INSTITUTE OF CURRENT WORLD AFFAIRS

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JAPANESE FARMER-CONSUMER CO-PARTNERSHIPS: "TEIKEI"

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Dear Peter:

Over the last several years, Japanese mass media has occasionally dealt with the issue of what constitutes an "organically raised' product. What these programs have concluded is confirmed by personal experience: a sampling of the variety of products variously described as 'organic' (*yukisaibai,munoyaku*), 'natural' (*shusen-nosambutsu*),or 'low pesticide' (*tenoyaku* or *genoyaku*), reveals that beyond costing more, there is nothing consistent about them; nobody seems to be able to establish what the terms mean in actual practice. Discrepancies and contradictions abound when one asks Japanese greengrocers, wholesalers, packers, farmers or consumers what they mean; no common definition or standard yet exists.

Until now, it seems that this state of uncertainty has left the Japanese consumer with few choices: one could assume that a particular product was in fact *bona fide* and continue to consume it; a more skeptical shopper could return to the conventional market and bet on sub-lethal pesticide accumulations until such time as the eventual clarification of the issues came about (while saving some money); the third option would be to vote with one's feet and seek out a private channel that offered greater proof of its claims.

Greater consumer awareness of this problem and of the need for protection from fraud has created pressure for reform of within the existing market system. The issue has reached the attention of government officials and other concerned parties, and there are currently efforts under way to develop standards or criteria for certifying organic products in the near future. In a search for some models or experience on the subject, these groups have looked at how other countries have addressed the problem.

Standards or certification schemes for organic farming are something that has recently gone from an isolated collection of examples in a few states and municipalities, to a federal legal definition in the United States (with the Organic Food Act of 1990) and are soon to emerge at the European Common Market level, as member states consolidate their internal approaches and negotiate over differences between member states.

This transformation has been driven by a remarkable surge in interest in food safety. In the span of a decade, the organic agriculture movement has gone from a fringe specialty market for 'health nuts' to a mainstream, multi-million industry involving interstate and international trade.

In the United States, the history of definitions and the certification of organic production began with a process of voluntary self-regulation by private producer groups, who also played the largest

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role, the formulation of guidelines and standards; these mostly pertained to soil quality and to restrictions on the types of sprays and techniques that could be used and a policy of third party inspections at the farms to confirm compliance. Recommended practices were informally incorporated into the process of promoting this organic approach. In general, producers found to comply with the established standards were then certified and allowed to use the certifying authorities' labels on their farm products. Consumers then purchased those products in small retail outlets, identifying them by the certification labels that might appear on a display or on the product itself.

ORGANIC PANIC

In the last three years, demand for organic foods has jumped with mass media exposure of food adulteration and contamination, of harmful pesticide residues in fresh and processed food products, and of bacterial contamination in fish and poultry products, and hormones in red meat. Quite suddenly the network of private certification organizations was stretched beyond it's capacity to supply the public through its small distribution channels of health food stores, farmer's markets and u-pick operations.

Retailing giants and wholesale suppliers of supermarket chains acted quickly in an attempt to provide organic product as consumers willingly paid average premiums of 15 - 20% over the price of conventionally raised foods and produce sections expanded linear footage of organic displays accordingly. Stories of whole production lots being purchased well into the future accompanied the conventional food distribution system's lunge onto organic food marketing bandwagon.

This process of organic empire building, and of overnight conversions to organic farming soon proved to be enough to alarm the previously autonomous, independent-minded organic producer groups around the United States into a realization that unless they did something decisive and substantial to protect themselves and the integrity of their approach, the meaning of organic was to become confused and greatly devalued.

In the winter of 1989, the first meetings were held of the Organic Farmer's Associations Council (OFAC), with the express purpose of arriving at a unified, national response to this development.

A catalyst in this process was the drafting of federal legislation which sought to unify the definition and draw input from the various sectors involved: organic producer groups, organic processors, distributors and retailers, consumer/ food safety activists and environmental groups.

Emerging from this process of pulling together input was a coalition of forces that ultimately demonstrated the strength in numbers and organization to overcome a powerful agriculture lobby's grip on the policy making establishment. In a dramatic House of Representatives floor vote, the coalition overrode an agriculture committee's rejection of the proposed legislation and won approval of the original Bill.

The legislation has as a key feature, the sharing of decision- making authority between private and public agents, and of widening participation in the regulatory process through a system of referenda and appeals, and a nationally representative organic board structured to reflect a diversity of environmental, consumer, producer, and processor interests.

The law will likely have an impact well beyond the boundaries of the current organic market. One example: reciprocity clauses contained within the law limit international trade in organic products to those countries having a legal, national definition of the term.

Meanwhile, many of the same groups and individuals involved in developing the legislation are now turning their attention to related issues : support for alternative agricultural research, the promotion of sustainable agriculture in domestic subsidy programs, and at the international level, the controls over trade in pesticides, questions of export subsidies role in the destabilization of developing country economies, etc.

It is still early to pronounce judgment on the effect of national legislation on the organic food

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industry's economic vitality. The US law comes into full effect in 1993, and at the international level, the International Federation of Organic Agriculture Movements (IFOAM) is still in the process of working out the ground rules for accreditation of national organic certification organizations. Polls have shown a willingness of the American consumer to pay more for a product that is reliably safer. But a recent slowing of the rise in demand has prompted several of the larger supermarket chains to withdraw from the earlier enthusiastic promotions of organic products, and premiums for organic have at times dropped to within 5% of conventional product.

While some doubts may persist about whether strict compliance with these standards is more assured with a federal regulatory component, I see more cause for concern in what such regulation can really accomplish while placing so much faith on a market place process. Parallels to the problems that face conventional agriculture and food distribution channels remain, and provoke concern that the use of standards will not eliminate wasteful or costly procedures, or create any better opportunities for farmers operating on a smaller scale or for those located in marginal areas.

In the search for some standards or criteria for the marketing of organic products in Japan, the question can be asked: for whose benefit are these standards to be developed, and what are the final objectives of such a system?

Recently there has been a great deal of interest in these changes taking place in the US agricultural system, but several Japanese with whom I have discussed the American experience leading to the organic law see little parallel in the domestic political scene that might give rise to a similar law in Japan. Citizen participation in national legislative process is not supported by peak national organizations for environmental, public interest, or other grassroots causes which could lobby the Diet. Bureaucratic controls are far more authoritative and less likely to involve input from the public, while consumer activists suggest that any standard that may emerge would closely reflect the interests of the corporate sector and the highly centralized food distribution system.

An interesting attempt has been made to adopt a certification system in Japan at the prefectural level. Okayama prefecture, in the south of Honshu, has modeled a program after private certification groups in the US, yet relies on prefecture government authority to administer the standard and evaluate farmers. It also differs considerably from other standards by requiring considerably shorter transition time from chemically–intensive to organic farming.(6 months instead of 3 years)

Despite these constraints, an alternative and rather successful approach to the problem of supplying consumers with organic products has developed in Japan. This is a direct marketing approach, called 'teikei'('cooperation' or 'partnership'), and takes a variety of forms of interaction between producer and consumer groups. These mutually beneficial linkages clearly avoid the need for official criteria or standards, while accomplishing many of the stated goals that organic standards aim toward.

The Teikei Approach in Practice

To see how the co-partnership system works, I will focus on one relatively successful example that I have been associated with since 1985.

The Ohira farm in Setagaya Ward of Tokyo is the base and hub for the distribution of produce in the 'Wakabakai' or 'Young Leaf Society', which, after twenty years, involves fourteen farmers from several surrounding prefectures, and nearly four hundred consumer families residing in the Tokyo metropolitan area.

The system if traced onto a map of Japan would resemble a mass of radiating lines, one set of them converging from farms in various parts of the country onto the Ohira household, and another of

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shorter lines reaching out to the consumer households in greater Tokyo. The farmers in outlying prefectures personally deliver their crops to Ohira's farm in Setagaya ward, and the Ohira family then sorts the shipments into lots corresponding to clusters of families, combining their produce with those of the other farmers. Careful records of the amount and prices of the food being sorted are kept.

From there, members of the "Wakabakai" group handle the distribution of these lots along established routes by coordinating drop-off points and secondary sorting operations. At the drop-off points some of the members of that particular area divide the lots into family-sized portions which are in turn picked up by individual household members.

This sorting work is done on a rotating, volunteer basis, and usually involves at least three or four persons spending a few hours in an afternoon. Deliveries are made one or two times per week, depending on the season. Very often the food that has been harvested in the morning is on the consumers' tables the same evening. While some minimal washing is performed in the fields, the bulk of the cleaning and preparation of the food remains the responsibility of the consumers.

While washing spinach, for example, mothers and children might occasionally spot a variety of ladybug they have seen in Ohira's field; the housewives help with weeding and other tasks at the Ohira farm on a rotating basis, though because of the size of Wakabakai, it is rarely more than once a month that the same people manage to visit. This assistance compensates for the extra role that the Ohira family plays in the distribution system.

Beginning with Ohira, whose family has been farming in the Setagaya ward for over three hundred and fifty years, and a small group of housewives, the group has grown to its present size after an involved process of evolution and change.

Ohira-san abandoned his use of agricultural chemicals over 20 years ago because of serious health problems. After several difficult years, he mastered a way to use locally available resources to develop compost and to restore fertility to his fields. His tasty crops attracted local housewives to his farm, and in recognizing the value and safety of his approach they also saw the importance of directly supporting a way of farming that was rapidly disappearing. The conventional market could not distinguish between Ohira's crops and those raised by other means, nor adequately reward him for the care and extra effort going into his farm. The neighborhood group decided to create a system that would ensure enough of a steady and stable demand for his product that he could concentrate on doing what he did best – raising organic crops. Veteran members recount that the ensuing experimentation was not always a smooth or easy process, involving high degrees of commitment and energy to make things work well.

Wakabakai members give a variety of answers when asked why they have joined the copartnership; the aspects most highly valued are the safety of the foods and the reliability of the supply. They also speak of the 'farmer's face on the vegetables'; indicating that they value personally knowing the farming families who have taken the responsibility for raising their food.

Prices are arrived at through mutual consultation at an annual meeting between all farmers and consumers and records show remarkable price stability over the last several years. They range from about ten to fifteen percent above to sometimes at or slightly below the market price for conventionally raised produce. The key difference between food sold through the conventional distribution system and the produce exchanged through teikei systems is that a far greater proportion of the price actually goes to the farmer, rather than to intermediate handlers, distributors, or retailers.

At the same annual meetings decisions are made about the variety and quantity of products to be grown, and there is a good deal of discussion with input from both sides.

In witnessing this process of bargaining and consultation, it is clear that the principles of mutual cooperation are highly valued, and that each side respects the advantages gained through direct contact with the other.

Farmers consider that they have fewer demands placed on their time for the sorting and elaborate packaging required by the conventional distribution channels, and also that they save much

produce that would otherwise not pass the strict cosmetic standards of the centralized market; for example nothing but the straightest and most uniform cucumbers make it through the elaborate channels and reach the displays of the street greengrocers.

Consumers agree to accept all the produce that is raised, and in some cases crop failures are also compensated for; they see the natural fluctuations in crops as a given variable and agree to share the risk. Since the relationship between the farmers and consumers is a multi–year arrangement, both are confident that losses one year will give way to surpluses another. This risk sharing over what Nature has to offer is one of the most unique aspects of the co-partnership system.

Monthly meetings are held between representatives of the farmers and consumers at which the process is fine tuned, and updates on crop delivery and availability, as well as feedback from the consumers, are heard.

Another communication link is the Wakabakai newsletter which frequently accompanies the produce and keeps each family informed about the events of the last monthly meetings, and may include updates on crop information or notices about events of interest to the members.

The newsletter is produced monthly by a committee of consumers, and other committees take the responsibility for collecting the money, or for helping with peak shipments of apples and other products. The fruits and vegetables are packaged in paper bags and boxes which are re-used. The members that drive to drop-off points carry receipts for the food, and in addition submit receipts for their driving expenses.

Other models: Miyoshi Village and the Kaneko farm.

The **teikei** approach is also being applied on other scales with elements that differ from the "Wakabakai" model.

Across the Bay of Tokyo in a farming village near the southern end of the Boso Peninsula, thirty-two households combine to produce the organic fruits, vegetables and grains for nearly a thousand consumer families in Tokyo. The conversion to organic farming of many of the local farms has meant that the entire village has been able to reverse a slide into collapse that characterizes many of the farming regions of Japan. Younger people have been able to remain on the land and continue to function as family-centered farming households. In operation for nearly as long as Wakabakai, this co-partnership has distinguished itself by building a community house in the village which acts as a center for many of the group's activities, including a summer exchange program for urban children.

Another example is the Kaneko household, situated north of Tokyo in the Saitama prefecture. This micro-level expression of the teikei system functions between the Kaneko family and eleven consumer households, all located within the immediate area. The farm strives to provide the members with as much of the fruits, vegetables, grains and milk products as possible, and in exchange uses a barter system in which the individual households determine the appropriate payment.

To a foreigner viewing the various co-partnerships between producers and consumers of organic foods, the 'teikei' concept seems a remarkably simple and direct approach to the problem of getting safe foods to consumers at a reasonable price. One even wonders why the same approach isn't in widespread use in the West, until closer examination reveals a tremendous amount of cooperative effort, mutual assistance and plain hard work that raises doubts as to whether such a system could function as well within cultures more inclined toward individual competition than on social cooperation.¹

¹ The idea of 'community supported agriculture' bears some important resemblances to the *teikei* approach. I have analyzed American experiments along these lines in past newsletters (see AAG-3 and AAG-4) and am compiling more about European models for a forthcoming newsletter.

It is commonly held that the amount of time required to successfully convert from chemical to organic farming and begin getting productive results is about five years. During the first several years most farmers seem to experience heavy crop losses and other frustrating problems in the field, and it is often even difficult to produce enough for the family alone.

As the fields recover their natural fertility and yields increase, there may still be difficulties that prevent crops from being sold through markets. Under these circumstances support through buying agreements with consumers can help the farmer proceed with efforts to abandon the use of hazardous chemicals.

In the case of a newly-formed group east of Tokyo, this sort of support proved critical to the viability of the co-partnership. Consumers have 'adopted' farmers that were relatively inexperienced in organic methods and struggled for several years with poor harvests until fertility returned to the fields and crop losses were reduced.

This is typically a very trying period socially, for if the farmer is making the conversion and neighboring families are not, his actions might be seen as threatening the unity of the community or challenging the authority of local leaders. In this aspect of the changeover, support from consumers can provide critical motivation and encouragement for a farmer acting within an often very conservative setting.

Risk-taking and locally-oriented research

When we consider the pressure that is being placed on a farmer to predict the trends in demand for food crops, we see a very clear gap between the conditions over which he or she can exert some control, and those over which one has little or no influence. Modern farmers have become victims of trade decisions and price fluctuations that often originate in distant places, and in order to ride out these uncertainties they have increasingly sought to gain more control over production methods. Typically, some of the heaviest crop spraying occurs when a farmer has a crop standing in the field and is waiting for an advantageous price. Pesticides eliminate some of the gamble and add to the perception of control that a farmer needs in order to choose where and when to sell his crops. It parallels the industrial practice of holding over inventories, although it is obviously limited by ripening and other biological factors that do not constrain products made from inanimate materials.

It is also possible to see a clear connection between market vulnerability and the amount of risktaking and experimentation that the farmer is willing to do. This has particular significance in the organic farming sphere, because experimentation is such a critical aspect of the progressive development of farming techniques.

Organic agriculture enjoys little or no support from conventional channels of information and support, such as the agricultural extension system, the agricultural schools or the Ministry of Agriculture's research facilities. Nor does it benefit from access to credit, seeds, cooperative discounts on fertilizers and other products, or other forms of financial support to conventional farmers.

Organic farmers in Japan and elsewhere must rely on their own experiments to learn about what will work, and for this the support gained by direct association with consumers can provide the security needed to take such risks, as well as the personal incentive to improve existing techniques and varieties of crops provided to consumers.

Active sharing of experiments and methods goes on in farmers' study groups and in contributions to the variety of journals and newsletters serving the organic farming community in Japan. The security of direct support from consumers tends to keep farmers from jealously guarding successful results, or to conceal experiments that have failed; the information is more likely to be shared openly and in a useful form. As consumers grow to understand more about farming, they too become an important source

of new information and ideas, and because of their numbers and demonstrated interest, they represent a vast source of information-collecting potential.

Food Preservation

Because consumers in direct co-partnerships agree to accept all the produce coming from their farmers' fields, they at times have to preserve surpluses or utilize them in new ways (Mrs. Ohira once commented that these circumstances sometimes encourage inventive recipes, with housewives adapting to what nature provides instead of having the convenient selection of the chemical supermarket cornucopia). Conversely, when a particular crop is scarce, the amount is divided evenly among the households.

The result is a revival of a culture of wholesome food preserving techniques, (which in modern times have largely been replaced by food additives and chemical preservatives) – and is an added consequence of a social system which supports the organic production system. In contrast to the conventional approach of regulating supply with strict cosmetic standards and the wasteful discarding of 'substandard' produce, occasional surpluses are dealt with ample advance notice and through the communication network.²

Some food preservation tasks are labor intensive, and consumers collectively organize on occasion to lighten the individual burden. Group canning of tomatoes or drying and pickling vegetables are examples of these tasks now rare in the Western tradition, while the making of tsukemono (pickled things) such as takuan (preserved daikon, a large white radish) are parallels in practice among *teikei* households.

Mixed Farming for Variety and Stability

The direct partnership between farmers and consumers also promotes mixed farming, either in the form of a greater variety of crops, or in the addition of livestock to the farm. This would usually be too risky or uneconomical when a farmer's decisions about what and how much to plant are best rewarded in the market by guessing what crop will be the highest-paying during a particular period, and planting that crop exclusively. It also contrasts sharply with farmers working under the price support system for rice and other grains, wherein centralized decision-making coordinates monocrop planting of a limited variety of grains, and government agencies absorb surpluses.

Livestock may not be at all profitable on a small scale if only the meat,milk, eggs or other products are considered. This is because small scale livestock operations cannot compete with the factory-like conditions that livestock are conventionally raised under, unless they conform to industry standards that threaten the integrity of their organic approach. For example, the beef industry association may compel its members to use certain chemical products in order to sell their meat through

² Biological farming is often contrasted with chemical-intensive farming by the replacement of inputs of pesticides, fertilizers,fungicides,etc. with those of natural origin: composts, mulches, biological sprays, labor inputs,etc. But it is also far more *information intensive*, requiring more precision and knowledge of biological relationships: insect reproductive cycles, cropping cycles, plant-plant and plant-soil interactions,etc. These compounded information requirements lead to greater management complexity and consequently greater risk, and if limited to the production side of the equation, amount to considerable pressures on the farmer; if this risk is shared by consumer groups, and information flows allow greater coordination of harvest and distribution, much of this pressure can be alleviated. Thus information intensity can also entail a social component.

the controlled distribution network.

But through the support of consumers who want eggs, milk and meat produced under safer conditions, farmers can take advantage of other benefits of raising livestock, such as providing a supply of manure for compost, or controlling weeds in the fields. In this sense, the market diseconomies of scale applying to small scale livestock production are not the only factors affecting the farmer's decision, and the returned option of livestock raising allows for designs that incorporate the useful elements provided by livestock into the overall efficiency and sustainability of a farm operation.

Short term economic pressures discourage the planting of a variety of crops because of greater difficulty in management; greater complexity in planting, harvesting and cultivation, and the limits on the use of large machinery have created the monocrop systems in evidence all around us. Uniformity in this case is the result of the demand of market forces to obtain 'efficient' lower prices per unit, despite longer term disadvantages and risks.

In much of the debate about 'sustainability' in agriculture, much of the attention tends to focus on the reduction of inputs into a farm production system. However, in designing for self-sufficiency at the farm level, we ignore at our peril the power of forces pressuring the farmer to specialize for a particular market. My point here is simple: when you have a certain and stable source of demand, it is much easier to develop the diversity of cropping systems we find so much biological value in maintaining. The consumers' need for variety in their diet along with their desire to be as reliant as possible on their partners tends to promote mixed cropping, which in turn translates into enhanced ecological stability and greater immunity to pests in the fields. These is no simpler symmetry between the need for diversity in a farm ecology and the need for diversity in the human diet than when a diversity of crops on the farm go directly to the kitchens of *teikei* co-partners.

Consumers practicing 'teikei' co-partnerships tend to obtain as much of their food as possible from their link with farmers, and in the case of the Wakabakai, members estimate they get about 75% of their food from the group's farmers. Items most typically purchased on the outside include fish, some grains, meats and spices, but there are also co-partnerships that supply all of these.

Another order of diversity can be achieved if there is cooperation between farmers who are coordinating their supply to a group of consumers. If on a particular farm, local climate or soil conditions are not suited to a particular crop, it may be that another farmer in the group can effectively handle that crop. Indeed that may be the basis for membership among a group of farmers that are supplying a consumer group.

In the case of Wakabakai, Mr. Mizuno, whose farm is located in the apple growing region of Nagano prefecture, can supply the group with apples and other fruits suited to that region. In Shizuoka prefecture another farmer raises tea and citrus fruits, while another in Chiba prefecture raises root crops. Thus the geographic distribution of farmers in the group contributes to the variety which can be provided to consumers, and the linkages to these concerned urban households assures the outlying farmers that they can earn a livelihood while farming biologically.

Collective use of machinery and cost-sharing

In the case of Miyoshi Mura, the **teikei** village mentioned above, other benefits are gained from the immediate proximity of cooperating farmers. The villagers coordinate production tasks in much the same way their ancestors responded to the cooperative demands of traditional rice cropping.

Machinery has nearly eliminated what was formerly a community- binding need for planting and harvesting as a group. But it is the purchase of this same labor-saving machinery that has made farming a predominately part-time occupation totally dependent on expensive fuel and maintenance. Japan's mainstream agricultural cooperatives have induced each small farmer to purchase machinery and update their equipment regularly, which translates into high production costs and certain inefficiencies which fall on the government to absorb through the price support system. Of course it is the consumer who ultimately pays, both through the taxes that keep the price support system afloat and through the high cost of rice on the market.

Machinery required by farmers who have direct relations with consumers rather than with the agricultural cooperative can be purchased collectively at savings to the individual farmer. This results in reduced liabilities for maintenance and in lower instances of idle machinery. While these equipment-sharing practices are not confined to those farmers engaged in co-partnerships with consumers, it seems to be a practice more likely to take place among farmers with a common group of production demands and shared consumers.

In the case of machinery that might be needed by consumers, the collective dimension of the purchase is clearly beneficial. In the Wakabakai group, a large storage refrigerator for perishable crops and juices was purchased with groups funds, as well as a small rice-hulling machine to do their own milling at the main facility.

Greater human contact

No discussion of the advantages of the 'teikei' system would be complete without devoting some attention to the human factor and to the motivation that exists under a direct partnership between farmers and consumers. I have already mentioned the value that consumers attach to being able to see "the farmer's face on the vegetables"; there is a reciprocal value the farmers place on knowing those who will receive their produce. These farmers take pride in their work because they have had many occasions to meet and work with the people that receive their crops rather than producing crops for unknown faces in unknown destinations. Greater care is taken in the fields, and in the handling and delivery of the produce.

The anonymity of producers in the market system has led to the superficial standards applied to vegetables and fruits; the anonymity of consumers at the receiving end has led to less concern about the safety of the crops.

In my visits to farms around Japan, I sometimes have found that farmers who are using chemical methods have isolated plots where they raise their own family's food using no or considerably fewer chemicals. It would be hard to find clearer evidence that markets have brought about a separation of responsibility and concern for safety.

Freshness, taste and seasonality

Health and nutritional benefits of the direct market system may not end with the absence of chemical residues, or in lower exposure risks to farmers. There is good evidence to suggest that the freshness of the foods provides vitamin levels higher than those in produce that has gone through longer distribution channels. The time from picking to arrival at consumers' doorsteps is most often less than a day in the Wakabakai group's distribution system.

The superior texture and appearance of these fresh vegetables and fruits is attributed to their healthy growing conditions and to being picked closer to ripeness because they aren't handled and stored by so many intermediate channels.

Most home gardeners will agree that the tastiest tomato would hardly survive a trip around the block, and those who have purchased 'tomatoes' in stores have the sad memory of what real tomatoes can taste like compared with those green, hard versions.

Which varieties farmers raise is something of growing concern to consumers, and in the teikei system decisions about what kinds to grow are made collectively, based on the farmers' experience and the consumers' desire for new or heirloom varieties.

The problem of finding adequate seeds is one to which farmers in these groups are paying

increasing attention, as it is often hard to find seeds that are bred for hardiness or other qualities that don't meet the criteria of commercial plant breeders. The preservation and control over open-pollinated and heirloom seeds are widely recognized as vital issues. Mr. Ohira's opinion is that jealously guarded seeds could ultimately fail to be viable if not shared with other farmers who plant them in different fields. Beyond being neighborly, seed swapping is in one's self interest.

The national umbrella organization for the co-partnership movement, the Japan Organic Agriculture Association (the Yukinogyo Kenkyukai or YNK) has sponsored annual seed saving exchanges, where farmers from around the country convene to share seeds and seedlings, and give presentations on their propagation.

There is also some contention that the seasonality of foods has an important relationship to health, and that eating those crops that are in season is an aid to physical health and relief from the ailments that typically accompany those seasonal changes. At the very least, this belief frees the farmer from trying to raise crops that are not in synchrony with weather conditions, which lowers fuel costs for greenhouses and allows the seasonal changes to check insect populations and diseases in a natural way.

The task of controlling pests and diseases in an enclosed system such as a greenhouse is a leading cause of pesticide poisoning among Japanese farmers. Harmful levels of chemicals rapidly build up in these contained environments, and Mr. Ohira, whose father was the first to introduce greenhouse techniques to Japan, believes his father's early death and his own chronic health problems are a direct result of his earlier use of pesticides in those airtight enclosures.

The greenhouse system is also coming under criticism for its effects on soil quality. The high temperatures and heavy fertilizer applications that are common in greenhouses lead to a mineral salt build-up and hardness in the soil that is similar to the desert conditions that plague a growing percentage of agricultural lands in other regions of the world.

Ironically, while Japan enjoys tremendous rainfall and a long history of fertile soils, Japanese farmers are making a multitude of small deserts inside these greenhouses and the problem of how to flush these accumulated residues out and to restore fertility in greenhouses is the focus of several researchers in Japan, as greenhouses are in such widespread use that the problem promises to be critical for some time to come.

Consumer control over methods

As consumer demands become more specific, and more broadly based to include not only the types of products desired, but also definitions governing the manner in which they are produced, it becomes apparent that the current market mechanisms are inadequate to effectively or satisfactorily accommodate these demands. The conditions that chickens and other livestock are bred and raised under is an example of emerging issues which call for ethical controls or some form of certification system because the factors in question are not visually apparent in the product.

Testing foods for pesticide residues has been proposed in several places, but the total screening of produce is seen as involving considerable technical difficulty (in addition to prohibitive expense) and the random sampling of produce would inspire only partial confidence in the safety consumers seek. Efforts in this direction are sure to involve greater costs to the producers, and ultimately to consumers, who may still remain skeptical of the veracity of inspection labels and other forms of certification. If we see that these standards and criteria for marketing are unnecessary in the direct market approach, then we must ask what benefits might exist in applying such a system, to whom advantages would accrue and what products.

It may be that standards would be of greater use to food processors rather than to producers. Perhaps standards will be needed for processed products because a direct market co-partnership may find it impossible to supply themselves with all the products they need. Several co-partnership groups have sought processors of miso paste, soy sauce, health products, soap and other household product supplies.

While their ideal is to achieve direct market arrangements with as many categories as possible, this may be an elusive goal for all but the most organized and determined.

A relevant consideration is whether it is the wholesomeness of the ingredients or the freshness and raw quality of the food that are of greater importance. Food processors benefit from the view that it is only chemical residues, not freshness or rawness of foods, that is of greatest concern.

Social and ecological goals

Many in the organic agriculture movement are concerned with broader social and ecological goals that they seek to advance through the influence that can be exerted as organized consumers of safe foods. Many see democratic control over the production of food as a critical dimension to copartnership and other alternative marketing approaches. The cooperative skills that are developed in decision-making in co-partnerships help restore confidence and trust among the members of the groups, particularly when the results are so much greater than when they could achieve as individuals.

Some co-partnership groups have sought to expand their influence and affect changes on the broader political level and have voted their supporters into political office at local and regional levels. Consumers who have become more empowered by their experiences in circumventing the conventional food distribution system also have turned their attention to local conservation issues, peace and anti-nuclear campaigns as well as issues of international development and injustices in the third world.

The educational value for consumers in gaining broader awareness of the natural processes and constraints that the raising of their food involves is also an important benefit. The periodic visits of mothers and children to the farmer's field form a necessary link in accepting the difficulties and pleasures that farmers experience raising food organically. Such visits tend to modify unconditional dislike of insects as they see and learn from people like Ohira that insects serve a vital role in the natural processes that bring them their meals. Putting their hands in the soil when they help with tasks such as weeding must make connections for them that are somewhat rare for present day Tokyo residents.

On a broader level, the prospect of stemming rural flight, and of restoring some vitality and permanence to rural areas is a goal that clearly is furthered through the stability of consumer-farmer links. These problems, which are fitfully attended to at various government levels, may be better solved through the more immediate level of direct co-partnership building, and the formation of private sector urban-rural bonds.

If such co-partnerships were widely adopted, the process could contribute toward stemming rural flight as higher, more locally specific and ecologically sustainable standards of living were maintained in rural areas.

For decades in Japan, the narrow election campaign slogan of "standard of living parity between urban and rural" incomes has resulted in the creation of an elaborate political machine which generates make-work projects and tourism schemes that have erosive ecological and cultural impact. Parodies of local authentic cultures, re-sold in scaled-up tourist venture versions of the original are in evidence throughout Japan, and pork barrel schemes involving extraneous road building and other infrastructure projects are common. Beyond their serious ecological impact, they tend to create a cycle of dependency on the central government and on political forces that are bent on promoting such large construction projects in order to maintain that dependency, and thus their own control. Local autonomy is perpetually undermined with such short term, high capital investment from the outside.

Think Globally, Farm Locally

At the farm level, because a greater variety of foods are raised for consumers, farming families

themselves can partake of greater variety at their own table without having to spend their earnings buying food they haven't produced. Conventional Japanese farmers, like their American counterparts, spend much of their food gathering time in the aisles of supermarkets. With the co-partnerships both farmer and consumer families come to have a larger percentage of their food budget spent on purchases over which they have some control and for which they have some responsibility.

On the national level, food self-sufficiency has been a low priority, as national development priorities have favored the industrial export sector and encouraged greater reliance on imported foods. Rice production has been the exception, in which Japan adamantly protects total self-sufficiency levels, and maintains an elaborate system of price controls and managed production.

However, the heavily outward bias of the economy's orientation has led to trade frictions and calls for further trade liberalization, particularly for agricultural products. Claims of unfair protection of farmers through price supports and import quotas are serious challenges to the status quo of Japanese agriculture, and have already begun to take effect in the form of recent shifts of policy. GATT negotiations have soon to spell the final words for the Japanese countryside.

The signals being sent to Japanese farmers point towards upscaled farm operations, wider application of machinery and industrialized agriculture techniques, resulting in greater rural flight and decrease in farming populations. "Get big, or get out", Japanese style.

These changes will be heralded as improvements in the efficiency of Japanese agriculture, and seen as part of a necessary process of change despite hardships suffered by rural populations and the cultural impact of disappearing rural life. But perhaps a more alarming result will be the ecological damage that will be suffered as more of the landscape is shifted to other uses and as the rice terraces, which now play such a critical role in water storage in Japan's hydrological infrastructure, fall into disrepair. Accompanying this trend toward increasing reliance upon foreign food producers are the energy and food safety costs of such a system. The long shipping distances involve steep fuel costs and require applications of hazardous fungicides and other preservative measures harmful to human health. On this macro level of national economic policy and the consequent collapse of domestic agriculture, citizens have felt powerless to reverse these trends. Many find that their most significant and practical response to this process is to directly support Japanese farmers through the co-partnership system.

Meetings, markets, or mandates?

While the 'teikei' system can be seen as a positive small-scale approach to addressing many of the structural and social problems that modern agriculture has brought about, many questions remain about why it is not spreading more quickly and whether other alternatives are not as viable or appropriate under certain conditions.

The Japan Organic Agriculture Association (YNK) has placed a strong emphasis on the promotion of co-partnerships to the exclusion of other means of distributing organic produce to consumers. The organization places a high priority on face-to-face contact, and sees the process of handling the distribution among members of the co-partnership as vital to maintaining the contact between producers and consumers. They therefore avoid the use of commercial transporters or distribution systems.

While the leadership does not dictate specific blueprints, it does offer a list of 'principles of mutual cooperation' that act as a guide for those seeking to form new farmer-consumer links. The organization produces a monthly journal, <u>Tsuchi to Kenko</u> (Soil and Health), which provides information on a variety of organic farming issues and has a fairly large readership. Estimates of the numbers involved in co-partnerships vary, but most often a number around ten thousand is given.

Regular seminars and presentations are held in a variety of locations throughout the year, as well as at the offices of the Association. A national congress convenes regularly in the winter in Tokyo

and regularly draws hundreds of farmer and consumer representatives.

The organization is now facing a dilemma that threatens to split some of the membership. With the increasing pressure to develop standards or criteria for the certification and distribution of organic products, the YNK must decide whether to take the opportunity to participate in and even lead the discussion, or to ignore these developments and rely on its own approach.

Criticism of the latter strategy argues that not everyone can or wants to join these copartnership groups but everyone still has the right to receive safe and reasonably priced foods. Other criticisms are that there are not enough of these groups to meet the burgeoning interest, and individuals trying to identify sources of organic foods or consumers to purchase them don't have adequate access to information and contacts. The organization could expand its role in catalyzing the formation of new groups or bolster a network to bring interested parties together, but at present it is not emphasizing those directions.

While certification schemes may be objectionable on several grounds, there have been unexpected benefits when we examine the protection that organic farmers need against threats to their operations.

In the case of a small farm operating in rural Oregon, the fact that the farmers were involved in a subscription farming system supplying about ten local families with organic produce was not enough to protect them from the drift of sprays administered by the state forestry service.

Control of forest pests overrode their commercial interest in supplying chemical-free produce to their customers because until they joined some certification program, they could not clearly demonstrate damages in the courts, particularly over a protracted period. Thus the farm managers were prompted to join the certification scheme in Oregon despite their having no intention of marketing their produce beyond the local area.

The courts awarded them an injunction against the spraying of certain areas adjoining their fields as long as their applications to the certification program were being processed. The state forestry service was later ordered to use biological pest control methods in the area near the farm.

Looking at the effects of modern agriculture around the world, it seems that perhaps the greatest losers will be future generations, who will inherit a depleted and eroded soil because the excessively biased pressure for production inherent in reliance on market forces did not guard the ultimate measure of sustainability – the health of the soil. It is probably this dimension that the pocketbook and the lawbook will have the greatest difficulty in protecting, because it involves values which are so difficult to translate into purchase orders or legal restrictions.

Projections about world population growth, the diminishing and shifting area of arable lands through desertification and climate change, in addition to health concerns about food and environmental quality all lead to some general conclusions: alternative methods for both producing *and* distributing food must be developed if we are to remain confident about agriculture's sustainability into the future. Both traditional and modern ecological research sources can be drawn upon in order to reshape our food systems. But we must also strive to develop the *social systems* that are capable of supporting in a responsive and flexible manner, the technological shift towards biological agriculture. The **teikei** approach is clearly one of the possible ways in which individuals and groups can seek to make some difference in the scale and structure of our agricultural web towards a more diversified, stable and resource-conserving food supply.

Received in Hanover 06/03/91