and have established all the related aspects of agricultural life, including farm management.

Before selecting the study area, let us focus on how the transfer of farmland rights has been diversified depending on the characteristics of agriculture in each region.

Hence, this study will select two areas with contrasting

agricultural characteristics and then analyze the mechanism of transfer of farmland rights in each area. For this contrast, an area where farmland expansion is required for farm management can be juxtaposed with another area where scale expansion is not necessary to that extent. It is expected that in the former case, an economic aspect will be strongly related in the transfer of farmland rights, whereas in the latter case, a non-economic aspect is more likely to be involved.

In areas where the transfer of farmland rights is influenced by economic aspects, full-time farmers accumulate farmland from part-time farmers whose income from agriculture accounts for a low percentage of their total household income and from non-farm households who own land (Saito 2007). In areas with a significant share of such transfers, it is supposed that agriculture functions as an important economic activity and that there are many full-time farmers who can be the primary recipients of transferred farmland. On the other hand, in areas where such transfers are influenced by non-economic aspects, it is supposed that even full-time farmers do not proactively take farmland, and there is a shortage of farm households who are willing to receive farmland. Consequently, the number of borrowers and lenders of farmlands can be indexed based on the different points of development of their transfer of farmland rights.

According to Hosoyama (2004), who examined the regional

differences in the farmland lease markets from the viewpoint of the number of borrowers and lenders in Japan, the proportion of part-time farmers differs in cases where there is an imbalance between the numbers of borrowers and lenders. In Hokuriku and Kinki, in particular, which have greater numbers of the second kind of part-time farmers, whose main income is high, borrowers dominate the farmland lease market, since the number of lenders is greater than that of borrowers. In Kinki, especially, where the labor cost in the non-agricultural sector is higher than that in Hokuriku, there are numerous part-time farmers and non-farm households, and the economic role of agriculture remains low. On the other hand, in Hokkaido and Tohoku, where the residents have fewer opportunities to engage in the non-agricultural sector, the ratio of full-time farmers is relatively high, since the number of borrowers is greater than that of lenders, these areas have developed lender-dominated farmland trade and lease markets. Each farmer in these areas has a strong desire to expand, and farmland trade is done due to economic reasons. Moreover, the land rent become lower as one goes from Tohoku to Hokuriku, and it is extremely low in Kinki. This is because the expected income from selling and lending farmland is low, while at the same time, there is a strong sense of maintaining the “farmland as family property.” In addition, as shown by Hosoyama (2004), in areas such as Kinki—where full-time farmers, part-time farmers, and non-farm households

who own farmland are blended together and the borrower-dominated “farmland as family property” tradition is maintained expansion plays a very limited economic role, and it is easy to comprehend the non-economic dimension of the transfer of farmland rights.

However, in some cases, farmland requires expansion for agricultural operation even in the borrower-dominated areas of Hokuriku and Kinki (Akitsu 1998; Tabayashi 2007). The characteristics of farm management certainly make it difficult to extract specific cases where there is little need for scale expansion based on only the number of borrowers and lenders. However, examination of past studies has revealed that in areas with low requirements for expansion, diversified agricultural operations—such as the cultivation of paddy rice and other vegetables or fruits—are carried out, and in many cases the farmers depend on income from farm products other than rice paddy cultivation (Morimoto 1991; Tanno et al. 2008; Sasaki 2009). For instance, in areas where the diversified farming of labor-intensive fruit and rice production is predominant, the transfer of farmland rights has advanced for the sake of farmland maintenance, even though the profits from rice production are low (Sasaki 2009). In the same manner, in areas where green horticulture is predominant in Kanto, many farmers depend on income from labor-intensive horticulture, and the economic potential of rice fields is low. In this way, the transfer

of farmland rights mainly centers on rice fields, which have low economic potential, and farmlands are maintained through such transfers (Tanno et al. 2008). Meanwhile, when there can be no transfer of farmland rights in areas with predominantly diversified farming operations of rice production and green horticulture, it is reported that some farmers tend to abandon cultivation altogether (Morimoto 1991). Based on this, we can conclude that borrower-dominated areas and areas of diversified farming, which do not require much expansion, are appropriate for the transfer of farmland rights based on non-economic aspects.

The following areas were selected as study areas: the Omaki and Kouwa settlements in Otofuke Town, Kato County, Hokkaido (Figure 1), located in the center of Tokachi Plain, where expansion has advanced the most in Japan, and the Kamihata settlement in Minami Awaji City, Hyogo Prefecture (Figure 2), located in Mihara Plain, where even small farms in the settlement show an effective use of farmland.

Tokachi Plain has witnessed farm management expansion ever since the enactment of the Agricultural Basic Act in 1961, even earlier than that in the rice producing areas of Honshu (“Hataken Study Group” Study Group Edition 1998; Amano and Fujita 2005). Otofuke Town is located in the center of Tokachi Plain and most of the area—except for the Osarushinai hillside in the eastern part and the lowland swamp of the Shikaribetsu

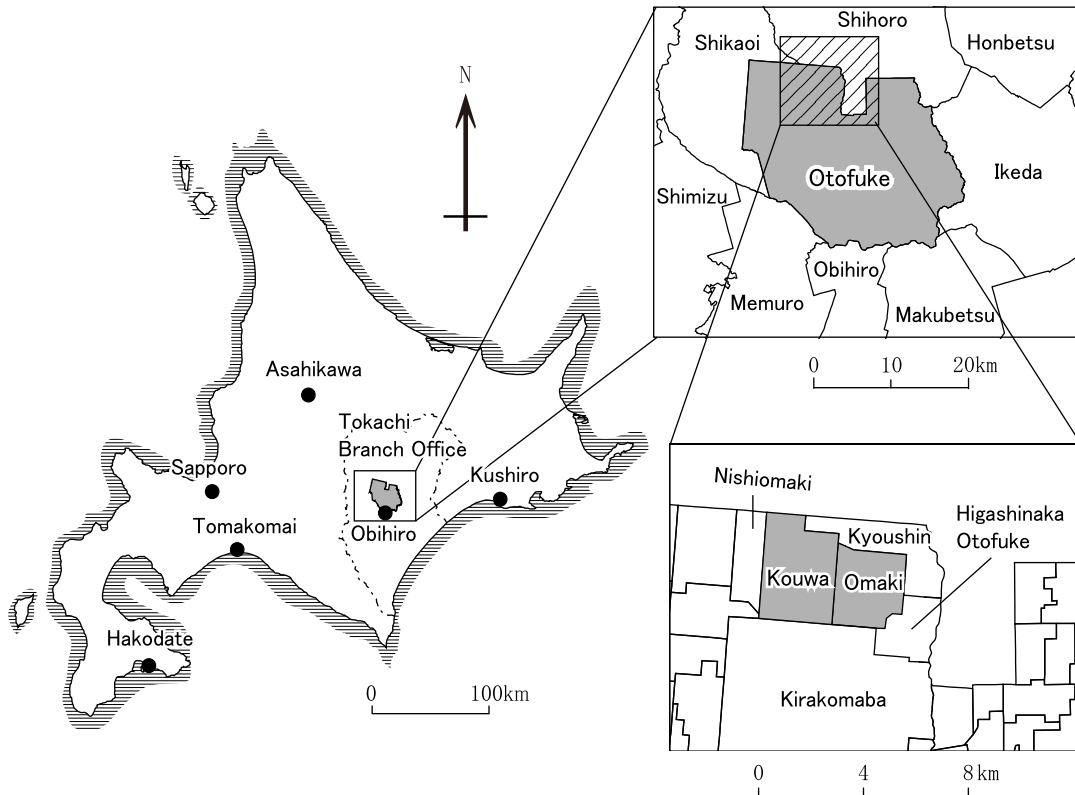


Figure. 1 Study area (Tokachi Plain, Hokkaido Prefecture)



Figure. 2 Study area (Mihara Plain, Awaji Island)

River in the north-western part of the plain—is flat, and agricultural land use dominates. The accumulation of snow begins in early November and is usually around one meter. The snow begins to melt in March, and farming can be started in late April.

The population of Otofuke Town was 42,452 in 2005, the number of farm households was 16,021, and the population density was 91.1 persons per square kilometer (the total area of the town is 466.1 square kilometers). Since the densely inhabited district of the southern area of Otofuke Town constitutes a commuter town of the Obihiro urban area, its population has increased rapidly in recent years. Meanwhile, the number of farm households has decreased after peaking at 2,252 in 1960 (Figure 3). The average management area per farm household has increased, mainly because the existing farm households have continued farming upon the accumulated farmlands of other households that have abandoned farming. Hence, the average management area per farm household increased from 7.8 ha in 1955 to 28.1 ha in 2005. In most parts of Otofuke Town, large-scale farming of four upland crops—wheat, beans, potato, and sugar beet—as the main farm products is prominent. Hence, this town appears to be an appropriate setting for analyzing the transfer of farmland rights for scale expansion.

On the other hand, in order to analyze the transfer of farmland

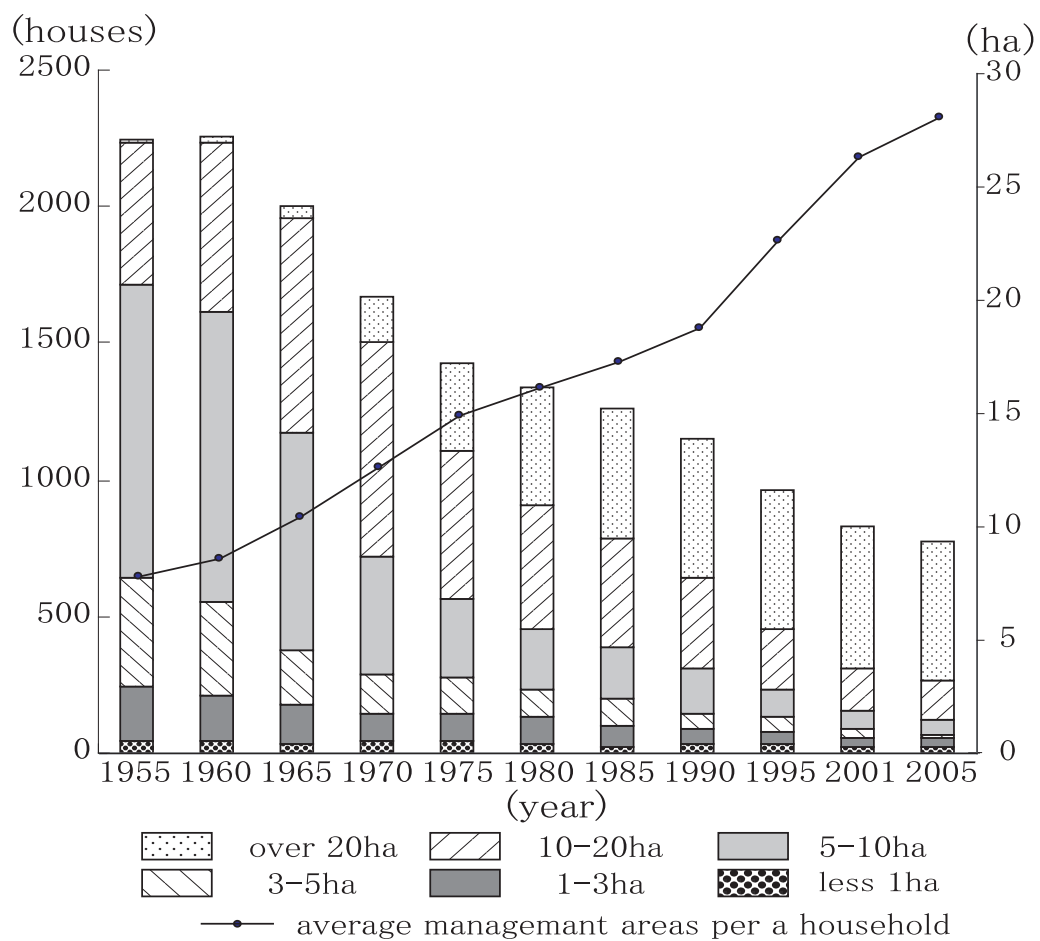


Figure. 3 Number of farm households by management scale and average management area in Otofuke Town, Hokkaido prefecture (1955-2005)

Data source: Statistics of Otofuke town.

rights based on non-economic aspects, this study selected the Kamihata settlement in Minami Awaji City and Hyogo Prefecture in Mihara Plain, Awaji Island. Minami Awaji City is located in the southern part of Awaji Island and is surrounded by the ocean and mountains. Mihara Plain extends from the center of the city. In January 2005, Minami Awaji City was established by the merger of Mihara, Midori, Seidan, and Nandan Towns of Mihara County. Agricultural land use is conspicuous in most plains of Minami Awaji City. Meanwhile, small-scale housing developments and commercial facilities such as convenience stores have increased since the opening of the Akashi Kaikyo Bridge, and the city has seen a gradual change from farmland to urban land use. Mihara Plain belongs to the Seto Inland Sea climate zone, a temperate zone where the annual average temperature is 15.1 °C. The annual average precipitation is 1,457.4 mm, which means that the area gets little rain. However, year-round agriculture is practiced in this area, and there are many ponds to secure water for agricultural. The population of Minami Awaji City in 2005 was 52,283, with the population density of 228.1 persons per square kilometer (the total area of the city is 229.17 square kilometer). While the overall population of the city has decreased in past years, its elderly population has increased, with almost 30% of the residents over 65 years of age.

In Minami Awaji City, the “three crop” rotation system—a

combination of paddy rice, onions, and cabbages or paddy rice, lettuce, or Chinese cabbages—has been widely promoted. Farmlands are intensively used all year round, and as of 2005, the percentage of farmland used in the whole of Awaji City reached 165.0%; there is little abandoned cultivable land. Onions, cabbage, lettuce, and Chinese cabbage are the major farm products and are found in the market from autumn to spring. Each farm household works on enhancing their farm's profitability by improving the rotation ratio of farmland use.

Nationally, there are few areas utilizing farmland as intensively as Mihara Plain, where hardly any cultivable land is abandoned, despite the severe conditions for expansion of cultivation (Koto 1997). In areas that have increased their farming profits by enhancing land productivity, as in Mihara Plain, the workforce mainly concentrates on the cultivation of vegetables and fruits that can be sold at a high price, while abandoning paddy fields, which are less profitable (Morimoto 1991). Hence, Mihara Plain appears to be a suitable setting for examining the transfer of farmland rights based on non-economic aspects. It has been pointed out that hilly and mountainous areas should be studied as areas where the transfer of farmland rights does not serve an economic role. However, since farming itself is often discontinued in such areas, they would be unsuitable as target study areas to analyze the transfer of farmland rights for continuous farmland use. Therefore, these

areas were excluded from consideration in this study.

Chapter 2 of this study describes the study methodology, wherein the process involved in the transfer of farmland rights (hereafter referred to as the “transfer of farmland rights process”) is examined in the cases of the Omaki and Kouwa settlements of Otofuke Town, Kato County, Hokkaido (hereafter referred to as “Omaki” and “Kouwa”). To begin with, all the farm households in Omaki and Kouwa were interviewed in order to obtain the following data: the farming management system practiced, the distribution status of farmland, year of acquisition of each piece of farmland, from whom it was acquired, and the process of acquisition. Furthermore, the domicile data of the farm households that left their settlements and the year of leaving were acquired from the commemorative publications of settlements, primary and junior high schools, and a list of farm households who had left their village¹⁾. The characteristics of the farm management system in Omaki and Kouwa are determined based on these data. Next, the social relationships related to transfer of farmland rights are determined from the narrower to the wider areas; in terms of a spatial viewpoint, this study considers the territorial relations between people in the same neighborhood, settlement, and district, different districts within the same town, and other towns, and in terms of kin relations; the study considers the degree of kinship between relatives (of the first and second degree), other relatives (of the

third degree and above), and relatives by marriage. Other cases, such as associates who develop the land or relationships forged through primary schools—which cannot be categorized as territorial or kin relations—are classified according to each property. Next, the reasons for the transfer of farmland rights in Omaki and Kouwa from the period of development until the present are analyzed, revealing an uneven pattern of the time during which such transfers were done. Thereafter, the nature of the social relationship behind each such transfer is examined. Based on these materials and data, the farm households are classified into categories according to the characteristics of social relationships associated with the transfers. Then, the study analyzes how each type of farm household had accumulated its farmlands and the characteristics of the transfer associated with each type.

Chapter 3 contains the case study of the Kamihata settlement in Minami Awaji City, Hyogo Prefecture (hereafter referred to as “Kamihata”). The farm households residing in Kamihata were first interviewed in order to obtain data regarding the farming operation system practiced in the past, the current farmland distribution status of owned land and leased land, whether the farm households are borrowers or lenders, and the processes that led to the lease of the farmland. Hence, these data reveal the characteristics of farm management in Kamihata. As in Omaki and Kouwa, the social relationships associated with the transfer

of farmland rights are classified from the narrower to the wider areas, that is, in spatial terms, this study considers some relations between people in the same neighborhood, neighboring houses, the same settlement, the same district, old Mihara Town, and Minami Awaji City. In terms of kin relations, the study considers the degree of relation between people such as siblings, head and branch families, relatives by marriage, and other relatives. Moreover, other relations—such as those among people from multiple settlements who belong to the same religious group, shrines, and irrigation associations—have been classified depending on each property. Next, the study discusses the transfigurations in the farmland system from World War II to the present in Kamihata, mainly from the viewpoint of what social relation has influenced each transfer of farmland rights. Based on these data, the farm households have been categorized according to the characteristics of these social relationships. In addition, the study analyzes how each category of farm households has obtained its farmlands, the characteristics of the process of transferring farmland rights, and the farmland maintenance practiced in each settlement.

Based on these results, the study seeks to determine how the ideal ways of transferring farmland rights among individual farm households and collective farmland management is related to agricultural production and the continuation of farming in the target areas. This examination is conducted from the viewpoint

of social relations intervening in each transfer of farmland rights, and the differences in regional conditions reveal the ideal roles played by social relations in farmland maintenance. Chapter 5 concludes the study.

Chapter 2

Characteristics of the Transfer of Farmland Rights in Tokachi Plain, Hokkaido

1. Farm Management and Social Relationships in Omaki and Kouwa, Otofuke Town

(1) Types of Farm Management in Omaki and Kouwa, Otofuke Town

The provision of land grants, combined with the partial opening of the Hokkaido North Stud Farm (now known as the National Livestock Breeding Center, Tokachi Station) in 1950, initiated the settlement of Omaki and Kouwa. The newly opened land measured 1,800 ha, which is equivalent to the area of the current Omaki, Kouwa, and Nishi Omaki settlements combined (hereafter, these settlements are included under the Omaki Development Area), and 141 households settled in these 3 settlements. At that time, these 3 settlements, namely, Omaki, Shin Omaki (in the southeastern regions of the current Kouwa settlement), and Nishi Omaki, were different from the current settlement area. After 1950, these settlements were split and merged on four occasions, and in 1999, the Kouwa settlement was established by merging Koei, Shin Omaki, and Minami Omaki to form the current settlement area.

As of 2007, 31 households resided in Omaki and Kouwa (12 in Omaki and 19 in Kouwa), and 27 of these were farm households (11 in Omaki and 16 in Kouwa). All of them were full-time farm households. From the viewpoint of farm management, 19 farm households exclusively cultivate upland crops, two practice diversified farming by combining upland crops and dairy husbandry, one exclusively concentrates on vegetable cultivation, and five exclusively focus on dairy husbandry. The major products of these farms include wheat, potatoes, red beans, soybeans, beets, yam, dent corn for feed stuff, orchard grass, and green cut oats (Figure 4). All these products are the result of highly advanced mechanized farming. The mechanization of wheat farming, in particular, has progressed substantially and is extensively practiced; as a result, the crop acreage of wheat accounts for 31.0% of the total produce. Farmers with large-scale farm management requirements tend to utilize all their cultivable land by increasing the ratio of crop acreage of wheat, which requires little labor input. In contrast, the crop acreage of yam, which requires substantial labor input, is relatively small.

The average area under management per farm household in Omaki and Kouwa is 42.9 ha, which represents a larger scale than the corresponding averages of 18.6 ha, 31.9 ha, and 27.1 ha in Hokkaido, Tokachi Shicho, and Otofuke Town, respectively. However, the management area of each farm household varies



Figure. 4 Land use in Omaki and Kouwa, Otofuke Town, Hokkaido Prefecture (2007)

Data source: Land-use survey.

from approximately 2 ha to over 100 ha, and it is believed that different farm households have carried out farmland accumulation using different methods. There are four non-farm households in the settlements under consideration; three of them have abandoned farming, while one household has relocated to this region from outside Hokkaido. While three of the non-farm households survive on old-age pensions received by their members, one household runs a business for its livelihood.

(2) Social Relationships in Omaki and Kouwa, Otofuke Town

The social relationships between farm households in Omaki and Kouwa can be classified as shown in Table 1. Social relationships can be divided into two major categories: the first category comprises the “binding relations” based on settlement, and it is impossible to enter into or withdraw from these relations (Ueno 1994). Territorial relations, kinship relations, and “group ties” (hereafter referred to as “*kessyaen*”)²⁾ based on school associations and other developmental connections can be included in this category. With regard to the territorial relations and *kessyaen*, there is a spatial range between each relation. Meanwhile, although kinship relations are binding, there is no clear spatial range for these relationships; hence, they have different characteristics than territorial relations and *kessyaen*. The second category comprises certain “social

Table.1 Classification of social relationships in Omaki and Kouwa, Otofuke Town, Hokkaido Prefecture

Attribute	Kind of Relations	Note
Territorial Relations	A Neiborhood	
	B The Same Settlement	
	C Nakaotofuke District	
	D Aother District in Otofuke	
	E Outside Otofuke	
<i>Kessyaen</i>	F Before Pioneering Relations	
	G Pioneering Farmer	Settle in 1950-1955
	H Second Poneering	Settle in 1956-
	I Alumni Association of Primary School	
	J Alumni Association of Junior High School	
Kinship	K Kinship (- 2 Degrees)	
	L Kinship (Over 3 Degrees)	
	M Marriage Relations	
<i>Kansetsuen</i>	N Agriculture Committee	
	O Public Institutions	
	P Other Relations	

Data souce: Interviews, Ueno(1994)

relationships” that cannot be explained as territorial relations, kinship relations, or *kessyaen*. Such relations form “the basis of the urban social relationship,” and since these relationships are selected by each individual, it is possible to both enter into and withdraw from them (Ueno 1994). In Omaki and Kouwa, the relationships formed through official bodies such as the Otofuke Town Cooperatives, agricultural committees, and associations for other hobbies belong to this category. In this thesis, such relations are called “indirection relations” (hereafter referred to as “*kansetsuen*”) since they occur due to the intervention of a third-party organization.

Binding territorial relations also have differences of degree depending on the physical distance between the concerned farm households. Tabata (1986) acknowledges the presence of ties between settlements in Hokkaido; moreover, it is said that the “neighborhood relations between farm households situated along the same road are the most natural” relations within settlements. This is also applicable in the case of Omaki and Kouwa, where we can find relations between farm households residing on the same road as well as ties forged through settlement activities within settlements. In this thesis, the former relations are called “same neighborhood” relations, while the latter are called “same settlement” relations.

In addition, the Naka Otofuke District Association (hereafter referred to as “Naka Otofuke district”) serves as a unit of wide

territorial relations. Besides Omaki and Kouwa, the Kyoshin settlement (hereafter referred to as “Kyoshin”), which touches the northeastern borders of Omaki, and the Higashi Naka Otofuke settlement (hereafter referred to as “Higashi Naka Otofuke”), which is located in the southeast of Omaki, belongs to the Naka Otofuke district. Therefore, this territorial connection is included in the “Naka Otofuke district” in this thesis. However, Nishi Omaki, which was established at the same time, belongs to Nishi Naka Otofuke district and is not grouped together with Omaki and Kouwa as regards settlements and districts. Due to the post-war development, few farm households in Omaki and Kouwa have relationships based on kinship relations. In the study areas, six farm households still maintain relations with relatives within the second degree, four maintain relations with relatives beyond the third degree, and four maintain relations with their relatives by marriage.

Ties between households who led the way in developing the area at the same time during the development period (hereafter referred to as “pioneering farmers”) can be included under the *kessyaen* category, which constitutes the broadest spatial range in the developed areas in Omaki. Other *kessyaen* ties have been forged in the associations of tenant farmers in the Hokkaido North Stud Farm and between classmates of primary and junior high schools, their alumni, and PTA members (hereafter referred to as “primary and junior high school relations”). Both Omaki

and Kouwa are located in the same junior high school district. However, the primary school district is determined depending on when that particular household entered the settlement and its relation to the establishment of the primary school; hence, the primary school district exists as a different regional unit than these settlements and districts.

2. Changes in the Transfer of Farmland Rights in Omaki and Kouwa, Otofuke Town

During the development period, one plot measured 10 ha in the Omaki development zone, and a total of 141 plots were sold in this zone. The price of one plot at that time was 2,049 yen (a hairdresser charged 95 yen in 1950) (Kouwa 50 Year Project Committee Edition 2002). The agricultural settlements were established in 1950 and were almost completed by 1955.

The first transfer of farmland rights after the establishment of the settlement occurred when a farm household in Omaki moved to Paraguay in 1957 (Figure 5). A farm household in Shikaoi Town took over the abandoned farmland in 1958. The price of one plot was 1.5 million yen at that time, since the land prices had sharply increased following the development period (Higashi Naka Otofuke Primary School Sponsoring Organization of 70 Year Anniversary, 2000).

Emigrations from both the settlements began to increase in the 1960s, after the first farm household's emigration to Paraguay.

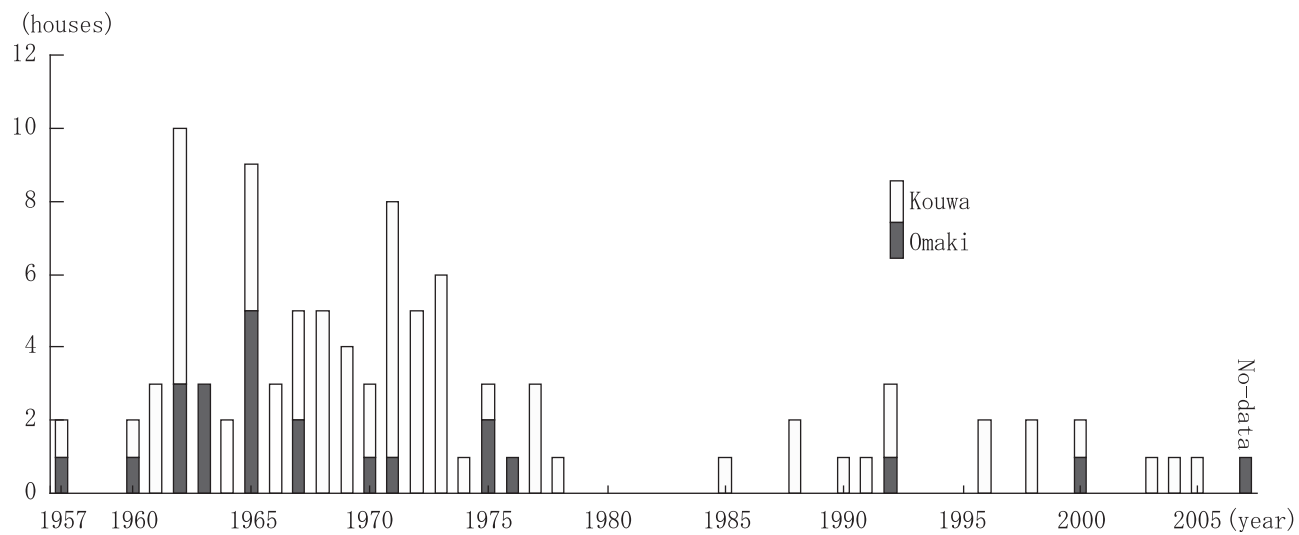


Figure. 5 Changes in the rural exodus of farmers in Omaki and Kouwa, Otofuke Town, Hokkaido Prefecture

Data source: Tenma and Sasaki et al., 1979; Kyousankai et al., 1980, Higashinaka-Otofuke syougakkou kaikou 70 syuunen kinen kyousankai et al., 2000; Kouwa gojyusyunen jigyou jikkou iinnkai et al., 2002

In all, 10 farm households left their village in 1962. Such emigration continued till the end of the 1970s, until a total of 79 farm households abandoned their farmlands and left their village.

Most of the transfers of farmland rights from 1960 to the mid-1970s occurred in the form of trade. “The member’s balance system”—a financial system specializing in Hokkaido—is pointed out as the reason behind this trend. The member’s balance system, according to Ushiyama (1989), is a system whereby the Otofuke Town Agricultural Cooperatives “provide a short-term loan that includes the farming operation cost and a living fund in the range of 80% of the planned income of the annual farming plan,” and acts as a “government fund used as a long-term investment fund” for farmland purchase and investment in agricultural facilities. Under this system, the farm products were regarded as security for the short-term fund, while the farmland itself was used as security for the long-term one. In the event of failure of farm management, the farm households were advised to abandon farming. The Otofuke Town Agricultural Cooperatives collectively managed the farming fund. It was common for the cooperatives to foreclose the farmlands of farm households advised to abandon farming, since these farmlands were held as security; the farm households then left their village (Tenma 1980). Furthermore, the poor road conditions in Omaki and Kouwa at that time made it difficult for

the residents to take up part-time jobs that required commuting. Hence, rather than attempting the impossible task of debt redemption, many farm households chose to sell their farmlands and emigrate from the village.

In contrast, the farmers who continued farming (hereafter referred to as “surviving farmers”) attempted to expand by accumulating farmland that had belonged to the emigrating farm households. The First Improvement Project of Agriculture, implemented from 1960 to 1969, replaced the old-fashioned farming systems in Otofuke Town with modern ones characterized by the use of large agricultural machines. Eventually, only those farm households who were able to handle a long-term plan of farm management based on the newly established financing system were able to continue their agricultural operations (Otofuke Town Agricultural Cooperatives Edition 1999). In addition, in the Second Improvement Project of Agriculture enforced from 1970 onward, Naka Otofuke district used 279 million yen of the project cost “to construct wheat-drying facilities under the direct management of the Otofuke Town Agricultural Cooperatives and to introduce 25 tractors, 2 combines, and 117 operating machines, all of which were used and managed by the utilization union” (Otofuke Town Agricultural Cooperatives Edition 1999). As a result, the use of larger agricultural machines was further promoted.

However, even farmers who had decided to continue farm

management had to take additional loans for scale expansion and the purchase of large agricultural machines; following this, they had to carry out further scale expansion in order to repay these loans. In addition, it became necessary for them to purchase large machines to cultivate the larger farmland area, which led them even deeper into debt. In this way, scale expansions were carried out with no fixed objective (Tenma 1980) until the end of the 1970s, and only the farm households who continuously expanded their farms could survive in the industry. This competitive scale expansion involving all the farmers in Omaki and Kouwa was brought to an end only with the conclusion of the Second Improvement Project of Agriculture.

A total of 109 transfers of farmland rights took place from the beginning of the development period in Omaki and Kouwa to the end of the 1970s; 69 of these transfers occurred between either adjacent farm households or those in the same neighborhood. A total of 45 such transfers were between households characterized by all of the following relationships: territorial relationships such as same neighborhood (A) and same settlement (B), pioneering farmer (G), and members of the same primary school alumni association (I) (ABGI, as shown in Table 1) (Figure 6). One common reason for such transfers was that the Otofuke Town Agricultural Cooperatives possessed the farmlands of the farm households who had left the village as collateral. However, the cooperatives gradually sold these farmlands to the neighboring

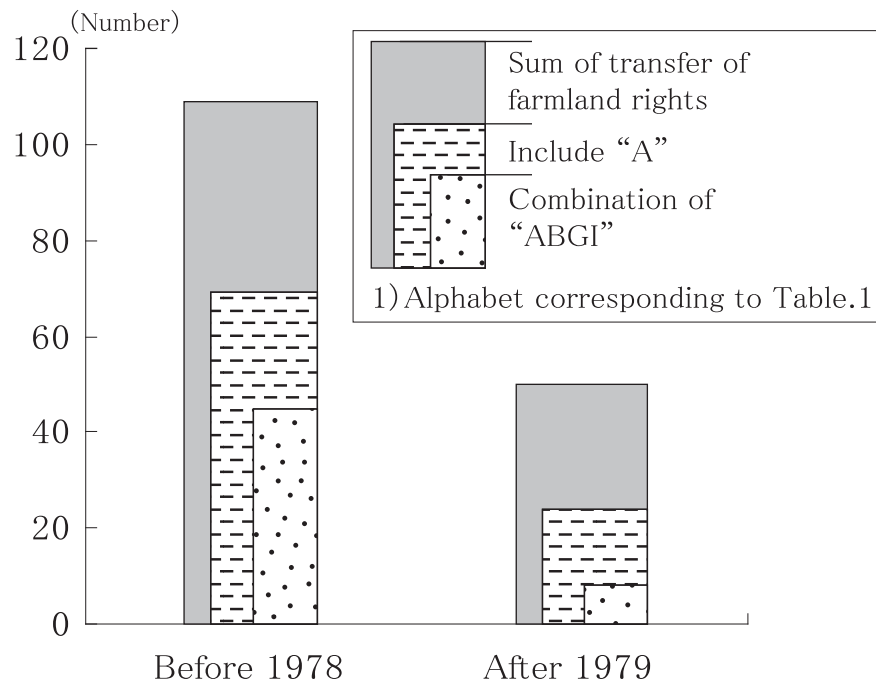


Figure. 6 Social relationships in the transfer of farmland rights in Omaki and Kouwa, Otofuke Town, Hokkaido Prefecture (2007)
Data source: Interviews

farm households that were able to repay the redemption expenditures of the principal and the debt interest from their economic surplus³⁾. On the other hand, 55 transfers of farmland rights took place between farm households in the same neighborhood (A) and those in different settlements. Despite the strong effect of neighborhood relations, it should not be assumed that the relationships between farmers in the same settlement and those forged through *kessyaen* and other ties within Naka Otofuke district (C) are less important.

Two farm households in Omaki and Kouwa abandoned farming in 1985. One of them sold its farmland and left the village, while the other continued to reside within the settlement (Minami Omaki) even after abandoning farming. The latter had cultivated wheat, potatoes, soybeans, and red beans on the land under management until it abandoning farming. However, its successor had no intention to take over the farming, and a subsequent shortage of labor led to farm retirement. Consequently, the household sold its land, except for the land on which the house was situated, and its surrounding farmland to a farm household in Koei (at present, due to the merging of the settlements, this plot is a part of Kouwa). This kind of farm retirement after the transfer of farmland rights is different from the other cases until the 1970s in two aspects: the farm household did not sell all of its farmland, and the seller household selected the buyer itself.

Since 1985, only four out of the 17 farm households have sold all their land before leaving the village. The rest have sold only part of their farmland, while continuing to own some farmland even after farm retirement, and have either rented out this land or have continued to cultivate it near their residence; hence, there have been various types of transfers of farmland rights. In all, there have been 50 transfers of farmland rights since 1985, and in 23 of these cases, the farmland was leased. With regard to the types of transfer—sellout and lease—25 of these households either sold or rented out their land in lots to multiple farm households.

There were also 24 cases of transfers of farmland rights between neighboring farm households: this number is considered to be high (Figure 6). However, the combination of same neighborhood, same settlement, pioneering farmer, and primary school relations (hereafter referred to as “ABGI,” corresponding to Table 1)—which had been frequently seen before 1978—significantly decreased to eight cases. This implies that many farmlands were either sold or leased out to farm households from outside the settlement. These purchasing or borrowing farm households came from other settlements in Naka Otofuke and Nishi Naka Otofuke districts, such as Nishi Omaki, and even from settlements within Otofuke Town that were not adjacent to the area in which the farmland was situated. Furthermore, some such households even came from beyond the

borders of Otofuke Town, such as farm households in Shihoro Town. In addition, the transfers of farmland rights within settlements were increasingly implemented between not only territorially related or neighboring farm households but also between farm households that were situated far from the owned farmland. A stronger tendency for sellers and lenders to select their buyers and borrowers after 1979 transformed the characteristics of social relationships related to such transfers.

3. The Process of Transferring Farmland Rights in Omaki and Kouwa, Otofuke Town

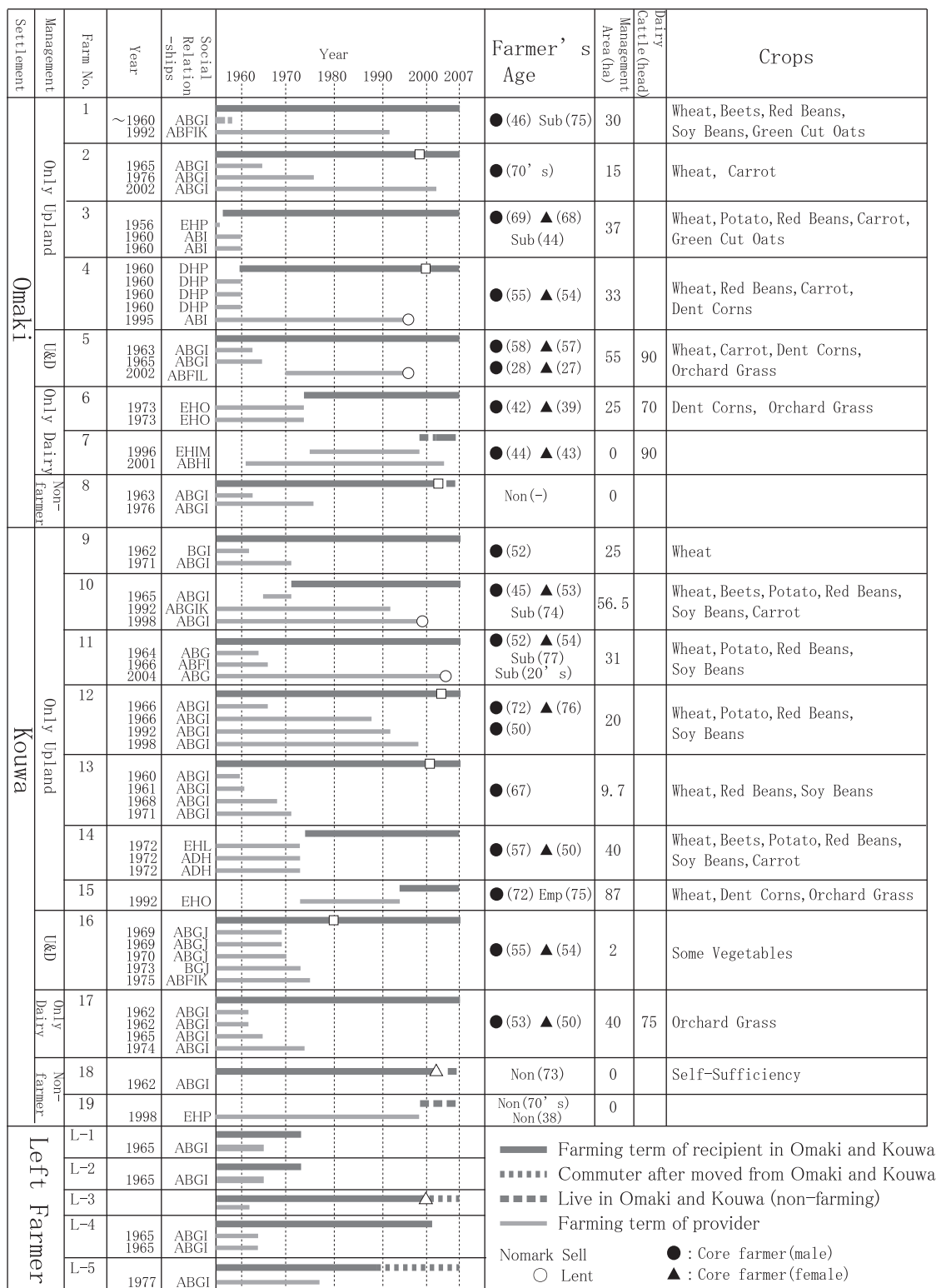
A total of 53 farm households purchased and borrowed farmland in Omaki and Kouwa from the period of land development to 2007. Of these, 31 households were located in Omaki and Kouwa as of 2007; 27 of them were farm households, and four were non-farm households. Of the remaining 22 households, 14 were households of tenant farmers from other areas, while the rest had already left the village. Each transfer of farmland rights by the 53 households involves multilayered social relationships between the concerned households. Based on the characteristics of these social relationships, the farmland accumulation of the 53 farm households can be divided into three types as follows.

The first is the *kinrin* type, which applies to farm households that accumulated farmlands only within their own settlement

through social relationships such as same neighborhood and same settlement ties (Figure 7). The second is the *kessyaen* type, wherein farm households accumulated farmland through their ties within Naka Otofuke district or *kessyaen* ties, as well as their *kinrin* type of ties (Figure 8). The third is the *kansetsuen* type, where, in addition to the above mentioned farmland accumulation types, farm households were given farmlands by an Agricultural Committee or the Agriculture Development Public Corporation (Figure 9). Let us now examine the process of transferring farmland rights of each type based on the characteristics of the farm households that chose to continue farming.

(1) The *Kinrin* Type

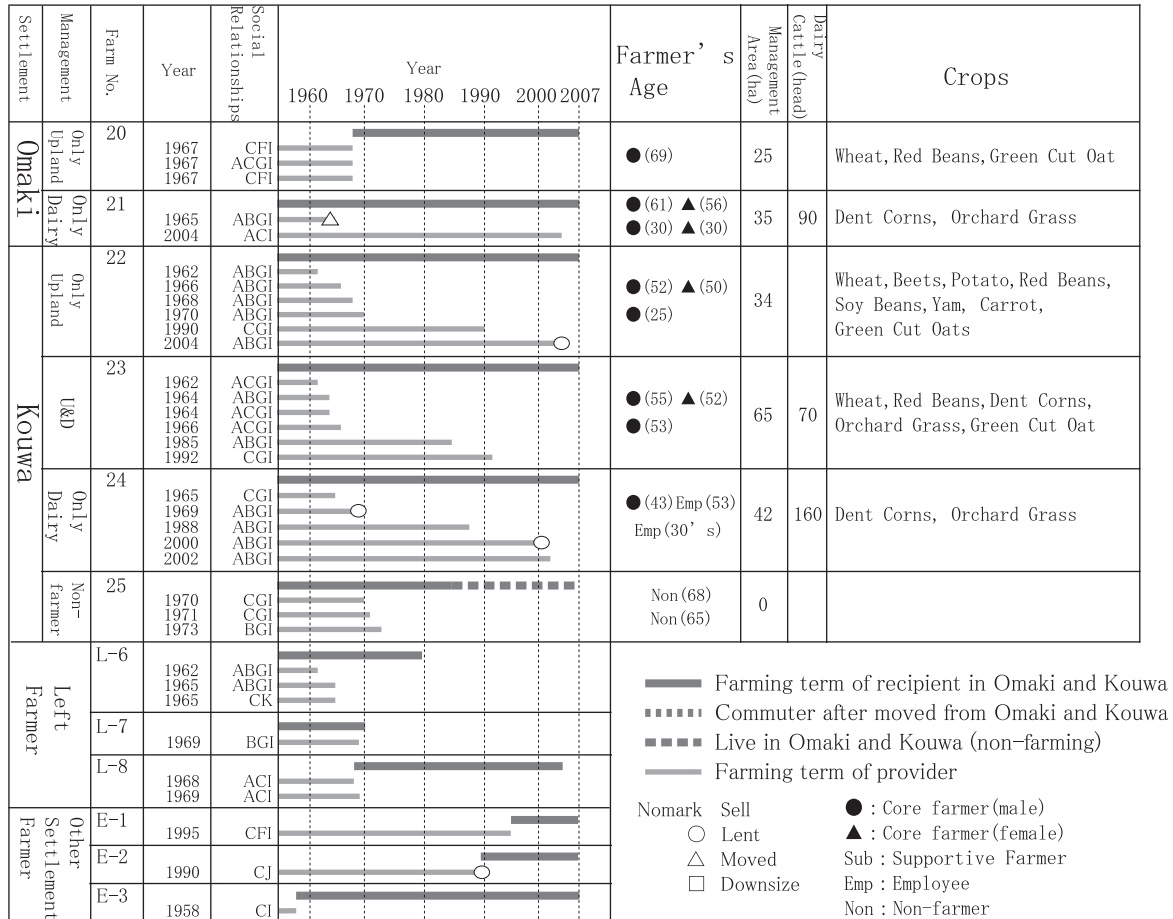
The most common type of farmland accumulation in Omaki and Kouwa is the *kinrin* type, followed by approximately 24 farm households, which account for 45% of the total number of buying and borrowing farm households (Figure 7). Of this total, farms no. 1, 2, and 4 abandoned farming and left their village after farm retirement. Whereas those of farm no. 3 and 5, though they have abandoned farming, left the village, and have taken up residence in other areas, still possess some part of their farmland and commute there for farming. Meanwhile, farms no. 8 and 18 have rented out their farmland to farms no. 11 and 22, respectively, after farm retirement and continue to reside in this



Note1) "Social Relationships" correspond to Table.1
 Note2) "(figure)" is age after "●▲"
 Note3) "U&D" is diversified farming of upland crops and dairy husbandry

Figure. 7 Records and social relationships of the transfer of farmland rights by "kinrin type" in Omaki and Kouwa, Otofuke Town, Hokkaido Prefecture(2007)

Data source: Interviews, Tenma and Sasaki eds. (1979), Sponsoring Organization Anniversary Edition (1980), Higashi Naka Otofuke Primary School Sponsoring Organization of the 70 Year Anniversary (2000), and Kouwa 50 Year Project Committee Edition (2002)



Note1) "Social Relationships" correspond to Table.1
 Note2) "(figure)" is age after "●▲"
 Note3) "U&D" is diversified farming of upland crops and dairy husbandry

Figure.8 Records and social relationships of the transfer of farmland rights by "kessyaen type" in Omaki and Kouwa, Otofuke Town, Hokkaido Prefecture(2007)

Data source: Interviews, Tenma and Sasaki eds. (1979), Sponsoring Organization Anniversary Edition (1980), Higashi Naka Otofuke Primary School Sponsoring Organization of the 70 Year Anniversary (2000), and Kouwa 50 Year Project Committee Edition (2002)

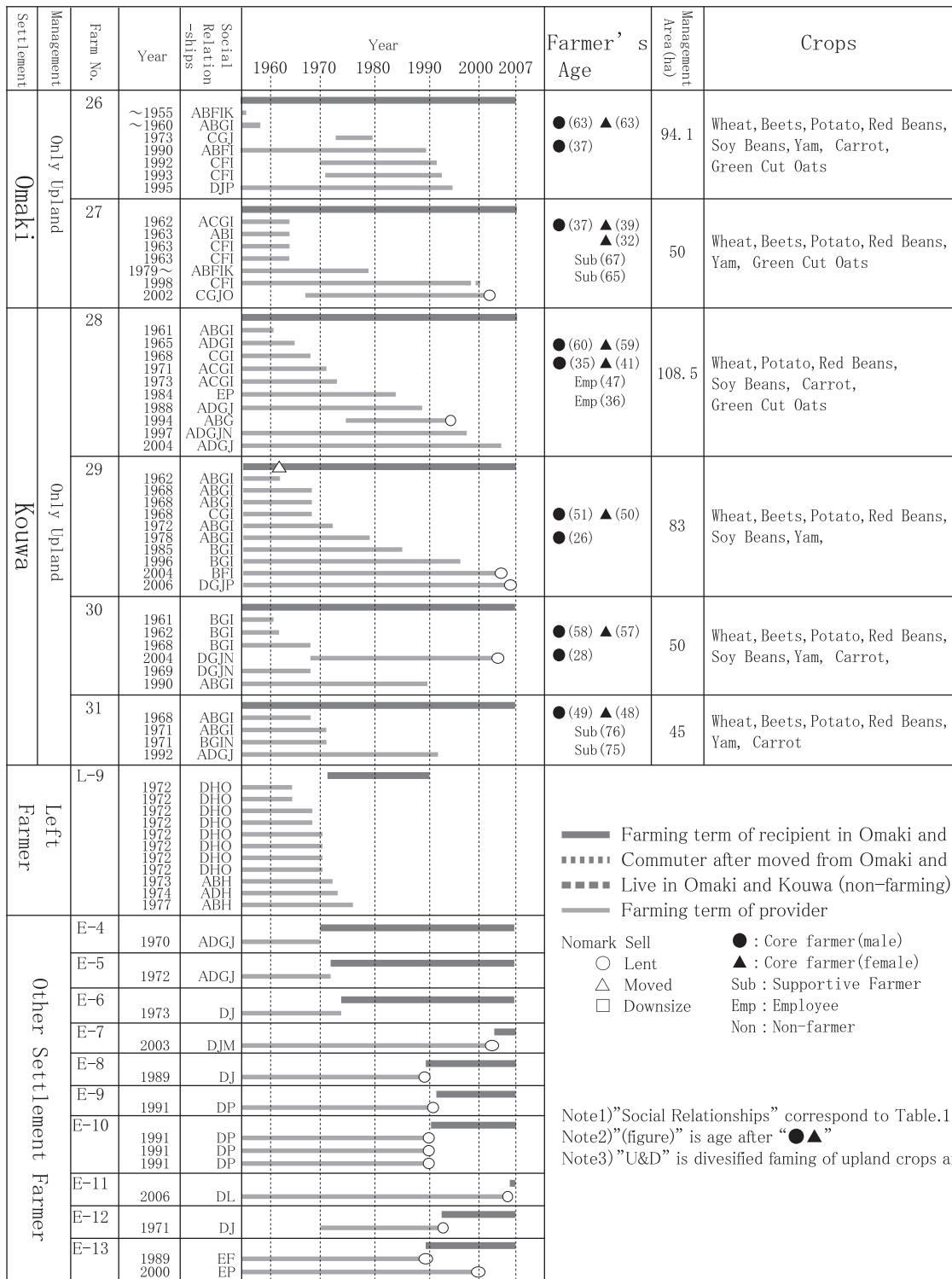


Figure.9 Records and social relationships of the transfer of farmland rights by "kansetsuen type" in Omaki and Kouwa, Otofuke Town, Hokkaido Prefecture(2007)

Data source: Interviews, Tenma and Sasaki eds. (1979), Sponsoring Organization Anniversay Edition (1980) ,Higashi Naka Otofuke Primary School Sponsoring Organization of the 70 Year Anniversary (2000), and Kouwa 50 Year Project Committee Edition (2002)

area even now. Farm no. 19 is a non-farm household⁴⁾ that moved into this settlement from Gifu Prefecture in 1997; it runs a furniture studio. The remaining 16 farm households, who still reside in the area, have continued farming. One characteristic of the *kinrin* type of transfer is that 2.2 transfers of farmland rights have taken place per farm household. The average cultivated land under the management of the farm households that have continued farming is 31.6 ha, which is smaller than the corresponding average (42.9 ha) for the other farm households in Omaki and Kouwa. Furthermore, with regard to the type of crops, only two farm households cultivate all of the four upland crops. Moreover, farm households of this type generally ship out most of their farm products to the Otofuke Town Agricultural Cooperatives and have not developed their own distribution routes.

From among the total number of farm households, nine farm households (managing farms no. 1, 3, 5, 6, 7, 10, 11, 15, and 17) aspire to maintain their existing scale of operation. The ages of their farmers are as follows: Farms no. 1, 6, 7, and 10 are managed by farmers in their forties; farms no. 5, 11, and 17, by farmers in their fifties; and farms no. 3 and 15, by farmers aged over 65 years. While farm no. 5 is currently being managed by a successor, the sons of the respective farmers of farms no. 11 and 15 are planning to engage in farming in the future. All of the nine farm households have accumulated their farmlands after

the high economic growth period. To be more specific, the cultivated land of farms no. 5, 10, and 15 measures over 50 ha, which constitutes the upper limit for management scale expansion⁵⁾. Since farms no. 6, 7 and 17 specialize in dairy husbandry, farmland accumulation has no direct connection with their management scale expansion.

The transfer of farmland rights for all nine of these farm households was completed within the settlement⁶⁾. Moreover, since most such transfers were based on same-neighborhood relationships (A, corresponding to Table 1), the cultivated land under management is relatively well-organized. Barring two cases, the transfer of farmland rights for farms no. 1, 5, 7, and 10 after 1990 took place based on kinship relations. The transfer of farms no. 1, 5, 10, 11, and 17 were associated with pioneering farmers and all of these transfers, except for farm no. 11 and 15, share the relationship of primary school ties.

Among the other farms, farms no. 2, 4, 9, 12, 13, and 16 have downsized their farming after 1990, while farm no. 14 is currently planning to do so. In addition, all the farm households that have already abandoned their farming operation can be included under this category. With regard to the farm households that are still farming, the householder of farm no. 12 is in his forties; those of farms no. 4, 9, 14, and 16 are in their fifties; the householder of farm no. 13 is in his sixties; and the householder of farm no. 2 is in his seventies. None of these

farm households have successors interested in continuing farming, and their current farmers are relatively old.

These farm households also suffer from a shortage of labor. To deal with this problem, farm no. 9 changed its cultivation system from the rotation cropping of wheat, potatoes, and beets to a single cropping of wheat in 2000, and farm no. 4 changed from diversified farming of upland crops and dairy husbandry to cultivating only upland crops. In addition, farm no. 2, 12, 13, and 16 have downsized their farming operations by selling off or lending their cultivable land to other farmers.

The following constitute cases where the sellers and lenders are from the same neighborhood and settlement as the buyers and borrowers: farm no. 2 is leased out to farm no. 4; farm no. 12, to farm no. 24; and farm no. 13, to farm no. 10. The relation between farm no. 13 and 10 is that between the head and branch families. Farm no. 16 accumulated all the farmlands within the same settlement from the 1960s to the 1970s and thereafter sold its farmland to farm no. 26 in Omaki and farm no. E-1 in Higashi Naka Otofuke. The householders of these 2 farms as well as that of farm no. 15 were all tenant farmers of the Hokkaido North Stud Farm, where they formed intimate friendships with each other. Consequently, although they live in different residential settlements, they maintain their school relationships in addition to those that were established before the development period. Therefore, most of the cultivable land of

farm no. 16 was sold relying on such social relationships.

These cases reveal the multilayered nature of social relationships that are formed through a household's residence in a particular settlement and subsequently appear to influence all the *kinrin*-type transfers of farmland rights. In addition, the multilayered social relationships are formed from combinations such as same neighborhood, same settlement, pioneering farm households, and primary school relations (ABGI, as shown in Table 1). Thus, we can say that transfers of farmland rights are based on the social relationships between the transferring parties, where economic activities and social lives are closely connected. In the event that a farm household has kinship relationships with another farm household residing within that very settlement, this relationship will most likely be accorded the highest priority. Of all the three types of transfers, the *kinrin* type has the fewest transferring farmland rights cases, and the acreage of cultivated land under management is rather small. Hence, such farmland shows very little proactive expansion, development of distribution routes, or the introduction of new kinds of crops, and most of their farmers express a strong desire to maintain the status quo or even downsize their farm management.

(2) The *Kessyaen* Type

A total of 12 farm households have followed the *kessyaen* type

of farmland accumulation; of these, the households of farms no. 20, 21, 22, 23, and 24 have continued farming; the household of farm no. 25 has continued to reside in Kouwa after farm retirement; those of farms no. L-6, L-7, and L-8 left their village after farm retirement; and those of farms no. E-1, E-2, and V-3 reside in areas other than Omaki and Kouwa (Figure 8). The *kessyaen* type of transfer shows an incidence of 3.4 transfers per household⁷⁾, and the average cultivated land of farm households that continue farming in Omaki and Kouwa is 40.2 ha: both the incidence and the acreage are greater than those seen in the *kinrin* type. The farm products of farm households belonging to this type are mainly shipped out to the Otofuke Town Agricultural Cooperatives.

The five farm householders who have continued farming are of the following ages: the householder of farm no. 21 is in his thirties; that of farm no. 24 is in his forties; those of farm no. 22 and 23 are in their fifties; and the householder of farm no. 20 is in his seventies. In farm no. 22, a successor is already engaged in farming, and in farm no. 21, the current householder has only recently taken over the farm's management. Farm no. 24 employs two employees year round, and farm no. 23 is managed by the younger brother of the householder throughout the year. If the farm households, except for farm no. 20, have a sufficient labor force, they increase the number of dairy cattle in husbandry or introduce yams in addition to the four upland crops

in order to attempt scale expansion and further diversify their farm production.

The surviving farmers of this type have continued accumulating farmland from the pioneering period to the recent years. While these farmers have accumulated most of their farmland from farmers in the neighborhood or the same settlement, they have accumulated only a few farmlands from other settlements. The transfer of farmland rights between farmers from different settlements in Naka Otofuke district is peculiar to this type. Transferring farmland rights including entering farm households occurred from 1958 to 2004 and it was not concentrated in a specific time period. Moreover, the following relationships were involved in these transfers: all were pioneering farm households and had some relations with each other from before the pioneering period, including those based on the same primary or junior high schools. In particular, if a pioneering farm household decided to abandon its farm and leave the village, the surviving farm households who used to be its pioneering associates took it as their mission to continue farming the vacant lot even under poor cultivating conditions. Due to the labor shortage, since 2002, farm no. 20 has rented out some of its land to the householder of farm no. 27, who is the brother of the former householder; in this type of transfer, the kinship relation is given higher priority than all other social relationships.

As mentioned above, the farm households of the *kessyaen* type have accumulated their farmland mainly through their same neighborhood (A) and same settlement (B) relations, in addition to the farmlands accumulated from other settlements in Naka Otofuke district through other relations such as pioneering farmer or primary or junior high school ties. The number of transfers between the settlements of Naka Otofuke district (C, corresponding to Table 1) by farm households of this type is 18, and seven of these cases are a combination of A and C that are also same neighborhood relations. Although the remaining 11 cases are not characterized by same-neighborhood relations, they show the influence of kinship, pioneering farmer, and primary or junior high school ties. These ties can be described as social relationships of the CFI or DGI types, based on the categories listed in Table 1. In particular, the farmers who commute to their farmland from other areas are not regarded as pioneers; however, they may have primary or junior high school relations in addition to C. As in the *kinrin* type of transfer, kinship relations are accorded higher priority in the *kessyaen* type of transfer.

In this way, as in the *kinrin* type, the *kessyaen* type of transfer of farmland rights also shows the influence of multilayered territorial or kinship relations as a part of social relationships. Furthermore, the transfer of farmland rights includes C as a characteristic relation for this type of transfer, and relations

such as pioneering farmer or primary school relations are a significant bond between farm households in Naka Otofuke district. There is no variation as regards the years wherein such transfers have taken place. It can be said that the transfers of farmland rights in Omaki and Kouwa since the development period are not limited to social relationships within the same settlement, such as ABGI or BGI. There are farm household members who commute to their farmland from Higashi Naka Otofuke or Kyoshin, and the transfer of farmland rights to farmers living outside the settlement borders is permitted within the Naka Otofuke district. It is believed that the *kessyaen* type of farmland accumulation spread to other settlements within Naka Otofuke district through its use by farm households who wished to expand their management scale for maximum profitability.

(3) The *Kansetsuen* Type

In all, 17 farm households have implemented the *kansetsuen* type of farm accumulation as follows: the households of farms no. 26, 27, 28, 29, 30, and 31 reside in Omaki and Kouwa and have continued farming; the household of farm no. L-9 left the village after farm retirement; and those of farm no. E-4, E-5, E-6, E-7, E-8, E-9, E-10, E-11, E-12, and E-13 commute to cultivate their farmland from other districts in Otofuke Town (Figure 9). Each farm household has seen an average of 6.7 such transfers, and

the average cultivated land under such management is 71.8 ha⁸⁾. Both these figures are higher than those in the previously mentioned types of farmland accumulation. Moreover, the types of crop under cultivation are more varied here than in the previous two types of farmland. Moreover, farms no. 26, 27, 28, and 30 have not only organized a cooperative group for selling their potatoes but also developed new distribution routes.

The ages of the householders who have continued farming these farms are as follows: the householders of farm no. 27 and 28 are in their thirties, those of farm no. 26 and 31 are in their forties, and those of farm no. 29 and 30 are in their fifties. Successors are already engaged in farming farm no. 29 and 30, and 2 year-round workers are employed at farm no. 28. There is no lack of workforce in all of these farm households, and they all specialize in upland cropping.

The farm households of this type have continued to accumulate farmland from the high economic growth period to the present, and five farm households, except for farm no. 31, intend to expand the amount of land under cultivation in the future. These farm households have accumulated farmlands by focusing on the vacant land of neighboring households or households in the same settlement that abandoned farming during the high economic growth period. Meanwhile, farm no. 26 purchased additional farmland in Koei in 1980, which encouraged the other farm households to accumulate farmland even from other

settlements in Naka Otofuke district.

Most of these transfers constitute the *kansetsuen* type of transfer of farmland rights, which was the characteristic type following the bubble economy period. Farm no. 30 was an exception in that it extended its target of farmland expansion to Nishi Omaki, which developed during the same period. At that time, the householder of farm no. 30, who was a member of the agriculture committee of Naka Otofuke district, was requested by a member of the agriculture committee of Nishi Naka Otofuke district to take over the farmland of a farm household that had planned to leave the village. The same applies to farm no. 31.

In addition, in some cases, the prospective buyers approached landowners through a third person, without the influence of any territorial, kinship, or *kessyaen* relations. This applies to farm no. 27 and 28. The householder of farm no. 28 purchased 5 ha of abandoned land that had turned into an isolated wilderness in Shihoro Town for 15 million yen in 1984. This transfer was initiated when the father of the current householder, who was the chairman of the community association at that time, came across this wilderness while surveying the Omaki development zone from a helicopter of the self-defense forces during an event at the town Office. As soon as he spotted this land, the current householder's father inquired about it at the town Office and the Legal Affairs Bureau. Upon finding out the name of its owner, the prospective buyer asked the owner to sell his land. The

owner resided in Nagoya, and the two parties were related only through farmland trading.

Farm no. 27 in Kouwa was borrowed from the Hokkaido Agriculture Development Public Corporation (hereafter referred to as the "Development Public Corporation") and subsequently purchased. Although the father of the current shareholder was personally acquainted with the erstwhile landowner, the two were not on good neighborly terms. Moreover, the former landowner had sufficient financial resources and did not abandon farming for the sake of debt redemption. The landowner entrusted the Development Public Corporation with the disposition of his farmland due to its ability to conduct financial transactions smoothly. The land rent levied by the Development Public Corporation was based on the standard farm rent, and it could not be influenced by the power relationship between the concerned farm households. It was only a coincidence that the father of the current shareholder of farm no. 27 was personally acquainted with the landowner, and there was no influence of territorial, *kessyaen*, or kinship relations in this transfer of farmland rights.

Apart from this, there are 2 more instances of the transfer of farmland rights based on *kansetsuen*: the householder of farm no. 26 purchased farmland from a landowner residing near the city center, and that of farm no. 29 purchased farmland in Nishi Omaki. These two transfers were based on junior high school

relations as well as other personal social relationships. Moreover, kinship relations are accorded priority even in the transfers of farmland rights covering different districts: one such instance is farm no. E-7.

Similar to the previous two types, the *kansetsuen* type of transfer is influenced by a multilayered combination of relations such as territorial and *kessyaen* relations. In fact, 24 such transfers involve farmlands from another district of Otofuke Town (D, corresponding to Table 1) or outside Otofuke Town (E), and although 8 of them are characterized by same neighborhood relations (A), the farmlands in the others 16 cases are detached from the farmlands normally cultivated by the buyers as well as borrowers. There are some *kessyaen* relations in 10 of these 16 cases. However, the remaining 6 cases are exclusively *kansetsuen* transfers, where only other relations (P) are involved. In the other cases involving public institutions (O), only public institutions are connected to the farm households carrying out the transfer of farmland rights, and this connection exists only at a single stage. Furthermore, in the case of farm households that commute to their farmland from other areas, each transfer of farmland rights is understood to be based on *kansetsuen*. Hence, it is said that farm households in other settlements and districts utilize the *kansetsuen* type of transfer to accumulate land for further farm expansion.

4. Characteristics of the Transfer of Farmland Rights and Farm Management in Omaki and Kouwa, Otofuke Town: Individual Case Studies

This section will examine the process of promoting farmland accumulation and the accompanying transfiguration of farm management through specific case studies (Figure 10). Farm no. 11, which has carried out the *kinrin* type of transfer, owns 31 ha of cultivated land and cultivates wheat in 15 ha of farmland, potatoes in 6 ha, red beans in 5 ha, and soybeans in 5 ha of farmland. With regard to the agricultural workforce, the householder, who is 52 years old, and his spouse, who is 54, constitute the core workforce. The householder's mother, who is 77 years old, and his son, who is in his twenties, help them on the farm. All farm products are shipped out to the Otofuke Town Agricultural Cooperatives, and the household has not developed any new distribution route.

In 1964, the householder of farm no. 11 purchased farmland from a seller in the same neighborhood (A) of the same settlement (B) who was a pioneering farmer (G), and in 1966, he did so from another neighbor (A) in the same settlement (B) who was a pioneering farmer (F) as well as a member of the householder's primary school alumni association (I). This householder has also leased farmland from farm no. L-3 of neighborhood farm households (A) and pioneering farmers (G) since 2004. These farmlands were divided and leased out to

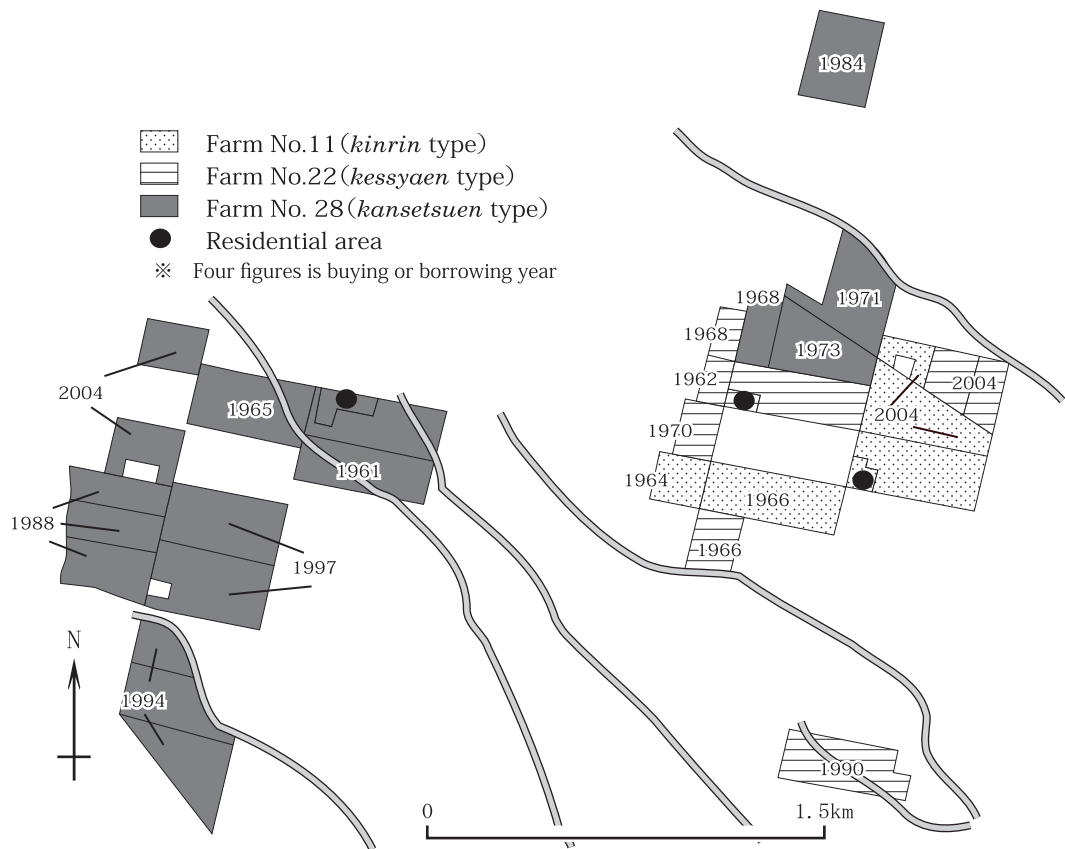


Figure. 10 The distribution of farms No.11, 22, and 28's management farmland in Kouwa, Otofuke Town, Hokkaido Prefecture (2007)
 Data source: Interviews

farm no. L-3 and 22, whose relations with farm no.11 consisted of same neighborhood (A), same settlement (B), pioneering farmer (G), and primary school alumni association ties (I). Farm no. 11 changed its management method from the diversified farming of upland crops and dairy husbandry to only the cultivation of upland crops in 2004. Similar to farm no. 11, most of the farmers specializing in upland crops in Omaki and Kouwa had previously integrated dairy husbandry in their farm management. It can be pointed out that the rapid promotion of the mechanization of upland crop cultivation through methods such as the introduction of large tractors, in addition to the decreasing price of milk and the increasing price of calves, served as common factors for the phasing out of the dairy husbandry. Another reason that farm no. 11 restricted its farm management to cultivating upland crops was the low profitability per labor input in dairy husbandry. The cultivated land area under the management of farm no. 11 was 20 ha until 2004; however, it became difficult for this farm to specialize in upland crop cultivation. Therefore, when farm no. L-3 planned to abandon farming due to the lack of adequate agricultural workforce; farm no.11 started leasing its farmland. The resultant expansion allowed farm no. 11 to change its form of farm management and thereby specialize in upland crops. At that time, the cropping system was changed from the exclusive cultivation of wheat to the current rotation cropping of wheat,

potatoes, red beans, and soybeans. However, the farm household of this farm is reluctant to undertake future expansion and does not intend to purchase or lease any more farmland unless the land has some special merits such as proximity to the house.

Farm no. 22 of the *kessyaen* type possesses 34 ha of cultivated land and cultivates wheat in 4.6 ha of farmland, potatoes in 7 ha, red beans in 3 ha, yam in 0.6 ha, and carrots in 2 ha. Otofuke Town Cooperatives undertake all the farming operations for carrots from raising the seedlings to settled planting and harvesting, and the farm households only have to prepare the plowed farmland. The core agricultural workforce for this farm comprises the 52-year-old householder, his 50-year-old spouse, and their 25-year-old son. All farm products are shipped out to the Otofuke Town Agricultural Cooperatives, and the farm household had not developed any new distribution route.

Farm no. 22 has acquired 6 farmlands until 2007. In five of these cases, the two parties shared the following relationships: same neighborhood (A), same settlement (B), pioneering farmer (G), and same primary school alumni association (I); moreover, the farmland accumulated in 1962, 1966, 1968, and 1970 was purchased from their erstwhile owners. Due to competition with the surrounding farm households, each purchase or lease was divided among 2 or 3 recipient farm households. The farmland accumulation in 1990 shows the characteristic

relations of the *kessyaen* type of transfer as follows: other settlements in Naka Otofuke district (C), pioneering farmer (G), and member of the primary school alumni association (I). This farmland is approximately 1 km away from the housing site, and since it was intersected by a waterway, its farming operations could not be very efficient; hence, there were no buyers or borrowers for this farm. Despite its concerns, the farm household of farm no. 22 decided to purchase the farmland on the basis of its relations with the erstwhile owner, which date back to the land development period. Most farmland accumulations of this type occur within the same settlement in the development area of Omaki.

Furthermore, in 2002, one of the sons of the current householder graduated from vocational school and entered farming. In 2004, as previously mentioned, the household leased 8 ha of farmland from farm no. L-3, whose owner had retired from farming. This expansion and presence of a successor encouraged the household to change its management style from the diversified farming of upland crops and dairy husbandry to the exclusive cultivation of upland crops in 2004. Along with the above-mentioned reasons, this change was implemented because even if the household had invested in facilities enabling group feeding, in line with the latest trends in dairy husbandry, it could not expect an increase in profit. After deciding to cultivate only upland crops, the cropping system was

changed from the cultivation of wheat and beets to a rotation cropping system for cultivating the current diversified farm products. With regard to the management scale, the household has strongly maintained the status quo; however, it has introduced yam and proactively seeks to introduce farm products with high profitability. There will be further expansion if any farm product is found to be profitable enough to justify the expansion.

The last case that will be examined is of that farm no. 28 of the *kansetsuen* type. Its owners possess 108.5 ha of cultivated land and cultivate wheat in 33 ha of farmland, potatoes in 33 ha, soybeans in 13 ha, red beans in 9.5 ha, and carrots in 10 ha. The remaining 10 ha are set aside before wheat cultivation and oats are grown on this land as green manure. Similar to farm no. 22, Otofuke Town Cooperatives undertake the cultivation of carrots on this farm. The core workforce includes the 35-year-old householder, his 41-year-old spouse, and 2 full-time workers who are 36 and 47 years old. As a temporary workforce, approximately 500 persons are employed on a daily basis for harvesting and weeding potatoes every year. These temporary workers are females over 60 years old, and are employed every year. They have been recruited through a taxi company located in Shihoro Town. In addition, recruitment on this farm takes place through networks of acquaintances. Under this system, some people work in agriculture-related activities such as the

sugar production plant in the Obihiro metropolitan area come here for part-time work during the low season of their regular job. Only the wheat and carrots produced on this farm are shipped out to the Otofuke Town Agricultural Cooperatives, while potatoes, red beans, and soybeans are shipped out to the “Metropolitan Area Coop Pal System” (hereafter referred to as “coop”), “Radish Boya,” or “Daichi,” which offer a delivery service of farm products in metropolitan areas by organizing a cooperative selection and selling system with farm no. 26, 27, 29, and 39 of the *kansetsuen* type and the farm households residing in Nishi Omaki. These farms are proactive in the development of distribution routes.

The household of farm no. 28 had carried out 10 farmland acquisitions till 2007. To begin with, it purchased 10 ha of farmland from a neighboring household in the same settlement in 1961, followed by another purchase of 10 ha of farmland from a neighboring farm household in Nishi Omaki in 1965, despite the farmland’s location in a different district. In 1968, the household purchased farmland in a different settlement in Naka Otofuke district, approximately 1 km away from its housing site. This farmland was further divided between farms no. 22 and 29, and the household of farm no. 28 purchased approximately 4 ha of the land. In 1971, it purchased approximately 7 ha of farmland adjacent to that purchased in 1968 from a farm household located in another settlement of Naka Otofuke Town.

In 1973, it purchased another 10 ha of farmland adjacent to this farmland. In 1974, the household changed its management style from the diversified farming of upland crops and dairy husbandry to the cultivation of only upland crops. Furthermore, in 1984, it purchased 5 ha of isolated wilderness in Shihoro Town; the land belonged to the housing site category and cost 1.5 million yen. This farmland shares a common border with Koei and Shihoro Town and is situated approximately 2 km away from the housing site of farm no. 13. In 1988, it purchased approximately 30 ha of land from a neighboring farm household in Nishi Omaki that wished to downsize its operations. In 1992, the current shareholder graduated from college after completing a 2-year degree course and became involved in farming. In 1994, a neighborhood farm household in Nishi Omaki left the village; farm no. 28 purchased approximately 20 ha of the abandoned farmland through Otofuke Town Cooperatives. Since this particular household had practiced dairy farming, it would have been an expensive undertaking to convert its land into fields, which involved the demolition of a cattle shed; hence, the other farm households were reluctant to purchase it. Therefore, farm no. 28, which was in the same neighborhood, and whose members strongly intended to expand its farm management size, was asked to purchase this land by farm no. 13. In addition, the household also leased approximately 10 ha of cultivable land from farm no. 15, whose members moved shifted to a different

settlement of Naka Otofuke Town in the same year. In 1999, the household stopped cultivating beets. In 2004, it purchased approximately 10 ha of farmland from a neighboring farm household in Nishi Omaki that had decided to leave the village. Furthermore, in 2004, the current householder established a fertilizer company with a person managing a construction company in Obihiro City, and constructed the factory on the farmland that was purchased that same year. The fertilizer manufactured by this company is used by the farm households participating in the cooperative selection and selling system, and some of the fertilizer is sold to other companies. The household intends to further expand its operation in the future. In recent years, it has started borrowing farmland from a farm household in Komaba settlement, Otofuke Town, through negotiation transactions; the farm management has been entrusted to a cousin's family in Shikaoi. Dent corn is cultivated on this farmland, and the household plans to entrust its operations to an affiliate company of a major meat processing company in the future. As mentioned above, farm no. 28 has been attempting to expand of its farming operations, including material, shipping, and distribution, based on the principle that it should not rely on the Otofuke Town Agricultural Cooperatives for the expansion of its cultivated land and other issues. The household aims to achieve large-scale agriculture while practicing environmental conservation in the future.

In this way, it can be said that the *kinrin* type of farms strongly intend to maintain their existing status with regard to farm management; as we move on to the *kessyaen* type and, even further, the *kansetsuen* type of farms, we observe that their aim is to improve profitability. Consequently, in order to maximize work efficiency, most cultivated land under management is located in and around the housing site. However, the stronger the wish of farm households to expand their management scale, and the larger the range covering the transfer of farmland rights, the more scattered are the cultivated lands under the management of these farms.

Chapter 3

Characteristics of the Transfer of Farmland Rights in Mihara Plain, Awaji Island

1. Farm Management and Social Relationships in Mihara Plain

(1) Types of Farm Management in Kamihata, Minami Awaji City

Kamihata was established, along with Shimohata settlement (hereafter referred to as “Shimohata”), as the village of Hata during the Middle Ages. The division of Hata village into the Kamihata and Shimohata settlements in the Edo era created the current settlements. In Kamihata, farmland consolidation was completed in 2003. Consequently, almost all the farmland were divided into farmland lots measuring 0.2 ha with concrete ridges between them, and the three irrigation systems running through the settlement were integrated into one.

According to the Census of Agriculture and Forestry 2005, there are 43 farm households in Kamihata: 8 full-time farm households, 10 class 1 part-time farm households (i.e., farm households earning their main income from farming), and 25 class 2 part-time farm households (i.e., farm households earning

their main income from other activities) (as of 2005). Kamihata also has 34 non-farm households, most of them farm households that have abandoned farming. In addition, a field survey conducted in 2009 indicates that there are 77 farm households in total, including non-farm households possessing farmland. This study conducted interviews among eight full-time farm households, 10 class 1 part-time farm households, and 11 class 2 part-time farm households in Kamihata (Table 2). Most of the respondents were full-time and class 1 part-time farm householders. A total of 29 farm households were interviewed in order to determine the characteristics of farmland transfers in this settlement. With regard to the farmland size the paddy field area was 43.6 ha and upland area was 3.0 ha. The maximum size of cultivated land per household was 2.5 ha; however, due to triple cropping every year, the crop acreage was between 5 and 6 ha. The average age of the farmers was over 60 years, and many farmers had abandoned farming in recent years. Full-time farm households and class 1 part-time farm households cultivated various farm products; lettuce seemed to be a particularly popular crop. Since the cultivation of leafy vegetables such as lettuce generally involves settled planting and its harvesting requires manual labor, it is mainly cultivated by full-time farm households or class 1 part-time farm households that have sufficient farm labor. Meanwhile, the continuing advancements in the mechanization of settled

Table.2 Form of farm management in Kamihata, Minami Awaji City, Hyogo Prefecture(August 2009)

Form	Farm No.	Farmer's Age										Farmland			Crop Kinds						Non-agricultural Business		
		15-29		30-39		40-49		50-64		65-		Own-Land	Borrowed Land	Lend	Onion	Cabbage	Lettuce	Chinese Cabbage	Rice	Sorgo		Other	
		M	F	M	F	M	F	M	F	M	F												Area (ha)
Full Time Farmer	6					●		●	●	1.5	0.5				0.6	0.1	1.0	0.15	1.2	0.8			
	14			●	●			●	●	1.0													
	23							●		1.0	1.0				1.1	0.2	0.13	0.4	1.0	1.0			
	27			▲				●	●	▲	1.2	1.3				1.2	1.2		0.3	0.8	0.5	0.2	
	42			●				●	●	0.8	0.71				0.7	0.1	0.5		0.6	0.7			
	49					●				●	●				0.5	0.5	1.1		0.6	0.5			
	55					●			●	●	1.1	1.3				0.2	0.8	1.0		0.6	0.3		
63					●	●				1.1	1.1				1.8	2.0		1.0	1.2				
Class 1 Part-Time Farm Households	1					●	●			0.7					0.5	0.1		0.2	0.4	0.3	Retire company		
	3			▲				●	●	0.9					0.8				0.6	0.3			
	15									1.0					1.0				0.6	0.4			
	29			▲					●	●	0.8					0.6			0.4	0.4	0.2	Retire company	
	34					●	▲		●	0.8	0.4				0.5		0.4	0.1	0.7	0.5	0.5	Son work in a Company	
	41					●			●	●	1.2					0.5	0.2	0.8	0.2	0.5	0.7		
	51			▲					●	●	1.1	0.25				0.5	0.2	0.5		0.8	0.4	Son work in a Company	
	66					●	●			▲	0.9	0.6				0.4	0.3	0.4		0.9	0.6	1.6	Householder work in a Company
72								●	●	0.75					0.5	0.25	1.0	0.2	0.35	0.4	0.5	Householder retired the city office	
73								●	●	0.7	0.33				0.5	0.15	0.5		0.6	0.4			
Class 2 Part-Time Farm Households	9					●	●			0.5					0.5				0.4	0.1	Son work in a Company		
	10					▲	●			0.6	0.1	Sub0.2				0.5				0.5	Self-employed business owner		
	13					●			●	0.9									0.6	0.3			
	16			●						▲	0.75		0.6			0.05	0.0.5			0.13	Son work in a Company		
	22								●	●	0.7		Sub0.7						0.4	0.3	Self-employed business owner		
	30								●	●	1.2		0.17			1.0			0.6	0.4			
	31					▲	●			0.9					0.5	0.1			0.5	0.4	Teacher		
	35					▲	●			0.85	0.15				0.55	0.2	0.1	0.2	0.55	0.3	Householder work in the city office		
68									●	0.8		0.21			0.0.3	0.4	0.1		0.2	0.2			
69								●	●	1.0		Sub0.6			0.4			0.6	0.4	Reire teacher			
74					▲			●	●	0.4								0.4	0.25	0.15	Householder retired the city office		

Note) Farm No. correspond to Table. 3

Data source: Interviews

planting and harvesting of paddy rice and onion crops has enabled double cropping every year, even with a small workforce. Therefore, the class 2 part-time farm households or class 1 part-time farm households that have a shortage of farm labor tend to select double cropping of only rice and onions every year. Since there is a high proportion of part-time households in Kamihata, onions are ubiquitous during the vegetable cropping season (Figure 11).

Under this farm management system, full-time farmers earn their highest profits from vegetable cropping, which is a subsidiary activity, while part-time farmers earn most from non-agricultural activities. To be more specific, the ratio of profit from the cultivation of leafy vegetables such as lettuce, cabbage, and Chinese cabbage accounts for most of the full-time farmers' income. The gross profit per 0.1 ha is approximately 400,000 yen for onions and 500,000 yen for leafy vegetables such as lettuce, cabbage, and Chinese cabbage.

Meanwhile, rice cropping, which is the main farming activity, does not play a strong economic role in the farm management of each farm household, and the gross profit per 0.1 ha is approximately 100,000 yen—much lower than that of vegetable cropping. Moreover, the production cost of rice has not decreased much, and the low price of rice makes it difficult to obtain a profit from its production. Moreover, since the management scale of these farms is rather small, it is difficult



Figure. 11 Land use in Kamihata, Minami Awaji City, Hyogo Prefecture (April 2009)
 Data source: Land-use survey.

for individual farm households to reduce production costs. Nevertheless, paddy rice cropping cannot be abandoned altogether because it plays an important role in soil washing: paddy fields need to be filled with water for rice cropping, and this practice prepares the farmland for vegetable cropping. Consequently, farmers carry out the group rotation of paddy and other crops during the main cropping period, which acts as a countermeasure to reduce production costs. Due to the lack of future successors for each farm, the entire settlement, as a group, engages in paddy rice cropping, from raising the seedlings to planting them (Figure 12). As stated above, in the farm management of Kamihata, despite the low land productivity of paddy rice as compared to that of leafy vegetables, crops such as rice and onions play an important role in maintaining farmland, in addition to the cultivation of leafy vegetables, which provide the main profit for full-time farmers and class 1 part-time farmers.

(2) Social Relationships in Kamihata, Minami Awaji City

After examining the social groups to which all the households in Kamihata, including the non-farm households, belong (Table 3), this study was able to classify the social relationships related to transfer of farmland rights as follows (Table 4). These relationships include neighborhood relations, relations between

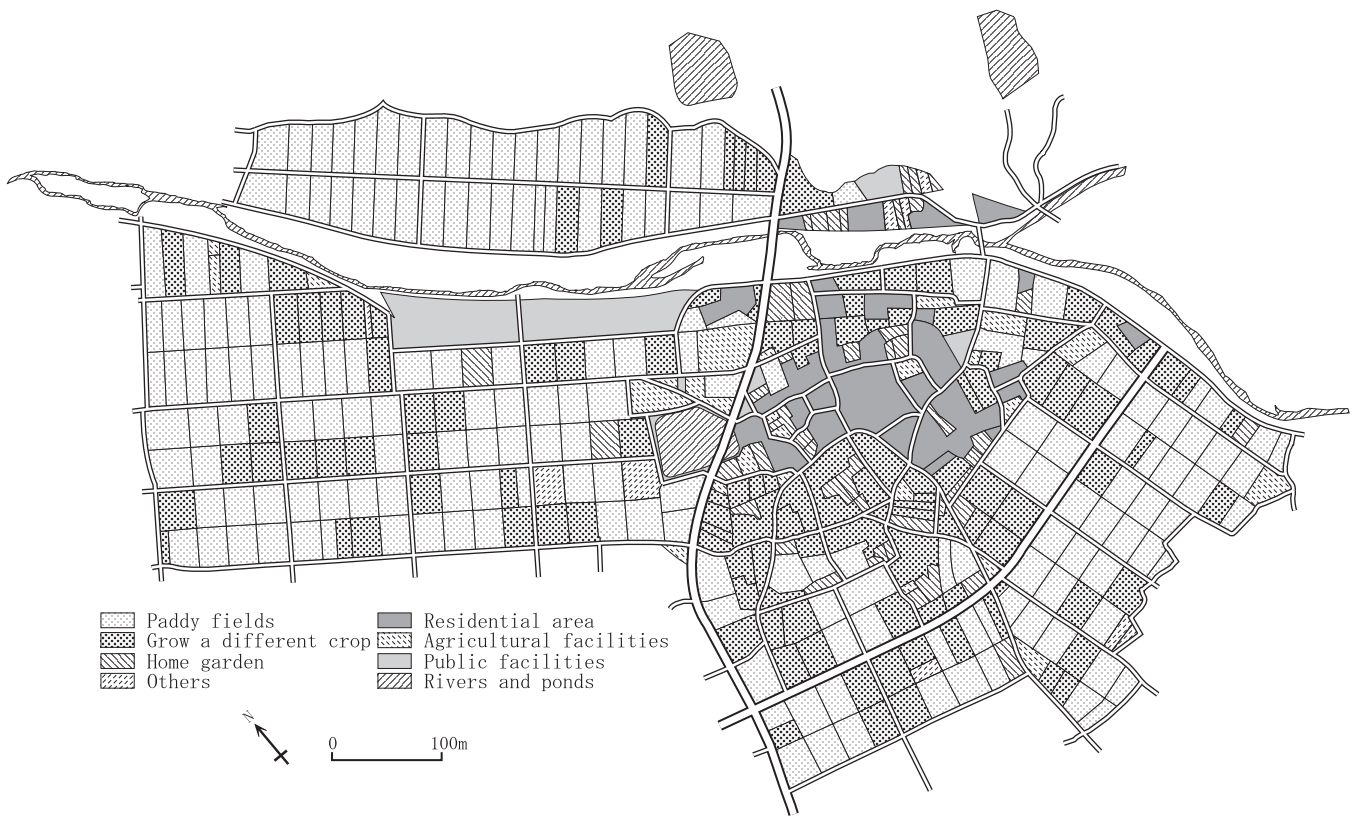


Figure. 12 Land use in Kamihata Minami Awaji City, Hyogo Prefecture (August 2009)
 Data source: Land-use survey.

Table 3 Social groups and share of agricultural machines in Kamihata, Minami Awaji City, Hyogo Prefecture (2009)

Farm No.	Rinpo	B	SM	Note	Farm No.	Rinpo	B	SM	Note
1	Sora 1	B	○▼	Landed farmer from Edo era	40	Minami 1		■	
2	Sora 1				41	Minami 1		■	
3	Sora 1	A			42	Minami 1 D			
4	Sora 1	A			43	Minami 1			
5	Sora 1	A			44	Minami 1			
6	Sora 1	A	△		45	Minami 1			
7	Sora 1	B	△		46	Minami 1			
8	Sora 1				47	Minami 1 G		▲	
9	Sora 1	A	○	Sharing machine with farmer in Sinjo settlement	48	Minami 1 G			
10	Sora 1	A	○		49	Minami 1 G		△□	Operator of Faming Union
11	Sora 1				50	Minami 2 H			
12	Sora 1				51	Minami 2 H		▲	
13	Sora 1	A			52	Minami 2 H			
14	Sora 2	D	●		53	Minami 2			
15	Sora 2	D			54	Minami 2 H			
16	Sora 2	D			55	Minami 2 F		△□	Operator of Faming Union
17	Sora 2	J			56	Minami 2 F		▲	
18	Sora 2				57	Minami 2 F			
19	Sora 2	A			58	Minami 2 C			
20	Sora 2				59	Kita 1			
21	Sora 2				60	Kita 1 E			
22	Naka 1	D		Old officer of village	61	Kita 1 E			
23	Naka 1				62	Kita 1			
24	Naka 1	F			63	Kita 1 F			Operator of Faming Union
25	Naka 1	I			64	Kita 1 G			
26	Naka 1				65	Kita 1			
27	Naka 1	D		Old officer of village	66	Kita 1 G			
28	Naka 1				67	Kita 1			
29	Naka 1	I			68	Kita 1 E			
30	Naka 1	D		Old officer of village	69	Kita 1 E			Landed farmer from Edo era
31	Naka 2	D			70	Kita 1 E			
32	Naka 2	I	■		71	Kita 2 E			
33	Naka 2	J			72	Kita 2 C			
34	Naka 2	J	●		73	Kita 2 C		●	
35	Naka 2	J	○▼	Landed farmer from Edo era	74	Kita 2 I			
36	Naka 2	J			75	Kita 2			
37	Naka 2	J			76	Kita 2			
38	Naka 2				77	Kita 2			
39	Naka 2	J							

○△ } Transplanting machines for onion
 ●▲ } Transplanting machines for onion
 ▼□ } Onion harvesting machines
 ■ } Rice planting machine
 B: Group of believers
 SM: Sharing machines

Data source: Interviews

Table.4 Classification of social relationships in Kamihata, Minami Awaji City, Hyogo Prefecture

Attribute	Kind of Relations	Note
Territorial Relations	A Neighborhood	inside Kamihata
	A' Rinpo	
	B The Same Settlement	
	C Enami District	
	D Old Mihara Town	
	E Minami Awaji City	
<i>Kessyaen</i>	F Group of Belivers	inside Kamihata
	G Group of Parishioners	Kamihata and Yamajyo
	H Irrigation Association	Kamihata, Yamajyo, and Irita
	H Alumni Association of Primary School	
	J Alumni Association of Junior High School	The same range of old Mihara town
Kinship	K Brother	
	K' head and branch families	
	L Marriage	
	M Other Kinship	
<i>Kansetsuen</i>	N Beef Cattle	Relations of beef cattle farmer
	O Sharing Machines	
	P Others	

Data souce: Interviews

people from neighboring houses (hereafter referred to as "*rinpo*") as well as territorial ones. *Rinpo* is the smallest administrative unit and is similar to neighborhood relations. However, for the households that are located on the border of a *rinpo* relation, although they may be next-door neighbors, they are still in a different *rinpo* and are, therefore, distinguished from neighborhood relations. Apart from this, Enami district is a primary school district encompassing Enami village, based on the organization of settlements in 1889 (the 22nd year of the Meiji era). Enami district comprises 7 settlements: Kamihata, Shimohata (which is adjacent to Kamihata), Yamajo, Ohenami, Koenami, Nishikawa, Matsuda, and Kamori settlements, which constitute the units of the Enami branch of the Awajishima Agricultural Cooperatives and follow the rituals of the Yamato-Okunitama shrine (Figure 13). The Irita settlement (hereafter referred to as "Irita"), which is adjacent to these settlements, is situated in a different district—the Yagi district. The kinship relationships include sibling relations, head and branch family relations, relations through marriage, and other relations. The junior high school district corresponds with the area of old Mihara Town.

In addition to territorial and kinship relations, there are *kessyaen* ties between the farm households, depending on their roles. These *kessyaen* ties can be between a group of believers, part of a religious association, a group of shrine parishioners at

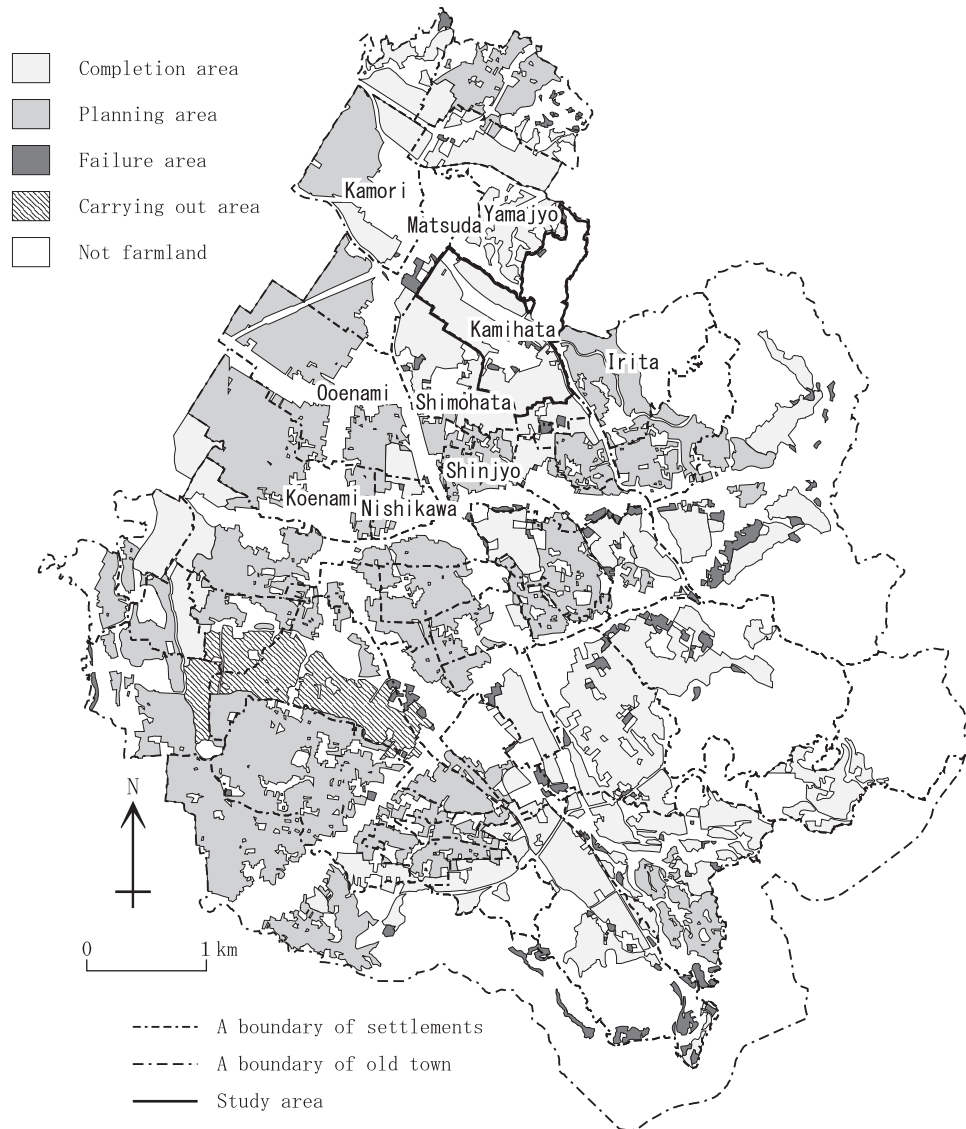


Figure. 13 Status of farmland consolidation in old Mihara Town, Minami Awaji City, Hyogo Prefecture (April 2009)
 Data source: Minami-awaji city office.

the Yahata shrine, or members of an irrigation association before the settlements were integrated. These ties are different from same-settlement relations or the ties between farmers from adjoining settlements. These relations have a spatial range, such as a group of believers from within Kamihata settlement, a group of shrine parishioners in Yamajo, which is in an adjoining settlement but was originally part of the same settlement, and an irrigation association in Irita.

The following relations can be classified as examples of *kansetsuen* relations, which farmers can voluntarily enter into or withdraw from: the relations between cow calf farmers and beef fattening farmers from outside the district and the relations between farmers who share rice planting, onion transplanting, and harvesting machines. In addition to these relations, this type includes the relationships forged through the non-agricultural employment of a farm householder's sons; however, these numbers are so few that they have been included in other categories.

2. The Transformation of "Regional Diversified Farming" in Mihara Plain

The system of triple cropping was developed after the high economic growth period in Mihara Plain. This region had carried out the double cropping of rice as the main crop and barley as the subsidiary crop ever since the Edo era. Onion

cultivation was introduced in the middle of the Meiji era, and in the Taisho era, it was replaced by barley, which came to be widely cultivated (Miyamoto 1945). With regard to husbandry, most farmers began to keep beef cows in the Meiji era, and dairy husbandry largely developed in the Taisho era. Moreover, the compost produced through husbandry was used to improve soil capabilities for onion cultivation. Hence, compound management comprising livestock breeding and husbandry with rice and onion cultivation was established in Mihara Plain before World War II (Ohara 1983).

This type of cropping system continued until the end of the 1950s. At the outset of the 1960s, the cultivation of Chinese cabbage, lettuce, and cabbage was added to this system, along with the establishment of an advanced land-use system characterized by triple cropping, livestock breeding, and paddy field cultivation, called the "Mihara Farming System" (Koto 1997). The objective of this cropping system was to earn a stable income every month, similar to that earned by employed labor. In contrast, the number of milk cows continued to increase until the middle of the 1970s, and almost all farmers kept between one and 10 milk cows. As a consequence, they were self-sufficient as regards to compost until the end of the 1970s, while maintaining the circulation system for spreading compost in their farmland and continuing the triple cropping system along with livestock feeding and paddy field cultivation.

Furthermore, farmland leasing, called “mutual help among farm households” had been practiced ever since the high economic growth period in Mihara Plain. According to Koto (1997), the provision of mutual help among farm households means that during a subsidy period, for instance, a class 2 part-time farmer cultivating only rice will lend his farmland to a full-time farmer or a class 1 part-time farmer; such a system was practiced among farmers who were closely related to each other through relationships such as kinship. In this manner, full-time farmers and class 1 part-time farmers (i.e., part-time farmers earning their main income from farming) farmed the land of class 2 part-time farmers (i.e., part-time farmers earning their main income from other activities) who lacked sufficient agriculture workforce. Consequently, there was continuous use of the farmland within a settlement.

After the 1980s, the conventional system of triple cropping combined with livestock feeding and paddy field cultivation began to collapse, and the forms of farmland use subsequently changed. Farmers were forced to reduce production costs due to the low price of milk, and group feeding of cattle by dairy farmers had to be promoted due to soaring breeding expenses (Kashiwa 1983). While such rationalization of dairy husbandry was being promoted, most of the farmers practicing diversified farming with livestock as a major sideline in Mihara Plain discontinued dairy husbandry, and some of them moved on to

breeding beef cows. Farmers who had decided to continue with dairy husbandry stopped vegetable cultivation and expanded their operation scale through group feeding. However, since they had stopped crop farming, they were unable to dispose of their livestock manure and started providing it to neighboring farm households that cultivated only vegetables. The segregation of crop farming and husbandry promoted manure distribution at the settlement level, which led to the emergence of settlement-based social groups involved in triple cropping with livestock feeding and paddy field cultivation (Koto 1993). Furthermore, as compared to the northern part of Awaji Island, where the number of part-time farmers who commute to their farmlands has increased, Mihara Plain contains a small labor market that is not already engaged in farming; therefore, securing a sufficiently large agricultural workforce is one of the primary requirements of triple cropping agriculture (Kako 1983).

Over the years, the quantity of rice production has decreased due to the measures undertaken to reorganize paddy field utilization, implemented in the form of 10-year plans after 1978, and the farmers in Mihara Plain found it increasingly difficult to obtain sufficient profit from rice cultivation (Ohara 1983). This meant fewer incentives for the class 2 part-time farmers, who were mainly engaged in rice production during the peak farming period. Consequently, class 2 part-time farmers started leasing out their farmlands to other farmers throughout the year, not

just during the subsidiary cropping period, in the 1980s. As of April 2009, a total of 118 farmland-leasing contracts have been made in Minami Awaji City; of these, only 3 contracts lease out the farmland only during the subsidiary cropping period¹⁰⁾.

Since the Akashi Kaikyo Bridge became functional in 1998, the residents have found greater opportunities to engage in non-agricultural work. Therefore, the labor force—mainly comprising young people—tends to take up non-farming jobs, while the farmers become older. According to the Census of Agriculture and Forestry in 2005, the number of core farmers aged over 60 years accounts for 62.3% of the total farmers in Enami district. Meanwhile, the average age of the total farming population including the support workforce in Enami district is 55.6 years, and it can be said that while most of the people aged less than 60 years are mainly engaged in non-agricultural work, they are also engaged in part-time farming. Due to the insufficient agricultural workforce, full-time farmers and class 1 part-time farmers with a sufficiently large workforce have managed to accumulate even more farmland by buying or borrowing farmland from other farmers.

However, despite the farmland consolidation implemented in Mihara Plain, it is difficult for farmers to reduce production costs through expansion (Figure 13). In districts where farmland consolidation has not been implemented, there are few

incidences of farmland leasing, since scale expansion is not likely to increase profitability. Moreover, the farm rents for the main cropping period have continued to decrease year after year, corresponding to the decreasing economic role of the farmland (Figure 14). In addition, since it is difficult to mechanize vegetable cropping, particularly the cultivation of leafy vegetables, expansion is also difficult under the current family-operated farming system. As mentioned above, undertaking farmlands from neighboring farm households does not directly improve profitability for even full-time farmers and class 1 part-time farmers.

In the target study area of Kamihata, farmland consolidation was completed in 2003, and although the economic role of the farmland has decreased in this settlement, as in the other settlements, the practice of farmland leasing continues smoothly—there is no abandoned cultivable land to be seen. In particular, the entire settlement cooperates in rice cropping during the main cropping period, and individual farmers manage their farms as an economic activity during the subsidiary period for maintained farmlands.

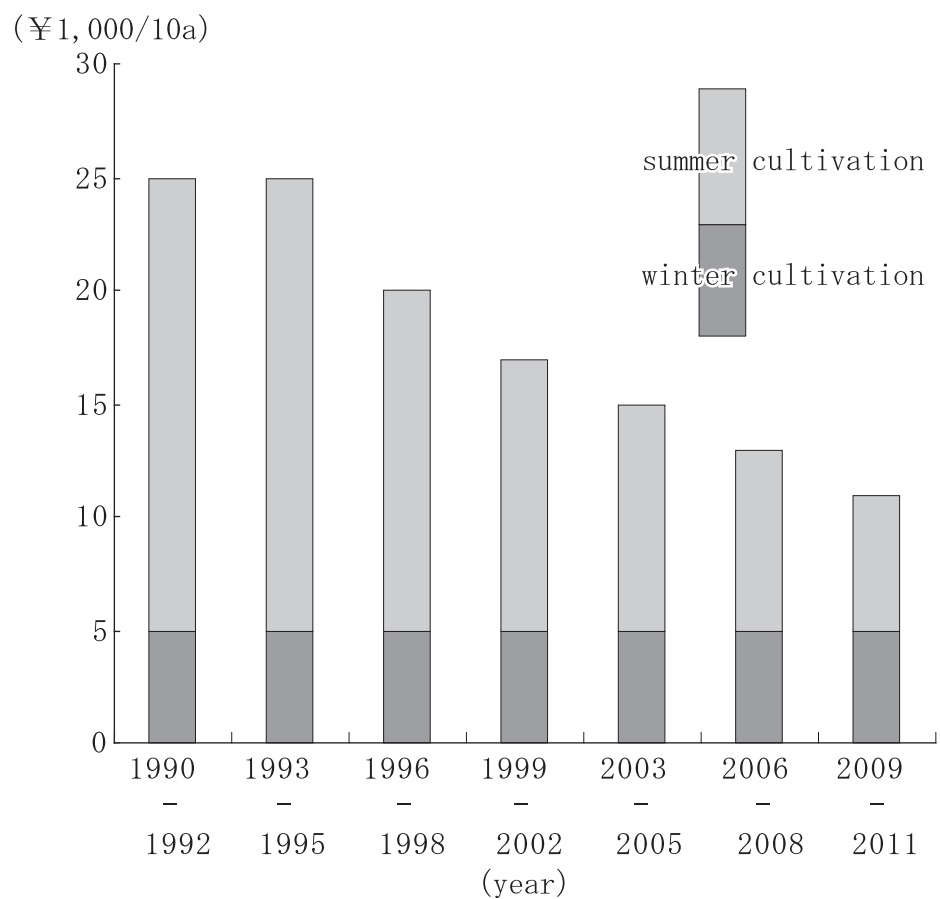


Figure. 14 Transition of standard farm rent in Minami Awaji City, Hyogo Prefecture (1990-2011)
 Data source: Minami-awaji city office.

3. The Process of Transferring Farmland Rights and Farmland Management by Settlement in Kamihata, Minami Awaji City

(1) The Transfer of Farmland Rights through Negotiation Transactions between Individual Farm Households

In 2009, an interview investigation conducted among 29 farm households in Kamihata revealed that 14 of these households have accumulated farmland from other farmers. In all, there have been 25 transfers of farmland rights (Table 5). Each such transfer for all these 14 farm households has been based on various social relations. Hence, these 14 farm households can be divided into 3 types based on the characteristics of social relations related to each transfer of farmland rights. The first type of transfer is the “*kinrin* type α ”—representing a farm household that has leased land based on social relations such as *rinpo* or being part of a common group of believers in addition to belonging to the same settlement. The second type is the “*kinrin* type β ”—represented by farm households that have leased land based on only same settlement and school relations in addition to leasing farmland through “*kinrin* type α ” transfers, but without the influence of same neighborhood or group of believers. The third type is the “*kessyaen* and kinship type” of transfer—represented by farm households that have leased land through group relations or kinship relations beyond the

Table. 5 Transfer of farmland rights and social relationships in Kamihata, Minami Awaji City, Hyogo Prefecture (2009)

Type	Borrower	Lender	Relations	Area (ha)	
<i>Kinrin</i> Type α	6	5	AA'FI	0.3	
			ABI	0.2	
	14	22(Subsidiary)	BFI	0.5	
			ABI	0.8	
	27	Moved out farmer	BLI	1.3	
34	33	AA'FI	0.4		
51	52	AA'FI	0.25		
<i>Kinrin</i> Type β	23	Inside Kamihata	BI	1.0	
			Inside Kamihata		BMI
	42	40	AA'I	0.3	
			44	AA'I	0.2
			68	BI	0.3
	49	30	BI	0.3	
			44(Subsidiary)	A'I	0.4
	55	2(Subsidiary)	BI	0.4	
20			BI	0.7	
22			BI	0.2	
63	40	BI	0.4		
		70	AA'I	0.4	
		Shimohata (Subsidiary)	ACHI	0.3	
73	16	BI	0.3		
<i>Kessyaen</i> and Kinship Type	10	Irita	DHPJ	0.1	
	35	Yamajyo	GHI	0.15	
	66	48	AFI	0.2	
			Kamori	CMI	0.4

Note) "Relations" correspond to Table.4

Data source: Interviews

settlement. The characteristics of the process of each such transfer can be analyzed as follows.

a. The *Kinrin* Type α

In Kamihata, a total of 5 households have implemented the *kinrin* type α transfer: farms no. 6, 14, and 27 (full-time farmers) and farms no. 34 and 51 (class 1 part-time farmers). In the *kinrin* type α , the average cultivated land per household is 1.87 ha, and the management scale is the largest of the three types. The number of transfers of farmland rights per household is 1.4, and the average leased land per household is 0.75 ha. The full-time farmer of farm no. 6 has 0.50 ha of leased farmland, while farms no. 14 and 27 have 0.13 ha each. The part-time farmers of farms no. 34 and 51 have 0.4 ha and 0.25 ha of leased land, respectively. Meanwhile, there is little difference in the area of cultivated land of these farms and the land of farm households that implemented the other types of transfers or farm households who have not leased land.

The householder of farm no. 14 is in his forties, while the other householders are over 60 years old (Table 2). Farm no. 6 has a successor who is already engaged in farming, while the householders' sons in farms no. 27, 34, and 51 are engaged in farming only on their days off. With regard to the types of crops, farms no. 6 and 14, who have sufficient labor, have increased their cultivation of lettuce, which requires more labor. Meanwhile, the core farmers of farm no. 27, who are all elderly,

do not cultivate lettuce but prefer to concentrate on onions and cabbages instead. With regard to the part-time farmers, that is, farms no. 34 and 51, the farmers' sons are helping in farming. Despite the fact that their farms are smaller in scale than the farms of other part-time farmers, they widely cultivate onions, cabbage, lettuce, and Chinese cabbage.

Most of these farm products are shipped out to the Awajishima Agricultural Cooperatives. However, farm no. 27 sends a greater share of its produce to other organizations, since it has cultivated business relations with wholesalers spread out across several regions. Moreover, farms no. 6 and 34 ship out their farm products to "vegetable wholesaler A" in Shimohata, while farm no. 14 ships them to vegetable wholesalers in Kamihata. In addition, most of the farm households send their farm products to the farmers' market, the "Hata Aozora Market" (hereafter referred to as "Aozora Market"), which is mainly operated by farmers in Kamihata.

The *kinrin* type a transfer of farmland rights includes farmland leased after the period of mutual help among farm households as well as those leased after 2000. Such transfers were all completed within Kamihata itself and occurred between providers and recipients being from the same neighborhood (A, corresponding to Table 4), *rinpo* (A'), common group of believers (F), relatives by marriage (L), and members of the same primary school alumni association (I) within Kamihata. The land leased

to farm no. 14 by farm no. 22 had previously been leased to farm no. 30, whose householder was the head of the family of farm no. 22 until 2004. However, it gradually became difficult for farm no. 30 to continue farming due to advancing age. Therefore, the leased land was returned to farm no. 22. However, since the householder of farm no. 22 was also old—84 years old, to be precise—and therefore unable to farm the land, he decided to lease the land to farm no. 14, whose householder belonged to the common group of believers (F) and had a successor in his forties. However, although two generations were engaged in farming farm no. 14 and they had sufficient labor for their needs, they could not farm an additional 0.9 ha of scattered farmland. Consequently, the farmland was divided into two and is currently jointly leased by farm no. 14 and 55, both of which have a successor in his forties and two generations engaged in farming.

Farm no. 6 has borrowed the lands of farm no. 5, and the two parties share the social relations of same neighborhood (A), *rinpo* (A'), a common group of believers (F), and the same primary school alumni association (I), and farm no. 36, which belongs to the same neighborhood (a) but whose householder does not have *rinpo* (A') relations with farm no. 6. One household that moved out of Awaji Island used to lease out its farmland to farm no. 27. This lease was effected by a marriage (L)—the current householder's (farm no. 27) aunt had married into the household that subsequently left the village. Another

household leased out its land to the part-time farm no. 34 and 51, based on being from the same neighborhood (A), *rinpo* (A'), having a common group of believers (F), and primary school alumni association (I).

Such transfers of farmland rights were completed within Kamihata even by full-time farmers who were reluctant to undertake expansion. These farmers seek to increase profitability by enhancing the cropping ratio of leafy vegetables and developing new distribution routes. These types of farm households tend to borrow farmland from those farm households with whom they had closer social relations within the settlement, such as being from the same neighborhood (A) and *rinpo* (A') relations within Kamihata as well as other relations such as *kessyaen* and kinship relations. Moreover, in this type of transfer, multiple farm households of full-time farmers borrow parts of a farmland belonging to one farm household, and it can be said that they do not intend to expand.

b. The *Kinrin* Type β

A total of 6 farm households have accumulated land through *kinrin* type β transfers: farms no. 23, 42, 49, 55, and 63 (full-time farmers) and farm no. 73 (class 1 part-time farmer). The average area of cultivated land under *kinrin* type β management per household is 1.85 ha, which is not very different from that for *kinrin* type α . The number of *kinrin* type β transfers of farmland rights per household is 2.3, and the average area of

farmland borrowed by a farm household is 0.867 ha. Both this number and the size are the largest among the 3 types. In contrast, part-time farm no. 73 has borrowed only 0.3 ha of land from another farm household. The area of land cultivated by each household in this type is not very different from that of the other types of farm households or those households that do not practice farmland leasing.

All the householders in this type are over 60 years old, except for the householder of farm no. 63. The successors of farms no. 42, 49, and 55 are already engaged in farming or are planning to do so soon. Since they have adequate labor, the farms show various cropping types. All the farm households cultivate rice, sorgo, and leafy vegetables, including lettuce and cabbage, through rotation cropping and, except for farm no. 63, they also cultivate onions. The core farmers of farm no. 23 are over 60 years old, and since they have a large area of cultivated land under their management, they have increased the cultivation of onions and therefore focus on the double cropping system of rice and onion cultivation. Meanwhile, although the core farmers of farm no. 73 are likewise over 60 years old, their cultivated land is smaller in size, due to which they can grow more lettuce and cabbage. Most farm products are shipped out to the Awajishima Agricultural Cooperatives. Farm no. 23 ships only cabbages to the fruit and vegetable wholesaler A in Shimohata, and farm no. 55 ships only rice to a rice store in Ohenami settlement. All the

farm households except for farm no. 42 ship their produce to Aozora Market.

As in *kinrin* type α households, farm households representing *kinrin* type β relations have practiced farmland leasing dating back from the period of mutual help among farm households until today. In this type of transfer, the residence of the lenders covers other settlements; however, the target of all the farmland estimated in Kamihata. In addition to the *kinrin* type α farmland leasing, farm households of this type borrow farmlands from other households based on being from the same settlement (B) and primary school alumni association (I) relations. The practice of leasing land from lenders based on being from the same settlement (B) and primary school alumni association (I) has developed relations has developed since 2000, despite the fact that the two parties may not share *rinpo* (A') and group of believer (F) relations, which characterize this type; there have been eight cases of such transfers. All the farm households that are leasing out their land in this manner have either abandoned farm management altogether or downsized their farming operations due to labor shortages.

The transfer of farmland rights between parties sharing the same settlement (B) and primary school alumni association (I) relations were carried out under a leasing contract. The farmland providers consisted of farms no. 2, 16, 20, 22, 30, 68 and one more farm household whose number could not be

specified in Kamihata. Out of these, farm no. 20 is engaged in non-agricultural activities, and all of its farmland is leased out to farm no. 55. All the lenders except for farm no. 20 have continued small-scale subsistence farming such as rice cultivation. Farm no. 2 cultivates only rice, and during the subsidiary period, its farmland is leased out to farm no. 55. While farm no. 30 cultivates most of its farmland, only one dispersed lot from its other farmland lots is leased out to farm no. 49. Although farm no. 68 cultivates more than half of its cultivable land, it has leased out some of its farmland to farm no. 42 since 2009 due to the labor shortage. As mentioned above, the farmland of farm no. 22 has been separately leased out to farm no. 14 and 55. While there were full-time farm households having the relations of same neighborhood (A), *rinpo* (A'), other *kessyaen* connections, and kinship with their farm lenders, these full-time farm households had already borrowed farmland from other farm households and did not have sufficient labor to expand their cultivation. As a result, in order to implement group rotation, and since they could not lease out their farmland to farm households outside the settlement, the lenders sought full-time farm households from within the same settlement and consequently leased out their farmlands to these households despite not sharing any relations of same neighborhood (A), *rinpo* (A'), other *kessyaen*, or kinship with these households.

In addition, the *kinrin* type β of farm households have also

borrowed farmland from lenders with whom they share the same neighborhood (A) and *rinpo* (A'); however, in recent years, it has become difficult to increase the scale of operation by leasing more land. Farms no. 40 and 44 have leased out their farmlands to multiple full-time farm households; the former farm's borrowers are farms no. 42 and 63. This kind of farmland leasing started in 2003, when farm no. 63 became a full-time farm household after farm no. 40 stopped farming due to its householder's advanced age. Initially, the householder of farm no. 40 planned to lease out all of his farmland to farm no. 63. However, due to the scarcity of labor, farm no. 63 could not undertake to cultivate all of the farmland, and consequently farm no. 42 entered the picture, being in the same neighborhood (A). As of 2009, farm no. 42 was being managed by a successor in his thirties, who began to fully engage in farming activities only after 2004. Therefore, when the farmland leasing was carried out in 2003, a lender, farm no. 40, did not offer his land to farm no. 42, which was in the same neighborhood (A), but approached the full-time farmer and householder of farm no. 63.

In this way, in the whole of Kamihata, the number of farmland recipients has tended to decrease, and most of the recipients of this type of transfer appear to be class 1 part-time farm households that have a small workforce. For example, farm no. 73 has borrowed farmland from farm no. 16. The householder of farm no. 16 is a woman in her sixties who is cultivating only

subsistence vegetables by herself. In summer, she only lets water flow into her rice fields. Until 2008, she practiced double cropping of rice and onions on her farm; however, due to the lack of sufficient agricultural labor, she has restricted herself to subsistence farming after 2009. Hence, she has to request farm households around her house to cultivate most of her own farmland. Of all these farmlands, 0.25 ha of farmland located in Yamajo has been leased out to a farm household based on other kinship relations (M). Meanwhile, full-time farm households sharing the relations of same neighborhood (A), *rinpo* (A'), other *kessyaen*, and kinship with farm no. V16 in Kamihata have already leased multiple land lots from this farm, and further leasing is difficult (Table 2, Table 4). In this situation, 0.3 ha of farmland whose lot number falls in Kamihata was leased to the part-time farm no. 73, whose core farmers are a couple in their late sixties. However, farm no. 73 also suffers from a labor shortage and it would be difficult for these farmers to manage any more leased land.

As mentioned above, the transfer of farmland rights within the same settlement through *kinrin* type β connections but without *rinpo* (A') or *kessyaen* relations is a new type of transfer developed by emerging providers who have no potential recipient within the settlement with whom they have *rinpo* or kinship relations. Furthermore, like the *kinrin* type α transfer, it can be seen that multiple farm households borrow farmland in lots.

Farm households of this type also do not desire scale expansion.

c. The *Kessyaen* and Kinship Type

The *kessyaen* and kinship type of transfer is applicable to a total of 3 farm households: farm no. 66 (class 1 part-time farm household) and farms no. 10 and 35 (class 2 part-time farm households). The average area of cultivated land of the *kessyaen* and kinship type per household is 1.06 ha. The number of transfers of farmland rights by farm households of the *kessyaen* and kinship type is one each, in the case of farm no. 10 and 35, and two in the case of farm no. 66. The average leased land per household is 0.283 ha. Both the number of transfers and the area of land are the least of the three types.

The ages of the householders are as follows: the householder of farm no. 10 is 64 years old, that of farm no. 35 is 59 years old, and that of farm no. 66 is 55 years old. None of these farm households have any successors planning to enter farming. Since the householders of farm no. 35 and 66 are relatively young, they cultivate various crops such as rice, sorgo, and leafy vegetables including lettuce and cabbage through rotation cropping. Meanwhile, since the household of farm no. 10 is a class 2 part-time farm household without sufficient workforce and also runs a non-agricultural business, it practices dual cropping of rice and a combination of sorgo and onion crops. Most of these farms' products are shipped out to the Awajishima Agricultural Cooperatives, and farm no. 66 ships only onions to

the fruit and vegetable wholesalers in Koenami. Farm no. 35 also ships out its farm products to the Aozora Market.

These three farm households of the *kessyaen* and kinship type have carried out a total of four farmland leases. Of them, only farm no. 66 has borrowed farmland from a farm household in the same neighborhood (A), which represents a *kinrin* type a transfer. In the case of the remaining three transfers, both the providers' residences and the farmlands' locations lie outside the settlement area. Farm no. 10 has leased out 0.1 ha of land from the Irita settlement, and it is difficult to bring machines into the small, irregularly shaped rice field that has not been consolidated. In addition, the farm road leading to the farmland is narrow and rough. Although Kamihata and Irita are in different districts, the settlements are situated adjacent to each other. This particular transfer is based on the connections with these irrigation association (H) and primary school alumni association (I). Farm no. 10's practice of farmland leasing started in the generations prior to the grandfather of the current householder and originated in the Edo era based on the relations forged between the landowner and his tenant farmers through their belonging to the same irrigation association. Moreover, farm no. 10 is a class 2 part-time farm household whose core farmer is 64 years old. The farm leases out 0.2 ha of its farmland during the subsidiary period and does not desire to improve its profitability through leasing additional

land. Farms no. 35 and 66 started farmland leasing after 2000 through contracts made with households in other settlements based on relations such as a common group of parishioners (G) or other kinship relations (M). The farmland involved in this leasing, that of farm no. 35, is located on hilly land and its size per lot is 0.15 ha, which is rather small. Although the farm road that leads to the farmland is even, the levee line is rounded, and since the farmland is located on hilly land, its cultivation conditions are not good. The 0.4 ha of farmland taken on lease by farm no. 66 is relatively large; however, since it is far from the housing sites, it is difficult to increase profitability by cultivating this land. Therefore, the cultivation of both these land lots could not be undertaken by households within the same settlement. Moreover, farms no. 35 and 36 are from the same district, Enami (C), and irrigation association (H).

As stated above, farm households of the *kessyaen* and kinship type try to cultivate farmland which is located outside the settlement or which will likely increase their profitability due to the small and irregularly shaped lots of land. The maintenance of social relationships such as those between a common group of shrine parishioners (G) and other kinship relations (M) triggers such transfers of farmland rights.

(2) Farmland Management by Settlement-based Group Farming during the Paddy Rice Cultivation Period

As the number of aging farmers increases in Kamihata, farm households as well as non-farm households who have some farmland have jointly come to an agreement in order to promote farmland conditions. Based on this, they have decided to consolidate their farms in such a manner as will make it easier for the borrowers to undertake cultivation on these lands. This kind of farmland consolidation was started in 1996 and completed in 2003 using the subsidy provided by the “Management Oriented Farmland Consolidation Project” of Hyogo Prefecture. This farmland consolidation project included the adjoining Shimohata settlement and some parts of the Yamajo settlement in addition to Kamihata (Figure 13). The total construction cost was 252,240,000 yen, which meant an average of 310,000 yen per 0.1 ha of land. The subsidy funded 7.5% of the total construction cost, and the project undertaking included land adjustment, land improvement, the widening of farm roads, and the consolidation of underdrainage. The area of each farmland lot was increased to 0.2 ha through land adjustment, and concrete ridges were built between lots. Moreover, three irrigation associations were integrated into one, thus solving the transfer problem of water rights that created a barrier to farmland leasing. As a result, the farmland conditions in Kamihata are all uniform, with the exception of soil

capabilities.

In Kamihata, the Ministry of Agriculture, Forestry and Fisheries of Japan (MAFF) has initiated the “Agricultural Structure Improvement Project for Regional Agriculture Base Establishment” to establish the “Seedling Center in Hata District,” the “Hata Fertilizer Center” in 1988, and the “Comprehensive Farming Training Center in Hata District.” The ministry also promotes the collective farming of rice (Figure 15). That is, full-time households and class 1 part-time households in Kamihata will continue to earn their main income from vegetable production. However, as previously mentioned, vegetable cropping based on intensive farmland use cannot be sustained without the complementary activity of rice cropping. In Kamihata, since it is difficult to expand the scale of rice cropping, the farm households have opted for group farming in order to reduce costs throughout the settlement. In this way, they have reached a consensus within the settlement to establish settlement-based group farming. In March 2006, “a plan for the revitalization of regional agriculture” was formulated, and in the month of June in the same year, the “Preparation Committee of the Communal Farming Union” was organized, comprising 19 committee members. In August that year, all the farm households in the settlement were administered a questionnaire on settlement-based group farming, and this practice was finally implemented after taking their opinions into account. In this

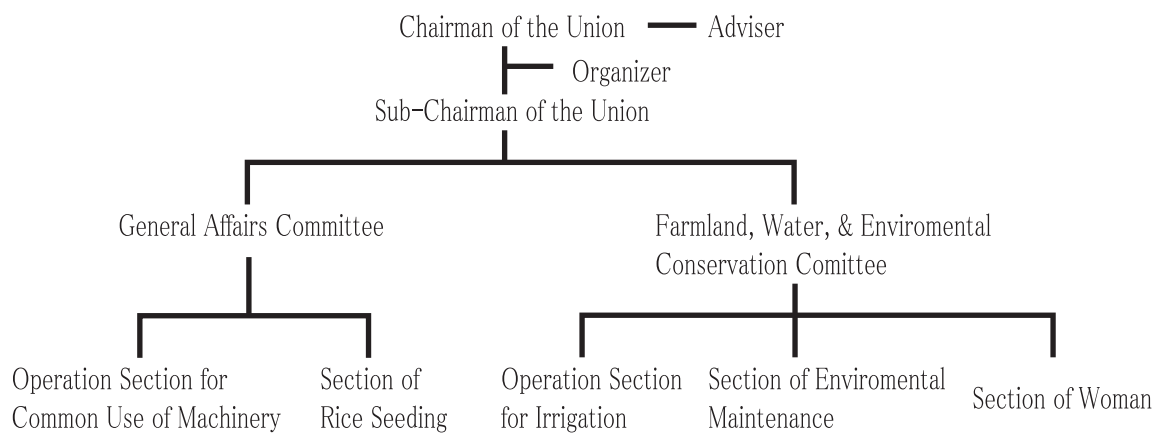


Figure.15 The organization and the role of community based group farming “Kamihada group farming” in Kamihata, Minami Awaji City, Hyogo Prefecture

Data source: Interviews

manner, settlement-based group farming, in the form of the “Kamihata Farming Union” (hereafter referred to as “Farming Union”), was established in Kamihata in February 2009.

The Farming Union comprises a General Affairs Committee and a Farmland, Water, and Environmental Conservation Section under the chairman of the union. The General Affairs Committee is responsible for rice cropping, while the responsibilities of specific farming operations are divided and shared by the Operation Section for the Common Use of Machinery and the Seeding Section. As of 2009, the Seeding Center is responsible for the provision of rice seedlings. In all, 78 farm households in Kamihata possess rice fields¹¹⁾, and approximately 60% of them outsource their farming operations, from raising the seedlings to rice planting. Other farm households use either individual rice planters or the ones owned by a group that was established to allow the co-operative use of machinery. The Farming Union owns three rice planters, which are operated by farms no. 49, 55, and 63. There remain only two farm households entrusting their harvesting operation. However, the Farming Union has organized a system in order to be able to undertake all the rice cropping operations in the future, while taking into account the renewal time of its agricultural machines. Moreover, since the population of aging farmers continues to increase, a further scarcity in the labor force is predicted, and the Farming Union is expected to play an

even more important role in the future.

Furthermore, in order to stabilize the management of the Farming Union, group rotation cropping has been implemented. Sorgo is a product of rotation cropping and is used as green manure. As of 2009, the financial incentive for the rotation cropping of sorgo was 5,000 yen per 0.1 ha, while group farming yielded 15,000 yen per 0.1 ha. The implementation of group rotation cropping requires land use management during the main cropping period, and households are prohibited from lending out their farmland to farm households outside the settlement. Hence, undertaking farming in Kamihata is sometimes considered to be a burden on the farm households within the settlement.

The Farmland, Water, and Environmental Conservation Committee, which is an organization subordinate to the Farming Union, was established to take “countermeasures to improve farmland, water, and environment conservation” as enforced by the MAFF. These countermeasures are aimed at obtaining a subsidy through the way in which all the settlement members share settlement-related work such as cleaning the waterways, exterminating harmful insects, and mowing the ridges as part of road construction and maintenance. The following activities are also conducted in Kamihata: flower planting along the roadsides of the settlement and water-related environmental education by building a water park for children. In the past,

these activities were performed as part of volunteer work, and all the residents worked together to maintain the social functions of the settlement. However, the number of people who can participate in the above activities has decreased due to the advancing age of the farmers, and since the management of farm ponds was originally associated with the economic activity of farm households, only a small number of farmers have been forced to bear this responsibility. The subsidy is being utilized to address this situation in which a few specific people are virtually forced to bear the social functions of a settlement. In more specific terms, the subsidy is used to pay the daily wages of temporary workers and to purchase mowing machines. Based on the above, it has been decided that all infrastructure such as farmland and ponds that exist for agricultural production should be regarded as common property of all households, including non-farm households, and the compensation that will be paid to farm householders for its management has been clarified¹²⁾.

4. Characteristics of the Transfer of Farmland Rights and Farm Management in Kamihata, Minami Awaji City: Individual Case Studies

This chapter will examine the process of promoting the transfer of farmland rights and the configuration of the associated farm management through the study of specific cases (Figure 16). To begin with, farm no. 24 of the *kinrin* type a

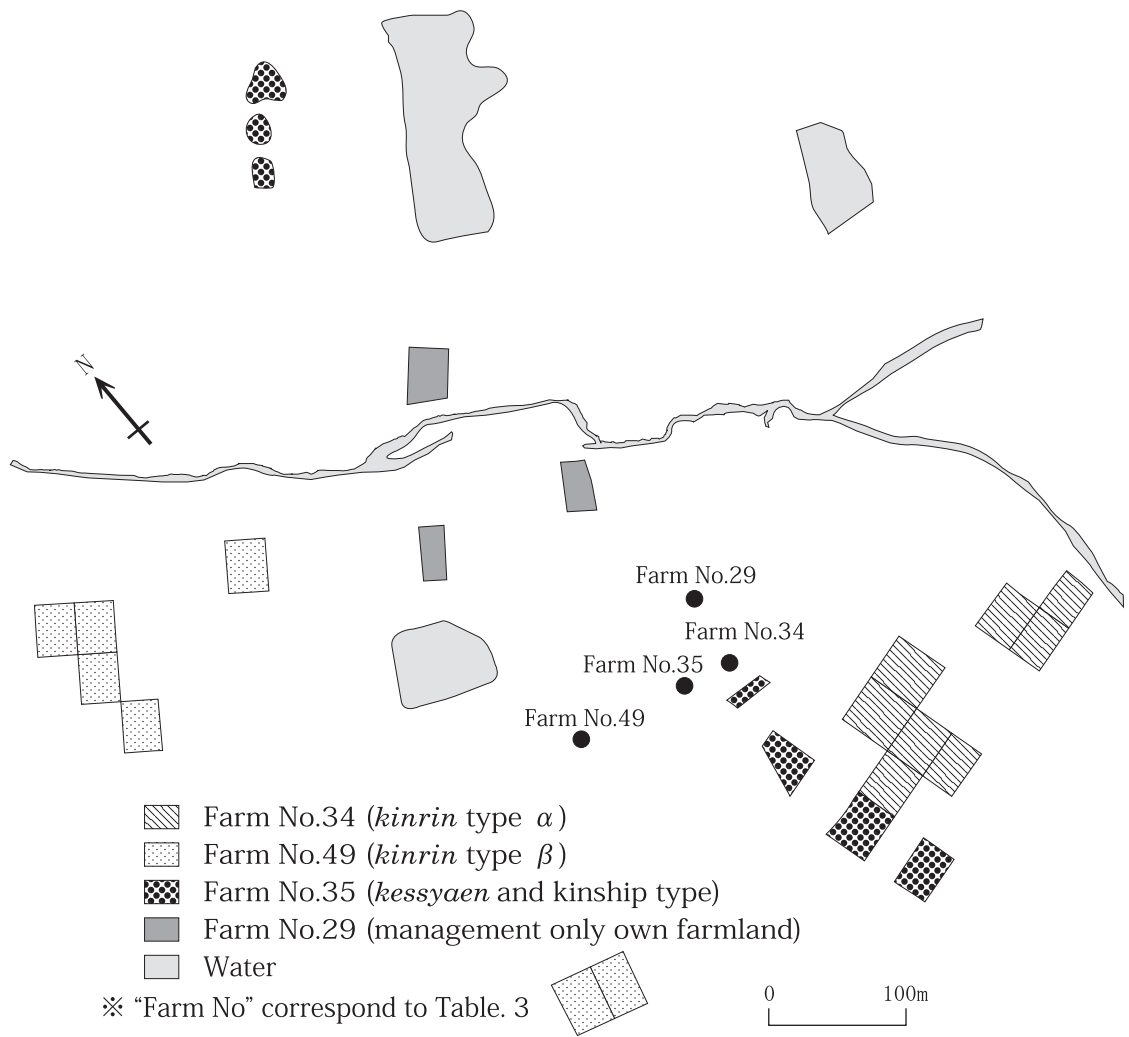


Figure.16 The distribution of farms No.29, 34, 35, and 49's management farmland in Kamihata, Minami Awaji City, Hyougo Prefecture (April 2009)
Data source: Interviews

farms 0.8 ha of owned land and 0.4 ha of leased land; it cultivates the following farm products using a double or triple cropping system: onions on 0.5 ha of farmland, broccoli on 0.5 ha, lettuce on 0.4 ha, Chinese cabbage on 0.1 ha, rice on 0.7 ha, and sorgo on 0.5 ha. Broccoli was newly introduced in this farm in 2004. The core agricultural workforce comprises at the 75-year-old householder and his son's wife, who is in her forties, while the householder's 50-year-old son works for a private company and is involved in farming only on weekends. All the rice produced by this farm is shipped out to the Awajishima Agricultural Cooperatives, along with 50% of the vegetables of all kinds; the remaining 50% of fruit and vegetables are being sent to "wholesalers A" in Shimohata from 2000 onward.

Farm no. 34 has borrowed one farmland that is adjacent to farm no. 34's housing. This farmland, with an area of 0.4 ha, has been borrowed from farm no. 33, based on the relations of *rinpo* (A'), common group of believers (F), and primary school alumni association (I). The specific year of the event leading to leasing the farmland is unknown; however, the reason was a labor shortage in the farm households that leased out their farmland. The farm has not changed its cropping system after the farmland leasing, and without distinguishing between its own land and the leased land, it practices the triple cropping of "rice, lettuce, and lettuce" and "rice, broccoli, and broccoli" combined with the double cropping of "rice and Chinese cabbage"

and “rice and onions”; hence, rotation cropping is carried out on all the cultivated land under the management of the farm. As for dairy husbandry, the farm household raised approximately 10 dairy cattle until the middle of the 1980s; however, while the dairy farmers in Mihara Plain increasingly adopted group feeding, this farm discontinued dairy husbandry and decided to focus exclusively on crop farming. Farm no. 34 retains its current cropping system and still faces a shortage of farming labor. Furthermore, the householder is old and thus reluctant to borrow any additional farmland. The cultivated land under management is relatively closely distributed, and since it is a class 1 part-time farm household, farm no. 34 requires a certain degree of work efficiency.

The household of farm no. 49, which belongs to the *kinrin* type β, is a full-time farm household that cultivates 0.6 ha of its own farmland and 0.7 ha of leased land; it cultivates onions on 0.5 ha of land, cabbage on 0.5 ha, lettuce on 0.11 ha, rice on 0.6 ha, and sorgo on 0.5 ha. Lettuce is cultivated on 0.4 ha of farmland in autumn, 0.4 ha in winter, and 0.3 ha in spring. Thus, the system of triple cropping focuses on lettuce cultivation, and the cultivation is done without distinguishing between the farm’s own land and its leased land. The farm’s core labor force consists of 3 members: the 71-year-old householder, his 70-year-old wife, and their 43-year-old son. Since the householder used to work for the Awajishima Agricultural

Cooperatives, all farm products are shipped to this organization. Like farm no. 34, farm no. 49 used to raise approximately 10 dairy cows; however, they subsequently decided to focus on crop farming exclusively, which is the current cropping system.

Farm no. 49 has borrowed 2 lots of farmland. It has leased land from farm no. 44 that it shares with farm no. 42. In farm no. 44, which is the lender of this farmland, the householder's son is engaged in farming only on his days off from other work. Due to labor force shortages, the farm cultivates only rice. Eventually, this household started leasing out 0.2 ha of its 0.6 ha farmland all year round, while the remaining 0.4 ha is leased out only during the subsidiary period. Of these, 0.2 ha are leased all year round to farm no. 42, whose successor is already involved in farming and who live in the same neighborhood (A) and has *rinpo* (A') relations with the lender, while 0.4 ha are leased out to farm no. 49, whose successor is also involved in farming and who has *rinpo* (A') and primary school alumni association (I) relations with the lender. With regard to the land leased from farm no. 30, the householder shares the relations of only belonging to the same settlement (B) and primary school alumni association (I) with the householder of farm no. 49—the two parties have no further close social relations such as a *rinpo* or a common group of believers within the settlement. Although the lots cultivated by farm no. 49 are located in the northeastern and southern parts of the settlement, they are separated from each

other by a distance of only 400 m. In addition, during the vegetable cropping period, the 0.2 ha farmland lots are further divided for the cultivation of different crops (Figure 11). Since the management system of farm no. 49 focuses on vegetable cropping, the farmland need not be located in the same area. In addition, farm no. 49's successor is already engaged in farming it, and although the household is requested to borrow more farmland, it may find it difficult to do so.

Farm no. 35, which belongs to the *kessyaen* and kinship type, manages 0.85 ha of its own land and 0.15 ha of leased land; it cultivates onions on 0.55 ha of farmland, cabbage on 0.2 ha, lettuce on 0.1 ha, Chinese cabbage on 0.2 ha, rice on 0.55 ha, and sorgo on 0.3 ha. The householder is a public servant who can engage in farming only on the weekends; his spouse mainly manages the farming. All of their farm products are shipped out to the Awajishima Agricultural Cooperatives. Farm no. 35 is a class 2 part-time farm household and its gross agricultural production in 2009 was 4.8 million yen. After deducting 3.7 million yen for production costs, including the cost of labor, the total income from farming is rather low. The farm cultivates its own land as well as leased land without distinguishing between them. Of the total 1 ha of cultivated land under the household's management, double cropping is practiced in 0.55 ha and triple cropping, in 0.45 ha.

Farm no. 35 has borrowed one plot of farmland. This leased

farmland is located in Yamajo, far from the housing site; farmland consolidation has also not been done in its case. The householder of farm no. 35 and the lender are from different settlements, and this borrowed farmland is also far from the other land cultivated by this farm. However, the two parties belong to the common group of shrine parishioners, based on which farm no. 35 agreed to borrow the farmland. It is not necessary for farm no. 35 to improve its farming efficiency to match that of full-time farm households, mainly because agricultural income constitutes a low percentage of the household's total income. Therefore, it is said that the household will undertake to cultivate farmland even though it is not in a good condition in order to maintain a good day-to-day relationship with the lender. In contrast, although the cultivated land under the management of this farm has increased, the farm does face a shortage of labor. Consequently, by increasing the ratio of double cropping, the farm household is able to use all of its cultivated land all year round.

It was understood that transferring farmland rights are not desired by recipients regardless of the degree of dependence on agriculture for total income of farm households based on the above three types. Farm households that have a sufficient labor force; for example, cases in which the successors are already engaged in farming, have not changed their cropping system despite the expansion by leasing farmland from other households.

Meanwhile, farm households that face a shortage of labor, such as farms no. 34 and 35, tend to increase the ratio of double cropping in the larger expanse of cultivated land under their management.

Chapter 4

The Development of the Transfer of Farmland Rights from the Viewpoint of Social Relationships

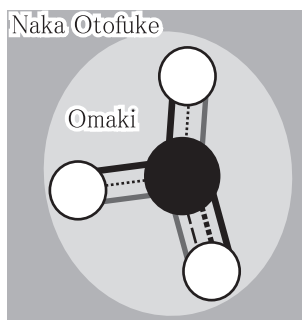
Based on the analyses presented in chapters 2 and 3, this chapter will examine the characteristics of the process of transferring farmland rights in both regions and the ways in which each transfer is related to the farm management of each farm household. This chapter will also explore how the transfer of farmland rights plays a role in farmland maintenance.

1. Characteristics of the Process of Transferring Farmland Rights

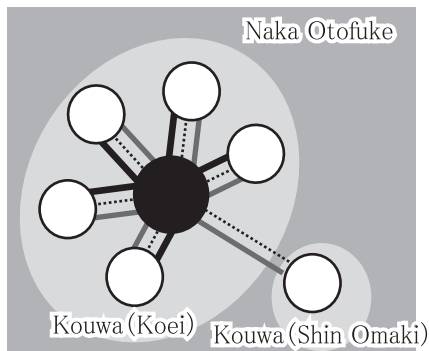
(1) Characteristics of the Process of Transferring Farmland Rights in Omaki and Kouwa, Otofuke Town

The *kinrin* type of transfer of farmland rights has developed as a blend of various roles in social relationships, as represented by the case of farm no. 5 (Figure 17). It is impossible for individual households to either enter into or withdraw from these social relationships, which include territorial and *kessyaen* relations. Such social relationships do not cease even

a) *Kinrin* Type (Farm No.5)



b) *Kessyaen* Type (Farm No.22)



c) *Kansetsuen* Type (Farm No.26)

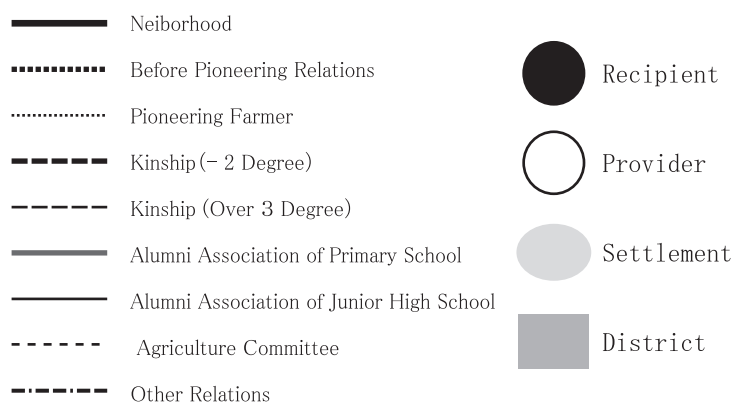
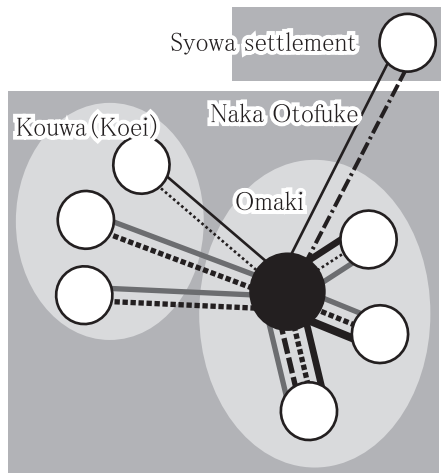


Figure.17 The network attendant on the transfer of farmland rights in Omaki and Kouwa, Otofuke Town, Hokkaido Prefecture

Data source: Interviews

after the termination of lease contracts, primarily due to the social life of the settlement. In other words, these relationships have a binding authority on farm householders and make it difficult for the parties to annul a purchasing contract or cancel a lease contract. Moreover, since there are many transfers of farmland rights where it is impossible to either enter into or withdraw from all the social relation types, there seems to be little risk that the amount of cultivated land under a farm household's management will decrease due to the cancellation of a lease contract. Hence, farm households can continue to accumulate farmland and set up stable large-scale farm management.

The farm households of the *kessyaen* type have accumulated most of their farmland through social relations that are impossible to enter into and withdraw from, such as being from the same settlement or having neighborhood relations, just like the *kinrin* type. Moreover, some of these transfers extend to other settlements in Naka Otofuke district and are similar to the within-settlement transfers in that they are based on social relations with a strong, binding authority, such as farm households who developed their land together or who are members of a primary school alumni association. There have been cases where farm households have been forced to receive farmlands due to their *kessyaen* social relationships, even though that farmland was not in good cultivable condition.

Whereas this example expands cultivated land, it does not specific farmland that recipients desire will be taken over and as a result, it is restricted not to be abandoned farmland. Such binding social relationships have contributed to the sustainability and stability of large-scale farming in regions where there are many farm households that practice farmland leasing, such as the study areas.

Farm households of the *kansetsuen* types have also accumulated most of their farmlands through neighborhood relations or *kessyaen*, just like the previous two types. Meanwhile, a few of these households have accumulated additional farmland through *kansetsuen* transfers, in which there are no connections between the buyers and sellers or borrowers and lenders, and the transfer of farmland rights is based on social relations that can be entered into as well as withdrawn from. In this type of transfer, if the households decide to terminate their farmland relations, it will not cause any problems in the social life of the settlement.

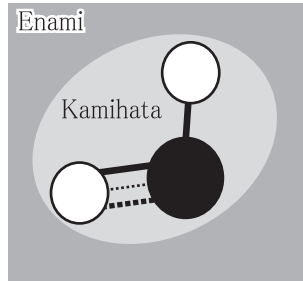
Most farmland accumulation of the *kansetsuen* type has occurred after 1990. Transfers of this type constitute significant means for farmers wishing to further expand their scale of operation. Such transfers also play a key role for farmland providers when they cannot find recipients within the settlement. Moreover, since *kansetsuen* transfers are based on solely the purchase or lease of farmland, it is not necessary for

the providers to set a land price that is far different than the actual market price due to their social relations within the settlement. Thus, the land price can be automatically decided between the two parties. Furthermore, there have been cases in which farm households that had already retired in Omaki and Kouwa lent out their farmland to households in Shihoro Town at higher land prices⁹⁾. Farm households that have expanded through *kansetsuen* transfers also tend to introduce new crops in their expanded farmland and thoroughly utilize newly developed distribution routes. As mentioned above, farm households of this type utilize their social relations such as *kansetsuen* while proactively expanding their scale of farming, developing distribution routes, and introducing new crops. Since farmland accumulation utilizing *kansetsuen* transfers occurs through weaker social relationships rather than territorial, kinship and *kessyaen* relations, they also involve risks pertaining to the cancellation of a lease contract.

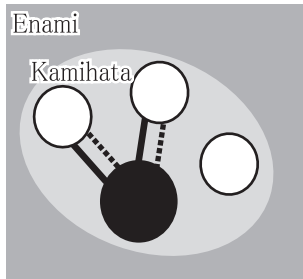
(2) Characteristics of the Process of Transferring Farmland Rights in Kamihata, Minami Awaji City

Kamihata has seen many *kinrin* type a transfers of farmland rights between farm households sharing relations such as same neighborhood (A), *rinpo* (A'), and other social relations such as kinship and *kessyaen* (Figure 18; a). However, the farmland lots are rather small in size, and thus it is difficult to improve

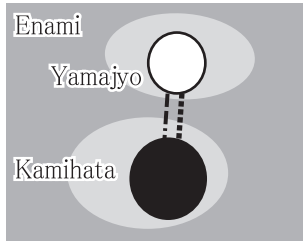
a) *Kinrin* Type α (Farm No. 6)



b) *Kinrin* Type β (Farm No. 42)



c) *Kessyaen* and Kinship Type (Farm No. 35)















-  Recipient
-  Provider
-  Settlement
-  District, Alumni Association of Primary School
-  Neighborhood
-  Rinpo
-  Group of Belivers
-  Group of Parishioners
-  Irrigation Association
-  head and branch families
-  Other Kinship
-  Others

Figure.18 The network attendant on the transfer of farmland rights in Kamihata, Minami Awaji City, Hyogo Prefecture(2009)

Data source: Interviews

the overall efficiency of farm management. Therefore, neither full-time nor part-time farmers desire expansion by borrowing additional farmland. In one case, even a full-time farmer chose not to proactively borrow farmland, and the farmland lent out by a farm household was divided and leased by multiple borrowers. In this way, it can be said that households following the *kinrin* type α transfer only passively borrow farmland due to their need to maintain close social relationships such as same neighborhood (A), *rinpo* (A'), and other social relations such as kinship or *kessyaen* relations with the lenders.

The *kinrin* type β transfers of farmland rights have occurred between households that share the social relations of same settlement (B) and primary school alumni association (I), but not same neighborhood or neighboring house relations, in addition to those who share same neighborhood (A), *rinpo* (A'), and other social relations such as kinship or *kessyaen* relations (Figure 18; b). Agriculture plays a significant economic role in the total income of every farm household, including class 1 part-time farm households. However, as in the *kinrin* type α transfers, the farmland of one farm household that was lent out through a *kinrin* type β transfer has been divided and leased by multiple borrowers, since the farm households do not proactively desire to expand. Furthermore, there are some farm households that have opted for various distribution routes other than those provided by the Awajishima Agricultural Cooperatives.

However, these farmers have not positively undertaken farmland leasing, and it has become difficult for them to borrow additional farmland. Although both full-time and class 1 part-time farmers have implemented *kinrin* type β transfers, such transfers were not developed for economic purposes. Since the number of farmers has decreased in Kamihata, farmland in Kamihata that could not be transferred through *kinrin* type α transfers have been undertaken by some recipients, mostly full-time farm households, with a relatively sufficient labor force. Hence, it can be said that the process of transferring farmland rights has developed while maintaining the social functions existing in the rural settlement of Kamihata and that the framework of same settlement relations (B) plays a significant role in such transfers.

The *kessyaen* and kinship type of transfers of farmland rights have taken place between farm households sharing various connections such as belonging to the same group of shrine parishioners (G), irrigation association (H), and other kinship relations (M). However, unlike the previous two types, the spatial range of these relations extends beyond the settlement (Figure 18; c). Both the size of land and the number of farmland leases per household are small for all three types of transfers. The householders in this type of transfer are over 55 years of age and none of their sons or successors plan to farm. All these farm households are part-time and the economic contribution of

agriculture to their total income is very low; therefore, these households have no desire to improve their agricultural profitability through scale expansion.

The cultivation conditions of all the farmland borrowed through the *kessyaen* and kinship type of transfers bears out the fact that most of the recipient households' total income comes from non-agricultural businesses. Hence, their reasons for continuing agriculture are mostly non-economic. From this point of view, it can be said that farm households of the *kessyaen* and kinship type do not borrow farmland for pursuing economic rationalization: they borrow vacant farmland that did not borrow in the same settlement. Thus, this type of transfer has been developed in order to maintain social relationships in areas such as Enami district (C), where both providers and recipients reside nearby or share some other kinship (M). Unlike the previous two types, these social ties extend beyond the framework of the same settlement. However, as in the *kinrin* type a transfer, the maintenance of certain social relationships between the concerned farm households plays a significant role in the development of the transfer of farmland rights.

As stated above, most of the non-farm households in Kamihata that possess farmland have leased it out to full-time farmers or part-time farmers with a large enough labor force. However, as the number of people engaged in farming decreases, it becomes increasingly difficult to achieve sustainable farmland use

through negotiations. In the future, it is predicted that individual farm households will find it increasingly difficult to continue cultivating all the farmland within the settlement, including abandoned farmland, through such transfers of farmland rights.

In this way, farm households in Kamihata have prepared and maintained a foundation that enables collective farmland management by organizing a Farming Union, working together to carry out collective rice cropping, and consolidating their farmland. Moreover, the implementation of group rotation cropping has given them greater financial incentives for rotation cropping and to stabilize a Farming Union that was responsible for group farmland management. On the other hand, the implementation of group rotation cropping makes it impossible for farm households to lease out their farmland to farm households outside the settlement, since that will make it difficult to achieve any consensus on land use adjustment. Consequently, there is an implicit agreement between households to manage farmland within the settlement itself or within a unit of the settlement. In particular, the Farming Union includes non-farm households that possess farmland, and the farm households' participation in managing these farmlands, which extends beyond the usual range of their economic activities, is considered an essential part of maintaining the social functions of the settlement.

2. Interactions between the Process of Transferring Farmland Rights and Farm Management

From the viewpoint of the farm management of farm households belonging to each type in Omaki and Kouwa settlements of Otofuke Town, there are relatively many small-scale farm households of the *kinrin* type with different farm management styles as follows: only upland cropping, upland cropping and dairy husbandry, only dairy husbandry, and only vegetable cropping. The average age of the farmers is 54.4 years, which is quite old (Table 6). The area of cultivated land under the management of farm households of the *kessyaen* type is larger than that of the *kinrin* type, and the average age of these farmers is 47.1 years, which is younger than that of the *kinrin* type. The *kansetsuen* type of farm households have a larger area of cultivated land under their management compared to the other two types, and all these farm households practice only upland cropping. The average age of these farmers is also the lowest of all the three types.

In Omaki and Kouwa, while the average number of transfers of farmland rights among farm households focusing exclusively on upland cropping in all the types is 4.2, the corresponding number for dairy husbandry households is 2.8. In fact, in farm households practicing upland cropping that have full-time farmers less than 50 years old, the average number of transfers is 5.4. Based on the above, it appears that farm households

Table. 6 Characteristics of the process of transferring farmland rights in Omaki and Kouwa, Otofuke Town, Hokkaido Prefecture

	Sum	Area (ha)			Management Form				Average Age of Core Farmer
		-30	31-60	60-	Upland	U & D	Dairy	Vege	
<i>Kinrin</i> Type	16	8	7	1	11	1	3	1	54.4
<i>Kessyaen</i> Type	5	1	3	1	2	1	2	-	47.1
<i>Kansetsuen</i> Type	6	-	3	3	6	-	-	-	45.8

Note1) "U&D" is diversified farming of upland crops and dairy husbandry

Note2) Unit is "households" except for "Average Age of Core Farmer"

Data source: Interviews

specializing in upland cropping have a strong desire to expand their scale of operation, while those who have young full-time farmers tend to accumulate farmland more proactively. With regard to the farm households involved in dairy husbandry, farmland accumulation is not directly connected with scale expansion, and it can be said that they are not keen on expanding the cultivated land under their management. Furthermore, the number of transfers of farmland rights per farm household is 3.2 in Omaki and 4.8 in Kouwa—a difference of 1.6 points. This is probably because the cultivated land in Kouwa is in better condition than that in Omaki¹³⁾. If the condition of cultivated land in Omaki were as good as that in Kouwa, the ratio of upland cropping would increase in Omaki, and the farmers would be more proactive in farmland accumulation. In other words, farm management styles are divided into upland cropping and dairy husbandry depending on the location of each household's farmland, and the progress status of farmland accumulation differs depending on the amount of labor force available for each farm household.

Next, with regard to the farm management of farm households belonging to each type in Kamihata, Minami Awaji City, more than half of all the farm households of each type have full-time farmers aged less than 60 years (Table 7). In Kamihata, while the average number of transfers of all types is 1.8, the corresponding average for part-time farm households is 1.2.

Table.7 Characteristics of the process of transferring farmland rights in Kamihata, Minami Awaji City, Hyogo Prefecture

	Sum	Management Scale (ha)			Management Form			Core farmer of Younger than 60	Average Borrow Area (ha)
		-1.0	1.01-2.0	2.01-	F	C1	C2		
<i>Kinrin</i> Type α	5	-	2	3	3	2	0	2	0.75
<i>Kinrin</i> Type β	6	1	4	1	5	1	0	4	0.867
<i>Kessyaen</i> and Kinship Type	3	1	2	-	-	1	2	2	0.283

Note1;Unit is “households” except for “Core farmer younger than 60”

Note2;“F” is full time farmer, “C1” is class 1 part-time farmer, “C2” is class 2 part-time farmer.

Data source: Interviews

The area undertaken by these farmers ranges from 0.1 ha to 0.6 ha, which is smaller than that undertaken by the full-time farm households. However, six out of 14 recipient farm households are part-time, who thus play an important role as recipients of farmland. In addition, the average size of borrowed land of each type is 0.75 ha in the *kinrin* type α and 0.867 ha in the *kinrin* type β transfers, which are completed within a settlement, and 0.283 ha in the *kessyaen* and kinship types of transfer, which extend outside a settlement. Social relationships within the same settlement are a key factor in increasing the size of borrowed farmland. Furthermore, *kinrin* type α and β transfers, where the size of borrowed farmland is large, are mostly carried out by full-time farm households. Hence, within-settlement transfers of farmland rights appear to be mostly carried out by full-time farmers, while transfers extending beyond the settlement boundaries, although the land size may be small, appear to be mostly carried out by part-time farm households. The recipients utilize their own land and borrowed land without any distinction, and the scale expansion resulting from farming the borrowed farmland has increased their profitability. However, the recipients were already in a position to obtain sufficient income from vegetable cropping in their own farmland since the net sales of onions and leafy vegetables including lettuce, cabbage, and Chinese cabbage are high and a double or triple cropping system fetches between 400,000 yen and 500,000

yen per 0.1 ha. Moreover, in cases where a successor was engaged in farming, the main farmers constituted two or more generations and included senior members. Therefore, the agriculture labor force tended to be insufficient and farmers did not desire expansion by borrowing additional farmland.

Meanwhile, there was no *kansetsuen*-type transfer of farmland rights limited by economic activities, and the following relations were observed in all the transfers: territorial relations with a spatial range smaller than the settlement level and *kessyaen* and kinship relations. The reason for many transfers in Kamihata was not the improvement of profitability but the maintenance of the social relations of both full-time and part-time farm households within the social groups of each farmland or the maintenance of the social functions of the entire settlement. Individual farm households improved profitability by modifying their cropping systems to focus on leafy vegetables, which increased land productivity. It was also found that in addition to paddy rice cropping, which has low productivity, the farmers reduced the ratio of onion cultivation, which likewise has low productivity, more than leafy vegetables production during the second cropping (Figure 11). Moreover, farmland recipients who faced a shortage of labor could still cultivate paddy rice, which despite its low productivity, could be cultivated with little labor. Hence, regardless of their low profitability, the existence of such crops that can be cultivated without much labor is a significant

factor for the farm household with labor shortage that are also recipients of farmland.

Based on the above, the case study of Tokachi Plain revealed that when most of the households within a settlement are full-time farm households and when all farm households are dependent on farm production, the process of transferring farmland rights develops through economic incentives and is aimed at improving profitability. The analysis also indicates that the transfers between farm households that desire to maintain or downsize their current management scale tend to be restricted to a spatially small range, such as the same neighborhood or settlement. Moreover, the stronger a farm household's desire to expand its scale of operation, the more likely it is to carry out transfers based merely on economic transaction, such as *kansetsuen* relations, and the more likely it is that the household's cultivated land will spatially extend across a wider area. In fact, it can be said that during expansion, the farm households in question fully exploited their various social relations, and since the acquired farmland functioned as the focus of economic activity of each farm household, farmland use has been maintained over the years.

Meanwhile, in the case of Mihara Plain, full-time and part-time households are blended together with non-farm households, with the farmland playing a different economic role in each household. It should be particularly noted that even

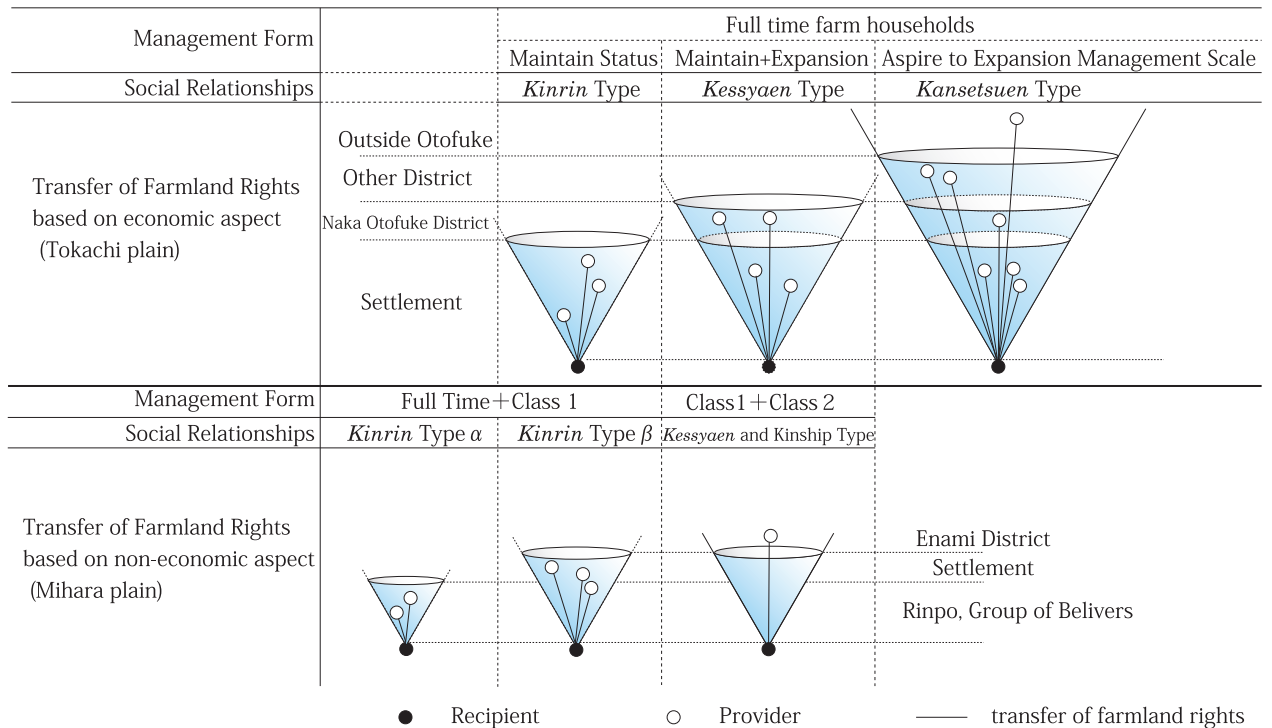
full-time farm households obtaining all their income from farm management did not undertake farmland only for economic purposes. In the case of part-time farm households, income from farming constitutes a much lower percentage of total household income than in the case of full-time households, and the lower this share, the closer are the relations involved in the transfer of farmland rights. Moreover, such transfers spatially extended across a wide area, even though their scale was small. Furthermore, full-time households largely took up farmland within a settlement. To begin with, they acquired the farmland of farm households based on various connections such as being in the same neighborhood, *kessyaen*, or kinship relations. In the event farmland providers could not find recipients within the above mentioned groups, they sold or lent their farmland to farm households residing in the same settlement with whom they also had primary school relations. Full-time farm households, in particular, became the recipients of this kind of transfer. The cultivation conditions within the settlement were favorable and there was a shortage of potential farm successors. Therefore, some recipients undertook farmlands within the settlement out of a sense of responsibility in order to maintain the social relations within the settlement, despite the absence of any special relation such as kinship. Meanwhile, transfers extending outside the settlement were mainly based on *kessyaen* and kinship relations, and generally targeted farmlands with

unfavorable cultivation conditions. In such cases, farm households where farming did not play an important economic role undertook farmland with unfavorable cultivation conditions.

3. Role of Social Relations in Farmland Management

Farm households within the same settlement share a multilayered combination of neighborhood relations and various other relations such as territorial, *kessyaen*, and kinship relations; these relations have influenced the transfers of farmland rights in both Tokachi Plain and Mihara Plain. In Tokachi Plain, most of the cultivated land under the management of recipient farm households has been secured through such transfers. The recipients have accumulated farmland while increasing profitability through social relationships that are a combination of neighborhood relations and other relations such as the being from the same settlement, relations between farm households who developed land together, and members of the same primary school alumni association. Such transfers were essential in order to achieve stable large-scale farm management. However, the transfers of farmland rights through social relationships of this sort were limited to a spatially small range and contributed to both efficient farm management of individual farm households and the preservation of farmland within a settlement or district (Figure 19).

On the other hand, in Mihara Plain, transfers of farmland



Note) "Full time" is full time farm households, "Class 1" is class 1 part-time farm households, "Class 2" is class 2 part-time farm households.

Figure. 19 Expansion of social relationships involved in the transfer of farmland rights

rights that were based on social relationships combining territorial, kinship, and *kessyaen* relations extended outside the settlement. As in Tokachi Plain, the bonds forged by various connections between farm household have played a significant role in sustaining the farmlands within the settlement. In addition, transfers of farmland rights extended outside the settlement when the farmland within a settlement had no recipients; despite the small scale of such transfers, they did play some role in sustaining the farmland of other settlements. However, this kind of transfer did not develop from the viewpoint of increasing the profitability of the recipients. In this manner, it can be said that farmland management is based on various phases in the multilayered nature of social relationships connecting farm households. These connections among farm households have contributed to continuous farmland use in both the regions under study. However, the resultant transfers of farmland rights have developed in spatially different ranges depending on the disparity of the characteristics of farm management in the region.

Moreover, in Mihara Plain, the number of non-farm households has increased due to farm retirement while the number of active farmers has decreased, and it has become increasingly difficult to secure farmland recipients based on previous relations such as being from the same neighborhood or being members of the same religious association group. This has led to the development of

transfers based on same-settlement relations since 2000, which can thus be called the latest style of transferring farmland rights. Such transfers allow the large-scale sustenance of farmland. In fact, some farm households have secured more than half of their cultivated land through such transfers. However, further scale expansion is difficult due to the agricultural characteristics of Mihara Plain. Although most recipients of this type of transfer were full-time farmers, they had no desire to carry out additional expansion or acquire farmland outside the settlement. Hence, these same-settlement transfers mainly occurred due to non-economic aspects. In regions where profitability could not be expected through scale expansion, the relations between farm households in the same settlement played an important role in sustaining farmlands within the settlement.

Transfers of farmland rights among farm households with same neighborhood or kinship relations were also observed in both regions. In Tokachi Plain, each farm household utilized *kansetsuen* connections for increasing profitability and they even conducted transfers outside the settlement. These relations were limited to economic transactions, which gave rise to a new style of transfer of farmland rights; hence, they are clearly distinguished from social life as an economic activity. Therefore, in the event that the conditions pertaining to the negotiation of land rents become unfavorable, the lease contract

can easily be cancelled. Meanwhile, the farm households that desired to expand their scale of operations secured a stable farm size through transfers of farmland rights based on a multilayered network of social relationships as well as through transfers that were merely economic transactions. Although such transfers were limited to economic transactions and therefore contributed to the sustainability of farmland, their scale was small. In regions where expansion was possible, such transfers developed over a spatially wide range; however, from the viewpoint of farmland sustainability, they played only a complementary role.

As mentioned above, transfers of farmland rights were based on various social relationships and developed depending on the regional conditions. The settlement acted as a significant unit in this development in both regions. Due to the characteristics of farming in Tokachi Plain, the farmers desired to expand for increasing profitability; hence, most transfers of farmland rights were carried out within the framework of the settlement. Individual farm households secured most of their cultivated land from within the same settlement, and in regions where such transfers had a strong economic relevance, large-scale farming was based on the framework of the settlement. On the other hand, due to the labor-intensive characteristics of farming in Mihara Plain, farmers did not really desire scale expansion through the transfer of farmland rights; however, farm

households did carry out transfers in order to sustain other farmlands within the settlement. In the past, transfers were based on close relationships such as being from the same neighborhood or being from the religious association group relations; however, the unit of the settlement was the ultimate unit for receiving and sustaining farmland while the number of farmers decreased. This basic unit of the settlement has differently affected the process of transferring farmland rights in both regions; nevertheless, it can be said that the transfer of farmland rights process has been founded on both close relationships between farm households and the need to maintain farmland within the settlement.

Chapter 5

Conclusions

Based on the analysis of how transfers of farmland rights among farm households are influenced by the social relations between those households, this study examined the roles played by such transfers in farming management in rural village settlements. The analysis focused on the combination of social relationships among farm households involved in these transfers. Since the transfers could be based on either economic or non-economic aspects, this study conducted a comparative analysis of two regions: Tokachi Plain, where the transfers have developed mainly due to economic aspects, and Mihara Plain, where the transfers have been mainly influenced by non-economic aspects.

In Tokachi Plain, it was observed that all the farm households carried out transfers of farmland rights in order to increase their profitability from farming. The farmlands traded in these cases were mainly located within the same settlement or district. Since each farm household accumulated farmland for economic purposes, they preferred farmland located close together to ensure work efficiency. The transfer of farmland rights based

on multilayered social relationships contributed to stable large-scale farming, since hardly any lease contracts were cancelled in regions where there were many farmland recipients. The transfers based on economic motivation, as a result, contributed to the maintenance of farmland within the settlement. On the other hand, transfers extending outside the settlement were based on the economic motivations of farm households that were competing with each other for scale expansion. Farmland recipients proactively sought to accumulate farmland from beyond the settlement through relations limited to economic transactions. Therefore, they sometimes offered higher land prices than those offered by farm households within the settlement in order to acquire farmland outside their areas, since the farm households in other settlements also desired to expand their management scale. In this way, despite the influence of economic motivation, farmland management within the settlement was predominantly founded on multilayered social relationships, such as neighborhood relations, in the settlement. In addition, social relations limited to economic transactions contributed to the management of farmland that was bought or borrowed from outside the district.

In Mihara Plain, the recipients did not attempt to increase profitability, and the farmland transfers were motivated by non-economic factors. In the past, after a farmer's retirement,

his farmland was generally transferred among farm households through kinship or neighborhood relations in order to maintain the "farmland as family property" and as "farmland of the settlement." However, it gradually became difficult to secure farmland recipients solely through such relations. In order to sustain the farmland within the settlement, farm households with sufficient labor force were passively forced to undertake the farmland of landowners with whom they had no neighborhood or kinship relations. Consequently, full-time farmers with sufficient labor force undertook the farming of additional farmland simply because they were located in the same settlement. Moreover, it was difficult for full-time farm households to refuse to borrow such farmland by citing the reason of work efficiency because work efficiency is typically high in farmlands within the same settlement. On the other hand, in the case of the transfer of farmland rights extending to farms in other settlements, the main recipients were part-time farm households who undertook these farmlands to sustain social relationships such as *kessyaen* or kinship relations with the landowners. In addition to transfers of farmland rights within the settlement, those outside the settlement were promoted based on same district, *kessyaen*, or kinship relations. While same settlement relations were the basis for sustaining farmland within a settlement, territorial relations of a wider range than a settlement, *kessyaen*, and kinship relations contributed to the

sustainability of farmlands outside a settlement.

This study clarifies how the transfer of farmland rights based on relations limited to economic transactions is different from the way in which multilayered social relationships influenced such transfers in the past. In this new style of transfer, however, the farmland is automatically trad, and there is hardly any possibility of problems such as agrarian disputes caused by a tenant's right to farm in perpetuity. Hence, even if the transfer involves unfavorable farmland trading, there is little disruption of the social life of the settlement, which alleviates the landowner's sense of resistance to lending out land. In regions where the improvement of profitability is possible through scale expansion, this style of transfer is likely to encourage landowners to entrust their farmland to farm households outside the settlement when they cannot find any tenants within the settlement. Such transfers will also serve as an effective measure for farm households desiring expansion to acquire farmland with specific characteristics for economic purposes.

However, when the transfer of farmland rights is limited to an economic transaction, it is easy to cancel a lease contract, if necessary. At present, companies who have newly entered agriculture are regarded as the new recipients of farmland; however, it should be remembered that they can easily withdraw from the contract if the farm production does not match their profitability standards. In places such as Hokkaido, where

farmland acquisition has already been completed, those interested in acquiring farmland can only obtain them if an existing recipient withdraws from the contract. However, farmland acquisition has been completed in only a few regions in Japan, and companies are undertaking farming on farmlands that have not been undertaken by other farm households. In such cases, if the companies decide to terminate their contracts, it will be difficult to find recipients for the vacant farmlands. Hence, anyone attempting to promote this type of transfer of farmland rights must also consider the regional conditions and take the necessary measures.

In contrast, non-economic factors that sustained the “farmland as a family property” and the “farmland of the settlement” played an important role in the transfer of farmland rights. In the past, all the households in a settlement were farm households, and that individual farm households sustained farm management meant to maintain farmland within a settlement. However, as the number of farmers decreased, it became increasingly difficult to sustain farmlands through the old systems of transfer of farmland rights, which had been practiced at a time when all the residents in a settlement were farm households. In this situation, based on the social relationships within the same settlement, the responsibility for sustaining farmlands was imposed on the full-time and some part-time farmers. Although the farmland was no longer a source of

economic activity for non-farm households, it was still regarded as their “family property”; therefore, abandoning cultivable land was not considered desirable from the viewpoint of sustaining family property. In order to address this situation in Kamihata, it was decided that the full-time farmers who agreed to farm such plots would be awarded some compensation as well as a daily wage for sustaining such farmland through farmland consolidation based on the “Measures to Improve Farmland, Water, and Environmental Conservation” undertaken by the Farming Union. The older system that depends solely on various social relationships and the sustenance of farmland through transfers that offer no economic advantage is expected to fall apart in the future given the current conditions, since the number of farmers is not expected to increase. Hence, although social relationships within the same settlement form the basis of farmland sustainability in places such as Kamihata, the concerned authorities should also clarify the amount of compensation they are willing to pay for farmland sustainability and prepare cultivation conditions through which recipients can easily undertake farmland.

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Notes

- 1) The following materials have been used as references: Tenma and Sasaki eds. (1979), Sponsoring Organization Anniversary Edition (1980), Komaba Primary School Sponsoring Organization of the 80 Year Anniversary (1986), Komaba Junior High School sponsoring Organization of the 50 Year Anniversary (1997), Higashi Naka Otofuke Primary School Sponsoring Organization of the 70 Year Anniversary (2000), and Kouwa 50-year Project Committee Edition (2002).
- 2) Inoue (1987) defines *kessyaen* as a relation “which was consciously established for some purpose to provide opportunities” based on “the free will of participants.” However, Inoue also pointed out that although these relations are based on some common purpose, their participants have different degrees of selectivity depending on the characteristics of each group. There is no choice involved in being a member of a primary or junior high school alumni association or a pioneering farmer who developed the land in Omaki or Kouwa. Hence, it can be said that *kessyaen* relations also include those which cannot be selected in Omaki and Kouwa.
- 3) According to Ushiyama (1989), the Otofuke Town Agricultural Cooperatives classified farm households as A, B, C, and D based on their economic situation and recommended that they

abandon farming in the order of D to A. These classifications were based on the following criteria: households classified as A “can return the principal and interest of agreed redemption of the loan from the surplus of their farm household economy,” those classified as B “can return all the interest and some of the principal,” those classified as C “can return only some interest,” and those classified as D are those “whose economic surplus cannot cover their household expenditure.” The farmland belonging to the farm households that were advised to abandon farming were usually seized as collateral, following which the households left the village.

- 4) Although “household no. 19” should be accurately specified as such, in this study, all households, including non-farm households with some farmland, have been referred to as “farm no. ○”; therefore, instead of adding a new symbol for one exceptional household, the household was specified as “farm no.19.”
- 5) According to Hiraishi (2006), the maximum scale of upland cropping managed by family-run farm households is estimated to be between 0.5 ha and 0.6 ha.
- 6) With regard to farms no. 3, 6, 7, and 15, this study considered their transfers of farmland rights only after their entry into the concerned settlements. With regard to the farm households that entered after the development period (1955–1960), the study considered their transfers only after

entering the study areas.

- 7) The transfer of farmland rights of tenant farm households from other areas are specified only in Omaki and Kouwa; therefore, they are not included in this number.
- 8) The transfer of farmland rights of tenant farm households from other areas are specified only in Omaki and Kouwa; therefore, they are not included.
- 9) The annual farm rent in Shihoro Town ranges between 15,000 and 20,000 yen per 0.1 ha. In the study areas, there were 2 cases where farm households in Omaki and Kouwa had abandoned farming and lent out their farmland to households in Shihoro Town.
- 10) According to an interview at Awaji City Office, a similar trend was reported among the farmland leaseholds in Minami Awaji City, although there are no figures for the cases wherein farms are leased out illegally.
- 11) Non-farm households that possess some land have also been referred to as farm households.
- 12) Although the contractors receive a daily wage, the amount fixed is low, and their activity is still positioned as a kind of volunteer work. This has resulted in problems pertaining to the fact that tasks such as accounting and drafting reports are only handled by a specific group of people.
- 13) There is a vertical drop of approximately 70 m between the eastern part of Omaki and the northwest regions of Kouwa,

which affects the water drainage conditions of the cultivated land. Moreover, the cultivated land in the northern parts of Omaki has many rocky shores and is unfit for upland cropping; therefore, many farm households in this region focus only on dairy husbandry.

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