

**Title**

Making Device for Sustainable Agriculture Systems: A Case Study of Japanese Farmers Markets

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## **Introduction**

The purpose of this study is to investigate Japanese farmers' markets as "compromising devices" (Boltanski and Thevenot, 1991) for sustainable agricultural system by articulating plural logics of justification (market, civic and domestic). These devices are also "qualification devices" (Cochoy and Dubuisson-Quellier) defining the products as authentic and thus embedding them in the local market. The conception and construction of these devices are crucial in the intense competition between big supermarkets and farmers' markets under an immaterial accumulation regime (Du Tertre). Under this regime, it is essential to incorporate various values (environmental, civic, or domestic, market, etc.) and to use authenticity in marketing.

According to recent governmental statistics (Ministry of Agriculture, 2007), there are almost twelve thousand farmers' markets in Japan, but farmers' market products have only a 10% share in the distribution of agricultural products. However, this share has increased to 30-40% in some regions, so the Japanese farmers' market is no longer marginal.

The Japanese farmers' market has three characteristics: (1) it is open almost every day, (2) it offers joint selling on commission (several farmers are in charge of selling on behalf of other farmers); (3) it is supported by a (quasi-) public sector. The farmers' markets are open an average of 280 days a year, and over 70% of farmers' markets are open for more than 300 days.

Seventy percent of farmers' market consumers reside in the region where the markets are situated, and the other 30% are commuters or tourists. In mountain areas, half of the consumers are tourists. Farmers' markets in these areas sell regional products (such as wild mushrooms and processed foods). In the suburbs and flatlands, there are large farmers' markets, and 800,000 consumers visited at least one farmers' market in 2006. These consumers are price-conscious and sensitive to the freshness of vegetables. In these areas, there is intense competition between farmers' markets and supermarkets. Sixty-four percent of all farmers' market sales and 70% of all vegetables sold originate in the region of the farmers' market.

However, supermarkets have also increased their purchase of local

agricultural products, especially after a series of food scandals. Supermarkets are eager to improve their local images. Many supermarkets have developed their own traceability systems in order to reassure consumers of the safety of their products.

### **Background of Japanese Farmers Markets**

Japan's food self-sufficiency ratio, on a calorie basis, is low (39%), ranking 27th among the 30 member states of OECD. Comparable figures are France (130%), the USA (119%), Germany (91%) and the UK (74%). The Japanese government has endeavored to raise its food-sufficiency ratio, but it is difficult. Japanese agricultural farms are smaller than those in other developed countries. Japan has only 5 million ha of farmland (Australia has 447 million ha), and mean area per farm is only 1.8 ha. More than half (57%) of key agricultural workers are at least 65 years old.

Despite these structural constraints, the Japanese government has launched several programs to enhance the self-sufficiency ratio. Thus, the "Shokuiku [food education] Basic Law" took effect in July 2005, and the Shokuiku Basic Program was enacted in March 2006. In elementary schools, at lunch time, teachers explain where food comes from, and take their students to neighborhood farms.

These activities are expected to improve the food self-sufficiency ratio, preserve traditional dietary culture, and promote good health. As part of this program, a national movement of "local consumption of locally produced agricultural products" has been initiated (Japanese Ministry of Agriculture, Forestry and Fisheries, 2007).

### **A brief history of Japanese farmers' markets**

Here we describe the "social life" or "biography" (Apadurai) of farmers' market products.

Farmers have always sold their goods, either directly or through farmers' markets and bazaars. However, after the Meiji era in Japan, these markets were replaced by the large-scale distribution of agricultural products. Several traditional bazaars still remain sightseeing spots for tourists.

In the 1980s, as a result of the surplus production of rice, the Japanese government urged farmers to replace rice with other crops or vegetables. And many large vegetable-growing districts had already appeared during the golden age of Japanese capitalism in the 1970s.

However, many small farmers, whose farms were unsuited to standardized vegetable production (amount and weights, appearance, shapes), were excluded from the mainstream distribution channels in which agricultural cooperatives bought products from farmers and sold them to wholesalers.

Several groups of farmers' wives, supported by prefectural extension services, grew vegetables for their own consumption. These groups and small farms had easy access to farmers' markets, which were not rigorous in their standardization of products. Thus, farmers' wives began to offer these vegetables, in addition to homemade products, for sale on farmers' markets. In recent years, because of competition with imported food products in supermarkets, many large-scale specialized farmers have also begun to sell their goods on the farmers' market. For older farmers, farmers' wives and newcomers, farmers' markets are easy to enter, because farmers who sell on them do not need large amounts of land, expensive machinery or many workers, since these farms produce many kinds of products, but in small quantities.

The quality of these products, however, varies. The farmers' markets collect these products and sell them, in order to ensure a supply of agricultural products throughout the year. Generally, these farmers produce many kinds of vegetables, rice, flowers and homemade foods. The farmers' market also favors product diversification.

In the UK and USA, several researchers have studied farmers' markets. Hinrichs (2000) described the farmers' market as one of two forms of alternative direct marketing (the other was CSA), Kirman (2004, 2006) proposed that the farmers' market was an alternative distribution system by referring to Actor-Network-Theory (ANT). Holloway and Kneafsey (2000) wrote that the farmers' market was a cognitive place for nostalgia for the "Golden Age" in the UK, but in this paper we demonstrate that it has not been the case in Japan.

In Japan, Sakurai (2006) surveyed Japanese studies and stressed the

necessity of unifying the marketing-oriented and community-oriented arguments about the 'locally produced-locally consumed' movement.

In contrast, Iizaka (2007) synthesizes the relationship between the farmers' market and the 'locally produced-locally consumed' movement by focusing on the following topics: (1) successive food scandals and changes in the food consumption behavior; (2) rural tourism; (3) safeguarding small-scale farmers against the bargaining power of supermarkets; (4) the market for the surplus farm products; And (5) support for farms by the local government.

Then he points out the advantages of farmers' market for rural area: (1) increase in farm income; (2) the enhancement of agricultural products; (3) livelihood for elderly persons; (4) rural developments; and (5) employment for elderly people and women.

### **Farmers' Market for Farmers: A case study in Okayama**

In this chapter, we investigate the behavior of farmers at a farmers' market by describing a typical farmers' market in one of Japan's mountainous regions. Okayama Prefecture is located in central-western Japan.

We examined "Michi-no-Eki (Roadside Station) Kamogawa-Enjoh" located on the center of Okayama prefecture. It takes thirty minutes to get there from Okayama (capital-city) by car.

This farmers' market is open every day except Wednesday and total sales per year are 100 million yen. Its main products are vegetables, fruits, and processed foods. Two hundred farmers belong to the Michi-no-Eki Kamogawa-Enjoh farmers' market. We sent questionnaires to seventy-two farmers in August 1998.

The questions asked about their income, production items, and the advantages of farmers' market shipment compared to the wholesale-market (Farmers' selling days at Michi-no-Eki Kamogawa-Enjoh are shown in Figure 1).

This farmers' market is open every day, but many farmers attended fewer than 100 days per year. (Sales in farmers' market are shown in Figure 2). Fewer than half of farmers earn less than 1 million yen, including farmers' market sales.

For many farmers, the farmers' market is not their main source of income, but an important second or third source for elderly or small farmers who find it difficult to ship commodities to wholesale markets.

Many farmers sell their surplus goods on the farmers' market, and their main income devices from off-farm work. Farmers selling vegetables ship an average of thirteen items.

They have several criteria for shipping their products to farmers' market (Table 1): products which are cultivated or made in the area; products which are not grown by neighboring farmers; and shipping as many varieties of vegetables as possible.

We find that, in the farmers' market, products which have not been evaluated by modern distribution chains are desired by consumers. In addition, traditional local products are highly evaluated by consumers. The production and sale of these products at farmers' market maintain the diversity of local products and promote sustainable development.

Our question asks farmers about the advantages of farmers' market shipping over wholesale shipping. The farmers' answers are shown as follows (Table 2): "reduction of burden of standardization and minimal quantity of shipping" (when using wholesale shipping, farmers must adjust to standard of products, and ship the minimum amount); "possibility to set price by themselves"; "frequent communication between farmers"; and "direct transfer of consumers' voices to farmers".

In a word, the farmers appreciate the farmers' market for the following reasons: 1) each farmer can decide the amounts shipped and their price; 2) non-professional farmers have access to the farmers' market; and 3) direct interaction can be ensured between consumers and farmers.

### **Farmers Market for Consumers**

We interviewed 500 customers at Michi-no-Eki Kamogawa-Enjoh in September 1998. We asked them what they had bought, the purpose and frequency of their visits, the amount of their purchase, and the advantage of the farmers' market purchase over the supermarket.

Approximately seventeen percent (17.7%) of customers live within 20km from the farmers' market. However 60% live within 20-40 km, most of them live in an hour away in Okayama, the capital city. As for

the purposes to come to Michi-no-Eki Kamogawa-Enjoh, 34% come for the farmers' market itself, but 39.6% of the customers stop there on their way to sightseeing.

The average purchase price per customer is 2,058 yen, which is higher than average purchase (about 1,500 yen) at the Japanese farmers' market.

More than half of customers had visited this farmers' market for the "first time" or "several times per year," however more than 15% are "repeaters" who visit more than once a week.

When we asked the advantages what they find in the farmers' market products, more than half replied, "freshness of the products" and price" (Table 3).

As our research has shown, the farmers' market customers are also price-conscious. However, we found many types of customers in farmers' market, and some of them are particular about the authenticity and come from far cities to buy these authentic products (Iizaka, 1999).

### **Introducing Point of Sales (POS, barcode system)**

The Japanese farmers' markets are characterized by joint selling on commission. In a case like this, it is difficult to keep accounts after the farmers' market closes every evening. Larger farmers' markets have therefore introduced Point of Sales (POS, barcode system) like supermarkets. It has been thought that the cost of introducing POS must have been prohibitive, and that the system must have been difficult for older farmers to learn.

Therefore we examined a PC-POS (Fig. 3) operated by a home computer, and introduced at the farmers' market in Sera-county, Hiroshima prefecture.

One hundred farmers over 60 years old belong to this farmers' market and sell more than 70 kinds of fruits, vegetables and homemade foods. After its introduction, sales doubled or tripled because farmers can send fresh products to the market all day long (farmers receive sales date every several hours by mobile telephone, and they can supply their products just-in-time).

Before introducing POS, the farmers had to write checking-papers for

every shipment, but after the introduction they only have to ship products, so their workload was significantly reduced. They also spend less time on record-keeping. Every participant is satisfied with the use of POS.

Moreover, POS reduced the number of mistakes in check registration, so customers are also satisfied with shorter waits in line and with being able to have a conversation with the farmers. It is easier to tell consumers about their products to consumers by introducing POS.

Thus POS makes just-in-time shipping possible and therefore ensures the freshness of the products; it is also the device that promotes communication with farmers and consumers. These conversations between customers and farmers help the farmers to discover what their consumers want to eat and therefore what kind of crops farmers should grow. These conversations are very informative (Iizaka, 2007), and many consumers want to learn as much as they can from farmers about where and how the products were grown, and how to prepare and serve them. This information is difficult to get from modern supermarkets.

As noted above, the consignment sales method has been adopted in Japanese farmers' markets. In the individual face-to-face selling method adopted in Euro-American farmers' markets, farmers can see the responses of clients, and converse with them.

However, in the Japanese style, as long as farmers do not sell their products in a face-to-face manner, farmers cannot get access to these responses. Therefore, farmers have to come to see how their own products and competitors sell. This distinguishes Japanese farmers' markets from European or American farmers' market.

### **Farmers' market as the devices for sustainable development**

Kirman (2004) explained the farmers' market in the UK as a reaction to increasing distance, decrease in the number of knowledgeable vendors, and the increasing amounts of processed food whose raw materials come from other regions or even from other countries.

However at several farmers' markets in Japan, traditional vegetables and fruits that were unsuited for long distance distribution have been rediscovered by older farmers who now grow them. For example, at the



other farmers' market near Kamogawa-Enjoh, local varieties of grapes, which had been too fragile for long-distance shipment and distribution, have gained popularity and farmers now sell them not only on a farmers' market but also over the Internet.

In the region where the monoculture of spinach had been developed, after a fungus destroyed the ecosystem of spinach production, other crops and vegetables have been grown for sale on farmers' markets. Several farmers' markets have their own certification systems for their organic foods. Farmers' markets are therefore a device for alternative and sustainable agricultural systems.

In another case, Baba-Nasu, a local variety of traditional eggplant which had not been evaluated by modern large-scale and long-distance distribution systems, has been desired by older consumers near Osaka-city. In Osaka Prefecture Sen-shu region, the other eggplant, "Mizu-Nasu," has been grown since the seventeenth century. According to the research of Osaka prefectural agricultural center done in 1952, there were more than 20 varieties of "Mizu-Nasu" in that region. However, these local varieties disappeared because of competition with modern varieties that were better suited to mass production and long distance distribution.

In recent years, however, these local varieties have been grown in that traditional areas and have been sold at farmers' markets from June to September, many lovers of these traditional plants visit this farmers' market to buy it.

## **Discussion and Conclusion**

Now we would like to consider the farmers' market as "compromising" or "qualification devices."

In recent years, there has been intense competition between farmers' markets and big supermarkets. The supermarkets are sensitive to the safety and freshness of their products in the wake of successive food scandals, so they have started to grow vegetables on their own farms. Farmers' markets and supermarkets compete for farmers in their neighborhood who supply vegetables. Supermarkets are eager to gain a reputation for safety and freshness, so they appeal to marketing uses of

proximity and authenticity.

The clients of farmers' markets are also interested in inexpensive products; in this sense, farmers' markets are compromising devices for market logics and other logics of justifications (domestic, civic) (Boltanski and Thevenot). In this competition with supermarkets, POS makes it possible for farmers' markets to supply fresh vegetables.

In a post-fordist immaterial accumulation regime, economic agents create differences by incorporating values. Farmers' markets are devices for making their products authentic by farmers' presence and the collections of local varieties and traditional products.

Farmers' markets are coordination devices among farmers in competition and cooperation. In planning year-round cultivation, farmers coordinate their activities with each other. They exchange know-how about growing vegetables or processing foods. The older generation of farmers helps the younger generation to grow local varieties of vegetables.

Consumers also reveal their preferences for these traditional varieties or novel vegetables (for example, herbs like basil or lavender). Thus farmers' markets induce a bottom-up innovation process. At farmers' markets, consumers are able to obtain information on the provenance of the products, or neighbor tourist sites, and local recipes. Farmers' markets develop sustainable agricultural systems by safeguarding cultivated biodiversity.

As in our case study mentioned above, the local variety of grape has been reevaluated by older generations of consumers at farmers' markets. Small scale farmers have revitalized land that had been exhausted by the spinach monoculture by growing many varieties of vegetables. There have been revivals of local varieties such as Baba-Nasu eggplant by older generation of consumers. Thus the Japanese farmers' markets are compromising the domestic logic and sustainability logic, civic (local development).

Sakurai (2006), quoting Holloway and Kneafsey (2000) in the UK, claim that farmers' markets have some affinity with conservatism, nationalism or nostalgia. This is not the case for Japanese farmers' markets. However, we agree with Sakurai's (2006) argument that

farmers' markets have been reevaluated as the means of developing local food chains and as a central part of the 'locally produced-locally consumed' movement which has recently become popular in Japan.

Farmers' markets define consumers as lovers of the rural lifestyle, and classify farmers' markets products as "authentic" agricultural products. In addition, several farmers' markets organize and train younger farmers who can provide standardized products for wholesale market. In this sense, the farmers' markets are qualification devices for channeling their products to the local distribution or industrial mass production and long distance distribution according to the farmers' competences.

Thus, the Japanese farmers' markets combine multiple logics. Several farmers' markets in rural areas, in response to customers' demands, have moved to urban areas or even into supermarkets. Several farmers' markets are bases of rural tourism. In a mountain region in Kyoto, 700,000 tourists annually visit the hamlet in which a farmers' market is situated, and farmers provide traditional products for tourists.

There is not as strong a connection between farmers and consumers in Japanese farmers' markets as there is in the UK or USA. Japanese farmers' markets, however, have departed from niches, and moved to the center of alternative agro-food chains that are competitive in modern large-scale food distribution.

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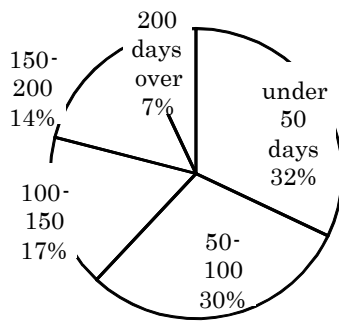


Fig.1 shipping days to FM

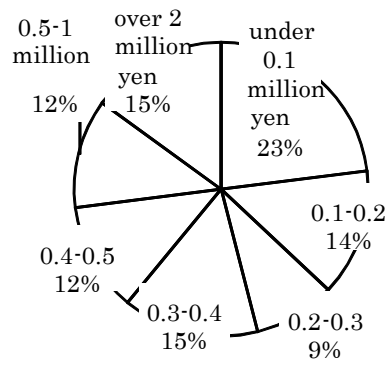


Fig.2 Annual Sales in FM



Fig.3 PC-POS  
(Barcode system)



Table 1: An attention point in case of shipping

	(%)
traditional products and kinds of lists which were adopted in the area	43.1
rare lists of products which were not grown by other farmers	33.3
shipping many types of vegetables as possible	30.6
not use chemicals	26.4
getting eager to sell processed food	25.0
adjusting time to ship products before/after	25.0
others	6.9
n=72	

Table 2: merits of shipping FM

	(%)
free from standard and quantity	70.8
possible to be set price by oneself	66.7
easy to join for women and elderly people	63.9
possible to sell surplus products	54.2
interaction with farmers deepened	47.2
possible to hear direct voices from consumers	43.1
possible to sell processed foods by oneself	25.0
easy to know the fact everyday	20.8
possible to use fallow field	9.7
make profits more than wholesale market shipping	4.2
others	4.2

n=72

Table 3: Merits of Enjoh-FM for consumers

	(%)
freshness of the products	57
cheapness of the commodity price	54
toilets are ready	45
parking lot is large	37
atmosphere of the FM is peaceful	36
local products can be purchased	33
foods taste good	29
shopping with talking with the produce	28
commodities are safe	22
stock of commodities is satisfactory	13
rare products can be purchased	13
others	4

n=500