Commodification of Local Resources and Its Paradox:
A Case of Traditional Vegetables in Kyoto

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Introduction

From late 2007 to early 2008 and from late 2010 to 2011, world food prices rose dramatically. In food-importing developing countries, the rise of food prices caused riots. Generally speaking, even though the Japanese have high-purchasing power, Japan still depends on foreign imports for 60% of its food and could be in danger similarly. Because of small farms, high personnel costs, little arable land, and so on, Japanese agriculture has been less competitive than other countries; it has imported many cheap agricultural products. Through agricultural production, farmers not only provide agricultural products but also financially support themselves. However, since most Japanese farmers have not been able to completely support themselves by agriculture, they tend to forsake rural areas and migrate to urban areas. The more farmers who migrate from rural to urban areas, the more rural communities and agricultural production are threatened. Although agriculture plays a decisive role in sustaining rural societies, people cannot get make enough money from agriculture. Therefore, many local governments in Japan have been tackling agricultural development policies, focusing on underpopulated areas.

The Kyoto government launched a strategic policy that emphasized growing traditional vegetables. Since the Kyoto-model became greatly successful, the strategy was appropriated by other regions. On one hand, from macro or national perspectives, the appropriation and imitation of the successful Kyoto-model would produce more agricultural products in other regions as a whole. On the other hand, from micro or local perspectives, the Kyoto-model loses its advantage and the incentive to pioneer new marketing methods, R&D, and cost burdens. Preferably, agriculture at local-levels contributes to the nation-level, not choosing either nation or local. However, this is not such a simple matter. How can we untangle this intricate situation? Can we offer a useful analysis tool to resolve these complicated matters?

In previous studies about local traditional vegetables, Keller et al. (2006) focuses on genetic erosion of traditional vegetables in Tanzania from the viewpoint of biodiversity. By collecting baseline information on the current consumption and production condition of traditional vegetables in Tanzania, their study points out that traditional vegetables have been declining and this decline drives the loss of indigenous knowledge. Meanwhile, Gockowski et al. (2003) also analyze the production, marketing and consumption of African traditional leafy vegetables. Although the cultivation of traditional vegetables remains inculcated in the local knowledge of Africa’s rural peoples, rapid urbanization raises concerns over the disappearance of this knowledge. Gockowski et al. (2003) argue for the conservation of traditional leafy vegetables in Africa to avoid losing the local knowledge. While these studies underline the importance of traditional vegetables, which is inherently linked to local knowledge, their perspective on locality or regional territoriality is not fully adequate.

Ray (1998) poses the viewpoint that local resources should be used to pursue endogenous development in rural
areas. Having been influenced by Van der Ploeg's argument (1990, 1992) on the need to transform the local knowledge into resources available for the local territory, and Moran's assertion (1993) to transform local knowledge into intellectual property on an extra-local regulatory framework, Ray examines theoretically the relationships between local resources and regional territory. With this viewpoint, the paper discusses the role of traditional vegetables as local resources for rural locality.

Representative of the previous researches on traditional vegetables in Kyoto are that of Tanaka (2001) and Ono (2004), who explain the historical movement for the conservation and regeneration of traditional vegetables in Kyoto, Saito (2007), Kito (2008) and Aotani (2010), who show how regional agricultural branding as the marketing strategy has resulted into increased competition with other regions, and Ashikaga et al. (2007) and Ashikaga and Komori (2007), who demonstrate the current status in the production and marketing flows of some individual traditional vegetables. These researches shed light on how traditional vegetables in Kyoto have been highly appreciated by the market as a result of the agricultural brandings. They, however, do not give sufficient consideration on the other side of the marketing effort: how branding success affects the production areas. In this way, the paper takes into account both the positive and negative sides of branding success to traditional vegetables as local resources, while taking into consideration the concept of regional territoriality.

I Theoretical context of food and territory

1. Regional territoriality of food

Traditional foods in local areas have often received attention from the perspective of food-territory links. Bessière (1998) discusses local development that focuses on gastronomy and equates eating traditional foods with absorbing and reproducing cultural codes that have been formed in each region. Through gastronomy and tourism, people begin to experience the multi-faceted characters of food as symbols, as signs of communication, as class markers of lifestyles, and as emblems of a given geographical area or a community. From such aspects, traditional food and cuisine are defined as a socially constructed heritage that is regarded not only as a link between past and present but also as storage of meaning necessary to penetrate the world itself. Bessière points out that heritage elements (re)produce territorial identities and the unity of local areas and that local culinary heritage should benefit local economic development. As a concrete example of considering culinary heritage, Bessière introduces the French term terroir, which refers to a specific area with a unique cultural and historical terrain.

The link between agricultural products and specific local areas is well represented by the concept of terroir. Local food, which is traditionally embedded in geographical identities, is evaluated highly as terroir products. This geographical character adds terroir products to its important manifestation of “local” or “quality.” Terroir is a kind of typicality posed by Tregear (2001), who defines typicality as the territorially distinctive attributes of food products. Typicality is comprised of two facets: geophysical and human. A geophysical facet means such environmental conditions as climate, landforms, and soil types that influence physical ingredients. A human facet expresses the unique production, processing, and preservation methods in particular geographic areas. These facets construct distinctive typical food from others and specify territorial identities. While these influence typical local food on the supply-side, another facet exists on the demand-side: consumer perceptions that evaluate the quality and meaning of food. Even though the latter does not directly “produce” any food ingredients, as long as typical local food is an exchangeable commodity as a tangible output of local specialties, such food should be appreciated for its uniqueness by consumers who will realize the exchange-value.

On the basis of this notion of typicality, Tregear examines how employment opportunities and skills can be enhanced,
how local economic activities and values can be increased, and how social vibrancy can be raised. All of these aspects are closely relevant to the links between food and territory. *Typicity* is acknowledged as a cultural heritage, as a marketing tool, and as a fulcrum for local sustainability. Thus, the theoretical implications of *typicity* are linked with legislation for geographical indications.

Under the free trade system since GATT’s signing, geographical indications have been emphasized in Europe to protect intellectual properties, which are materialized as labels of origin (Barham 2003). This European attitude established such certification systems as the French “Appellation d’origin contrôlée” (AOC) and the “Protected Designation of Origin” (PDO), and the “Protected Geographical Indication” (PGI) labels found in EU regulations (Strate and Marsden 2006). Since rural areas face serious economic stagnation, these systems are expected to achieve endogenous development. Nonetheless, geographical indications as a form of intellectual property have many problems: the gap between consumer understanding and quality assurance and the effect on endogenous development. Particularly in the latter case, not only small-medium enterprises but also big corporations provide certificated products, so strictly speaking, increased sales of geographical indicated products do not necessarily lead to endogenous development (Ilbery and Kneafsey 1999).

Using traditional, typical local food, or *terroir* products for local economic development has fostered momentum reconsidering such original qualities and regional identities, leading to certification systems in Europe. By reviewing the preceding studies related to the link between food and territory, we found that they concentrate on the region and emphasize the production area’s characteristics: the geophysical, traditional, and cultural elements instead of the nature of goods produced within a definite area. Although the link of food and territory is indivisible, both *terroir* and *typicity* represent the unique side of the territory in question. However, we focus on goods because local specialties are generally sold as commodities and exchanged with money-commodities as monopolistic figures for a universal equivalent form of value. To realize the commodity’s exchange-value, the possessor tends to put great faith in the index evaluating its value: its price. Generally, the price of a good reflects not only its value (summarized in labor time or utility theoretically acknowledged) but also its components (summarized in cost or a socially constructed quality).

In local food production, as Tregear (2001) discussed above, environmental elements and human skills compose the ingredients of goods. Of course, a commodity is priced as a package of componential pieces, and people decide their purchasing behavior largely from a price aspect. Therefore, from the standpoint of territory and goods, we can untangle the intricate matter concerning local economic development. The territorial standpoint can explain how local food is generated, but it cannot sufficiently explain how local food contributes to local economies in actual economic circuits. On the contrary, the viewpoint of goods as commodities can directly analyze economic activities in terms of cost burden or trading behaviors. To extend the discussion into broader horizons, we focus on the role of public institutions to tackle the difficulty of rural areas and approach it from the standpoint of goods.

2. Analytical approach to the paradox

This paper explains the success of the agricultural development policies of the Kyoto government and the emerging contradictions facing local actors. We focus on the role of public institutions that have been actively involved in the preservation and utilization of traditional Kyoto vegetables as strategic local resources. Actually, the public sector in the Kyoto-model engages not only in the supply of production-goods “seeds” but also promotes a merchandising “brand strategy” that is different from general public support for agriculture. Through this case study and its paradox, we present heuristic concepts abstracting its essence. This is the second purpose of our paper.

For that purpose, we raise two concepts referred to in economics, political economy, and rural sociology. One is the *commodification of local resources*, and the other is *localized common goods*. These phrases are generated from such
key words as commodification, locality, public goods, and so on.

Here we do not scrutinize theoretical discussions about key words by referring to our coined terms; we only explain within the range related to this paper. The commodification of local resources represents traditional specialties that originate and circulate within local areas and become ordinary products available nationwide through a commodification effect and re-examine what “locality” means. With localized common goods, we conceptualize goods concerning a territorial limit within which goods are produced and that embody original values. Because the term public goods in economics does not consider the production side, we compensate for such a lack by adding the notion of the “place” of the production area.

Next, we explain some notions. First, commodification means the political-economic process of the inversion of exchange-value over use-value. Commodity as exchange-value places more emphasis on price in the money-form and less on utility itself when a product of labor with high utility becomes a commodity for profit in capitalist societies. A commodity generally tends to be measured by its monetary quantity, and its background aspects of the production of materials or cultural heritage are eliminated (Williams 2002; Fløysand and Jakobsen 2007). Second, we use a polysemy concept locality, whose definition is not fixed even though many locality debates were conducted in Britain during the 1980s. Locality usually represents either geographical characteristics as physical environmental forms and functions of local areas in macro-structure or symbolic characteristics as socio-cultural specificity constructed by actual lived experiences and the practices of lives in particular spaces (Newby 1985; Duncan and Savage 1989; Halfacree 1993, 2006; Cloke 2006). We regard locality not only as an integrated notion with geographical and symbolic aspects but also as an abstract, spatial entity. Put simply, locality is the distinguishing variables that differentiate one local area from another and includes the political-economic and socio-cultural factors and the territorial boundary. In these contexts, other terms, for example, rural, urban, and region, have similar concept definitions. Compared with the notions of terroir and typicity that describe the outside and inside features of a food production area, the coverage of the concept of locality is as broad as academic usage about the depiction of a definite area.

Third, we discuss publicness and free riders related to intellectual property rights using the concept of public goods, which are often defined as non-rivalness in consumption and non-excludability in benefits. The market cannot price these goods efficiently because they are often regarded as being under market failures and as justified cases for government intervention. Thus, in economics and public finance, public goods have been minutely examined by focusing on optimal-supply conditions under market failures (Samuelson 1954; Musgrave 1959; Stiglitz 2000). Non-rivalness means that one person’s incremental consumption of goods never diminishes another’s consumption, and non-excludability means that one person is never excluded from the enjoyment of any goods from the perspective of technical and physical matters. In particular, due to non-excludability, the free-rider problem often occurs and causes a divergence between the cost a supplier bears and the benefit a beneficiary obtains. Everyone can use public goods without any cost burden, so they are not suitable for any property rights that restrict free use. Although pure public goods hardly exist, we focus on impure public goods that have partly assumed the character of public goods.

Local public goods are one example of impure public goods whose benefits are partially rival and/or partially excludable, and mainly local governments provide them instead of national governments. The benefit range of local public goods is limited within one spatial subset, and goods apply to excludability only within one territory out of reach of the benefit (Corns and Sandler 1996; Horiba 1999). An economy is divided into geographically distinct areas from different industrial structures or environmental elements. According to differences in local areas, each local government provides various local public goods. Public goods benefit those residents in the area where they are located, but also have beneficial spillovers to other areas (Besley and Coate 2003). Even related to the spillover effect, the free-rider problem is a key point for incentives to provide goods.
In neo-classical economics literatures, public goods were originally defined as the characteristics of goods, rival and excludable property rights, so it is not always true that the goods provided by local governments are local public goods. However, from the political aspects, property rights are changeable, even though the standard economics regards them as given. Therefore, it’s possible to think that goods often become private or public as a result of policy choices or political orientations and that goods do not exist in their material forms but as social constructs, largely determined by political-economic or socio-cultural factors (Kaul and Mendoza 2003). Consequently, considering the social contexts, we can treat traditional vegetables as a kind of (local) public good even though food is generally thought as a private good. In such a way, we clarify a complicated phenomenon of this paper with two new concepts. Both the commodification of local resources and localized common goods are closely connected to the publicness generated in each region. Thus, we pay more attention to public goods as a symbol or the embodiment of publicness.

II Rediscovering local traditional vegetables

1. Declining Japanese agriculture and agriculture in Kyoto

Japanese agriculture has been declining year after year. Today Japan depends on other countries for the 60% of its food, and generally known, this is the lowest among developed countries. In Japan, rice is a staple crop and the rice sector in the core of agriculture. In the 20 and several years since the end of World War II, the Japanese government heavily supported the agricultural sector, especially the rice sector to increase this staple food production. Nevertheless, the high economic growth during the 1960s gradually marginalized the agricultural sector. On the one hand, to keep economic growth, a lot of low-cost industrial labor was needed to extract from agricultural sector, on the other hand, to make Japanese agricultural structure industrialized under the GATT, the government enacted the Basic Law on Agriculture in 1961, which had been a basic policy objective and orientation until it was fundamentally revised in 1999 in accordance with the WTO rules. However, it could be said that government policy was too much concentrated on the rice sector, resulting in the over-production of rice, but still, it could not resolve the declining trend of Japanese agriculture.

In the meanwhile, Japanese dietary habits were getting westernized and the rice consumption consistently decreased. As a result, there was a growing mismatch between demand and supply, and the government came under pressure to introduce measures to adjust rice production. The rice production adjustment policy has been normal practice since the early 1970s. However, against the increasing pressure toward deregulation from the mainstream business sector, and the trade liberalization of agriculture from the United States and other exporting countries, especially since the so-called Plaza Accord of 1985, an international monetary systems to support the dollar formed by policy co-ordination among major industrial countries, led to the rising Japanese Yen. In deed, Japan has substantially increased agricultural imports and faced mounting pressures on the rice sector because it has been regarded as a symbol of agricultural protectionist policy in Japan. The price gap between domestic and imported agricultural products and a spate of deregulation measures have undermined Japanese agriculture as a whole. In addition, the GATT/WTO Agreement of 1994 obliged Japan to accept the so-called Minimum Access rice import, in spite of the fact that Japan has a potential to produce rice more than consumed. The GATT/WTO system intensively pushed Japan to open their agricultural markets and in the end, this turned the agricultural policy so far to New Staple Food Policy (1995) suitable for market principles, as represented by liberalization of the rice distribution instead of the national management. Even today, the Japanese agricultural policy proceeds in this line.

In Kyoto prefecture, the averaged farm size is smaller than in other prefecture; 0.9 ha in Kyoto and 1.4 ha in others excluding Hokkaido (MAFF 2010), so the downward trend of Japanese agriculture has seriously affected the Kyoto agriculture. Generally, the Kyoto agriculture is less competitive in economic terms. The rice production adjustment
policy was accompanied by the selective expansion policy in the 1970s, which encouraged rice farmers to shift from rice to high-value sectors, such as vegetables, fruit and livestock. This policy also intensified competition between production regions, and these high-valued sectors have also faced increasing import pressures since the mid 1980s. Under such circumstance, the Kyoto Prefectural government focused on its traditional Kyoto vegetables (Kyo-ya
sai in Japanese) to differentiate itself from others based on the competitive advantage. This is not only because there was an external pressure on the Kyoto agriculture to survive intense competition. What is also important is that an internal pressure exists to preserve its culinary culture based on local, traditional vegetables.

2. Kyoto vegetables as local resources

Kyoto is something special in Japan not just in its history as old capital, but also in its culinary culture. In definition, Kyoto vegetables are kinds of indigenous varieties, or those brought in but cultivated with special technique in Kyoto, and relished by local farmers for a long period, mostly since the 1600s–1800s (Kyoto hometown center 2004). Kyoto vegetables have long been major players in Kyoto culinary culture. Because the center of Kyoto is far from sea, it was difficult to get fresh food except vegetables before the ground transportation had developed. Thus, people in Kyoto have been developing dishes using fresh vegetables. Moreover, not just from the material aspect, Kyoto vegetables are embedded in Japanese traditional cultures. Kyoto vegetables represent a soul of Japanese culinary culture, originated in court cuisine, Buddhist vegetarian dishes and Tea ceremony dishes, which is mainly made from fresh vegetables and highly sophisticated. Also "Ohanza", a traditional cuisine for ordinary Kyoto locals, has been passed down to even the present through generations. As just described, Kyoto vegetables can be said to be deeply rooted in Kyoto cuisine and incorporated in Japanese traditional culture.

As for indigenous varieties, it follows that they have been maintained and improved by local farmers for generations. These are unique to and suitable for local conditions, but, at best, for small-scale multi-cropping farmers, due to low-yield, disease vulnerability and requiring a lot of cares. However, nowadays these characteristics have gone unfavorable in economic terms. Indeed, Kyoto vegetables had lost competitive advantages, if any, in the light of: commercial hybrid varieties overwhelmed the market due to their market suitability; dietary habits changed a lot to the extent that people less consume traditional dishes; and farmland in urban areas, main fields of Kyoto vegetables, diverted to housing development. Because of this and that, Kyoto vegetable production declined rapidly, and this led to a danger of losing local resources not only as material in itself, but also as ancient knowledge and traditional culinary culture. The danger was acknowledged, not fully, but as early as the 1950s and 60s. Therefore, the public sector began to take steps to meet the situation.

As a measure, the seed preservation plays an important role in avoiding the annihilation of Kyoto vegetables. We explain the process of seed preservation in Kyoto. First, we point out the role of the Kyoto Prefectural and City governments. The Kyoto prefectural government, through its agricultural research institute, has selected and identified original strains to be preserved since 1960, and the Kyoto city government has designated local farmers for in-situ preservation of traditional varieties since 1962. Second, there was a growing demand for revival of Kyoto vegetables. Conventional vegetables, hybridized, standardized and sold nation-wide, were less unique and less attractive in the quality of shape and taste. Because the traditional nature of Kyoto vegetables is integral to traditional Kyoto cuisine, the decline of Kyoto vegetable production was regarded as a threat to the culinary culture of Kyoto. Therefore, traditional restaurants and their chefs in Kyoto raised their voices for the revival of traditional Kyoto vegetables.

In the reaction to increasing concerns and demands for revival of Kyoto vegetables, the public research institute of Kyoto prefecture introduced a full-fledged seed preservation program. In 1974, the Kyoto Prefecture Agricultural Research Institute set up the preservation field, in which researchers have been working for the preservation of original
strains, breed improvement, breeding material supply and development of cultivation technology. And in 1977, a seed supply program was introduced in order to get seeds multiplied by local farmers through the intermediation of local agricultural cooperatives (Japan Agricultural Cooperatives: JA). Although many of Kyoto vegetables are originated in the area of Kyoto city, the Kyoto Prefectural government and its research institute have encouraged local farmers to produce Kyoto vegetables particularly in the Northern and Central regions of Kyoto, where these have been suffered from depopulation. The agricultural policy of Kyoto prefecture has been targeted at these less competitive regions, to boost their regional economy. In a certain sense, the expansion of Kyoto vegetables to these regions was intended not just to increase vegetable production, but also to revitalize local agriculture and economy. Fig. 1 shows the growing production of Kyoto vegetables in Kyoto prefecture. From this figure, we find the seed preservation almost successful, but as discussed below, other factors contribute significantly to such a growth of production.

3. How Kyoto vegetables have been preserved?

Through this seed variety preservation program in the public sector, Kyoto vegetables have been able to live as they were. The ways of preservation are basically all much the same for the sake of handing down seed trait to posterity. Even though the methodology is almost the same, the meaning of preservation would differ depending on who takes in charge of preserving. This point would influence how seed turns to be private or public. Furthermore, the difference of place between preserving and using the seeds suggests how the concept of locality has been attached to its locus. So, we classify three types of seed preservation as a part of work for that intention.

The first is the farmer’s breeding or in-situ preservation. This is being applied mainly for cultivation in Kyoto city, whereby Kyoto vegetables have been passed down to the present. In this way, farmers reproduce traditional vegetables by continuous repetition of storing seed from grain and sowing it as means of production. Even now, very special varieties such as sugukina, a kind of turnips, aomi daikon and karami daikon, kinds of radish, are cultivated in this way
within the limited areas of Kyoto city under the auspices of the city government. The city government entrusts a few of local farmers to preserve seeds and cultivation technology, and without this effort many kinds of Kyoto vegetables will go extinct.

The second is the public breeding or ex-situ and the field gene-bank preservation, mainly for cultivation in the Northern and Central districts of Kyoto prefecture. The public research institution has regenerated original strains by dominant line selection, based on seeds which local farmers in Kyoto city cultivated and permitted other farmers in Kyoto prefecture to use (Saito 2007). Vegetables preserved in this way include less special, less popular kinds such as kamo nasu, an eggplant, mangan-ji togarashi, a bird pepper and chi imo, a Japanese potato with unique shape. The public research institute has implemented not just preservation but also breed improvement in order to overcome demerit of traditional varieties and make them more suitable for cultivation.

The third is the commercial breeding. Several private seed companies develop new improved varieties of Kyoto vegetables for commercial purpose, but there is no clear interest in preservation. These commercial seeds are sold for cultivation in other prefectures and even within Kyoto. Vegetables cultivated in such a way include very popular kinds, such as mizuna, a potherb mustard, kajo negi, a green onion, and kintoki ninjin, an oriental carrot. These varieties, as discussed in detail below, are now so popular and familiar in all parts of the country to the extent that many other prefectures have begun to produce Kyoto vegetables using mainly commercial seeds. This classification is not strictly applied to all Kyoto vegetables, but almost plausible.

III Commodification of local resources and loss of locality

1. Nationwide expansion of Kyoto vegetables

The Kyoto Prefectural government has focused on traditional vegetables for agricultural promotion and local economy in the depopulation areas. However, in order for such a production policy to be successful, it needs to consider not only “preservation and extension” but also “sales and consumption”. Therefore, Kyoto Prefecture launched a brand strategy for the sales promotion of Kyoto vegetables. The strategy has been targeted at the metropolitan markets to expand the demand for Kyoto vegetables, by taking advantage of an image of "Kyoto" as representing a soul of Japanese culture. For that purpose, the Kyoto Prefectural government reorganized the agency for the rice production adjustment policy into “Kyoto Specialty Products Price Stabilization and Distribution Association” in 1989. This organization consists of all 25 municipal governments in Kyoto and various agricultural related organizations including five JAs. This association is in charge of the brand certification and the sales promotion, and has contributed to the increase of consumer's demand for Kyoto vegetables. In the meanwhile, several socio-economic factors as diversification of diets and increasing preference for high quality food, in addition to the long-standing popularity of cool image of Kyoto, have pushed up growing sales of Kyoto vegetables in the metropolitan markets as indicated in Fig. 2. This figure shows that about 20% of average production goes to the metropolitan markets and that the demand for Kyoto vegetables in the metropolitan greatly affects on the production itself.

Due to such unexpected successes, however, new problems have surfaced. Kyoto vegetables became scarce for insatiable demand in huge metropolitan markets. Besides, it was only a matter of time before Kyoto’s success story would be imitated by other regions. In fact, Kyoto vegetables are now grown all across Japan, not only because of the strategy of Kyoto model but also because Kyoto vegetable varieties themselves have been appropriated by other regions including those with comparative advantages. Consider mizuna as an example, which is probably one of the most popular among Kyoto vegetables because of its usability and crunchy texture. According to the data from the Tokyo central wholesale market, many prefectures produce mizuna. As indicated in Fig. 3, since mizuna is now produced nationwide and shipped to the Tokyo market, it has become a general vegetable. We call this phenomenon the
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Figure 2  Kyoto vegetables to the metropolitan market

Figure 3  Nationwide expansion of mizuna
nationwide expansion of Kyoto vegetables.” The phenomenon not only implies the concentration of Kyoto vegetables to a huge consumer region, the Tokyo central wholesale market, but it also affects the home market of Kyoto vegetables, the Kyoto central wholesale market. The expansion of Kyoto vegetable production invites price competition among production regions and decreases the advantages of Kyoto vegetables cultivated in Kyoto.

The competition between Kyoto and others has intensified, particular with the explosive expansion of Ibaraki prefecture, which is close to the metropolitan markets. Table 1 shows the top tenth *mizuna* producers by transaction volume in the metropolitan markets in 2010; Ibaraki (7,107t) is first and Kyoto is sixth (45t). According to Fig. 4,
Ibaraki’s growing *mizuna* has accompanied the transaction volume expansion as a whole. On the contrary, paying attention to Kyoto, its share has been declining in the metropolitan markets. The transaction volume growth also affects price decisions in agricultural markets.

2. Losing an advantage over market competition

Next, we analyze the effect of the “nationwide expansion of Kyoto vegetables” in terms of price. Because the quality of Kyoto’s *mizuna* is higher than others, it has a price advantage. Nevertheless, largely due to the growing production and sales of Ibaraki’s *mizuna*, the average price of Kyoto *mizuna* has been declining in the metropolitan markets (Fig. 4). In 1999, its average price was ¥936 and ¥459 in Ibaraki, in 2005, Kyoto, ¥663, Ibaraki, ¥374, and in 2010, Kyoto, ¥724, Ibaraki, ¥392. Although Kyoto has still maintained its price advantage over Ibaraki, this advantage continues to decrease as Ibaraki’s *mizuna* drastically increases its transaction volume. The expansion of transactions at large and quality improvement are reducing the price disparity among production regions. In this way, the market mechanism in agriculture increases agricultural production and leads to a decreasing price trend. Even though a method of compensating for a decline in the gross value of output from a fall in unit prices with an increment of production is usually adopted, it does not apply to the case of Kyoto vegetables, where prices are kept high based on quality. Labor intensive cultivation in the small farms of Kyoto’s agriculture leads to high quality: nevertheless, production costs in Kyoto rise more than in other more competitive regions. Thus, Kyoto vegetables are not willing to enter downward price competition as if on a “race-to-the-bottom.” Instead, even though the Kyoto government agencies concerned with Kyoto vegetables have recently tried to enhance product quality and consumer trust, such action might be constrained and insufficient to maintain the Kyoto’s price advantage. Although *mizuna* is just one remarkable case that represents the “nationwide expansion of Kyoto vegetables,” local resources inherited over the years diffuse toward other regions beyond their origins, putting competitive pressure on original resources through the market mechanism.

Kyoto vegetables have been passed down to the present, connecting traditional Japanese culture as represented as culinary culture. Kyoto vegetables have also been formed as local resources in Kyoto through the repetition of production and consumption by many local people. The Kyoto government agencies have worked to revive Kyoto vegetables to preserve and utilize them. These backgrounds attach Kyoto vegetables to its public character as a local common resource. Therefore, Kyoto vegetables have dual characteristics. One is identified and reproduced in the “production-consumption-production” cycle as a use-value, by which the traditional culinary culture of Kyoto is expected to be preserved. This cycle plays a significant role in the reproduction of traditional varieties. The other is identified and reproduced in the “production-sales-production” cycle as an exchange-value, by which local economies are expected to be revitalized. This plays an important role in getting income. Pursuing the latter aspect of Kyoto vegetables, or to put it differently, the commodification of Kyoto vegetables as an exchange-value rather than a culturally and locally embedded use-value, has actually resulted in the “nationwide expansion of Kyoto vegetables.” Kyoto vegetables are provided as a public expenditure as one depopulation measure, so pursuing commodification was inevitable. Nevertheless, the commodification effect has increased the danger of a “loss of locality.”

Two underlying factors have prompted the “loss of locality” of Kyoto vegetables: varietal and institutional. Because Kyoto vegetables are local inbred varieties, they can be easily appropriated and grown by anybody in the market. In addition, the public research institute has adopted an open-source policy, making the preservation and breeding method accessible to anybody. Accordingly, Kyoto vegetables and their seeds can be freely appropriated by other prefectures and private seed companies. Due to such open-source policies, agricultural technical developments can prevail faster and more broadly, so farmers in other production areas can readily imitate them. Technical advantages from the public institute are easily equalized. Therefore, today many local and regional actors are busily registering their trademarks
under the regionally-based collective marks system of Japanese Trademark Law (enacted in April 2006) to protect their products from appropriation and the use of local resources by others to enhance their marketability. This collective marks system that aims to revitalize local economies by protecting intellectual properties helps utilize local resources without appropriation. However, this is not applicable to the Kyoto vegetables situation because of their non-exclusive nature. This system, in particular, sets up subjective requirements to restrict the number of actors entitled to identify their trademarks. To require permission to use a trademark, producers must organize themselves into corporative associations. Without satisfying this requirement, non-certificated farmers cannot sell Kyoto vegetables, even within Kyoto. Actually, trademark registration excludes individual farmers who do not belong to collective organizations to protect intellectual properties. This restriction on the membership also occurs in French AOCs (Barham 2003). Even individually, a farmer is allowed to plant Kyoto vegetables. Thus, Kyoto vegetables are not shielded by intellectual property rights. Although some items of Kyoto vegetables are now applied to this system by JA Zen-Noh Kyoto, protecting all Kyoto vegetables from appropriation remains difficult.

3. Kyoto vegetables as Localized Common Goods

In this section, we examine the public characteristics of Kyoto vegetables from an economic perspective. It is helpful to consider the nature of seeds within the economic concept of public goods. First, seeds are natural gifts and therefore unsuitable as property rights. As economic notes, seeds unique characteristics can be applied to the concept of public goods because they are characterized by both non-excludability and non-rivalness. Needless to say, preventing any farmer from using the offspring of original seeds is difficult. Also, seeds can be used by any farmer without detracting from anyone’s use or consumption (Herdt 1999). Seeds are the outputs (grain) and the inputs (seed material) of production as well as genetic resources for breeding (Pistrious and Wijk 1999). In this way, the farmers breeding and/or the public breeding without property rights as genetic resources were once regarded as de-facto standards. However, since the launching of commercial seeds, especially hybrid varieties from private seed companies, seeds have been a strategic but contradictory point in the development of proprietary interests. After the appearance of hybrid varieties, private seed companies have intensively strengthened their proprietary concerns, freely usurping the outcome from public institutes, and this commodification of seeds began to form a highly profitable business that accompanied the externality: the free-rider problem (Hisano 2002). Most previous studies about public goods address the issues of relations between public suppliers and private beneficiaries. Additionally, the case of Kyoto vegetables needs another viewpoint about the conflict between one public domain and others.

The economic concept, local public goods, concentrates on the spatial dimension of public goods. Local public goods are kinds of impure public goods, because their benefits are partially excludable and partially rival, and therefore, the reach of their benefits is spatially limited. However, the administrative domain of a local government that supplies public goods does not always overlap with the spatial reach of benefits from those goods. Consequently, the goods are probably provided at a specific location in space, which benefits outsiders. This is the so-called spill-over effect (Oates 1972). Since Kyoto vegetables have non-excludability and the spill-over effect, their situation resembles the concept of local public goods. By paying more attention to the territorial boundaries between Kyoto and others by using the economic term of local public goods, however, its theoretical concern is mainly placed on the relative cost burden versus the benefit of local public goods. The term, local public goods, lacks the viewpoint of producers and the production processes because the study of public goods largely focuses on the optimum allocation of resources. As mentioned in the introduction, nevertheless, goods are also undeniably defined by political-economic or socio-cultural factors: who produces the Kyoto vegetables and how. Not only the aspect of cost and benefit but also the aspect of producer and the production process contribute to discussions about Kyoto vegetables.
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Taking this theoretical discussion one step further, the structural elements of Kyoto vegetables must be examined. First, their uniqueness and use-values, in other words, their phenotype, are not just a function of genotype but also a complex of genotypes: environment and production factors contain seed material factors as inbred lines derived by seed-breeding farmers; such environment factors as water, soil characteristics, and climate conditions, and such production factors as cultivation management and techniques. These originate on the supply side, and furthermore factors on the demand side are also indispensable. Because Kyoto vegetables are embedded in traditional culinary culture, breeding and cultivation requests from culinary actors such as local restaurants and chefs play a crucial role in quality and shape. Their desire for agricultural producers to improve Kyoto vegetables reflects their needs for cooking materials and ingredients. Through interaction with producers, consumers, and culinary actors, current Kyoto vegetables have been constructed. Differently from general local foods, a distinct feature can be found in the point that consumers and users do more than just perceive the quality of Kyoto vegetables; they also materialize their preferences by making requests to producers. These elements of both supply and demand sides are integrated into Kyoto vegetables as a “package” not only in terms of the physical and material aspects but also the psychic preferences. This packaged value of Kyoto vegetables represents what is integral to the concept locality as a production and consumption space. Here, the concept of locality is recognized as a spatial entity, as discussed before. Locality is generally used to describe the place in question from geographical and topographical viewpoints without specific territorial outlines. To identify its territory as a spatial entity, it would be appropriate to take up goods produced and consumed by people within a limited area. Such goods that circulate within a certain area shape the spacelike boundary by trading among people. Therefore, goods, Kyoto vegetables in this case, combine the concept of locality with territorial boundaries. Kyoto vegetables are described as localized common goods to capture the nature of culturally and locally embedded resources that can and should be valuable within a territorial limit, extending the concept of (local) public goods. Purchasing localized common goods is synonymous with consuming a commodity not only as a material in itself but also as part of a local identity. In other words, localized common goods contain the nature of their loci, original places that are intangible but appeal to consumer instincts. In the case of Kyoto vegetables, consumers, even inside and outside Kyoto, feel the image of “Kyoto” and the unique taste of this area.

Conclusion

Kyoto vegetables as “packaged” goods reinforce Kyoto’s locality. If local resources lose their connection to local places through the expansion of nationwide production and sales, “the loss of locality” is unavoidable. This is the paradoxical result of the commodification of local resources even though local resources are expected to revitalize local economies. Actually, as is clear from above, the commodification effect tends to dissociate localized common goods from their locality. To revitalize a local economy, the economic circulation (capital and income flow) that accompanies the material circulation (metabolism of human beings and nature) must be enhanced, both as use-value and exchange-value realizations. Thus, local economies must circulate within a limited territory. Agricultural development policies for revitalizing local and rural economies should involve rural farmers, rural consumers, and the residents of nearby cities, pursuing not just agricultural production but also consuming rurality (Ikejima 2007). The mutual interaction of production and consumption would maintain or improve economic transactions.

In this way, by creating economic circulation within local areas, not only producers but also other local actors benefit from agricultural development policies that use traditional local resources. This socioeconomic ripple effect of public expenditures legitimizes the involvement of local governments. Localized common goods extend the economic terms of public goods, meaning that public suppliers lose their incentive for R&D with public expenditures if local resources are easily appropriated by others. This structure is the same as the free-ride problem in public R&D among
developing countries (World Bank 2007). Losing incentive leads to the danger that local resources might vanish because both the commodification effect and losing incentive would threaten the survival of Kyoto vegetables. Introducing the concept of localized common goods helps connect a commodity with its spacelike boundary and supports “local production for local consumption.” Nevertheless, this does not promote regionalism in a narrow sense. Although Kyoto vegetables have been sold nationwide and appropriated by others, they are just one kind of local vegetable in Japan. Local actors should not excessively imitate a commodity sold across the country without careful consideration and should pay attention to local resources rooted in their traditional culture and their locality. Various local resources are expected to co-exist without any race-to-the-bottom kind competition among regions to avoid “the loss of locality” that resulted from the commodification of local resources. This is only possible if each local region rediscovers its localized common goods.

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