

**Multi-Level Governance of Agricultural Landscapes in Japan:
Perceptions of Farmland and Property Rights Re-Arrangements
(Draft)**

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Note: This is a preliminary version of the dissertation proposal draft for my PhD study. Comments and suggestions are very welcome. Please do not cite without permission of the author.

Abstract:

Agricultural land abandonment has swelled over the past several decades in Japan, having an alarming implication not only of foiling economic gains, but also of cultural heritage loss, uncertainty of food security, and biodiversity change. In this context, a cross-level coordination of property rights trading has been evolving to curb farmland abandonment and at the same time possibly promote sustainable farmland management. The dissertation aims to investigate *how perceptions about values of agricultural land are held by actors and stakeholders across different levels in Japan, and then influence their responses to agricultural landscape management*. By conducting an in-depth analysis of property rights re-arrangements in Ishikawa Prefecture of Japan, the study will examine *how farmers with different types of property rights perceive farmland and act on their perceptions to feed into property rights re-arrangements, and in turn what consequences a cross-level coordination of property rights trading has particularly at the local level*.

Introduction:

Ecosystems and the benefits they provide extend and interact across different levels of social systems, whereas humans are organized at multiple levels as users and managers of the ecosystems. To better facilitate interactions between these different levels, multi-level governance has emerged as a form of environmental governance specifically involving and delineating the interlinkages between the levels. Carefully taking into account the challenges arising from the interactions across different levels such as subsidiarity and dependency, scholars and practitioners have proposed various types of governance strategies including co-management (e.g., Folke et al. 2002; Adger et al. 2005), boundary or bridging organizations (e.g., Folke et al. 2005; Hahn et al. 2006), polycentric governance (e.g., Ostrom 2005; McGinnis 1999), and place-based management (e.g., Norse and Crowder, 2005; Young et al., 2007). These approaches to

multi-level governance deliberately pay attentions to vertical and horizontal interlinkages of human-environment interactions so as to acknowledge, accommodate and bridge the differences resultant from multiple levels, while noting that evolution and outcomes of governance largely rely on the contexts in which the governance mechanisms are embedded (Ostrom, 1990; Brondizio et al., 2009; Cox et al., 2010). Yet, it is less vigilant for how perceptions held by different groups of people at multiple levels permeate or change through multi-level governance and then inform or influence the governance mechanism.

This dissertation inquires about *how perceptions about values of agricultural land are held by actors and stakeholders at different levels in Japan, and then influence their responses to agricultural landscape management*. Agricultural landscapes have been changing over the centuries essentially in connection with human well-being of individuals as well as local, national and international communities. In particular for the past several decades, these landscapes have experienced globally disproportional shifts, being faced with increased global competition of agricultural produce. In Japan, as in many other industrialized countries, farmland has been increasingly abandoned especially over the last few decades, heavily relying on natural resources from abroad. This has implications not only of foiling economic gains from land, but also of cultural heritage loss, uncertainty of food security, and biodiversity change.

In this context, a cross-level coordination of property rights trading has been evolving in Japan to curb farmland abandonment and at the same time possibly promote sustainable farmland management. Inheriting the legacy of the postwar land reform that demolished the feudalistic landlord system to democratize the agrarian societies, Japan's postwar agricultural land policy has essentially aimed to secure individual farmers' rights and well-being. Given the farmers' land ownership is primarily protected and thus mostly immobile across different actors but now is confronted with comparative disadvantages of agricultural sector, some better motivated and/or capacitated farmers have come to engage in cultivating other farmers' land mostly through farmland leasing. This type of property re-arrangements has evolved from local practices largely on a neighborhood basis. Besides, the agricultural land policy has moved away from stricter restrictions of farmland transactions to broadening the scope of property users so as to allow a wider range of actors including business corporations to join in agricultural practices

through leasing. In particular, a new coordination mechanism was recently introduced at the prefectural level to facilitate matchmaking between owners and potential users of farmland in order to remobilize users in cultivating farmland. To be linked to this coordination mechanism, a locally-based planning procedure was also instituted to collectively identify existing natural and human resources and develop a plan for sustainable agricultural landscape management. This evolving cross-level coordination mechanism offers a case where local and broader institutional arrangements are vertically and horizontally interplayed through property right re-arrangements to link between goals and interests of actors and stakeholders at different levels.

Among various actors involved in governing agricultural landscapes, this study takes farmers (i.e. farmland property owners and/or users) as a point of departure to investigate how their perceptions permeate or change by contacting their external world in the course of making decisions on actions or inactions of executing their property rights. Agricultural land is a domain where human and natural resources are potentially capitalized in association with a certain property regime. In the historical setting of the postwar Japan where farmers' land ownership is fundamentally protected, farmers have been primary decision makers on whether to make farmland used or abandoned. Yet, even today agricultural societies feature not a total individualism, but rather communal characteristics with which collective decisions and actions are often made on the use of land and water bodies to manage agricultural landscapes. Nevertheless, the mode of collective actions, for instance as in the case of property re-arrangements, have been changing in the recent decades along with agricultural abandonment by which an increased number of farmers have lost motivation or interests in farmland to be used as it was. In this regard, the dissertation sees farmers not simply as a beneficiary or a passive reactor of agricultural landscape governance, but as a decision-maker to act or not to act on their perceptions developed either individually or socially in governing agricultural landscapes.

With a view to understanding how the actors/stakeholders at different levels perceive values of farmland and why and how they act (or not act) on their perceptions, the study intends to address the following questions: 1) *how do farmers perceive values of agricultural land particularly in connection with their property rights, and how different are their perceptions from those held by other actors/stakeholders at multiple levels (such as those in community,*

municipal, regional, prefectural and national levels)?; 2) how farmers and other actors respond to their perceptions, and what challenges and opportunities do they have in deciding their actions or inactions on farmland?; and 3) what outcome has been emerging out of the cross-level interactions between the actors involved in farmland property rights re-arrangements, and how does it affect in turn farmers' perceptions and livelihoods?

To address these questions, I will conduct an in-depth case study in Ishikawa Prefecture, which, as many other prefectures out of the metropolitan regions, has experienced incremental agricultural abandonment particularly in its rural parts while more recently gaining a considerable regional momentum of sustainable agricultural landscape management. This prefecture consists of two geographically and culturally contrasting rural regions. As such, the dissertation focuses on a case of Ishikawa Prefecture that features more or less typical agricultural abandonment of Japan, whereas two distinctive regional cases are embedded. These comparative studies within a prefecture will allow me to understand local and regional specificities under the same organizational structure and culture at the national and prefectural levels. Primary data will be first collected through semi-structured face-to-face interviews with farmers who are involved in agricultural landscape management, particularly in property rights re-arrangement activities. From this interview survey where I will also ask the farmers to refer me to their contacts at different levels, I will map out actors and agencies related to property rights re-arrangement activities, taking advantage of the snowball sampling strategy. Using this map, I will hold focus group interviews with these actors and agencies at different levels, in addition to undertaking semi-structured face-to-face interviews with them so as to understand how perceptions of farmland in connection with property rights are expressed, shared and exchanged socially as well as individually. Likewise, field observations on community meetings will be conducted to understand how perceptions are expressed and shared particularly among farmers and others at the local level. Furthermore, secondary data will be collected through policy documents, official website, meeting minutes and local and national newspapers to discern the trends and status of farmland property rights trading (e.g., size, volume, and types of farmland transaction) as well as the historical traits of the evolving cross-level coordination mechanism, and the local, regional and nation contexts behind such evolution.

Literature Review:

Literature of multi-level governance has been evolving along with increasing globalization particularly in the past decade. Today we know ample cases of environmental governance failure resulting from inappropriately accounting the scale and cross-scale dynamics in human-environment systems (Cash et al. 2006). Moreover, even long-lived human-environment systems, which historically adapted their institutional configurations to a variety of natural and social disturbances, are no longer immune to accelerated changes of a globalized world (Janssen, et al. 2007). Noting the cross-scale problems of resource-use systems of which functional interdependencies are amplifying due to economic globalization and global environmental change (Brondizio et al, 2009), an accumulation of empirical studies illuminates mismatches between different scales and levels, and draws key strategies for successful exploitation of cross-scale or cross-level opportunities of environmental governance, such as knowledge co-production, mediation, translation, negotiation, participation, accountability, leadership, and learning and trust (Cash et al., 2006; Folke, 2007; Armitage, 2008). Further, while suggesting the contextual forces and policy narratives often impede operationalization of these strategies, scholars have also theorized dominant mechanisms or guiding principles of governing cross-scale interaction of human-environment systems, such as co-management, boundary or bridging organizations, polycentric governance, and place-based management.

Elaborating on the cross-scale or cross-level mismatch problems of environmental governance, literature highlights multiple cognitive types of scales (i.e., dimensions used in measuring and analyzing phenomena — including spatial, temporal, jurisdictional scales), on each of which different levels (i.e., specific positions on any given scale) are posited (e.g., the spatial scale ranges from a cleared patch of farmland to landscape, regional and global levels) (Cash et al. 2006; Brondizio et al. 2009). It also notes that further complexity is added to the problems through interactions of human-environment systems within and across these different scales and levels. Further, multi-level governance literature conceptualizes challenges arising from these mismatch problems in terms of knowledge, information and cognition (Duraiappah et al. 2014; Cash et al. 2006), institutional fit and boundaries (Duraiappah et al. 2014; Young 2003;

Folke et al. 1998; Dietz et al. 2003), and authority and sanctions (Acheson, 2006; Berkes 2007; Ostrom, 2007; Young 1994). To deal with these challenges, a growing attention is paid to understanding and minimizing or curtailing the gaps existing in the mismatch problems at the best possible effort so as to govern increasingly inter-dependent cross-scale/level resource-use systems in a more sustainable manner.

To this growing literature of multi-level governance, this study is intended to situate its contributions mainly in two lines: 1) possibilities of changes in perceptions or discovery of new meaning about farmland through multi-level governance; and 2) a role of property rights and responsibilities in governing agricultural landscapes across multiple levels. These two lines are particularly relevant and potentially significant in the context of Japanese agricultural landscapes where farmland has been increasingly abandoned, instead of being seen as valuable resources by those interested in competing for. By addressing these two issues, the study attempts to contribute to advancing the concept of commons.

In the first line, this study argues that multi-level governance may not only fill a gap of knowledge, information and cognitions held by actors at multiple levels, but also intersubjectively change or reconstruct the meaning of a natural resource and its use systems. As the literature of co-management points to, an increased number of scholars are also attentive to possibilities of knowledge co-production through which context-specific knowledge networks produce locally relevant knowledge (Cash et al., 2003; Davidson-Hunt and O'Flaherty, 2007; Berkes, 2009). It usefully highlights the significance of practical tools and objects and strategic principles in intermediating in and bridging of natural resource-use systems across levels. Yet, it is much less examined whether and how perceptions held by different actors can intersubjectively change and to what extent a meaning of natural resources and their use systems can be construct or re-constructed. By examining pathways of perceptions and responses (i.e. action and inaction) through a lens of multi-level governance, the study attempts to investigate not only whether a knowledge/information gap is filled out, but also to what extent those perceptions remain or change in the course of their involvement in governance and whether any new insights emerge particularly in the context of farmland abandonment.

Specifically, the study pays attention to an emancipatory role of rational exercise in cognitive process where human reflection serves to question and deconstruct the concepts and identify the possibilities for development (Calhoun, 1995; Baert, 2005; Brenner, 2009). At the same time, however, it cautiously looks into human cognition subjective to various constraints or barriers including political, economic, social and physical ones. In this regard, given that property rights as a human invention largely control, determine and legitimize human cognition of natural resources, the dissertation will focus on how property rights of farmland interplay with fluid and ever-changing cognitive processes where humans and their knowledge contact the external world including other humans and non-human things. The study treats property right systems not necessarily as an instrumental arena or mode that offers a “formula” for any particular course of social change (Brenner, 2009), but as a part of multi-level governance transcending perception-response processes interchangeably while sometimes posing certain rigid constraints or barriers.

Also related to this point, on the second front, the study attempts to elaborate on how property rights and responsibility associated with farmland and agricultural landscapes are configured and interlinked in multi-level governance. Literature of property rights has become more attentive to dynamic, conditional, contextual and diverse features of property rights, as Ostrom and colleagues explicated the drama of the commons rather than the tragedy (Ostrom et al., 2002). Instead of always maximizing their own gains without referring to the needs and expectations of others, a variety of cases evidence that actors often cooperate with each other and the cooperation renders highly effective resource management and wealth production (e.g., Berkes, 1989; Ostrom et al., 2002). Also, departing from “full blooded ownership,” an increased attention goes into a moral obligation of property owners even to the environment and future generations, not limited to the conventional wisdom of not causing harm to other right holders (Martin and Verbeek, 2002: p2). At the same time, property rights are still powerful and often respected given the beliefs that support them as well as the shared expectations and understanding of what the content of the rights is supposed to be (Martin and Verbeek, 2002).

In particular, a nexus between property rights and responsibilities across multiple levels is propounded as “nested enterprises” as the eighth of the institutional design principles that serve

to make environmental governance arrangements robust (Ostrom 1990; Dietz et al. 2003; Niamir-Fuller, 1998; Trawick 2001). Although this eighth principle offers a useful idea about linking property rights and responsibilities across different levels, this area is yet to be further elaborated on, for instance, in terms of building up social capital to link multi-level governance systems (Brondizio, et al. 2009). By examining how property rights are traded and re-arranged across levels in connection with perceptions (involving moral obligations, responsibilities, expectations and risks) held by actors/stakeholders at different levels, this study intends to contribute to delineating the concept of nested enterprises. Further, given the agricultural landscapes in Japan lie in the context of more of resource abandonment than resource scarcity, the study attempts to contribute to advancing the concept of commons by elucidating what interests or stakes the right holders and others identify and to whom right holders and others perceive to be responsible or expect of in such a context.

Background:

Along with the postwar transformation of Japan from a largely rural and agrarian society to an industrialized and urban one, agricultural abandonment has become a prominent phenomenon across the country.¹ This has posed socio-economic and environmental challenges to the country and particularly its rural communities – including food production and security heavily relying on natural resources from abroad, declining public services in sparsely populated rural communities, and expansion of wild animal population and invasive pest species in rural regions.² To cope with these increased challenges over the past decades, the Japanese agricultural land system has undergone a great shift in creating liquidity in farmland transactions and

¹ The ratio of abandoned agricultural land continuously increased threefold for the past 30 years nationwide, while the ratio of abandoned farmland, for instance, between 1995 and 2005 for all the four categories of farmland shows substantial increase (i.e. urban (179%), flat (146%), hilly (158%), and mountainous (155%) farmlands). (The ratio of abandoned agricultural land = (Area of abandoned agricultural land) / (Area of managed arable land + Area of abandoned agricultural land) X100)(Ministry of Agricultural, Forestry and Fisheries, Japan, 2011).

² For instance, the food self-sufficiency ratio based on the caloric indices decreased from 79 per cent in 1960 to 39 per cent in 2012 which was the lowest level among the OECD countries (Ministry of Agriculture, Forestry and Fisheries, Japan, 2013a). Also, agrarian communities are largely characterized with decreasing and aging population where public and social services (i.e. transportation, medical and educational services) have become less available (e.g. Inoue et al., 1990; Takeda, et al., 2013). Natural succession in abandoned land has brought wild animals closer to human habitation, causing wildlife damage to crops that is estimated more than JPY 2,300 million (USD 22 million) in 2013, while the absence of cultivation practices allows for propagation of invasive pest species (Ministry of Agriculture, Forestry and Fisheries, Japan, 2013b).

facilitating farmland consolidation for agricultural productivity and economic efficiency. For instance, after more than 60 amendments since its establishment in 1952 following the postwar land reform, the amendment of the Agricultural Land Law³ in 2009 finally allowed for the shift in its focus from “ownership” to “use” by easing the restrictions of transferring land use rights from owners to other stakeholders including business corporations (Hori, 2012). Furthermore, the ecosystem approach including citizens’ participation has been increasingly employed in planning and management of agricultural landscapes at the local and regional levels of Japan in the past few decades (Duraiappah et al., 2012). Also, the notion of multifunctionality of agriculture with the strong emphasis on its environmental and social contributions has become frequently used in the policy discussion and negotiation at the national and international levels.⁴ As such, there has been a certain momentum in governing agricultural landscapes to sustain and enhance the environmental contributions of agricultural practices while consolidating farmland so as to maintain or improve economic viability of agriculture.

In this context, to facilitate farmland transactions, the Farmland Ownership Rationalization Corporations (FORC) was first introduced in 1970 at the prefectural level as an intermediary between those motivated in agricultural production practices but without farmland and those with farmland ownership but incapable or unmotivated in such practices. The FORC system served to hold farmland for a while for mediating in trading ownership (or lending/leasing rights but with a less focus). In this system, farmland transactions were made mostly through the contracts between buyers and sellers on an individual basis where the public coordination rendered procedural and technical support for attaining better economy of scale.⁵ Yet, this system appeared to function less successfully due to various problems including

³ The Agricultural Land Law, which was established in 1952, largely institutionalize the outcome of the Land Reform undertaken upon the end of World War II (Shimizu, 2007), although Sekiya (2002: 1) argues that it rendered compilation of the pre-war and war-time laws related to agricultural land while admitting the Agricultural Land Law certainly also aimed to sustain the outcome of the Land Reform.

⁴ The multifunctional concept of agriculture was first introduced internationally in the OECD Ministerial Communiqué in March 1998 with the proposition that agro-policies should allow agriculture to manifest its multifunctional character as agricultural activity provides environmental benefits such as land conservation, biodiversity preservation and socio-economic viability of rural areas beyond its primary function of food production (Turk et al., 2005; Amano, 2014). Subsequently this notion has come to be used in the agricultural policies in Japan (Amano, 2014).

⁵ Referred to <http://www.maff.go.jp/kinki/seisan/kouzoukaizen/koudo/pdf/gourika_gaiyou.pdf>

increased risks in loss on a trade given the decreasing farmland prices, and discrepancy of needs and expectations between the two parties.⁶ To improve farmland management in a more participatory and reflexible way, a new planning procedure called Community Agricultural Master Plan (CAMP) was initiated in 2012 to allow for local inclusive decision making on agricultural landscape management specifically at the municipal level. Through this planning procedure, the stakeholders are given a role in managing agricultural landscapes to collectively identify existing natural and human resources and develop a plan for sustainable agriculture and rural development. This was further followed by the launching of the farmland bank program in 2014 where the planning outcome is to be implemented at the prefectural level to facilitate better matchmaking for farmland leasing and possibly to expand farm size. Learning from the previous lessons, this newly introduced mechanism is focused on farmland leasing instead of buying and selling, and is intended to pool the needs and expectations of both potential renters and lenders rather than promoting direct negotiations/transactions between two parties.

Besides these official institutions that have been introduced by the government to facilitate farmland transactions, informal practices of property rights re-arrangements have been preceded or developed in parallel. My preliminary field visit conducted in summer 2015 identified that some farmers motivated and/or better capacitated came to engage in cultivating farmland owned by those (mostly neighbors) who were incapable or unmotivated in agricultural practices also mostly through a direct negotiation and contract of farmland leasing. Those farmers engaging in cultivating others' land through leasing contracts involved not only owner farmers who have been locally based for a relatively long time, but also new farmers such as business corporations and other interested groups or individuals in agricultural practices. In fact, following the legislative changes that broadened the scope of those entitled with farmland use rights,⁷ the types of farmers have become diversified, increasingly involving business

⁶ Referred to <http://www.maff.go.jp/j/keiei/koukai/kikou/pdf/kikou_qanda.pdf> (p1)

⁷ In particular, the revision of the Agricultural Land Law in 2001 gave legal approval to business corporations being as a form of agricultural production legal persons, and its latest amendment in 2009 allowed any general corporations including business corporations to newly enter into farming (Nishimura, 2013; Yukitomo, 2013).

corporations.⁸ An increased number of agricultural production persons (i.e. legal persons eligible to purchase and sell farmland upon an approval by prefectural governments) have taken a form of business corporates, while business corporates from other sectors have stepped into farming. Further, the types and objectives of business corporations entering into farming have been changing.⁹ Despite these expansion and diversification, these corporates have been faced with several challenges, including financial/budgetary deficits, difficulties with consolidating a sizable sum of farmland, and a lack of experience, knowledge and technologies in farming at a specific location.¹⁰

Research Design:

1) Hypotheses and Analyses:

The central research question is how different actors involved in property right re-arrangements (i.e. farmland leasing contract arrangements) at different levels perceive values of agricultural land and why and how they act (or not act) on their perceptions? My hypothesis is that the actors at different levels (also with different types of property rights) perceive values of farmland differently, but change their perceptions by contacting their external world while pursuing their own rational exercise and reflections throughout the process of property rights re-arrangements, and then influence their response to agricultural landscape management to some extent. In the course of perception-response processes of property rights re-arrangements, the actors may

⁸ Agricultural production legal persons as a form of business corporates increased from 120 in 2005 to 3,169 in 2013 (Ministry of Agriculture, Forestry and Fisheries, 2013a). While a total of 250 business corporates entered into farming through leasehold contracts during the 7 years between 2003 and 2009 (i.e. after the 2003 establishment of the Special Districts and before the 2009 amendment of the Agricultural Land Law), another set of 1,060 corporates entered in such contracts as of December 2014 after the 2009 amendment (Ministry of Agriculture, Forestry and Fisheries, 2014).

⁹ Before the 2009 law amendment, nearly 40 per cent of the business corporates entering into farming were those in the construction industry, most of which aimed at ensuring job security given its declining economy. However, since 2009, the types have diversified - including food, manufacturing, retailing, and distribution industries -, while their objectives also become diverse - including those to differentiate or brand their products, fulfill corporate social responsibility, and improve their corporate image (Sadakiyo, 2012)

¹⁰ Based on the statistics, Sadakiyo (2012) shows that on average, corporate bodies engaging in farming (including agricultural production legal persons and corporate entities engaging in farming) continuously run a budget deficit between 2006 and 2010 and largely rely on subsidies. Also, though the share of productive agricultural land managed by corporate bodies increased from 0.4% in 1990 to 4.2% in 2010, these challenges are reported - including the difficulties with consolidating a sizable sum of farmland and the lack of farmland owners making their land available for leasehold contracts (Ministry of Agriculture, Forestry and Fisheries, 2013b). Further, Muroya (2013) points out that business corporates newly entered from other than the agriculture sector in general lack agricultural technology and knowledge and hardly secure stable yield under the recent extreme weathers due to climate change.

exercise discursive, emergent and emancipatory way of thinking to perceive farmland and identify an alternative meaning of it, while they may confront political, economic, social and physical constraints that also affect their cognitive capacity. In particular, in terms of the ownership of farmland, farmers' perceptions may be highly susceptible to their responsibilities either or both not to abuse their own property rights or/and to respond to other's expectations, needs and esteems toward farmland and property rights. At the same time, they may also execute their rights to improve their own well-being. The study also hypothesizes that the perceptions are expressed and shared not only individually but also socially albeit possibly to a limited extent, then transform intersubjectively, and in turn inform or influence their responses to governing agricultural landscapes throughout the multi-level interactions of different actors/stakeholders.

To address this central question, the study will first examine how farmers (i.e. farmland property owners and/or users), as a primary decision maker on farmland use, perceive agricultural land. Specifically, it will ask what kind of rights and responsibility or obligation they perceive in association with their farmland, and whom they feel responsible for. Furthermore, it will inquire what kind of constraints and/or opportunities they perceive in executing their property rights. In comparison with these farmers' perceptions about farmland, it will also ask similar questions to other actors/stakeholders involved in property right re-arrangements at multiple levels (e.g., agricultural committees, agricultural cooperatives, municipalities, regional agricultural associations, intermediary agencies, prefectural officials, and national government agencies), with a particular attention to their distinctive roles and missions in managing agricultural landscapes. Comparison between the perceptions held by different actors/stakeholders will be focused on differences or similarities in terms of types of rights, responsibilities, obligations, values, benefits, interests, expectations and risks that are expressed individually and shared and exchanged socially.

Second, the study will investigate how farmers act or does not act on their perceptions in executing their property rights, and why and how they do so. Particularly with regard to a pathway moving from their perceptions into action or inaction, I will inquire about challenges and opportunities they perceive to be faced with, and also whether and how they share or communicate such perceptions with others. Also, in the case of taking an action, I will inquire

about what process or mechanism they opt to execute their property rights and why they do so. Again to be compared and interlined with these farmers' perceptions and actions/inactions, I will pose similar questions to the other actors/stakeholders, paying attention to their different capacities of acting on their perceptions, and the ways and purposes of their actions (e.g., how and why they support, facilitate, or impeding property rights re-arrangements). For analyses, it will examine differences or similarities as well as interlinkages between the perceptions-actions/inactions held by different actors/stakeholders in terms of capacities, nature of challenges and opportunities, availability of options, responsibilities, expectations and risks.

Third, it will evaluate outcome of the cross-level interactions between the actors/stakeholders throughout the property rights re-arrangements. While the study will evaluate social, political, economic, and environmental outcomes at multiple levels, I will specifically investigate whether and how perceptions of farmland held by different actors/stakeholders change in the course of property rights trading, and then whether there is any means or evidence by which such changes also influence their responses to agricultural landscape management. Also, among different levels, the study will in particular pay attention to local consequences of the cross-level interactions, and will examine if there are any disproportional changes in access to and benefits from farmland and well-being of local actors/stakeholders.

2) Research Design Rationale:

- Case Study:

The dissertation will employ case study where two regional areas are included in one prefecture of Japan while multiple units of analyses are inter-linked at the community, local, regional, and national levels in Japan. The case study approach fits the primary focus of the study on the perceptions of farmland, which are essentially associated with place-based specificity and contexts that are investigated and analyzed as a part of the emerging governance mechanism (Yin, 2009; Flyberg, 2006). Additionally, in order to examine the historical traits and underlying contexts of the evolving governance mechanism during the past several decades, the study will include archival analyses to understand the temporal dimension of the case (Yin, 2009). In particular, to deepen the understanding of the cross-level interactions of human-environment

systems and its historical transformation, it will employ the multi-level perspective, which provides a useful framework by distinguishing different analytical and heuristic levels but integrating findings from different sources of knowledge and information in an “appreciative” way (Geels, 2002: 1259, Geels, 2005; Nelson, 1995: 50). With the multi-level perspective, “the different levels are not ontological descriptions of reality, but analytical and heuristic concepts” to understand the complex dynamics of change (Geels, 2002: 1259). With this perspective, the study will use multiple sub-cases in the two regions where farmers and other actors/stakeholders at different levels are involved in agricultural landscape management, particularly property rights re-arrangements, in order to delineate interlinkages at different levels as well as to understand multi-level dynamisms.

The case study will focus on Ishikawa Prefecture, located in the central part and on the west coast side of Japanese archipelago. As many other prefectures out of the metropolitan regions, this prefecture has experienced population decline and aging as well as severe agriculture abandonment in its rural parts,¹¹ while gaining a considerable regional momentum of sustainable agricultural. The prefecture includes two geographically and culturally contrasting rural regions lying north and south, between which the urban area extends: the hilly region on the peninsula in the north (Noto region), and the alluvial plain formed by the the rivers running from the steep mountains in the south (Kaga region).¹² In particular, the rural landscapes of Noto region was designated as a site for Globally Important Agricultural Heritage Systems (GIAHS) by the Food and Agriculture Organization of the United Nations (FAO) in June 2011 together with another site for the first time in Japan. This designation shows international recognition of social and ecological importance of the agricultural practices in the region, as the GIAHS initiative aims to foster an integrated approach to combining sustainable agriculture and rural development and to promote public awareness and understanding of the agricultural systems

¹¹ In Ishikawa Prefecture, population engaged in farming continuously decreased since 1960s (59.4% decrease from 1960 to 2006), and the ratio of elderly farmers at least 60 years old increased from 30.5% in 1983 to 79.8% in 2004 (Japan *Satoyama Satsumi* Assessment - Hokushinetsu Cluster, 2010). Also, the agricultural abandonment ratio (the ratio of abandoned farmland to total farmland) increased from 5.4% in 1995 to 8.7% in 2005 in the prefecture (cf. 4.2% in Kaga region, 13.9% in Noto region, and 5.8% on the national average in 2005) (Japan *Satoyama Satsumi* Assessment - Hokushinetsu Cluster, 2010).

¹² Noto region in the north generally refers to the area identical with the former province “Noto no Kuni” established as both an administrative unit and a geographic region in the historical law system in the era of Pre-Modern Japan (around AD 710-1910), while Kaga region in the south refers to that called “Kaga no Kuni.”

where rich biodiversity evolves from sound social-ecological relationships (Koochafkan and Altieri, 2011). Further, the prefectural government has been promoting biodiversity management and agricultural heritage revival as part of its development strategy. This strategy is featured in the Ishikawa Biodiversity Strategic Vision published in March 2011, and also as in the formation of a cross-sector office within its Environment Department in April 2011 to promote and implement this vision (Ishikawa Prefecture, 2011). Thus the prefecture houses a unique local and regional momentum for sustainable agriculture and rural development with the international recognition, while having undergone significant agricultural abandonment in its rural regions.

Specifically, it will select multiple cases of farmland property rights re-arrangements based on the distinctive characters of farmers involved in such re-arrangement activities. As the Agricultural Land Law was amended to broaden the scope of actors who engage in cultivation practices, the governance system now involves new farmers such as business corporations, in addition to the owner farmers who have been locally based for long (Muroya, 2010; Waki and Okayama, 2011; Ogata, 2013). The study will collect a list of farmers involved in property right re-arrangement activities from relevant agencies, and then select several cases of agricultural landscape governance where different types of farmers are involved - such as a locally based owner farmer, new farming enterprise organized by people moving from the urban area, a business corporation that recently entered into the agricultural sector. This selection of cases attempts to maximize “variation” among those involved in property right re-arrangements in consideration of geographical and cultural distinctions of different regions. On one hand, it intends to capture “criticality” in the sense that some farmers are involved in promoting agricultural heritage revival and sustainable agricultural practices (i.e. such an emerging sustainable governance “most likely” occurs) (Flyberg, 2009: 230-233). On the other, as the regions have been experiencing significant agricultural abandonment, which is of national concern, it attempts to involve the “paradigmatic” cases of agricultural abandonment in this regard (Flyberg, 2009: 230-233).

- Validities and Limitations:

Case study involving a single case or a small-number of cases renders context-specific

knowledge on processes of change as well as mechanisms (Yin, 2009; Flyberg, 2006). Furthermore, a small-n case study, even if only includes a few cases, allows for examining similarities and differences of outcomes across cases so as to draw more robust and compelling findings (Yin, 2009). However, it is often criticized in terms of its validity. The criticism is largely on the grounds that less formalized and less standardized characteristics of its technical design leave more freedom to the researcher for both data-gathering and data-analysis (Verschuren, 2003; Yin, 2009). First, there is often a concern over internal validity (i.e. the problem of establishing a causal relationships between various factors within a case). A number of variables that are not directly observed by the researcher may actually lead to the dependent variable that the study seeks to explain (Yin, 2009). In this regard, although identifying all independent variables is infeasible, an explanatory power may increase by identifying even a limited number of proximate variables. Yin (2009) suggests several analytic tactics including pattern matching, explanation building, addressing rival explanations, and using logic models. Throughout the processes of examining data, the study attempts to explicate the outcomes of the cases in an iterative and refining manner by bringing in theoretical replications and rival explanations to address the threats to internal validity to a maximum extent.

Another common criticism of case study is the problem of generalization, which primarily stems from a small number of research units as well as specificity of individual cases (Verschuren, 2003; Flybjerg, 2006; Lin, 1998). Some scholars argue that case study relies on theoretical generalization, instead of statistical generalization, that is drawn based on theoretical knowledge and in-depth analyses of a case or a few cases (Verschuren, 2003; Yin, 2009; Bertaux and Thompson, 1997). This argument stands in this study, given that it attempts to generalize a set of findings to a broader theory of multi-level governance with a special attention to the perceptions of farmland held by actors/stakeholders, that are inseparably associated to a place and contexts. Nevertheless, theoretical generalization could be more rigorous if a theory is repeatedly tested (Yin, 2009). Therefore, the study will make efforts in replicating the findings in the sub-cases through the semi-structured methods.

Furthermore, in order to deal with potential threats to construct validity (e.g., subjective judgements of the researcher, lack of operational measures for the concepts being studied) and

reliability, the study will follow several procedural steps and protocols. These include the clear definition of concepts being studied, the identification of operational measures for the concepts, the use of multiple sources of evidence (i.e. triangulation¹³), the development and use of a protocol that documents the research procedures, the development of case study database, and the review of the research results by key informants (Yin, 2009; Mathison, 1998). Also, given the combination of case study and archival analyses, the study will benefit from both reactive (e.g., interviews, observations) and non-reactive (e.g. documents, archival sources) data and information. Yet, despite the non-reactive aspects of archival sources and documents that could be escaped from intersubjectivity between the researcher and the researched, those non-reactive data contains biases in respect of filtering through the authors (Lake and Zitcer, 2012; Shopes, 2003). In order to address such biases existing between the researcher, the researched, and the authors, the study will elucidate the contexts, the intersubjectivity, and the authority of authorship, if any, underlying the data and information.

3) Data Collection and Data Analyses:

The time period of the study covers the postwar era of Japan, but with specific focuses on the period from 1970 (in which the former Farmland Ownership Rationalization Corporations (FORC) was introduced) and that of the last few years since the launch of the farmland bank program in 2014. While informal practices of property right re-arrangements have been undertaken somewhat continuously over the past several decades, the introduction of these formal institutions may have given thresholds in evolving multi-level coordination of property rights re-arrangements. The main data collection methods will include semi-structured and focused group interviews, archival studies, document reviews, meeting observations and surveys.

First, to understand the perceptions held individually by farmers and other actors/stakeholders, I will conduct semi-structured interviews, which render flexibility according to the flow of conversation, but also provide at least certain structure to explore and compare details across the cases (Weiss, 1994). Sample of farmers are selected based on the list of farmers

¹³ As Mathison (1988: 16-17) elaborates, here I attempt to evaluate the outcomes of triangulation in terms of convergence, inconsistency, and contradictory as explicitly as possible by filtering them through knowledge gained from the immediate data, the contexts, and understandings of the large social world throughout all the research process.

involved in property rights re-arrangement activities, which will be collected from the relevant agencies such as intermediate organizations and municipal and prefectural governments. For identifying and selecting other actors/stakeholders for the interviews, the study will draw on snowball sampling strategy where I will start with the farmers so as to be referred to other informants at different levels. As snowball sampling relies on a limited number of initial contacts and thus tends to systematically exclude those outside of the network, I will validate the preliminary results with a few additional key stakeholders involved in the property rights re-arrangements as well as with scholarly literature and official documents. With this information, I will map out actors and agencies related to property rights re-arrangement activities at different levels.

Second, to understand the perceptions held socially by the actors/stakeholders, I will undertake field observations of meetings such as community meetings, agricultural committee meetings at the local level, and also will conduct focused group interviews with the stakeholders mapped out across different levels. In addition, I will review meeting minutes and records to understand interactions among actors and stakeholders particularly occurred in the past. For analyses, it will pay attention to how perceptions are expressed, shared and exchanged socially and whether there are any observable constraints in holding and sharing perceptions on social occasions.

Third, the study will undertake archival analyses, drawing on materials such as policy documents, official website, meeting minutes and local and national newspapers to understand historical traits of evolving cross-level coordination mechanism, its staged outcome, and the local, regional and nation contexts behind such evolution. Also, to statistically discern the trends and status of farmland property rights trading, the data related to size, volume, and types of farmland transactions will be also collected. Archival analyses will help excavate historical records and reveal supporting or impeding events with time-related information of evolving multi-level governance.

Lastly, the study will conduct the community surveys where property right re-arrangements are held. This aims to identify how the community members evaluate the property right re-arrangements in each case particularly in terms of their accessibility to and benefits

gained from the agricultural landscapes. It will also specifically inquire whether how their perceptions have changed over time with or without their involvement in property rights re-arrangements. Sample will include randomly selected community members in addition to the farmers directly participated in the property right re-arrangements. Sample will be drawn from the list, which will be most obtained from an agricultural committee and/or cooperate with which a community is associated.

Throughout the data collection processes, I will collect and refer to secondary data such as policy documents and scholarly literature to corroborate the findings obtained through the above methods. The interviews will be transcribed (possibly audio-recorded under the consent of interviewees), while the field notes will be taken during the field observations at the meetings and events. The interview transcription and other data collected from the field observation will be coded, listed and categorized to identify differences or similarities as well as interlinkages among the cases. Finally, it will evaluate the outcomes of each case and at the same time examine why the outcomes are different across the cases, with an attention to contextual forces and variables supporting or impeding the emerging governance of agricultural landscapes so as to draw implications of agricultural policies and planning.

Final Comments:

The study focuses on multi-level coordination mechanism for farmland property rights re-arrangements, which has been emerging in the past several decades in Japan. In particular the coordination mechanism was recently renewed with the system of farmland bank launched as a part of new agricultural policy in Japan. By investigating the perception-response pathways held by actors/stakeholders involved in property right re-arrangements at multiple levels, the dissertation aims to examine possibilities and limitations of the emerging multi-level governance mechanism for agricultural landscape management. In this regard, the study will help shape agricultural land policy to be reflexible of knowledge, information and cognitions/perceptions held by actors/stakeholders at multiple levels in Japan and beyond. Furthermore, with a focus of the cases in Ishikawa Prefecture, the study aims to examine local needs, realities and consequences of property rights re-arrangements in the social political economic and

environmental terms, but more specifically in respect of access to and benefit from farmland. Thus, it will help facilitate developing policies, plans and strategies to be equitable and sustainable and to be attentive to local contexts and consequences. Intellectually, it will contribute to the growing literature of multi-level governance particularly in light of perceptual changes and perception-response pathways as well as the nexus between property rights and responsibility in governing agricultural landscapes at multiple levels. Given the focus on farmland that has been increasingly abandoned, it will also provide an opportunity to re-examine the concept of commons in the context of agricultural land abandonment.

References:

- Acheson JM. 2006. Institutional failure in resource management. *Annu. Rev. Anthropol.* 35:117–34
- Adger WN, Brown K, Tompkins EL. 2005. The political economy of cross-scale networks in resource co-management. *Ecol. Soc.*10(2):9.<http://www.ecologyandsociety.org/vol10/iss2/art9/>
- Amano, E. 2014. Tamenteki kino shiharai seido no sosetsu: nogyo no yusuru tamenteki kino no hakki no sokushin ni kansuru horitsu-an (Establishment of a payment system for multifunction of agriculture: a bill of promoting multifunctional characters of agriculture). *Rippo to Chosa* (352), 54-65, 2014-05. House of Councillors, The National Diet of Japan. <http://www.sangiin.go.jp/japanese/annai/chousa/rippou_chousa/backnumber/2014pdf/20140501054.pdf> (in Japanese).
- Armitage, D. 2008. Governance and the commons in a multi-level world. *International Journal of the Commons* Vol. 2, no 1 January 2008, pp. 7-32.
- Baert, P. 2005. *Philosophy of Social Science*. Cambridge: Polity, pp.106-116.
- Berkes, F., Ed. 1989. *Common Property Resources: Ecology and community based sustainable development*, Belhaven Press.
- Berkes F. 2007. Community-based conservation in a globalized world. *Proc. Natl. Acad. Sci. USA* 104:15188–93
- Berkes, F. 2009. Evolution of co-management: role of knowledge generation, bridging organizations and social learning. *Journal of Environmental Management*. Vol 90, Issue 5. Pp. 1692-1702. [online] <http://www.sciencedirect.com/science/article/pii/S0301479708003587>
- Bertaux D. and P. Thompson. 1997. *Pathways to Social Class; a qualitative approach to social mobility*. Oxford: Clarendon Press.
- Brenner, N. 2009. “What is Critical Urban Theory?” *City*13, 2-3 (2009):198-207.
- Brondizio, E.S, Ostrom, E., and Young, O.R., 2009. Connectivity and the Governance of Multilevel Social-Ecological Systems: The Role of Social Capital. *Annual Review of Environment and Resources*, Vol.34, pp.253-278. [online] URL: <http://ssrn.com/abstract=1599083> or <http://dx.doi.org/10.1146/annurev.enviro.020708.100707>
- Calhoun, C. 1995. Rethinking Critical Theory,” pp. 1-42 in C. Calhoun, *Critical Social Theory*. Oxford: Blackwell.
- Cash D, Clark WC, Alcock F, Dickson NM, Eckley N, Guston DH, Jager J, Mitchell RB 2003. Knowledge systems for sustainable development. *PNAS* 100 (14):8086-8091.
- Cash, D. W., W. Adger, F. Berkes, P. Garden, L. Lebel, P. Olsson, L. Pritchard, and O. Young. 2006. Scale and cross-scale dynamics: governance and information in a multilevel world. *Ecology and Society* 11(2): 8. [online] URL: <http://www.ecologyandsociety.org/vol11/iss2/art8/>.
- Cox, M., G. Arnold, and S. Villamayor Tomás. 2010. A review of design principles for community-based natural resource management. *Ecology and Society* 15(4): 38. [online] URL: <http://www.ecologyandsociety.org/vol15/iss4/art38/>
- Davidson-Hunt IJ and O’Flaherty RM 2007. Researchers, indigenous peoples and place-based learning communities. *Society and Natural Resources*, 20(2007), pp.291-305. [online] <http://>

[dx.doi.org/10.1080/08941920601161312](https://doi.org/10.1080/08941920601161312)

- Dietz T, Ostrom E, Stern P. 2003. The struggle to govern the commons. *Science* 302:1907–12
- Duraiappah, A.K., K. Nakamura, K. Takeuchi, M. Watanabe and M. Nishi (eds.) 2012. *Satoyama-Satoumi Ecosystems and Human Well-Being: Socio-Ecological Production Landscapes of Japan*. United Nations University Press, Tokyo, Japan.
- Duraiappah, A.K., Asah, S.T., Brondizio, E.S., Kosoy, N., O'Farrell, P.J., Prieur-Richard, A.H., Subramanian, S.M., Takeuchi, K. 2014. Managing the mismatches to provide ecosystem services for human well-being: a conceptual framework for understanding the New Commons. *Curr Opin Environ Sustain*, 7 (2014), pp. 94–100.
- Flyvbjerg, B. 2006. "Five Misunderstandings about Case Study" *Qualitative Inquiry* 12, 2: 219-245.
- Folke, C., L. Pritchard, F. Berkes, J. Colding, and U. Svedin. 1998. *The problem of fit between ecosystems and institutions*. International Human Dimensions Programme on Global Environmental Change, Bonn, Germany.
- Folke, C. 2007. Social-ecological systems and adaptive governance of the commons. *Ecological Research* 22: 14–15.
- Folke, C., S. Carpenter, T. Elmqvist, L. Gunderson, C. S. Holling, B. Walker, J. Bengtsson, F. Berkes, J. Colding, K. Danell, M. Falkenmark, L. Gordon, R. Kasperson, N. Kautsky, A. Kinzig, S. Levin, K.-G. Mäler, F. Moberg, L. Ohlsson, P. Olsson, E. Ostrom, W. Reid, J. Rockström, H. Savenije, and U. Svedin. 2002. *Resilience and sustainable development: building adaptive capacity in a world of transformations*. International Council for Science, Paris, France.
- Folke, C., Hahn, T., Olsson, P., and Norberg, J. 2005. Adaptive Governance of Social-Ecological Systems. *Annual Review of Environment and Resources*. Volume 30, pp. 441-473
- Geels, F.W. 2002. Technological transitions as evolutionary reconfiguration processes: a multi-level perspective and a case-study. *Research Policy* 31 (2002) 1257–1274 <<http://www.sciencedirect.com/science/article/pii/S0048733302000628>>.
- Geels, F. 2005. Co-evolution of technology and society: The transition in water supply and personal hygiene in the Netherlands (1850–1930)—a case study in multi-level perspective. *Technology in Society* Vol.27, Issue3, August 2005, 363-397 <<http://www.sciencedirect.com/science/article/pii/S0160791X05000308>>.
- Hahn, T., Olsson, P., Folke, C., Johansson, K. (2006) Trust-building, knowledge generation and organizational innovations: the role of a bridging organization for adaptive comanagement of a wetland landscape around Kristianstad, Sweden. *Human Ecology* 34, 573-592.
- Hori, C. 2012. Farm Land Policy and Agriculture Recovery after the Great East Japan Earthquake. *Mizuho Economic Outlook & Analysis*, Nov 1. 2012. Mizuho Research Institute. <<http://www.mizuho-ri.co.jp/publication/research/pdf/eo/MEA121101.pdf>> (in Japanese).
- Inoue, H., K. Goka, Y. Yokohama. 1990. "Kasochiiki niokeru iryo fukushi – suzushi ** chiku iryo jitai chosa hokoku" *Nihon Bunkaka* 16:1-81.
- Janssen, M. A., Anderies, J. M. & Ostrom, E. 2007. Robustness of Social-Ecological Systems to Spatial and Temporal Variability, *Society & Natural Resources*, 20:4, 307-322, DOI: 10.1080/08941920601161320
- Japan *Satoyama Satoumi* Assessment – Hokushinetsu Cluster (2010) *Satoyama and Satoumi*:

- Socio-Ecological Production Landscapes in Japan – Experiences and Lessons from Hokushinetsu Cluster. Tokyo: United Nations University <http://archive.ias.unu.edu/resource_centre/3_hokushinetsu_w_24Feb2011.pdf> (in Japanese).
- Koohafkan, P. and M. A. Altieri (2011) *Globally Important Agricultural Heritage Systems: A Legacy for the Future*, Food Agriculture Organization of United Nations. Rome. Available at <<http://www.fao.org/docrep/014/i2232e/i2232e.pdf>>
- Lake, Robert and Andrew Zitcer. 2012. Who Says? Authority, Voice, and Authorship in Narratives of Planning Research. *Journal of Planning Education and Research* 32(4): 389–399.
- Lin, A. C. 1998. “Bridging Positivist and Interpretivist Approaches to Qualitative Methods,” *Policy Studies Journal* 26, 1: 162-180.
- Martin, P., Verbeek, M., 2002. Property Rights and Property Responsibility. In *Property: Rights and Responsibilities: Current Australian Thinking*, (Eds, C. Mobbs and K. Moore), Land and Water Australia, Canberra. <<http://insidecotton.com/xmlui/bitstream/handle/1/1754/pr020440.pdf?sequence=2&isAllowed=y#page=8>>
- Mathison, Sandra. 1988. “Why Triangulate?” *Educational Researcher*, 17(2): 13-17.
- McGinnis MD. 1999. *Polycentricity and Local Public Economies*. Ann Arbor: Univ. Michigan Press
- Ministry of Agriculture, Forestry and Fisheries, Japan, 2011. *Kosakuhokuchi no genjo nit suite* (Present Status of Abandoned Agricultural Land) Available at: http://www.maff.go.jp/j/nousin/tikei/houkiti/pdf/genjou_1103r.pdf (in Japanese)
- Ministry of Agriculture, Forestry and Fisheries. 2013a. Overview of the Amended Agricultural Land Law. <http://www.maff.go.jp/j/keiei/koukai/kaikaku/pdf/kaisei_shousai.pdf> (in Japanese).
- Ministry of Agriculture, Forestry and Fisheries. 2013b. Farmland Accumulation and Consolidation <<http://www.kantei.go.jp/jp/singi/keizaisaisei/bunka/dai1/siryuu5-2.pdf>> (in Japanese).
- Ministry of Agriculture, Forestry and Fisheries. 2014. Overview of Heisei Land Reform (2009 Amendment of the Agricultural Land Law) <http://www.maff.go.jp/j/keiei/koukai/sannyu/pdf/sannyuu_suu26_12.pdf> (in Japanese).
- Nishimura, T. 2013. Ninaite heno nochi-shuseki niyoru nogyo no kyosoryoku kyoka ni mukete: Nochi-chukan-kanri-kiko no siestas (Enhancing Agricultural Competitiveness through Farmland Consolidation: Establishment of Agricultural Land Intermediary Institutions). *Rippo to Chosa* (346), 53-68, 2013-11. <http://www.sangiin.go.jp/japanese/annai/chousa/rippou_chousa/backnumber/2013pdf/20131101053.pdf> (in Japanese).
- Muroya, A. 2010. No-chi-seido kaisei-go no “Kigyo no nogyo-sannyu” wo kangaeru – jyuuyosei ga isso takamaru kigyo to chiiki no kankei (no-rin-suisan-gyo no ugoki) (Thinking business participation in agriculture after the revision of agricultural land system) *Norin-kinyu* 63-(6), 282-297, 2010-06 (in Japanese).
- Muroya, A. 2013. Zokasuru kigyo no nogyo sannyuu to shitsuteki henka (Increasing entry of business enterprises into agriculture and its qualitative change). *Business labor trend*, 22-28, 2013-09. <<http://www.jil.go.jp/kokunai/blt/backnumber/2013/09/022-028.pdf>> (in Japanese).
- Niamir-Fuller M. 1998. The resilience of pastoral herding in Sahelian Africa. See Ref. 144, pp.

- Nelson, R.R. 1995, Recent Evolutionary Theorizing About Economic Change. *Journal of Economic Literature*, Vol. XXXIII (March 1995), pp. 48–90. <http://www4.fe.uc.pt/mapsdl/richardnelson_%20jel1995.pdf>
- Norse E, Crowder L, eds. 2005. *Conservation Biology: The Success of Maintaining the Sea's Biodiversity*. Washington, DC: Island Press
- Ogata, K. 2013. 2009 Nochi-ho-kaisei ni okeru yuhyu-nochi taisaku kitei to sono tekiyo no gen-dankai (The strategy for reducing abandoned farmland in the Agricultural Land Act revision in 2009 and its application in present situation. Kochi Ronso:)*Shakai-Kagaku* (106), 75-103, 2013-03. (in Japanese).
- Ostrom E. 1990. *Governing the Commons*. Cambridge, UK: Cambridge Univ. Press
- Ostrom, E., T. Dietz, N. Dolsak, P.C. Stern, S. Stonich, and E.U. Weber (Eds.) 2002. *The Drama of the Commons*. Division of Behavioural and Social Sciences and Education. Washington, DC: National Academy Press.
- Ostrom E. 2005. *Understanding Institutional Diversity*. Princeton, NJ: Princeton Univ. Press
- Ostrom E 2007. A diagnostic approach for going beyond panaceas. *Proc. Natl. Acad. Sci. USA* 104:15181– 87
- Sadakiyo, E. 2012. Kigyosannyu ga kasokusuru nogyo bunya (Increasing entry of business corporation into agricultural sector) *Study Review Vol.3*, 25-31. 2012.7. Sumitomo Mitsui Trust Bank. <<http://www.smtb.jp/others/report/economy/3.pdf>> (in Japanese).
- Sekiya, Shunsaku, 2002. *Nihon no nōchi seido (shinpan)* (Japanese Agricultural Land System - New Edition), Tōkyō : Nōgyō Shinkō Chiiki Chōsakai
- Shimizu, T. 2007. *Nihon no nochi-seido to nochi-seisaku: sono keisei katei to kaikaku no hoko* (Agricultural land institutions and agricultural land policies: formation processes and directions for reformation), *Monthly review of agriculture, forestry and fishery finance* 60(7), 346-356, 2007-07-00. Available at: <http://www.nochuri.co.jp/report/pdf/n0707re1.pdf> (in Japanese)
- Shopes, L. 2003. Commentary: Sharing Authority. *The Oral History Review* Vol. 30, No. 1, pp. 103-110.
- Takeda, K., T. Yokoyama, M. Kubo, Y. Koshiha and J. Kanzaki, 2013. Policy Issues as Seen from the Perspective of Residents within Depopulating Communities – the Case of Three Communities within Suzu City, *JAPAN SEA RESEARCH*, vol.44, p.71-93, 2013 (Japanese)
- Trawick, PB. 2001. Successfully governing the commons: principles of social organization in an Andean irrigation system. *Hum. Ecol.* 29:1–25
- Turk, J., Borec, A., Majkovič, D., Pažek, K., Rozman, Č. 2005. Multifunctional concept of agriculture : just an idea or the real case scenario? *Social Research Journal for General Social Issues (Društvena istraživanja Časopis za opća društvena pitanja)*, Vol. 14, Issue: 3, pp. 579-596.
- Verschuren, P.J.M. 2003. “Case Study as a Research Strategy: Some Ambiguities and Observations,” *International Journal of Social Research Methodology* 6, 2; 121-139.
- Waki, T. and Okuma, M. 2011. A Study about the Current Situation and the Future Development of the Arable Land Accumulation by Participation of Business Enterprises to Agricultural Management. *Memories of the Faculty of Agriculture, Ehime University*, Vol.56, 15-24.

- 2011-09. (in Japanese)
- Weiss, R. 1994. *Learning from Strangers: The Art and Method of Qualitative Interview Studies*. New York: The Free Press.
- Yin, R. K. 2009. *Case Study Research: Design and Methods*, 4th edition. SAGE Publication.
- Young OR. 1994. The problem of scale in human-environment relations. *J. Theor. Polit.* 6:429–47
- Young OR. 2003. Environmental governance: the role of institutions in causing and confronting environmental problems. *Int. Environ. Agreem.: Polit., Law Econ.* 3:377–93
- Young OR, Osherenko G, Ekstrom J, Crowder LB, Ogden J, et al. 2007. Solving the crisis in ocean governance: place-based management of marine ecosystems. *Environment* 49:20–32.
- Yukitomo, W. 2013. Sinen suru “kabushiki-gaisha no nochi shoyu” Rongi: Nogyo-seisan-hojin no yoken kanwa no mondaiten (Recurring discussion on farmland ownership by business corporations: Problems with relaxing conditions for agricultural production legal persons). Ad-Hoc Report. 1-6. Norinchukin Research Institute Co., Ltd. <<https://www.nochuri.co.jp/genba/pdf/20130628new-2.pdf>> (in Japanese)