

**Annual Report on Food, Agriculture and Rural Areas in Japan**  
**Part 1    Trend of Food, Agriculture, and Rural Areas**  
**FY 2001 (Summary)**  
**(Provisional Translation)**

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- As a Bridge Between Farms and Tables and Between Rural Areas and Urban Areas -

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# **Chapter I      Establishment of the Stable Food Supply System (Related to Food Policies)**

## **Section 1      Issues Regarding Food such as BSE**

### **(1)      Securing safety and quality of food**

<1> In September 2001, the first BSE (Bovine Spongiform Encephalopathy) infected milk cow was detected in Japan. Since then, consumption of beef has declined. The Ministry of Agriculture, Forestry and Fisheries established a system to prevent Distribution of Cattle at Risk of BSE in October of the same year by associating with concerned ministries and agencies including the Ministry of Health, Labor, and Welfare. The Ministry of Agriculture, Forestry, and Fisheries enhanced the quarantine system including ban of use of all livestock feed containing meat and bone meat by law.

<2> The private advisory body of the Minister of Agriculture, Forestry, and Fisheries and the Minister of Health, Labour, and Welfare, "Research and Examination Committee Regarding BSE Problem" verified the problems in handling by the administration regarding BSE, and carried out investigation and examination on the way the administration should handle the livestock sanitation and food sanitation in future and compiled a report in April, 2002. (The full report (in Japanese) is provided on the each website of the Ministry of Agriculture, Forestry, and Fisheries and the Ministry of Health, Labour, and Welfare.)

This report largely criticizes the absence of any risk management system, low attention to consumer protection, non-transparency of policy decision-making process, and incomplete information release. The Ministry of Agriculture, Forestry, and Fisheries is requested to perceive the problems as those of the entire organization and correct these attitudes.

<3> Based on this report, the Prime Minister requested the Minister of Health, Labor, and Welfare and the Minister of Agriculture, Forestry, and Fisheries to take utmost measures towards rectification in view of respect of consumer protection, including to drastically review the legal system relating to securing food safety. The Prime Minister also requested the establishment of a cabinet meeting by concerned Ministers, making up concrete measures based on the principle of the new administrative organization, and reflection of the proposal in the budget of next fiscal year.

<4> Respecting this report and following the Prime Minister's instructions, the Ministry of Agriculture, Forestry, and Fisheries will transfer the axis of the policies on agriculture, forestry and fisheries towards the consumer side and will surely implement a drastic review and reform of the policies in order to secure safe and reliable "foods."

<5> Recently, the Japanese consumers have shown a greater awareness of food safety as a result of the recent consecutive incidents concerning food safety such as food poisoning accidents covering a wide area and mixture of genetically modified agricultural products that have not been examined for safety into foods, other than the detection of BSE. Including the

administrative organization, the parties concerned with food supply should continuously implement measures for securing food safety.

- <6> Food supply in Japan has become increasingly dependent on imports from other countries for its ingredients and the processing and distribution system has become more diversified and complicated. Therefore, the parties concerned in each of the stages from production to consumption must ensure the consistent food security, by mutual associating.

For food safety, efforts to gain mutual understanding between consumers and suppliers are necessary through the examination of "risk analysis" which is focused internationally.

- <7> It is important to establish the "face-to-face relationship between consumers and producers" through trace investigations and recall on the occurrence of a food accident and distribution of production information and to consider the introduction of a food traceability system by utilization of Information Technology in order to gain consumer's confidence.

- <8> With the recent increase of consumers' awareness of food safety, it is necessary to improve the food labeling and standard system that enables customers to select suitable items according to their own judgment.

Labeling of origins of fresh food products has changed the consumers' attitudes on food purchase. Fresh food products are mostly labeled in supermarkets but are less labeled in individual shops such as local fruit & vegetable shops. The labeling of ingredients of processed foods and genetically modified foods are often implemented.

The origins of processed food ingredients have been labeled for pickled onions and pickled plums since October 2001. Labeling of processed fishery products (mackerel, Japanese horse mackerel, eel, and seaweed) was started from February 2002, and labeling of other pickled items was started from April 2002.

- <9> When false labeling of the origins and others of beef by a major food company was detected in January 2001, the Ministry of Agriculture, Forestry, and Fisheries inspected the site immediately and instructed the company to take corrective measures based on the "Law Concerning Standardization and Proper Labeling of Agricultural and Forestry Products", so called JAS Law. Since then, false labeling of the origins and others of products by other food companies is continuously being detected.

The food labeling system was established to enable consumers to select food items by instructing suppliers to provide correct labels, based on the mutual trust between food suppliers and consumers, as the precondition. Considering the situation that has occurred this time, the utmost efforts for recovering consumers' confidence and recovery of trust are necessary by reviewing the food labeling system and promptly implementing improvements and enhancements.

Figure 1 Establishment of safe beef supply system free from suspicion of Bovine Spongiform Encephalopathy (BSE)

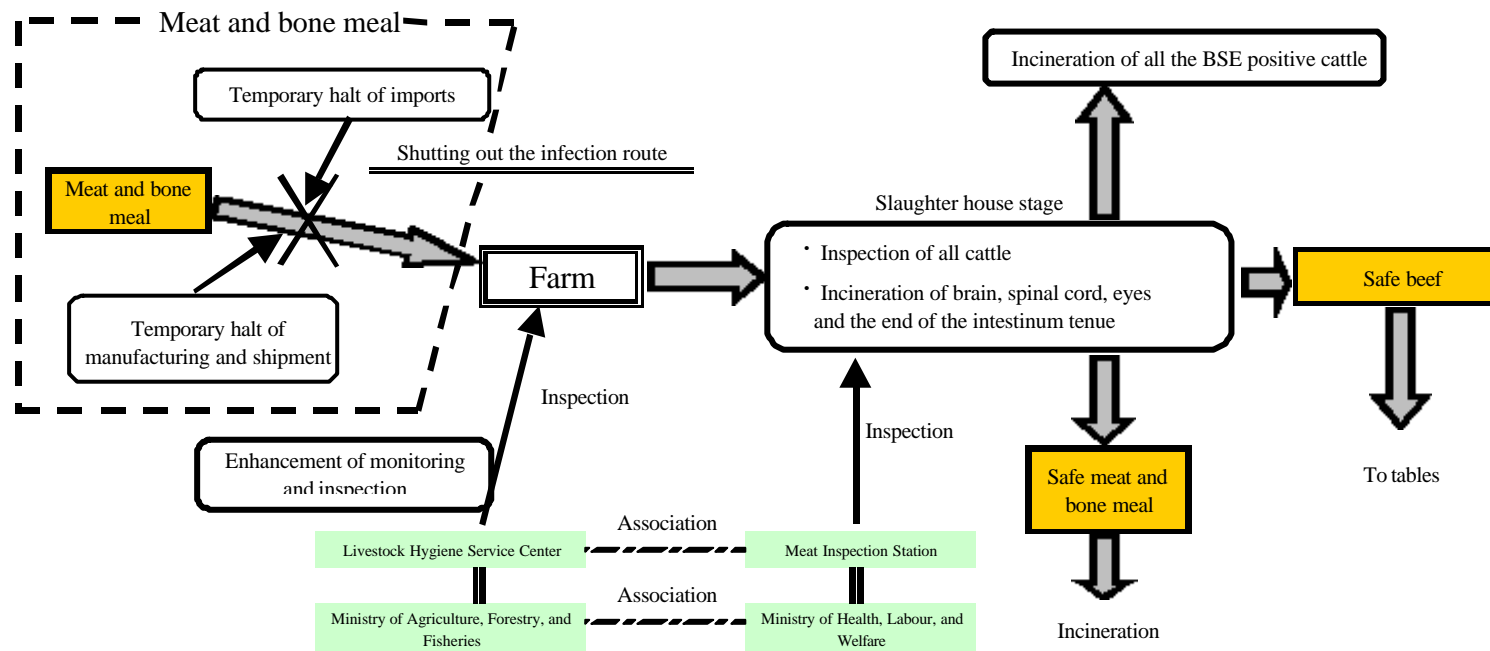


Table 1 Handling of BSE by each country up to the current point

| Item             |  | Japan   | EU  | UK  | USA  | Australia   |
|------------------|--|---|---|---|--|---|
| Border measure   | Import of live cattle                    | <ul style="list-style-type: none"> <li>Stopped import from the countries in which BSE was previously detected</li> </ul>  | <ul style="list-style-type: none"> <li>No regulations are imposed for the countries that are not affected by BSE. However, for the countries that are seriously affected by BSE, the conditions are effective prohibition of the use of the feed and individual certification, and cattle that were born after operation of the measure for elimination of BSE and the effective measure for the prohibition of feeds, and that are derived from exclusive groups in which no BSE was detected for seven years</li> </ul> |   | <ul style="list-style-type: none"> <li>Prohibited import from the countries in which BSE was previously detected</li> </ul>  | <ul style="list-style-type: none"> <li>Prohibited import from the countries in which BSE was previously detected</li> </ul>   |
|                  | Import of meat and bone meal e.t.c.      | <ul style="list-style-type: none"> <li>Stopped import of animal protein products from all the countries</li> </ul>  | <ul style="list-style-type: none"> <li>Prohibited import of processed animal protein products from the EU region and third countries</li> </ul>   | <ul style="list-style-type: none"> <li>Same as EU</li> </ul>  | <ul style="list-style-type: none"> <li>Prohibited import of products derived from ruminants from all European countries</li> </ul>   | <ul style="list-style-type: none"> <li>Prohibited import of livestock feeds derived from animals, excluding New Zealand</li> </ul>  |
| Domestic measure | Feeding meat and bone meal to cattle     | <ul style="list-style-type: none"> <li>Legislated prohibition of feeding of protein products derived from mammals to cattle e.t.c, except for milk and dairy products</li> </ul>  | <ul style="list-style-type: none"> <li>According to the decision made by the Board of Directors, feeding of processed animal protein products to all livestock has been prohibited excluding milk and dairy products.</li> </ul>  | <ul style="list-style-type: none"> <li>Regulated prohibition of feeding of processed animal protein products to all livestock excluding milk and dairy products.</li> </ul>   | <ul style="list-style-type: none"> <li>Legislated prohibition of feeding of protein products derived from mammals (excluding pigs and horses) to cattle and other ruminants</li> </ul> | <ul style="list-style-type: none"> <li>Legislated prohibition of supply of feed derived from mammals (excluding pigs, horses, and kangaroos etc.) to ruminants</li> </ul> |
|                  | Rendering                                | <ul style="list-style-type: none"> <li>Dead cattle other than those targeted for surveillance are incinerated before or after rendering processing and will not be supplied as raw materials for feed.</li> </ul>   | <ul style="list-style-type: none"> <li>Livestock farming byproducts of mammals (excluding pet food and others) must be processed according to the following standards.               <ol style="list-style-type: none"> <li>(1) Grain of 50mm or less</li> <li>(2) Heated to a temperature of 133 or higher</li> <li>(3) Processing for 20 minutes or more</li> <li>(4) Pressure of 3 barometers or more</li> </ol> </li> </ul>   | <ul style="list-style-type: none"> <li>Same as EU</li> </ul>  |  |   |
|                  | Removal of specific dangerous components | <ul style="list-style-type: none"> <li>All parts are removed in the slaughter house and are incinerated.</li> </ul>   | <ul style="list-style-type: none"> <li>After remove all parts in the slaughter house being disposed completely by the following and other methods.               <ol style="list-style-type: none"> <li>(1) Incineration</li> <li>(2) Bury in the approved location after process under 133 and 3 barometers for 20 minutes, etc.</li> </ol> </li> </ul>  | <ul style="list-style-type: none"> <li>All parts are removed in the slaughter house. Then, they are directly incinerated or they are incinerated and buried after being transformed into meat and bone meal.</li> </ul> <p>Cattle aged 30 months old or older are also directly incinerated or they are incinerated and buried after being transformed to meat and bone meal.</p>   |  |   |
|                  | Inspection of BSE in slaughter house     | <ul style="list-style-type: none"> <li>Check all cattle</li> </ul>  | <ul style="list-style-type: none"> <li>Among the cattle aged 25 months old or older, those that were urgently processed and those that were judged to be unsuitable for food</li> <li>All cattle aged 31 months old or older and for food</li> </ul>  | <ul style="list-style-type: none"> <li>All cattle aged 31 months old or older</li> </ul>  |  | <ul style="list-style-type: none"> <li>Report of cattle with BSE suspicion and operation of detailed veterinary examination</li> </ul>                                    |
|                  | Surveillance                             | <ul style="list-style-type: none"> <li>The following cattle are targeted for surveillance at the farm.               <ol style="list-style-type: none"> <li>(1) Live cattle with the symptom of suspicion of BSE and central nervous system disorder</li> <li>(2) Cattle died with the central nervous system disorder</li> <li>(3) 4,500 cattle a year among cattle that died at the age of 24 months or older</li> </ol> </li> </ul> <p>Examine the structure including the feature of the inspection system, budget and human resources as the current issue with enhancement of the inspection system by way of introduction inspecting all dead cattle of aged 24 months or older.</p> | <ul style="list-style-type: none"> <li>For statistical verification, all dead cattle aged 24 months old or older are targeted for surveillance for one year only.</li> </ul>  | <ul style="list-style-type: none"> <li>The following cattle are targeted for surveillance at the farm.               <ol style="list-style-type: none"> <li>(1) All dead cattle aged 24 months old or older</li> <li>(2) All damaged cattle aged 24 months old or older</li> <li>(3) All cattle that were borne during a period from August 1, 1996 to July 31, 1997</li> <li>(4) Cattle aged 30 months or older that were selected arbitrarily</li> <li>(5) All cattle that were born by the BSE infected cattle and are 30 months old or older</li> </ol> </li> </ul> | <ul style="list-style-type: none"> <li>In principle, implement according to the number of samples within the range decided by OIE.</li> </ul>  | <ul style="list-style-type: none"> <li>Same as USA</li> </ul>   |

Note: Japan is also taking assistances for isolation and incineration of beef that was slaughtered and scrapped before October 17, purchase of cull cow, and others

Table 2 Examples of recent food accidents and others

| Month and year |           | Location                             | Details of the accidents and others  | Scale of damage                 |
|----------------|-----------|--------------------------------------|--|---------------------------------|
| 1996           | May       | Osaka, Okayama Prefecture, and so on | Outbreak of large scale food-poisoning caused by Enterohemorrhagic Escherichia coli O157   | Number of victims: About 10,000 |
| 1999           | February  | Saitama Prefecture                   | Dioxin contamination trouble<br>Influence on sales of vegetables in the Prefecture by rumor caused by some mass medias                           |                                 |
|                | Summer    |                                      | Frequency of food-poisoning by <i>Vibrio parahaemolyticus</i> detected from fishery products   |                                 |
|                | September | Tokai Village, Ibaraki Prefecture    | Accident of criticality of nuclear fuel facility<br>Influence on sales of local agricultural products  |                                 |
| 2000           | June      | Kinki region                         | Food-poisoning by the poison from <i>Staphylococcus aureus</i> contained in low fat milk produced by a major company of milk and dairy products. | Number of victims: About 13,000 |
|                | Summer    |                                      | Mixture of different product in food<br>Large scale voluntary recall of the affected food by the food company                                    |                                 |
|                | October   |                                      | Genetically modified corn that has not been examined for food safety, "Star Link" was detected from the food products that were distributed.     |                                 |
| 2001           | May       |                                      | Genetically modified crop, "New Leaf Plus Potato", which has not been examined for safety, was detected from some snacks.                        |                                 |
|                | September | Chiba Prefecture                     | The first milk cow infected by Bovine Spongiform Encephalopathy (BSE) was detected in Japan.   |                                 |

Figure 2 Degree of consumer awareness towards food safety

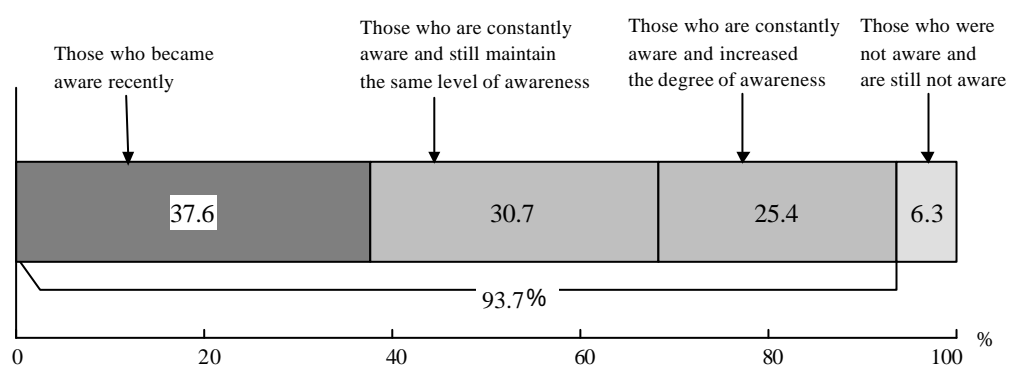
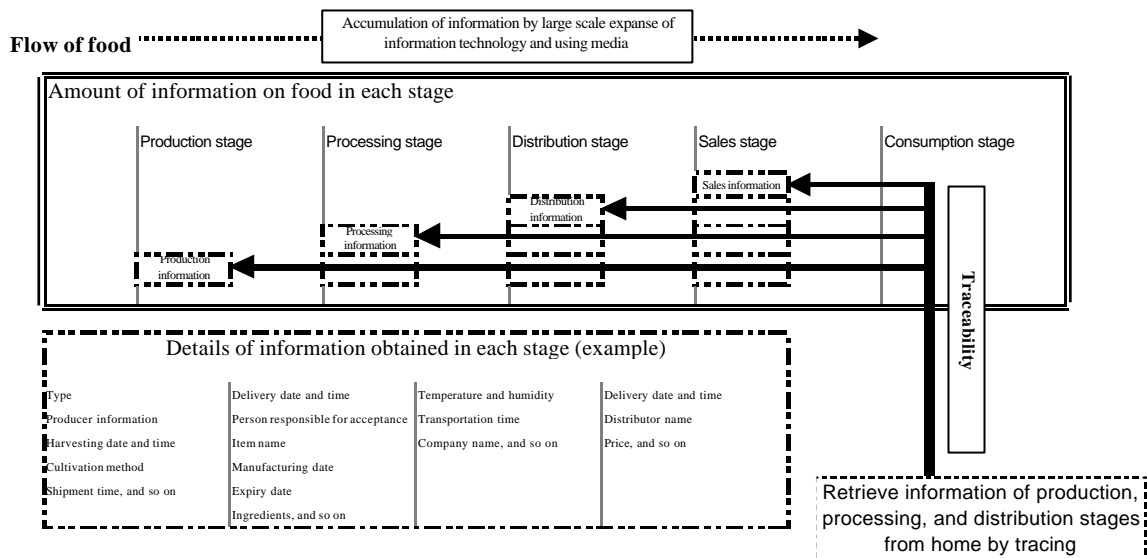
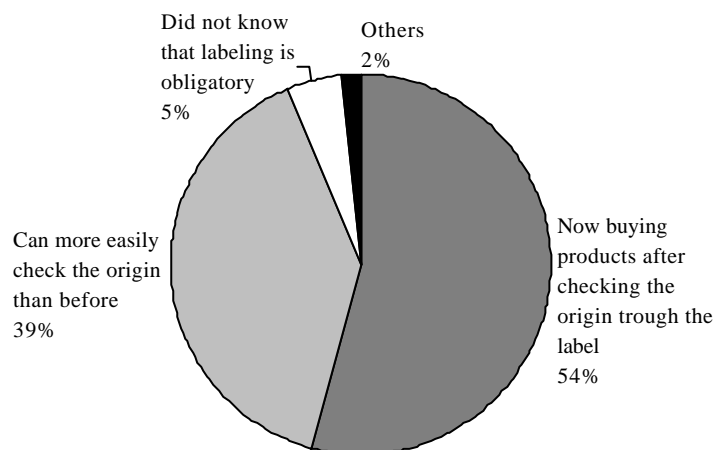


Figure 3 Images of a traceability system



Note: While the traceability system is introduced mainly for cattle and beef industries in Europe, the system is individually implemented by some private sectors only in Japan. The diagram above was created in order to indicate the image of the traceability system.

Figure 4 Change of consumer awareness associated with labeling on origin of fresh food



## **(2) Food consumption**

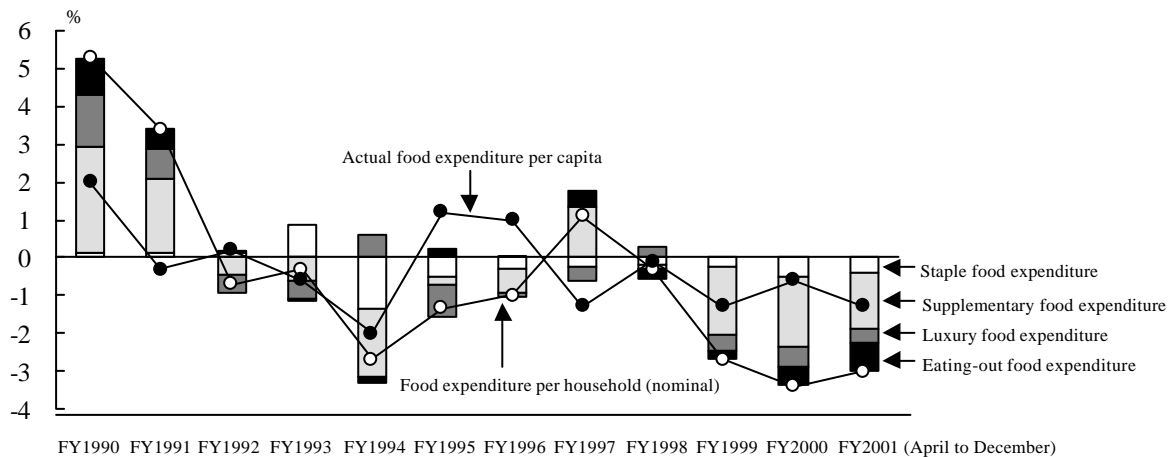
- <1> The food prices have dropped in general including fresh vegetables and cereals in 2000 (decrease by 1.3% in comparison to the previous fiscal year). The real food consumption expenditure per capita of a nonfarm household in FY2000 has shown a decline over these four years up to FY2000 (decrease by 0.6% in comparison to the previous fiscal year). During the period from April to December, 2001, food prices have dropped slightly (decrease by 1.0% in comparison to that of the corresponding term of the previous year) and the real food consumption expenditures have also decreased continuously (decrease by 1.3% in comparison to that of the corresponding term of the previous year).
- <2> While the food expenditures of nonfarm households by item indicate that the expenditure ratio of the costs (main food cost and subsidiary food cost) spent in home cooking is decreasing, the expenditure ratio of eating-out and prepared food is increasing. (1985: 21.3% -> 2000: 28.2%)
- <3> According to the questionnaire survey carried out by the Ministry of Agriculture, Forestry, and Fisheries, more than 60% of respondents recognize "increase of distance between tables and farms" (for instance, low consumer interests in food production stages). It is necessary to reduce the distance between a table and a farm by exchange of information between consumers and producers, education of children regarding diets and agriculture, and promotion of farm experiences.

Table 3 Transition of food consumer price indexes (CY 2000=100)

(Unit: %)

|                           | Index of<br>FY 2000 | Comparison to the previous year (same term) on rise/<br>fall ( ) rate |        |        |                               |
|---------------------------|---------------------|---|--------|--------|-------------------------------|
|                           |                     | FY1998  | FY1999 | FY2000 | FY2001<br>(April to December) |
| Total                     | 99.9                | 0.2   | 0.5    | 0.5    | 0.8                           |
| Food total                | 100.1               | 1.1   | 1.2    | 1.3    | 1.0                           |
| Cereals                   | 99.4                | 0.9   | 0.4    | 2.3    | 1.7                           |
| Fish & shellfish          | 99.9                | 0.7   | 0.5    | 1.8    | 0.7                           |
| Meat                      | 99.8                | 0.0   | 1.2    | 1.2    | 0.1                           |
| Dairy products and eggs   | 99.7                | 1.6   | 1.5    | 1.3    | 1.9                           |
| Fresh vegetables          | 103.6               | 10.2  | 13.7   | 3.4    | 0.2                           |
| Fresh fruits              | 102.5               | 8.5   | 4.9    | 1.2    | 4.3                           |
| Oils, fats and seasonings | 99.6                | 0.7   | 0.5    | 1.7    | 1.2                           |
| Cakes and candies         | 99.9                | 0.5   | 1.2    | 0.0    | 1.6                           |
| Cooked food               | 99.7                | 0.0   | 0.3    | 0.8    | 1.1                           |
| Beverages                 | 99.6                | 2.1   | 1.0    | 0.9    | 1.7                           |
| Alcoholic beverages       | 99.9                | 0.5   | 0.2    | 0.6    | 0.8                           |
| Eating out                | 99.8                | 0.2   | 0.2    | 1.2    | 0.4                           |
| Food products             | 99.8                | 0.2   | 0.2    | 0.6    | 1.0                           |

Figure 5 Trend of actual food expenditure per capita of non-farm household  
(all the households nationwide)



### **(3) Current condition of dietary pattern in Japan and promotion of dietary guidelines**

<1> The Japanese dietary pattern has a character in the middle between those of Asian countries that consume many grains and European and American countries that consume a large amount of meat, milk, dairy products, and oils, and has the a feature of a high consumption of egg and fishery products. On the other hand, the recent trend of the ratio by nutrient in supplied calorie indicates a decrease of the ratio of carbohydrate and an increase of fat, which is becoming closer to the European and American dietary patterns.

<2> Nutritional imbalances such as excessive intake of fat and insufficient intake of iron and calcium are becoming a problem. This issue must be attended to so as to prevent life-style related disease.

"Japanese dishes", which consist of rice as a staple food and a variety of foods as side dishes, is reviewed as nutritiously well-balanced healthy food. It is necessary to take in the required nutrients in a balance through the dietary pattern based on rice.

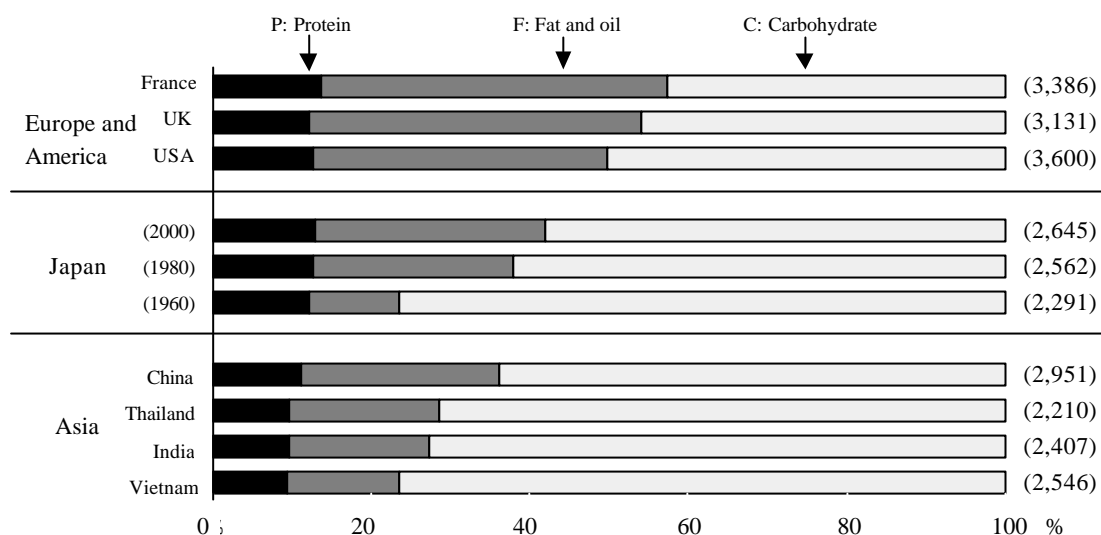
<3> The recent diverse lifestyle has caused irregularity in diet such as skipping meals and eating meals alone. In particular, irregular dietary pattern of children not only has an adverse effects on health but also is assumed to have a serious influence on the psychological and social development.

Another issue is to reduce the "food loss" in each stage during the process from production to consumption such as disposal of expired food products and leftovers in eateries and homes.

<4> As the guideline for solving these dietary issues, in March 2000, the Ministry of Agriculture, Forestry, and Fisheries and the Ministry of Education (present Ministry of Education, Culture, Sports, Science, and Technology), and the Ministry of Health and Welfare (present Ministry of Health, Labour, and Welfare) jointly compiled "Dietary Guideline" for improvements of nutritional balance and reduction of waste and disposal of food in the dietary pattern. To promote propagation of the Guideline at the citizens' level, the Ministry of Agriculture, Forest, and Fisheries made up a "Dietary Guide."

Promotion as activities on the national scale in households, workplaces, and regions including school education is necessary with support of the government and related organizations to spread and stabilize this Guideline more.

Figure 6 Ratio of PFC supply calorific value of each country



Notes:

- 1) For Japan, the values indicate those of FY1960, 1980, and 2000 and other countries' values indicate those of 1999.
- 2) The values in ( ) on the right-hand side in the graph indicate the supply calorific value (kcal) per capita per day.
- 3) Alcoholic beverages are not included.

Table 4 Nutrient intake condition by gender and age level (1999)

(Unit: %)

|                       | Total of male and female |         |      | Male   |         |      | Female |         |      |
|-----------------------|--------------------------|---------|------|--------|---------|------|--------|---------|------|
|                       | Energy                   | Calcium | Iron | Energy | Calcium | Iron | Energy | Calcium | Iron |
| Total                 | 99                       | 94      | 108  | 98     | 97      | 122  | 100    | 92      | 96   |
| 7 to 14 years old     | 93                       | 101     | 96   | 94     | 103     | 99   | 92     | 100     | 93   |
| 15 - 19               | 91                       | 82      | 95   | 91     | 91      | 104  | 92     | 73      | 86   |
| 20 - 29               | 91                       | 85      | 99   | 90     | 90      | 121  | 92     | 80      | 84   |
| 30 - 39               | 93                       | 83      | 99   | 93     | 87      | 124  | 93     | 79      | 81   |
| 40 - 49               | 98                       | 89      | 107  | 97     | 88      | 126  | 99     | 89      | 93   |
| 50 - 59               | 103                      | 102     | 117  | 102    | 101     | 136  | 104    | 102     | 102  |
| 60 - 69               | 110                      | 107     | 129  | 110    | 111     | 138  | 109    | 105     | 121  |
| 70 years old or older | 115                      | 96      | 114  | 114    | 100     | 121  | 116    | 93      | 108  |

Reference: "National Nutrition Survey" by the Ministry of Health, Labour and Welfare

Note: Figures are the ratio of the amount of intake to the amount of advantage nutrition required in each category.

#### **(4) Food industry**

- <1> The agricultural and food industry is a "ten-percent industry" occupies 10.3% of the Gross Domestic Product of all industries (FY1999). The breakdown indicates that the ratio of the food industries such as related manufacturing industry, eateries, and related distribution industry is increasing while the ratio of the agricultural and fishery industries is relatively decreasing.
- <2> With the recent trend towards deflation, the eating-out expenditures in a household budget that were steadily increasing previously started to decline and the market scale of the boarding-out industry have been shrinking since 1997. With increased competition among food-service enterprises, there is a trend of reduction of unit prices for purchasing food material and requirements for cheaper suppliers among the boarding-out industry.
- <3> Regarding food retailers, the number of shops and annual sales values of food supermarkets and convenience stores are increasing, while conventional specialized grocery stores and stores mainly handling food products are decreasing. Also, recently there is a trend of diverse food distribution routes such as, direct delivery from producers by co-operative societies, agricultural co-operatives and so on, direct transactions between producers and large users, and transactions using the Internet.
- <4> The food products that are handled via wholesale markets are showing a long-term decline, however at present, about 80% of vegetables and about 70% of fishery products are handled via wholesale markets, so wholesale markets still play important roles. To enhance the competitive power of wholesale markets, it is necessary to quickly take some measures for some issues such as diversification of consumer needs, deterioration of market management, and competition among markets.
- <5> Important measures for reducing distribution cost are to accurate identification of the quantities and locations of the inventory through information technology, enhancement of loading efficiency and realization of planned delivery by sharing and concentration of deliveries.
- <6> 30% to 40% of domestic agricultural products cater for the service demand of the food industry sector such as processing and food services. However, the food industry is becoming more dependent on imported ingredients and the trend is becoming more prominent with the recent tendency towards deflation. It is important to take accurate measures and stable supply for meeting the demand of food services by domestic agricultural products through promotion of conjunction between food industry and agricultural sector.

#### **(5) Price differences of foodstuffs between home and abroad**

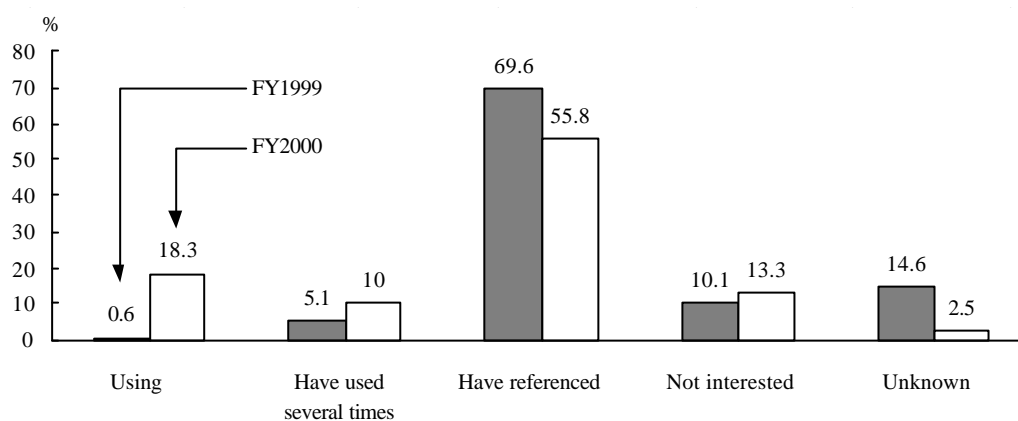
The price differences of foodstuffs between home and abroad fluctuate each year due to the influence of exchange rates. The difference are formed by reflection of the cost at each stage of distribution and processing in addition to the cost at the production stage. To reduce the difference, it is necessary for all related industries to take efforts to reduce the cost at each stage from production to consumption.

Table 5 Transition of market scales of boarding-out industries

(Unit: trillion yen)

| 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|------|------|------|------|------|------|------|------|------|------|------|
| 25.7 | 27.2 | 27.7 | 27.8 | 27.7 | 27.9 | 28.7 | 29.1 | 28.5 | 27.4 | 27.2 |

Figure 7 Procurement of ingredients by boarding-out industries through the Internet

Table 6 Important points for food industry operators in direct procurement of ingredients  
(multiple answers up to two points)

(Unit: %)

|                        |              | High quality in taste and freshness | Stable quantity | Stable price | Brand power such as origin of produce | Complete standard | Low distribution cost | Authenticity of supplier | Added value such as organic cultivation | Sufficient information on the raw materials and products | Others |
|------------------------|--------------|-------------------------------------|-----------------|--------------|---------------------------------------|-------------------|-----------------------|--------------------------|---|--|--------|
| Total in food industry |              | 43.8                                | 42.4            | 35.0         | 13.9                                  | 11.3              | 11.3                  | 10.5                     | 9.4                                     | 4.7  | 2.5    |
| Business type          | Manufacturer | 34.6                                | 42.1            | 41.3         | 13.8                                  | 13.1              | 10.6                  | 11.4                     | 8.3                                     | 5.2  | 3.1    |
|                        | Wholesaler   | 46.3                                | 49.9            | 30.3         | 14.3                                  | 11.3              | 10.4                  | 11.5                     | 5.1                                     | 4.4  | 2.3    |
|                        | Retailer     | 71.4                                | 24.0            | 20.7         | 13.8                                  | 5.1               | 16.6                  | 5.1                      | 25.3                                    | 3.7  | 1.4    |
|                        | Eating house | 68.9                                | 24.4            | 40.0         | 8.9                                   | 2.2               | 11.1                  | 4.4                      | 20.0                                    | 4.4  | 0.0    |

## **Section 2      Agricultural Policies of Other Countries**

### **(1)      Administration for securing food safety**

- <1> Recently, consumers' awareness towards food safety is being enhanced on a global scale and vigorous international discussions are being exchanged. In other countries including the EU, Germany, France, the United Kingdom, and Australia, there are trends to reorganize their administrations for securing food safety.
- <2> The tide of international discussions is to apply a "risk analysis" technique for securing food security. "Risk analysis" consists of three elements, "risk assessment", "risk management", and "risk communication". "Functional separation between risk assessment and risk management" is considered to be important for effective administration for securing food safety. This is one of the basic concepts in reorganization of administration for securing food safety in other countries such as France.
- <3> According to the mainstream concept of the risk management technique, the policy approach of "from farm to table" is necessary. This basic concept lies in the background of reorganization of administration for securing food safety in European countries. As an example, a traceability system covering the range from a food retail stage to a food production stage has been introduced in the EU countries mainly for cattle and beef.

### **(2)      Agricultural management policies**

Under the WTO system, some countries such as the EU and the USA are reducing a price support and shifting to production maintenance and environment conservation by income stability and direct payment through crop insurance and so on. For instance, CTE introduced in France has obtained 14,100 contracts.

### **(3)      China's accession to the WTO**

- <1> China became a member country of WTO in December 2001. The conditions for membership include tariffication and reduction of tariffs, non-use of export subsidies, and establishment of "Transitional Safeguard."
- <2> If China fully satisfies the membership conditions, imports of grains and soybean oil into China would be expected to increase. For labor-intensive crops such as vegetables, exports are likely to increase continuously. A reasonable exchange rate for the Yuan is to be discussed.

Table 7 Conditions of China's accession to the WTO (agricultural products)

|   | Item  | Tariff quota (10,000 t)<br>(State trading ratio among the quota) |                                     | Tariff reduction  |                     |
|---|---|--|-------------------------------------|-------------------|---------------------|
|   |   | First fiscal year<br>as the member                               | Final fiscal year of<br>the promise | Primary<br>tariff | Secondary<br>tariff |
| Tariffication and tariff<br>reduction                             | Rice  | 332.5<br>(50%)   | 532 (2004)<br>(50%)                 | 1%                | 74% 65%             |
|   | Wheat   | 788.4<br>(90%)   | 963.6 (2004)<br>(90%)               | 1%                | 74% 65%             |
|   | Corn  | 517.5<br>(71%)   | 720 (2004)<br>(60%)                 | 1%                | 74% 65%             |
|   | Soy oil   | 211.8<br>(42%)   | 358.71 (2005)<br>(10%)              | 9%                | 74% 65%             |
|   | Palm oil  | 210<br>(42%)   | 316.8 (2005)<br>(10%)               | 9%                | 74% 65%             |
|   | Rapeseed oil  | 73.92<br>(42%)   | 124.3 (2005)<br>(10%)               | 9%                | 74% 65%             |
|   | Sugar   | 168<br>(70%)   | 194.5 (2004)<br>(70%)               | 20% 15%           | 71.6% 50%           |
| Export subsidies  | China will not use export subsidies in the future either.   |  |                                     |                   |                     |
| <i>De minimis</i>   | The <i>De minimis</i> of China is to be 8.5% ( <i>De minimis</i> : Upper limit of domestic support that can be excluded from reduction since the amount is small although the support is subject to reduction. For developed countries, 5% of the total agricultural production and 10% for developing countries).  |  |                                     |                   |                     |
| Domestic support which<br>are subject to reduction<br>commitments | Some categories of supports, which are not subject to reduction commitments in developing countries, are subject to reduction commitments.  |  |                                     |                   |                     |
| Transitional Safeguard  | Member countries should be able to lodge consultations requiring the necessary measures for prevention and relief of market disturbance when market disturbance occurs or threaten to occur due to a sudden increase of import of products from China. If the consultation is unsuccessful, the tariff of the related Chinese products should be able to be increased or import restriction should be able to be applied (so called "Transitional Safeguard"). This measure is effective for 12 years from the accession of China to WTO. |  |                                     |                   |                     |

## **Section 3      Food Self-Sufficiency Ratios and Food Security**

### **(1)    Food Self-sufficiency ratios**

- <1> While Japanese citizens are enjoying a variety of diets, they depend for most of the food on imports and food self-sufficiency ratios are at the lowest level among major developed countries. Food self-sufficiency ratios show a long-term downturn and the rate dropped dramatically, from 73% to 40% during the period from FY1965 to FY2000 in Japan. Under the anticipation of strain of the world's supply and demand for food in the future, many Japanese citizens feel anxious about above mentioned situation.
- <2> Food self-sufficiency ratio in FY2000 reached 40%, which resulted in the same rates over the three years continuously, regardless of the negative factors such as decline of production of Unshu oranges whose production is supposed to be a bad year as opposed to the previous year, decrease of degree of sugar content of Sugar beat due to weather irregularities, and decrease of the yield of sugar cane crops. This is because of the increase of production of wheat and soybeans.
- <3> Food self-sufficiency ratio in FY2000 indicates the rate for a period of one year from the commencement of the plans for realization of the target ratios of food self-sufficiency that was set in March 2000. It is too early to reach the conclusion that the long-term decline of food self-sufficiency has been alleviated, because of the fact that the fat calorific ratio reached 28.8%, the consumption of rice actually decreased, and the increase of production of wheat, soybeans, and feeds was simply due to the good weather conditions during that period.
- <4> To maintain and improve the self-sufficiency ratios in future, more measures should be taken by all concerned parties including not only the government but also the producers, food industry operators, consumers, and local governments. These measures include actualization of "Desirable Food Consumption" such as reduction of excessive fat intake and expansion of consumption including local consumption in terms of consumption and achievement of "Agricultural Production Target" with resolution of miss-matching of supply and demand by improvement of quality and productivity of wheat and soybeans.

### **(2)    Food security**

To secure stable food supply, flexible countermeasures must be taken according to the level of an unexpected condition based on the "Manual for food security at unexpected condition" that was set out in March 2002 in addition to the efforts for maintenance and increase of domestic agricultural production, appropriate and efficient stocking, and security of stable imports. This manual is to enable the securing of supply of the minimum food necessary for the nation in the stressed condition of domestic supply and demand due to unexpected factors such as poor crop, interruption of imports and so on.

Figure 8 Transition of self-sufficiency ratios on a supplied calories basis of major developed countries

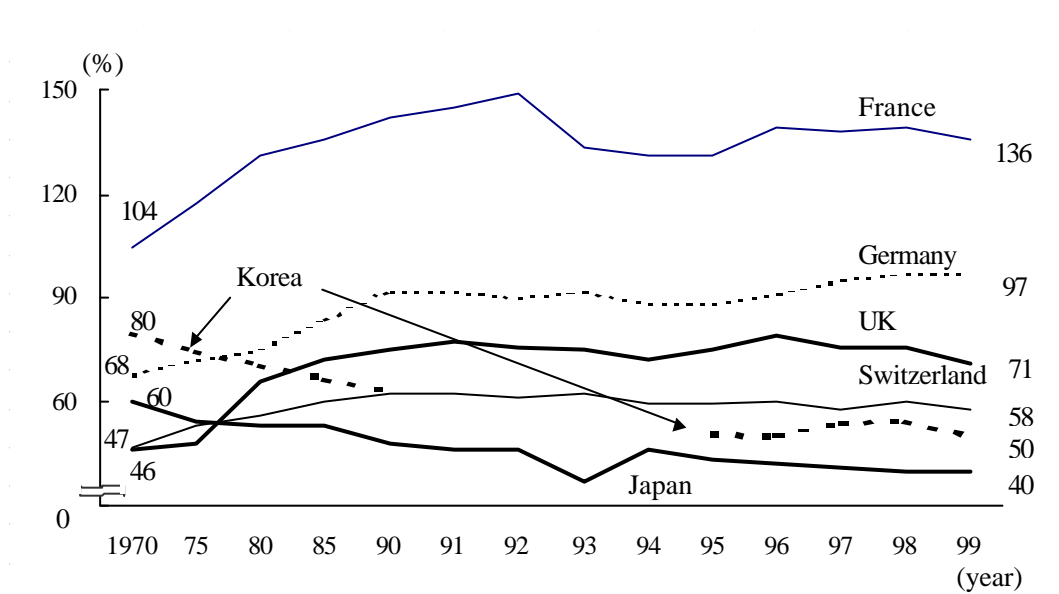
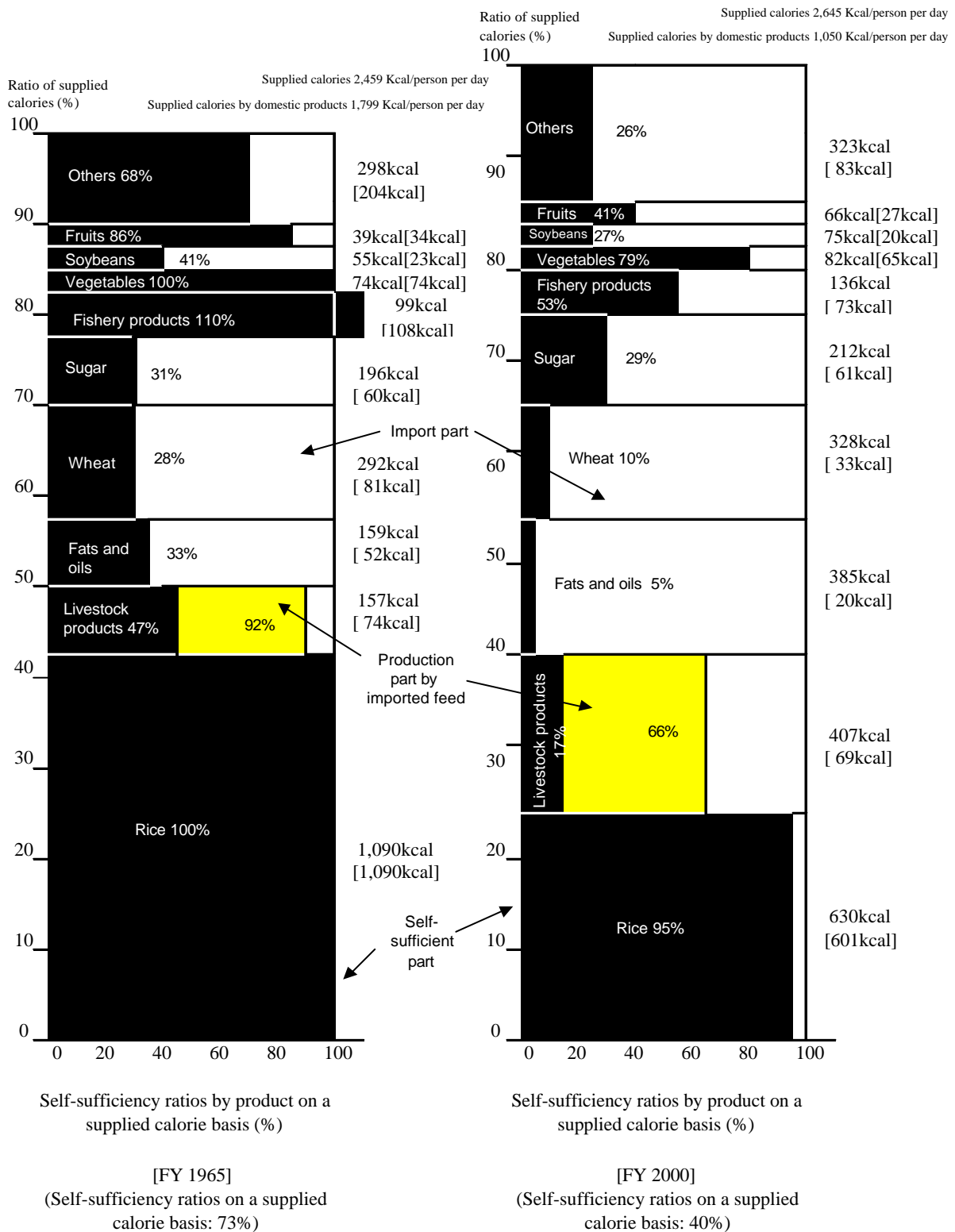


Figure 9 Change of structure of supplied calories and supplied calories by product

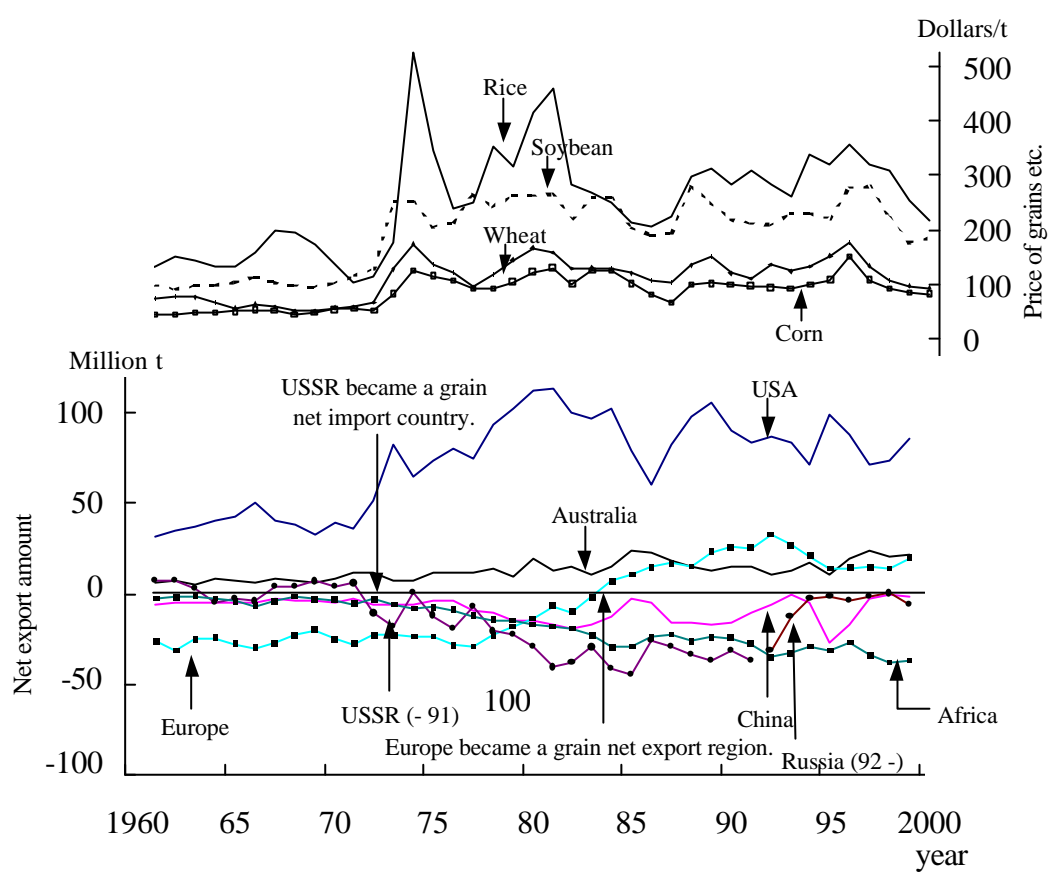


## **Section 4      World's Supply and Demand of Food and Japan's Food Trade**

### **(1)    The world's supply and demand of grains**

- <1>    The world's trend of supply and demand of grains shows alternating cycles of over-supply and under-supply over a long term and recently the situation has been alleviated.
- <2>    However, there are many elements for instability in the world's future supply and demand of food. Demand of grains for human consumption and animal feed are expected to increase due to the dramatic increase of population and the rise of income levels mainly in developing countries, and the change of lifestyle due to urbanization.
- <3>    On the other hand, the increase of yield of crops that have supported the increasing world population is expected to slow down. Elements of supply uncertainty are increasing such as exhaustion of water resources, salt damage caused by excessive irrigation, and influence of global warming and abnormal weather.
- <4>    In addition, under the WTO system, the production and exports of major agricultural products has a trend to be more concentrated in a small number of specific countries, losing flexibility of short-term supply, causing market instability by external shock such as abnormal weather.
- <5>    As mentioned above, world's supply and demand of food in the medium to long term is pointed its possibility to be stressed, because the environment surrounding world's supply and demand of food has many elements of instability.

Figure 10 Transition of international prices of grains etc. and net grain exports of major countries/regions



## **(2) Food trade of Japan**

- <1> Recent imports of food into Japan has been increasing in the quantity basis and decreasing in the amount basis. The amount of food import by item is almost level for grains and, fats and oils. The amounts of import of vegetables and meat are increasing.
- <2> The import amount of fresh vegetables has increased by 1.5 times in the past five years. Particularly, imports from China have increased by 3.4 times and imports from Korea have increased by 6 times. The share of export of vegetables from China to Japan accounts for 42% on the quantity basis and 62% on the amount basis, which are the highest. For vegetables produced in China, it is important to take measures against residual pesticides chemicals.
- <3> Recently, the trade surplus of Japan has been decreasing to the level that the surplus has been less than the same month of the previous year continuously for a period of 18 months from July 2000 to December 2001. In examination of domestic production and import policies in future, the trend of international balance must be taken into account.
- <4> Recently, the enhancement of relationships for regional economic cooperation is progressing through the comprehensive Economic Partnership Agreement (EPA) and Free Trade Agreement (FTA). In January 2002, Japan signed the "Agreement between Japan and the Republic of Singapore for a New-Age Economic Partnership." Regarding agricultural, forestry and fisheries products, as a result of consideration for the potential influence to the agricultural, forestry, and fisheries industries in Japan, the Japanese Government decided that WTO concessional duty-free items and effective duty-free items only should be into concessions of this Agreement. Currently, the Japanese government is concerning the possibility of economical partnership with Mexico and ASEAN.

Figure 11 Transition of imports of fresh and frozen vegetables in Japan

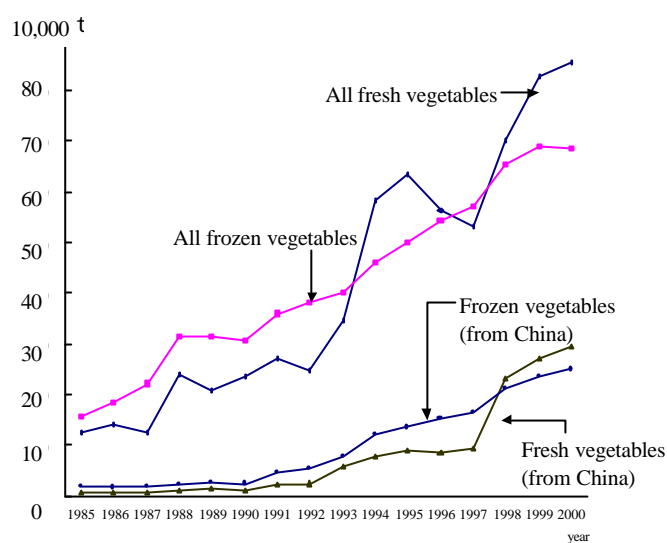


Figure 12 Share of export from China by export destination country/region on vegetable (Quantity and value in 1998)

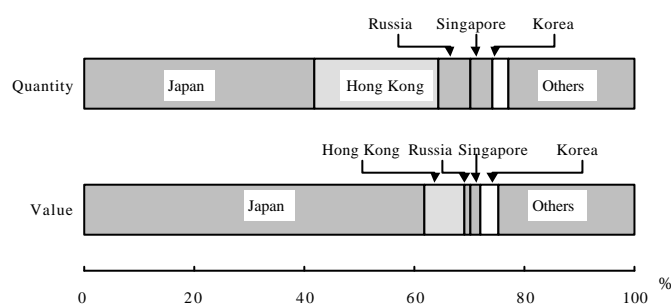
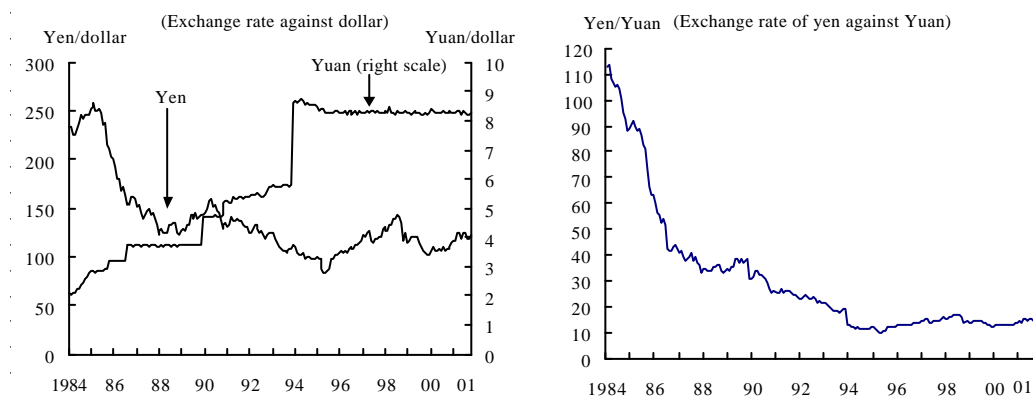


Figure 13 Transition of exchange rate of yen and Chinese Yuan



### **(3) International cooperation**

- <1> The food aid and aid in the agricultural field of the Official Development Assistance (ODA) of the Japanese Government in 1999 amounted to about 1,100 million dollars. This amount accounts for 21% of all DAC countries, which is the 2nd in the world following the USA. Japan is one of the world's prominent countries for food aid and aid in the agricultural field.
- <2> In the "World Food Summit" that was held in 1996, "Roma Declaration" that aims for reduction of the world's under-nourished population to a half by 2015 was accepted. However, currently under-nourished population of about 780 million exists in developing countries such as in Asia and Sub-Saharan region in Africa, and the speed of reduction of the world's under-nourished population is slow.
- <3> To achieve food security in developing countries, it is necessary to combine imports and stock holding appropriately in addition to the basic measure, which is enhancement of the food production foundation within the country. Implementation of food aid as an urgent measure and stock holding of food for the implementation in the aid implementation countries are inevitable.
- <4> Under such circumstances, in the "Japanese Proposal in WTO Agricultural Negotiations", the Japanese Government proposed to examine a possible framework for international food stockholding that shall complement existing bilateral and multilateral food aid schemes.
- <5> As the first step towards execution of the international food stockholding initiative, implementation of "Study on the rice stockholding system in East Asia" was agreed at the meeting of ASEAN+3 (ASEAN countries, Japan, China, and Korea) Ministers of Agriculture and Forestry (AMAF+3) that was held in October 2001. The study is to investigate the current condition and stockholding operation method for rice, and to submit the result to AMAF+3, which is to be held in October 2002.

Figure 14 Amount of aid and share in the food and agricultural field of major countries

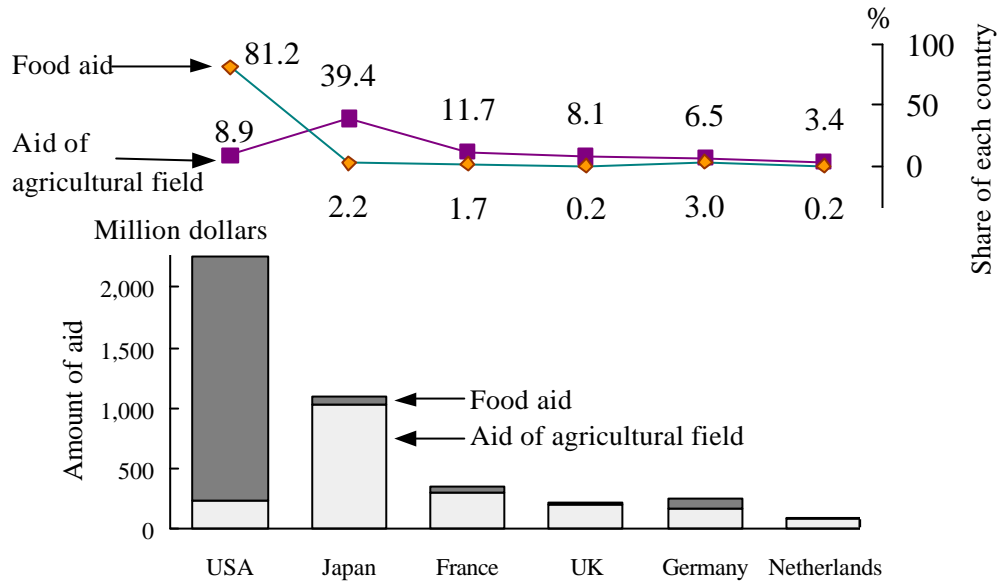
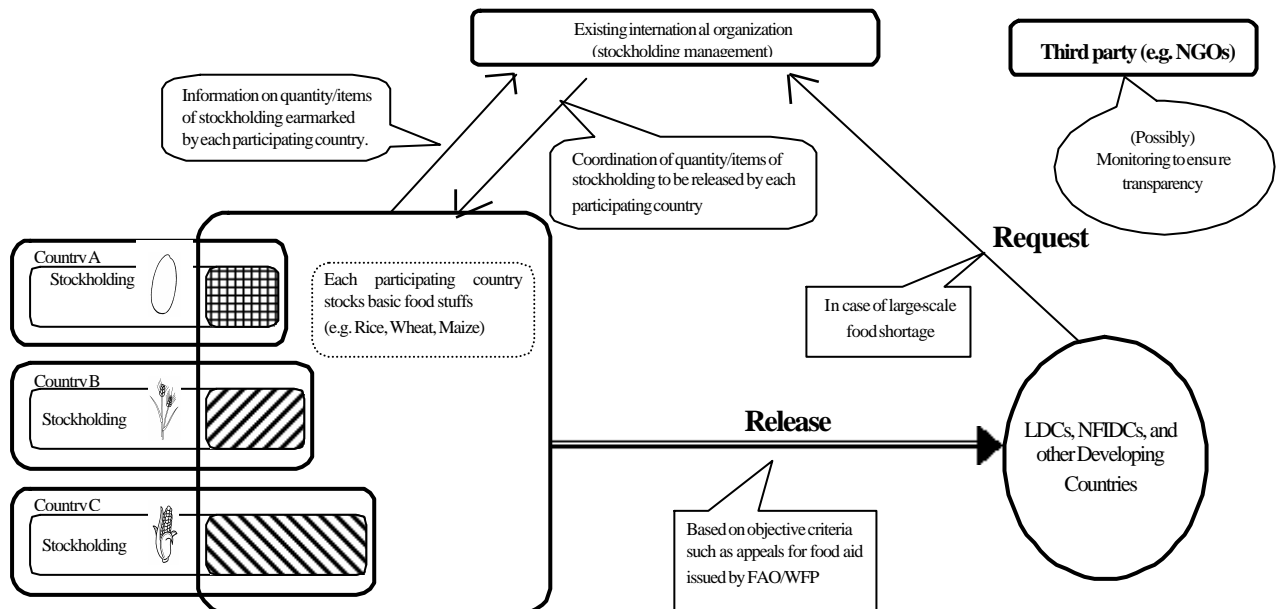


Figure 15 A Possible Framework of International Food Stockholding proposed by Japan (from the report of the research council of the international food stockholding initiative)



Earmarking by each participating country for International Stockholding.

## **Section 5      Issues Regarding WTO**

### **(1)    Roles of WTO agricultural negotiations**

- <1>    Since the WTO Agreement enacted in January 1995, the Japanese Government has steadily implemented the Uruguay Round Agricultural Agreement.
- <2>    The WTO agricultural negotiations that were started from the beginning of 2000 are extremely important negotiations that determine the direction of world's agricultural product trade rules in the 21st Century. For Japan, it is extremely important that the basic principles of the Basic Law on Food, Agriculture, and Rural Areas and accompanying measures must be properly recognized in accordance with global rules, and Japanese farmers can farm with their outlook to the future by the negotiations.
- <3>    Under such recognition as this, the Japanese Government compiled the "Japan's Proposal for the WTO Agricultural Negotiations" that laid "coexistence of various types of agriculture" as the basic concept , and submitted it to the WTO Secretariate in December 2000.

### **(2)    Japan's Negotiating proposal and future issues of WTO agricultural negotiations**

- <1>    At the 4th WTO Ministerial Meeting that was held in Doha, Qatar in November 2001, the Ministerial Declaration for establishing a new round was adopted. The agricultural negotiations that have already been started were decided to be agreed collectively together with other fields. Regarding agricultural matters in the Ministerial Declaration, the contents that predict negotiations, i.e. the concept on unification of agriculture and industry, which was claimed by the Cairns Group, were not included and a description of consideration on non-trade concerns was included. This framework enables the claim of the proposal of the Japanese Government.
- <2>    In future agricultural negotiations also, the Japanese Government should strongly present our ideas and at the same time should continue negotiating persistently with exporting countries through association with friendfood countries advocating agricultural multifunctionarity including the EU and agreements from as many developing countries as possible.

Table 8 Outline of Japan's proposal of WTO agricultural negotiations

**[Basic attitudes]**

Pursue the following five points with "the coexistence of various types of agriculture" as the underlying concept.

- <1> Consideration of the multifunctionality of agriculture
- <2> Ensuring food security
- <3> Redressing the imbalance between rules and disciplines applied to agricultural exporting countries and those applied to importing
- <4> Consideration for developing countries
- <5> Consideration for the concerns of consumers and civil society

**1. Basic Elements to be considered in the Negotiations**

- Sufficient examination such as implementation of the Uruguay Round Agreement on Agriculture in each country
- Pursuit of the multifunctionality of agriculture and food safety as the major issues of agricultural policies worldwide

**[Basic policy of each issue]**

**2. Market access**

- Set appropriately in a flexible manner with accommodation of the circumstance of each item on the decision of tariff level and access opportunities.
- Examine a new safeguard mechanism with increased transparency to enable effectively, and automatically according to the characteristic of the agricultural product.

**3. Domestic support**

- Maintain the basic framework of the current rules and disciplines. Examine the improvements in order to promote agricultural policy reform by reflecting the real situation of agriculture.
- Set a realistic domestic support level (commitment of reduction)

**4. Rules and disciplines on exports**

- Strengthen the rules and disciplines on export-promoting measures including export subsidies and export-restricting measures.

**5. State trading**

- Strengthen the rules and disciplines on export state trading.

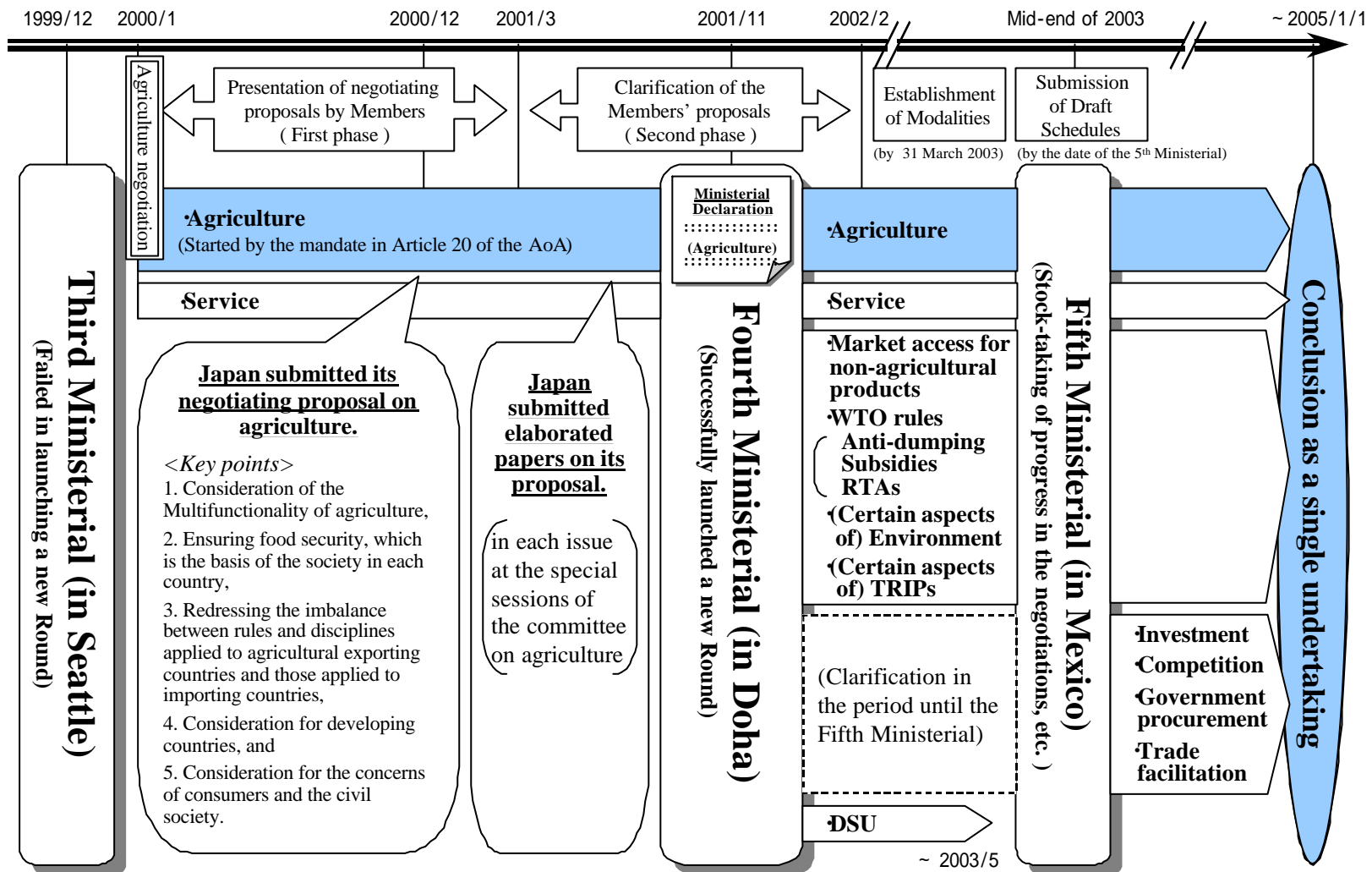
**6. Consideration for developing countries**

- Consider the agricultural trade rules and strengthen the scheme for international food aid.

**7. Response to the concerns of consumers and the civil society**

- Consider in terms of trade rules for the concerns of consumers and the civil society such as stable food supply and securing food safety

Figure 16 Agriculture negotiations in the new Round



## **Chapter II      Sustainable Agricultural Development Through Structural Reform (Related to Agricultural Policies)**

### **Section 1      Current Conditions and Reform of the Agricultural Production Structure**

#### **(1)      Reform of agricultural structure**

- <1>    The proportion of rice production amount by business farm households is 36%, which is far less than that of other crops (70% to 90%). The cropping area per rice farm household is only 1.5 times (84a) that in 1960. This shows the delay in structural reform mainly in rice farming.
- <2>    It is concerned that the recent price fall of agricultural products and the increase of import amounts would have any adverse effects on "efficient and stable farmers" (\*1) and motivated and capable farmers aiming to become such farmers (eligible farmers). Important and urgent issues are to improve the environment that enables "eligible farmers" to start management innovation such as expansion of the management scale and crop transposition and to promote agricultural structural reform.
- <3>    The Ministry of Agriculture, Forestry, and Fisheries complied "Farm Policies Aimed at Promoting Structural Reforms in Agriculture" in August 2001. The document indicates the future direction of farm policies under the basic viewpoints of promotion of structural reform through concentrated and prioritized measures aimed at "eligible farmers" and vigorous emphasis on high-priority measures. The Ministry of Agriculture, Forestry, and Fisheries will examine and implement the policies that comply with this direction in future.

\*1 "Efficient and stable farmers" refers to highly productive farmers whose annual working hours of main workers are almost the same as those of the workers of other industries and the lifetime income per main worker is almost the same level as those of other industries.

Figure 17 Share of agricultural production in value by farm pattern for each item (2000)

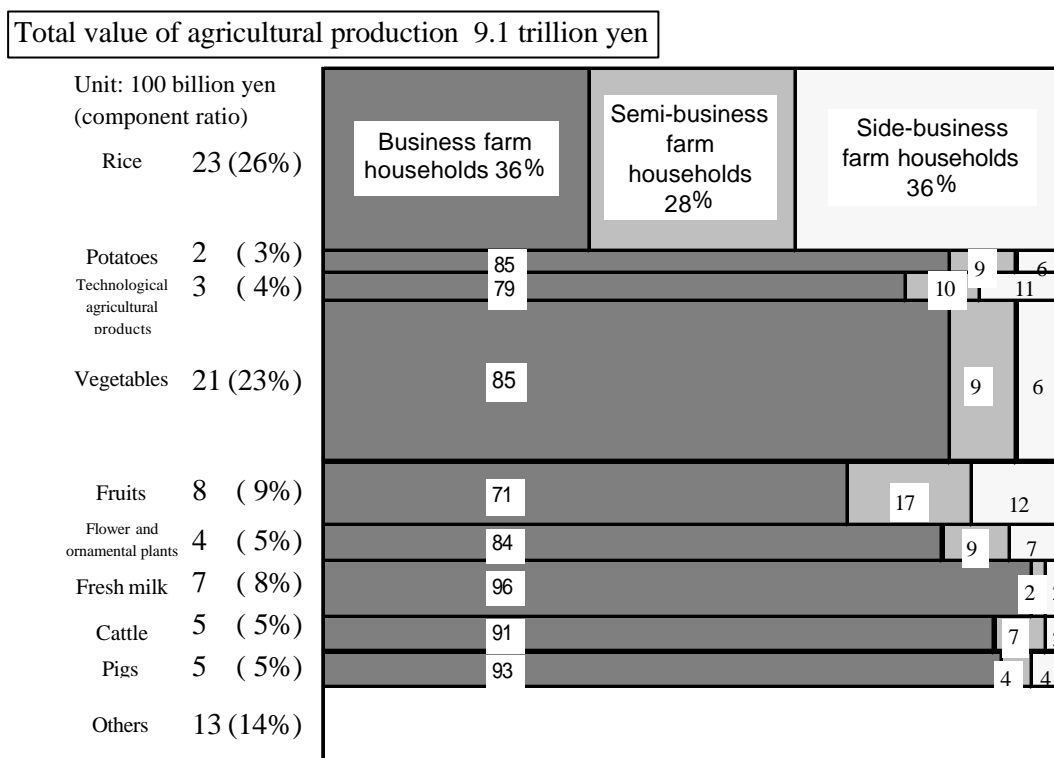
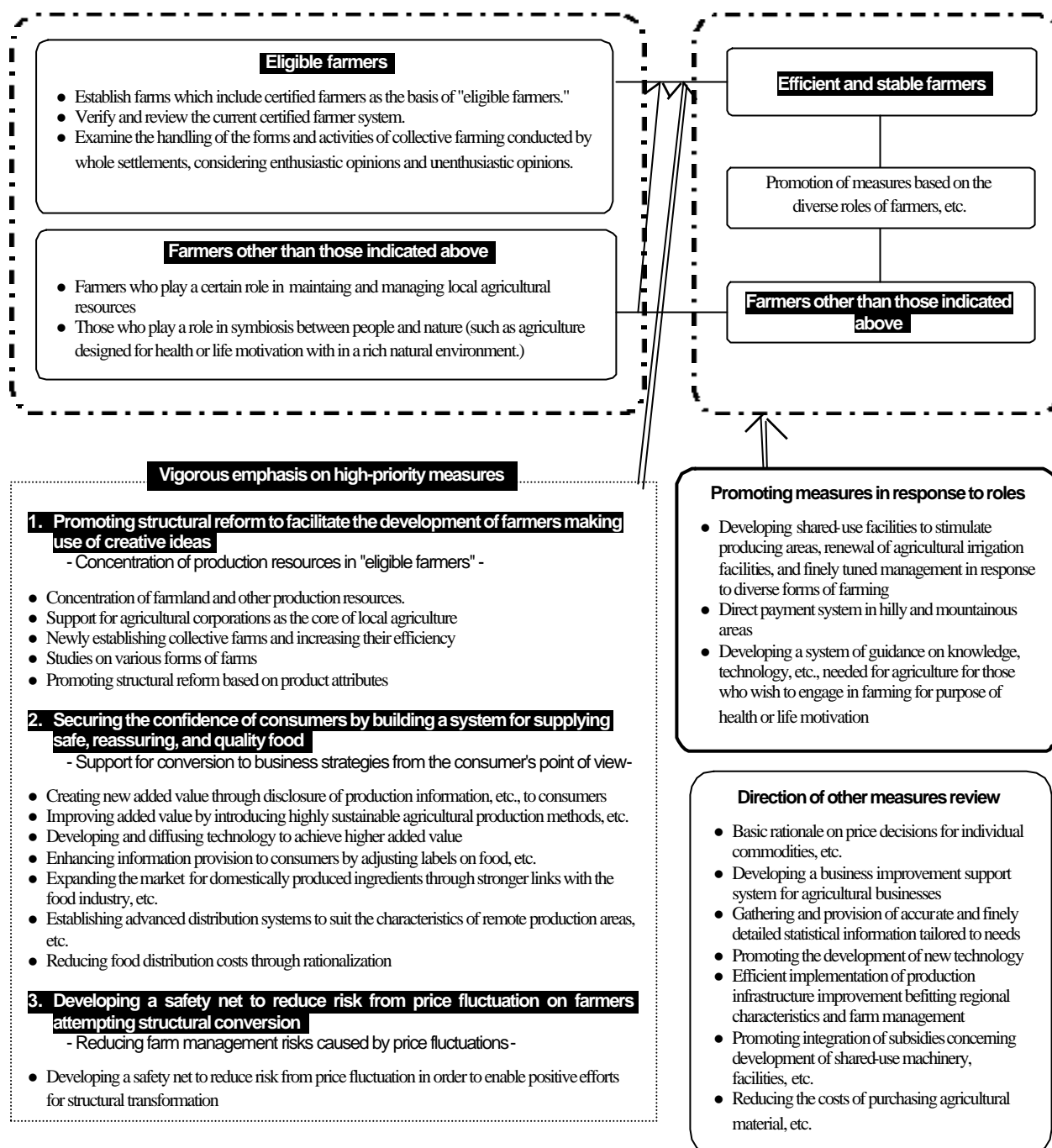


Figure 18 Farm policies aimed at promoting structural reforms in agriculture



## **(2) Diverse agricultural management**

### **a. Agricultural management in 2000**

The agricultural income per commercial farm household was 1.084 million yen in 2000 (decline of 5.0% in comparison to the previous year). Due to the decline of the non-agricultural income, the total income of farm household was 8.28 million yen (decline of 2.1% in comparison to the previous year) and this trend is continuing since 1996. The same trend is observed in 2001 also.

### **b. Farm and agricultural labor force**

<1> The total number of farm households in 2001 was 3.07 million, of which commercial farm households account for 2.29 million. As the breakdown, the number of farm households, that don't have any person, less than 64 years old, farming more than 60 days, remains at almost the same level, while the number of the other farm households are declining for this 10 years.

<2> The farming population in 2001 was 3.82 million (commercial farm households), a decline of 70,000 in comparison to the previous year. Although engagement of farming by retirees and aged farmers who are continuously engaged in farming stop the downward spiral of agricultural labor force quantitatively, aging of agricultural labor force is progressing considerably.

### **c. New farmers**

The number of new farmers from non farm household is increasing. It is important to support them according to the diversified ways of engagement of farming including engagement to the agricultural corporation..

### **d. Fostering and securing efficient and stable agricultural management**

#### **<1> Actual condition of approved farmers**

The number of approved farmers reached 178,000 as of the end of December 2001. (Approved farmer: farmer whose agricultural management improvement plan that was submitted and approved by the municipality as the plan complies with the basic concept of agricultural management compiled by the municipality) As approved farmers are facing with various issues in enthusiastic implementation of management improvements, further concentration and focus of policies for them are necessary.

#### **<2> Promotion for incorporation of agricultural management**

Incorporation is effective for improvement and development of management such as scale expansion and diversification. Promotion for incorporation is necessary while verifying the actual condition of the new agricultural production corporate system that enables selection of a corporation mode.

#### **<3> Large scale management - an example of efficient and stable farmers -**

- 1) Large scale management of rice cropping is achieving highly efficient and productive management using the benefit of scale with dramatically exceeding small scale management in terms of both labor productivity and land productivity.

- 2) Analysis of fluctuation factors of total income of farm households between large scale management and small scale management indicates that the increase/decrease of agricultural income due to the recent price fluctuation of agricultural products imposes serious influence on the total income of farm households of large scale management since large scale management is more dependent on the agricultural income.
- 3) Under the environment that prices of agricultural products are formed in appropriate reflection of the supply-demand situation and quality evaluation, improvement of the safety net is necessary to reduce the fluctuation of agricultural revenues or income due to dramatic price fluctuations. It is also necessary to examine the concrete mechanism on the condition of public understanding.

e. Various workforces that support regional agriculture

<1> Agricultural service operator

Agricultural service operators becoming more important since they compensate labor shortage of individual farmer and provide high-level technical services. To demonstrate the functions as supporters for maintaining regional agriculture, establishment of smooth complementary relationship with other supporters is important.

<2> Third sector

For the third sectors (business entities that are established by joint contribution by administrative organizations such as municipalities and private sectors), functions fostering operators as workforces and business development for revitalization of the region are also expected. However, since some third sectors are facing the deficit structure of management, it is important to obtain understanding of the regional citizen in establishment and operation.

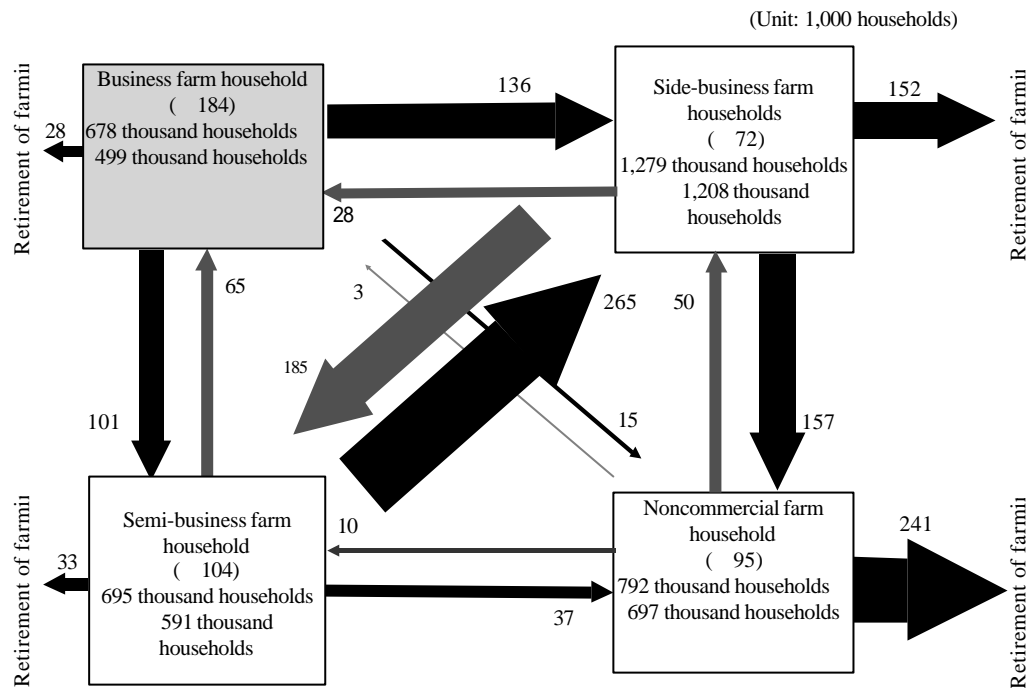
<3> Community farming

Community farming (group agricultural activities based on the fundamental region of social life connected by farming and using agricultural water as the unit) is a technique for efficient use of the land. Not many communities apply integrated management and the securing of sustainable continuity as organizations is important. To secure the management of community farming, it is also important to establish the agricultural corporations.

f. Participation of female farmers

Involvement of females in the policy decision-making process in a rural society and participation of females in agricultural management are progressing, however, the housekeeping and child-rearing still demand high workload and improvement of the working environment is necessary for promotion of further participation of females. It is also important to support business promotion activities by females that lead to revitalization of rural areas.

Figure 19 Divergence of farm households during the period from 1995 to 2000



Note: The value in ( ) indicates the net increase and decrease( ) excluding the farm households whose information was unavailable at the time of survey in 1995, and new farm households during the period from 1995 to 2000. Number of "Retirement of farming" includes unidentified farm households.

Figure 20 Comparison of productivity and profitability by planted area of crops' scale in rice single farming (1998 to 2000, Prefectures)

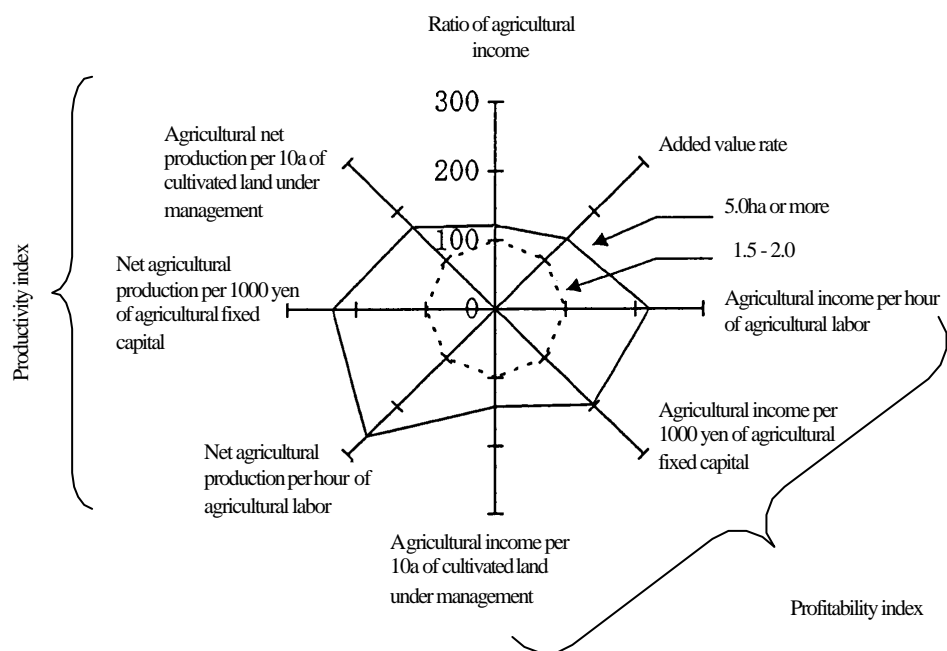
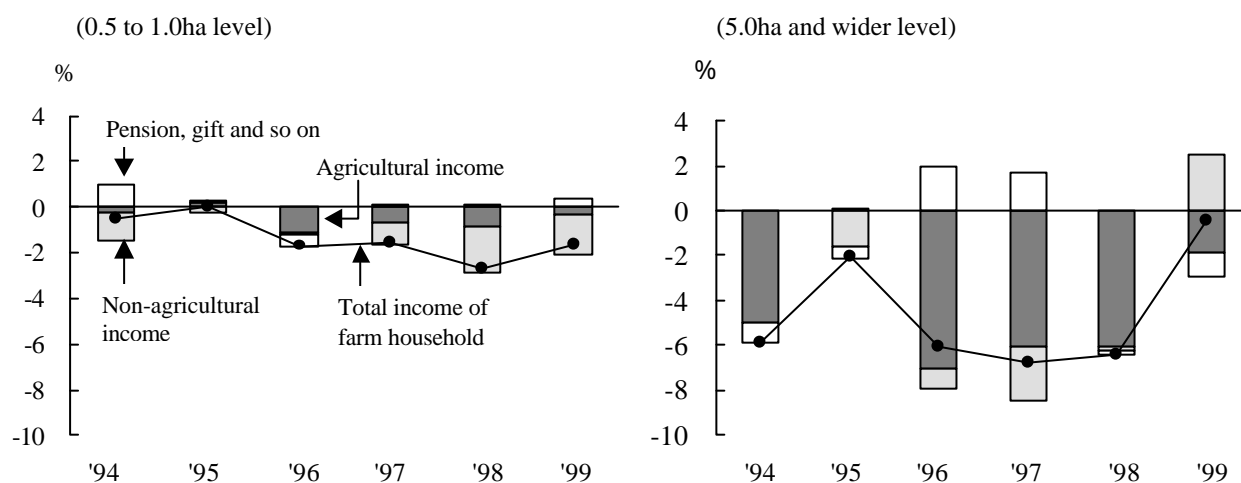


Figure 21 The degree of contribution of the farming income and non-farming income to the increase/decrease rate of total income of farm household (Prefectures - rice single farming)



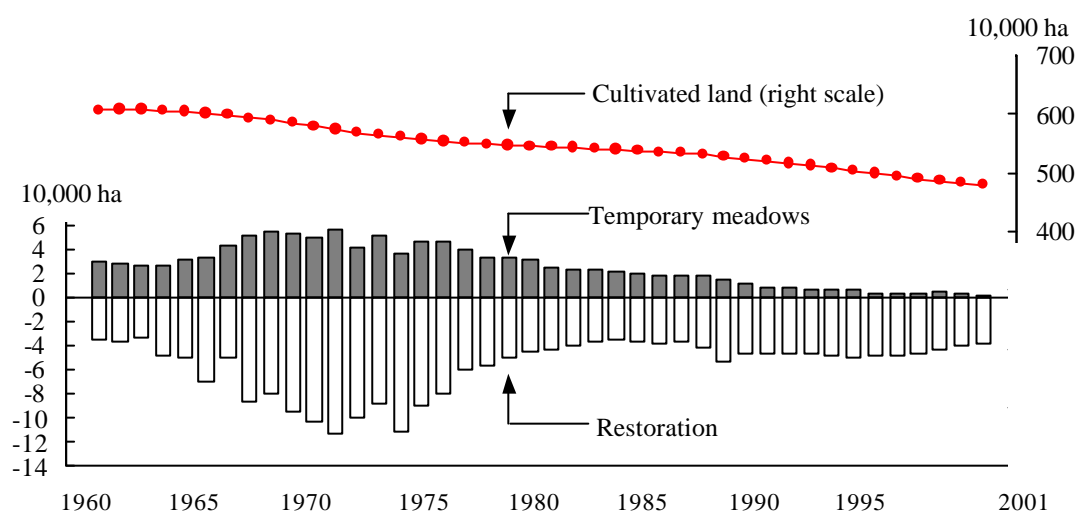
### **(3) Securing and making effective use of farmland**

- <1> The cultivated areas have shrunk by about 20% from 6.09 million hectares in 1961 to 4.79 million hectares in 2001 and is still shrinking due to the abandonment of cultivation.

The utilization ratio of cultivated land has been in decline over a long term. However, the ratio in 2000 increased to 94.5% due to an increase of the total cropping field area of wheat and soybeans, continuing the trend following 1999.

- <2> The right transferred area of farmland is increasing mainly by leasing and the integrated use to a large scale farming is progressing. However it is still insufficient. In order to promote integrated use of farmland to the agricultural management to be fostered, it is important to increase the efforts such as promotion of each measure for integrated use of farmland and concentration of the measures to the management that is enthusiastic to the concept of scale expansion.
- <3> Securing farmlands with favorable agricultural management conditions is necessary for promotion of integrated use of farmlands and sufficient achievement of the effects. Promotion of generalization of paddy fields is also important for activating land-extensive farming in paddy fields and promoting formation of major producing area of vegetables.
- <4> Facilities of agricultural irrigation and agricultural water supply play important roles as regional water supply functions, such as fire prevention and landscaping of rural areas, as well as agricultural production. To demonstrate the functions on a full scale, planned improvements and updating are necessary.

Figure 22 Transition of cultivated land, temporary meadows, and restoration



## **Section 2      Supply and Demand of Agricultural Products**

### **(1)    Recent agricultural production**

- <1> The agricultural production (quantity) in 2000 showed an increase of 0.3% compared to the previous year due to increase of production of rice, wheat, and soybeans, although the production of livestock has declined. The agricultural producer prices of rice and vegetables dropped by 5.9% due to the influence of increase of crop yields. Agricultural production material prices dropped by 0.2% due to decline in prices of feeds and fertilizers.
- <2> The terms of agricultural trade are continuously deteriorating, resulting in fall of the index number of terms of agricultural trade by 5.2 points in comparison to the previous year. For the improvement of terms of trade from a viewpoint of material supply, rationalization and cost reduction are necessary for distribution of agricultural materials, and so on. In particular, efforts are important in agricultural cooperatives that support a major part of the distribution of agricultural production materials.

### **(2)    Activation of land-extensive farming, mainly paddy fields**

#### **a.    Supply and demand of rice**

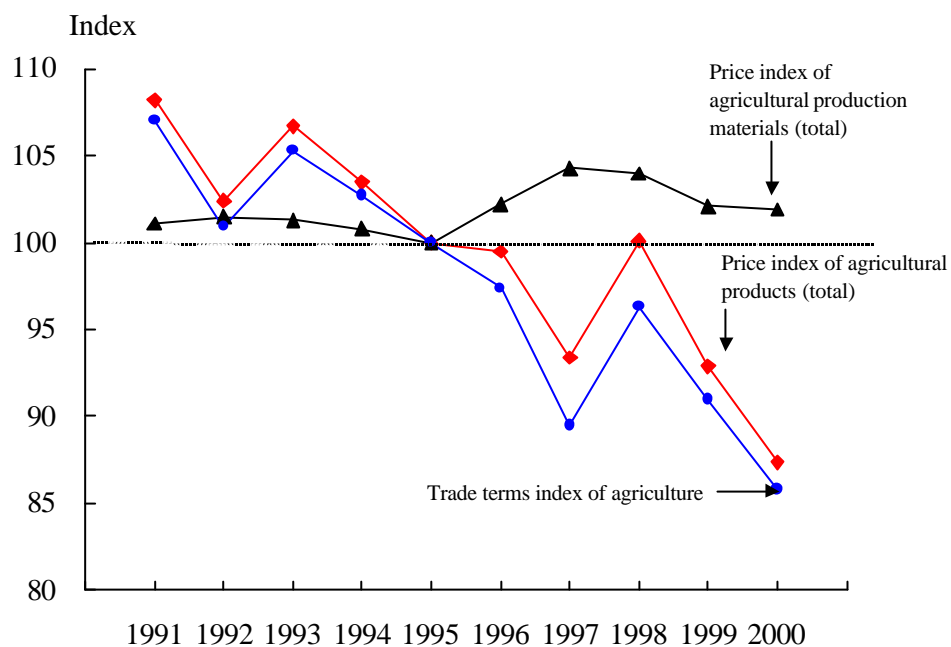
- <1> Recent supply and demand of rice have been easing dramatically. The production adjustment area has increased to 1.01 million hectares, which is the largest area in the previous history. The price of voluntarily marketed rice in 2000 and 2001 has recovered to the level that exceeds the price of the same term of the previous year in June 2002 as a result of the "Urgent General Rice Measures in 2000." The price of rice in crop year 2001 is also reaching the level that exceeds the same term of the previous year.
- <2> The rice consumption per capita per month in FY2000 increased by 0.1% from the previous fiscal year in all households. However, the amount has been declining in FY2001. Increase of rice consumption is an important issue leading to realization of healthy dietary pattern and increase of food self-sufficiency rate and development of national movement is necessary. In particular, increase of the frequency of use of rice dishes in school canteen (2.8 times/week as of May, 2000) that supports inheritance of the traditional food culture to children and improvement of dietary education are necessary.
- <3> To handle issues such as dramatic decline of price of voluntary marketed rice, securing of fairness in production adjustment, guiding of the system of rice cropping management stability measures, the "Review of Rice Policies and Efforts for the Current Stability of Supply and Demand" was determined in November 2001.

In future, it will be necessary to implement steady and effective reform by cooperation between producer groups and administration on the basis of the understanding and compliance at producing areas.

b. Production of wheat and soybeans corresponding to demand

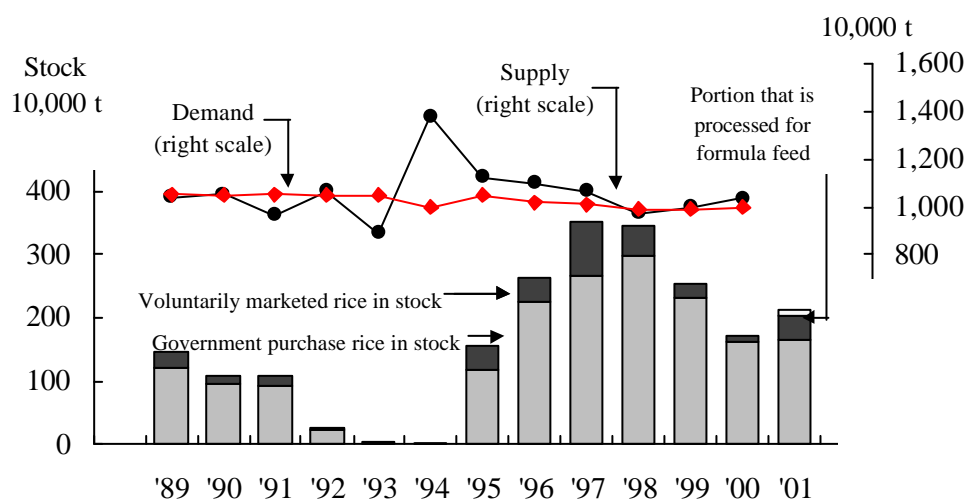
Production of wheat and soybeans is increasing. However, the sharp production increase without quality enhancement causes increased mismatching of supply and demand. Producing crops corresponding to the demand and improvement and stability of yield and quality are necessary. For consumption, consumption of local products must be promoted.

Figure 23 Transition of trade terms indexes of agriculture



Note: The trade terms indexes of agriculture are the ratio of the total price index of agricultural products to the total price index of agricultural production materials.

Figure 24 Transition of recent supply and demand of rice



### (3) Horticulture and livestock farming

#### a. Increase of domestic production of vegetables and fruits

- <1> Import of vegetables has been recently increasing and, in 2001 also, the import is increasing although the rate is more gradual than that of the previous years. In particular, imports from China are increasing.

Regarding green onions whose import increased sharply, in April 2001, the Government invoked a provisional measure of a general safeguard for three items including green onions due to decline of domestic price and domestic farmers' income. From 2002, the Government established a Japan-China Agricultural Trade Council and is discussing orderly trade with Chinese side.

To enhance the constitution of the local producers that can compete with imported vegetables, the Government is making structural reform of vegetable production using the following strategic models as the guide; 1) reduction of cost, 2) transactions based on contracts, 3) production of high value added products.

- <2> Since the production and quality of fruits are unstable due to the influence of weather change and alternate bearing, management stability measures have been introduced for production of Unshu mandarins and apples since production year 2001, based on enhancement of measures associated with supply and demand adjustments.

Since overproduction was predicted for Unshu mandarins in 2001, production was adjusted on the national scale by the Fruit-growing Industry Promotion Special Measures Act.

Although consumption of fruits has recently leveled, consumption of fruits by the younger generation is declining. To promote consumption, the "National Council on promotion of dietary pattern with Fruits" started "Movement of taking 200g of Fruit Everyday" from August 2001.

#### b. Development of livestock farming through association between crop cultivation farming and livestock farming

- <1> The supply and demand of livestock products was stable in FY2000. However, in FY2001, the production of beef declined due to the decline of beef consumption triggered by the discovery of BSE infected milk cow. To stabilize the operations of livestock farmers, various measures related BSE have been taken.

- <2> Production increase of domestic feed is extremely important for enhancement of the feed self-sufficiency rate and reduction of production cost. In FY2001, the production of domestic feed is expected to decline due to a reduction of cropping area and yield. Improvement of yield and expansion of cropping area are necessary on feed crops.

- <3> High grade equalization is necessary for yield of feed crops by encouragement of basic technology. For expansion of cropping areas, utilization of existing cultivated lands including paddy fields is important. Cropping areas of rice fermentation roughages have increased dramatically in 2000 and 2001 since they can be produced in paddy fields, leading to effective utilization of paddy fields. Such association between crop cultivation farmers and livestock farmers is also important in future.

Figure 25 Transition of breakdown of imported vegetables

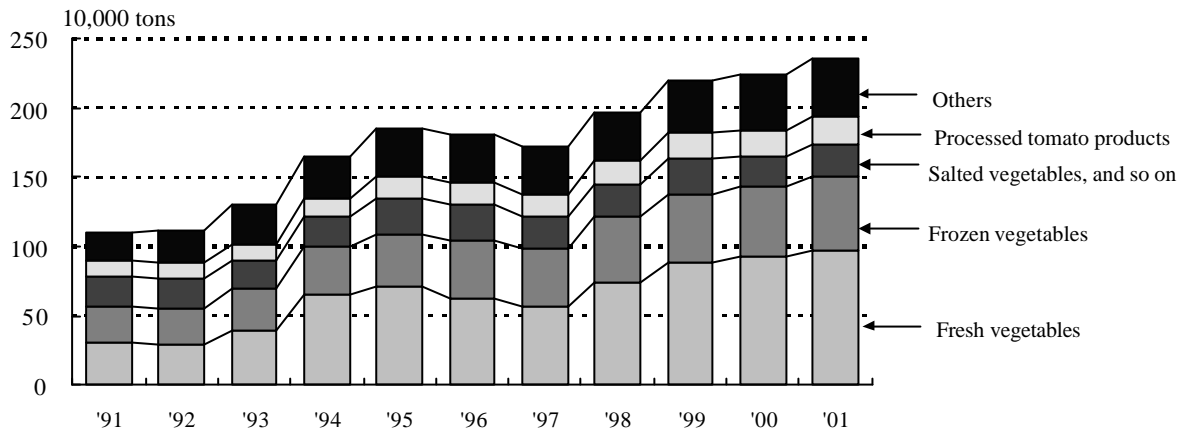
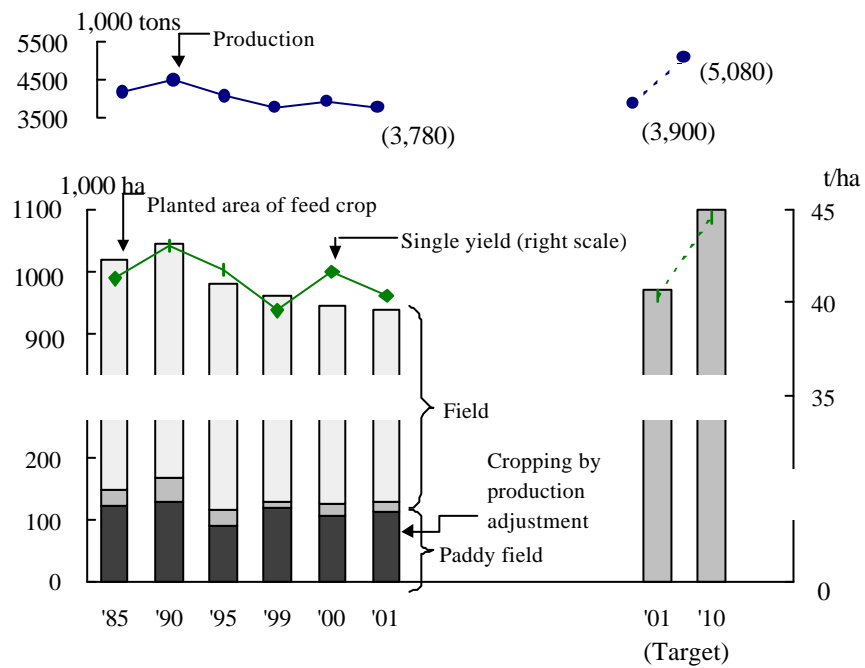


Figure 26 Transition of planted area of feed crop



### **Section 3      Development and Diffusion of Agricultural Technology**

#### **(1)    Research and development of biotechnology and promotion of understanding of the nation**

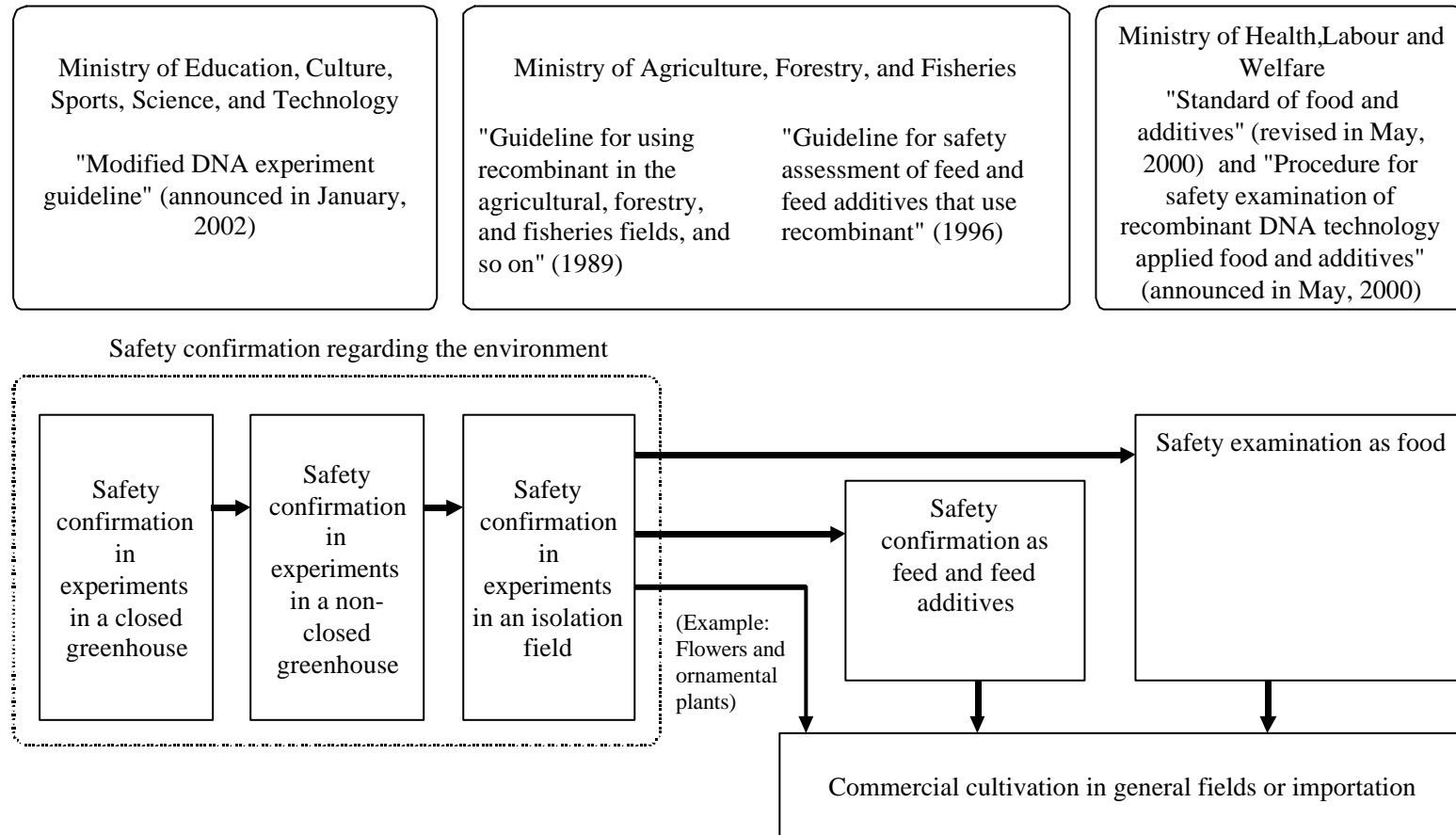
- <1>    Dramatic improvement of crop productivity caused by biotechnology is expected. Fierce international competition is developing for rice genome research, and we have already decoded 160 million base pairs, which accounts for about 40% of the total, at high precision. In future, the Government will complete decoding of important base sequences and accelerate the research, targeting the early achievement of breakthrough of isolation function of 100 or more of usable genes and subsequent patent registration.
- <2>    For development and practical use of genetically modified agricultural products, the safety is being assessed by association of the Ministry of Agriculture, Forestry and Fisheries, the Ministry of Education, Culture, Sports, Science and Technology, and the Ministry of Health, Labor and Welfare. It will be important to positively handle various requests and suggestions in response to the concerns of the nation in future.

The entire Government is making efforts for ratification of "Cartagena Protocol on Biosafety" that was adopted in 2000.

#### **(2)    Development and diffusion of technologies that support fields of agricultural production**

- <1>    Development of agricultural technology such as varieties and cultivation technology contributes to the improvement of productivity and quality. For instance, by development of breeding and cultivation technologies on new varieties of wheat, a useful cultivation system for avoidance of the damage by rainfall during harvest is expected to be established in Kyushu area. In this way, the development and diffusion of the technology corresponding to the regional conditions are progressing for the issues in the production fields.
- <2>    In addition to the role played by the Government, the technology developed and diffused by local Governments and private sectors has played a significant roles. For instance, the Government, local Government, and local enterprises jointly cultivated 14 varieties of 11 kinds of wheat and 3 kinds of barley with various characteristics. In future also, such association and cooperation between these related organizations, in addition to the Government, are important and useful.

Figure 27 Normal flow of safety assessment of genetically modified agricultural products



## **Chapter III     Actualization of Recycling-oriented Society by Coexistence and Exchange between Rural Areas and Urban Areas (Related to Policies on Rural Areas)**

### **Section 1     Maintenance and Improvement of Agricultural Material Circulation Functions**

#### **(1)     Global environment and agriculture**

- <1> Agriculture and the environment mutually influence. For instance, an inappropriate field burn-off farming caused expansion of forest destruction and contributed to the global warming. On the other hand, global warming is one of the factors that disturb the future trend projection of food production.

To solve global environmental problems, it is important to build a recycling-oriented society through sustainable agriculture that is in tune with the environment in material circulation.

- <2> As the international framework regarding global environmental problems, "United Nations Framework Convention on Climate Change", "Convention on the Biological Diversity" were signed and "Kyoto Protocol" and "Cartagena Protocol on Biosafety" were adopted. To secure effectiveness of each convention, various efforts are being made within the agricultural field in Japan.

#### **(2)     Building a system for recycling-use of food wastes and waste derived from agricultural production**

- <1> Under the Basic Law of Food, Agricultural and rural areas, systems are being developed for recycling use of food wastes and wastes derived from agricultural production.
- <2> For livestock manure, improvement of manure processing facilities based on the Law on Appropriate Treatment and Optimization of Livestock Manure is progressing. Further promotion of distributed use of manure by association between crop cultivation farm and livestock farm is important.

For food wastes, the food recycling law was enforced in 2001. For the food wastes discharged from operators, steady efforts are developing such as recycling based on the law. For food wastes discharged from households, examination of the measures for promoting the recycling is necessary.

- <3> The use of biomass resources such as livestock manure and food wastes is gradually penetrating as energy resources suitable for the recycling-oriented society. Ministry of Agriculture, Forestry and Fisheries is also promoting development of technology for converting biomass resources to energy resources such as methanol.

- <4> The output of plastics used for agriculture has been recently decreasing. The proportion of recycling has been increasing. The recycling rate of wastes of containers and packaging has been increasing dramatically since the enforcement of the Law for the Promotion of Sorted Garbage Collection and Recycling of Containers and Packaging in 1997.

Table 9 Influence of global warming to agriculture and food security worldwide

**<Tropical and arid zones>**

The production decreases due to a slight temperature increase. The area where rainfall decreases dramatically suffers further adverse effects.

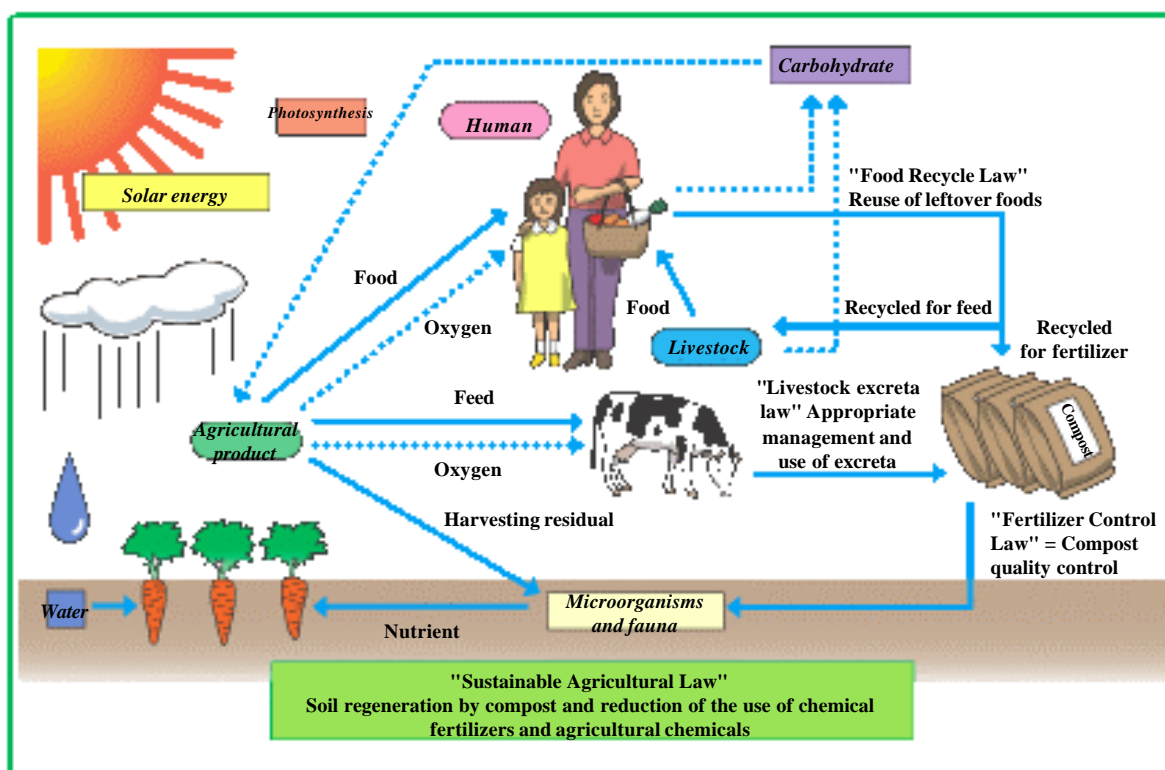
**<Horse-latitude area>**

Agricultural production increases in some areas as a result of rise of the average annual temperature of several degrees or less. Agricultural production decreases as a whole in most areas as a result of the rise of the average annual temperature by more than several degrees (including some exceptions).

**<General>**

When the average temperature on the ground rises by several degrees or more, food prices increase due to the delay of increase of supply comparing to the food demand on a global scale.

Figure 28 Circulation and measures of organic substances originated from food and agricultural production



### **(3) Diffusion and settlement of a production method using the material circulation function of agriculture**

- <1> Soil is an important foundation for safe and high-quality food production and long-term efforts are necessary to create highly productive soil. However, it is of concern that the recent decline of soil development by manure is leading to deterioration of material circulation function of agriculture.
- <2> To maintain and improve the material circulation function of agriculture and form a good environment, diffusion and settlement of environment conservational agriculture are necessary. The number of approved farmers (eco-farmers) based on the Law on Promotion of introduction of sustainable method of agricultural production has been increasing steadily (7,650 persons: as of February 2002).
- <3> Many consumers request organic agricultural products due to increasing awareness in food safety. The inspection approval system of organic foods that was introduced due to the enforcement of the so-called revised JAS law in 2000 is a useful method for producers to convey added values of products to consumers.
- <4> For realization of stable management of farmers who tackle environment conservational agriculture, it is important to secure a stable sales channel through interchange between farmers and consumers and association between farmers and distributors.

A high proportion of farmers who are exercising environment conservational agriculture is implementing contract production and/or direct sales to consumers. Such exercise contributes to the securing of stable sales channels.

Figure 29 Management status of farmers who are tackling environment conservational agriculture and factors for realizing this management

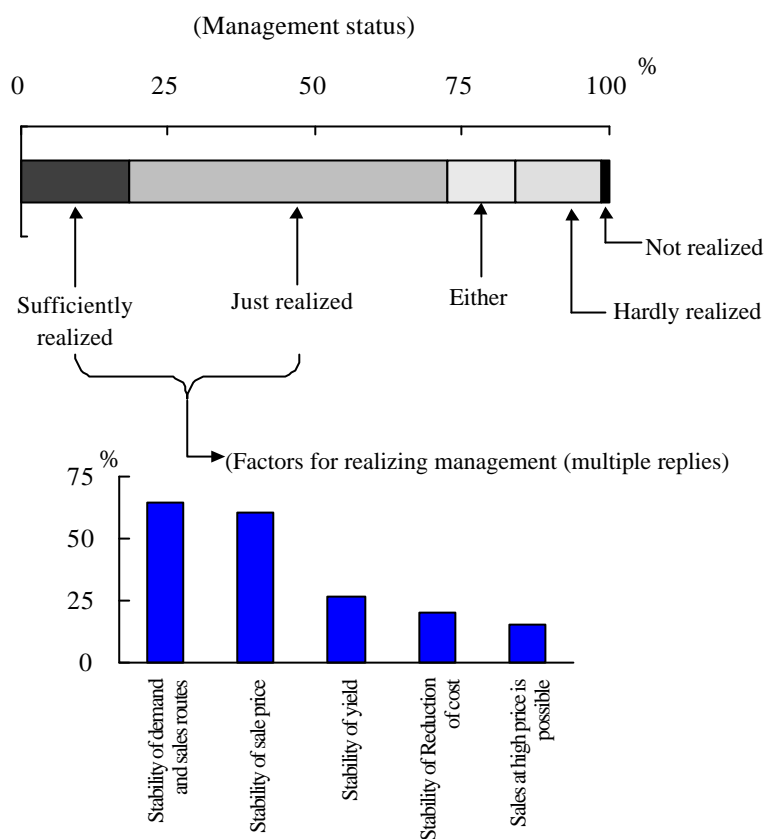
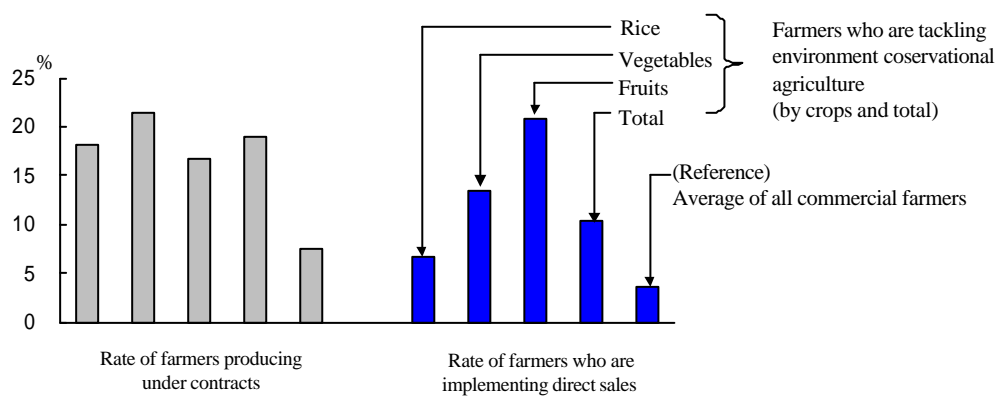


Figure 30 Contract production of farmers who are tackling environment conservational agriculture and their proportion of direct sales (commercial farmers in 2000)



## **Section 2 Demonstration of Multifunctionality of Agriculture**

### **(1) Contents of multifunctionality of agriculture**

- <1> The multifunctional roles that are derived from appropriate agricultural production activities in rural areas achieve various effects including land conservation, fostering water resources, the preservation of the natural environment, the creation of beautiful landscapes, and tradition of the culture. These functions are important for stability of the livelihood and economy of the nation.
- <2> In November 2001, the Science Council of Japan (Government organization established for enhancement and development of science and reflection and infiltration of science to administration, industry, and livelihood of the nation) reported for the consultation (December 2000) regarding the evaluation of the multifunctionality of agriculture and forestry that was implemented by the Ministry of Agriculture, Forestry, and Fisheries. The report describes the actual contents and the mechanism of the multifunctionality of agriculture, and also describes the results of quantitative evaluation that was sampled based on the discussions such as the special committee of the Science Council of Japan.

### **(2) Infiltration of the understanding on the multifunctionality of agriculture**

To promote understanding on the multifunctionality of agriculture, the local Government of each region holds symposiums and provides information. Some local governments take financial measures and set up land utilization plans for maintaining multifunctionality. In future, further efforts will be necessary in order to obtain a deeper national understanding for multifunctionality by using the reports from the Science Council of Japan.

### **(3) Lessen of Children's agricultural experiences using the emotional development function of agriculture**

- <1> For children, agricultural experiences are expected to foster rich emotional advantages and bring substantial effects regarding personal development. Children are very enthusiastic for participation in agricultural experiences and they request such opportunities.
- <2> Agricultural experiences are important efforts for stimulating children's understanding of agriculture. Further efforts of promotion in this regard are important, such as setting active opportunities for agricultural experiences and improvements of experience contents in association with the Ministry of Education, Culture, Sports, Science and Technology and related organizations.

Figure 31

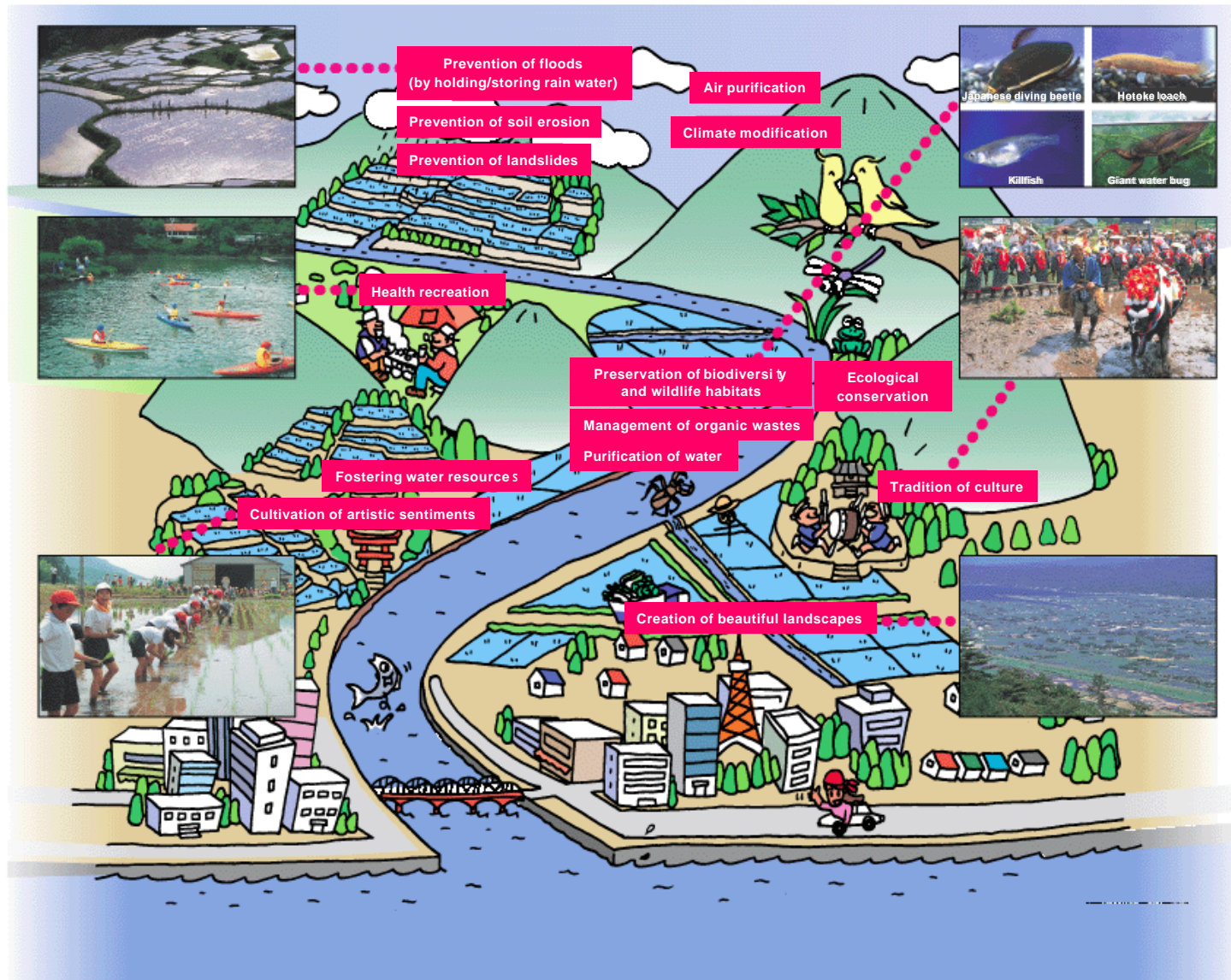


Table 10 Currency evaluation of multifunctionarity of agriculture

| Function                            | Assessment technique  | Assessed value           |
|-------------------------------------|-----------------------|--------------------------|
| Preventing floods                   | Alternation technique | 3,498.8 billion yen/year |
| River flow stability                | Alternation technique | 1,463.3 billion yen/year |
| Underground water nourishment       | Direct technique      | 53.7 billion yen/year    |
| Preventing soil erosion (flow -out) | Alternation technique | 331.8 billion yen/year   |
| Preventing landslides               | Direct technique      | 478.2 billion yen/year   |
| Managing organic wastes             | Alternation technique | 12.3 billion yen/year    |
| Climate modification                | Direct technique      | 8.7 billion yen/year     |
| Health recreation and serenity      | Travel cost technique | 2,375.8 billion yen/year |

### **Section 3      Current Situation in Rural Areas**

#### **(1)    Economic development in Japan and change in relationship between rural areas and urban areas**

- <1> Rural areas in Japan have supported the economic growth by supplying human resources, land , and capital. As a result, some problems, such as deterioration of living environment by population concentration and depopulation and aging in rural areas, occurred.
- <2> Correction of imbalance of land development such as the gap among regions and overconcentration in Tokyo is one of the important issues.

#### **(2)    Transformation of the rural society**

- <1> While the population is still increasing in three major metropolitan areas, in particular, in the Tokyo region, the population is continuously declining in local regions. In rural areas, the decrease in the number of children and the aging of the population are advancing quickly and the aging rate of farm population (rate of families with the age of 65 or older) is 28.6% (2000).
- <2> In the three main metropolitan areas, the ratio of the number of farm households in each community is declining in conjunction with continuous decline in the number of agricultural communities due to urbanization and co-habitation of farm households and non-farm households. In the urban and surrounding areas, deterioration of community functions is feared; for example, in many communities, water channels are managed by farmers only.
- <3> The number of agricultural communities is declining in local regions also. In particular, the maintenance of communities has become difficult in depopulated areas and the number of regions requiring "reorganization of community functions" to implement community activities covering a wider area beyond the existing communities is increasing.

#### **(3)    Current conditions and issues in hilly and mountainous areas**

- <1> The hilly and mountainous areas produce about 40% of agricultural products in Japan and since these areas are generally located in upstream areas of rivers, they play a role as a breakwater that protects the living foundation of urban residents in the downstream area by demonstration of multifunctionality through agricultural production activities.
- <2> Most hilly and mountainous areas are on steep, small, and irregular fields, so that they are under less favorable agricultural production conditions than those of flat lands. Consequently, as many farmers reduce the scale of activities or give up farming altogether, the rate of the lands that have been abandoned from cultivation is almost as double as that in flat lands. On the other hand, high expectation is placed on the development of special agriculture such as the production of tasty rice produced using the temperature difference within a day.

- <3> Based on the "System of Direct Payment in Hilly and Mountainous Areas" that was established to prevent abandonment of cultivation in hilly and mountainous areas and to secure multifunctionality, about 30,000 community agreements, which were needed for receiving the direct payments, were concluded in agricultural lands of about 630,000 hectares in FY2001.
- <4> Activities based on the community agreement include various activities with joint efforts according to the actual condition of the region as well as maintenance and management of water channels and farm roads.

Figure 32 Transition of population changes of three major metropolitan areas and local areas

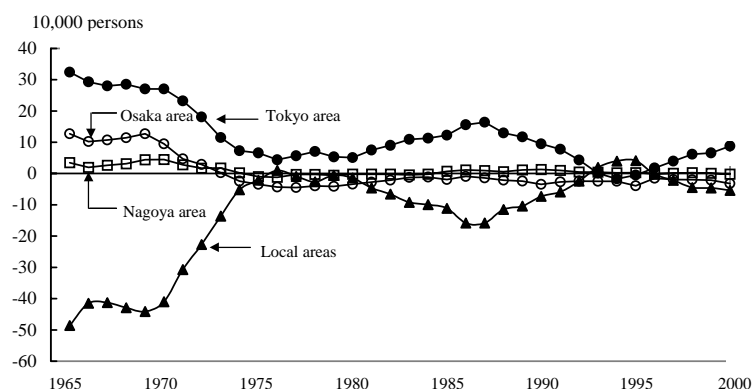


Figure 33 Transition of proportion of aged (65 years old or older) and minors (14 years or younger) against total population and among farmers

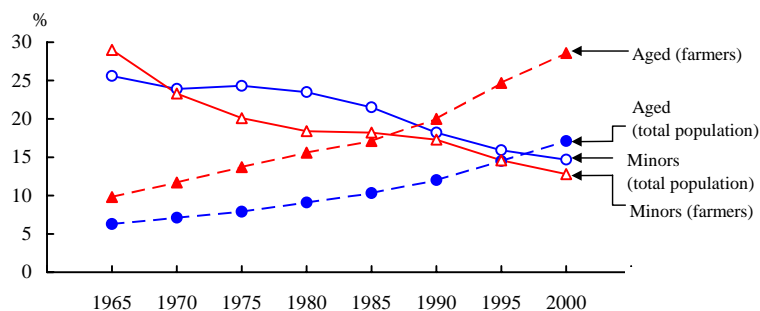
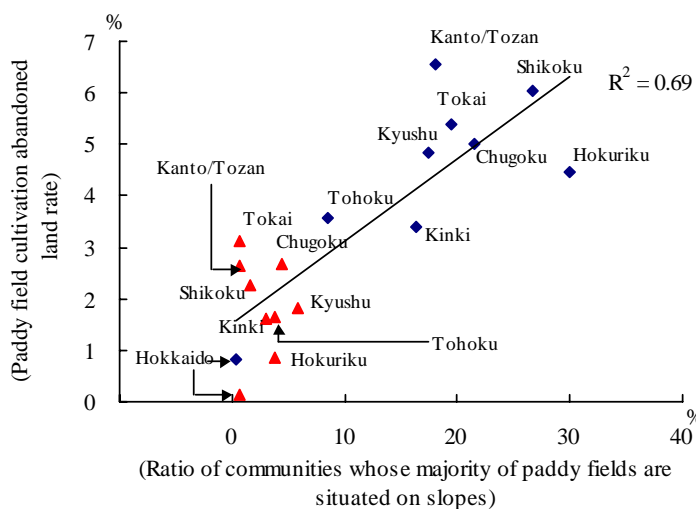


Figure 34 Relationship between the ratio of communities whose majority of paddy fields are situated on slopes and cultivation abandoned land rate (2000)



Notes: In the graph indicated above, ▲ indicates flat agricultural areas and ◆ indicates hilly and mountainous areas.

## **Section 4      Comprehensive Promotion of Rural Areas for Actualization of a Recycling-Oriented Society**

The recent issue is the solution of the "negative inheritance from the 20th Century" such as excessive load on urban residents like overcrowding caused by the process of economic development and the delay of improvement in living environment facilities in rural areas. To solve these problems, it is important for the rural areas and urban areas to construct mutually benefiting relationship that can enjoy mutual attractions and actualize a recycling-oriented society in harmony with the environment by co-habitation and interchange with their demonstration of the characteristics both rural areas and urban areas. The co-habitation and interchange are assisted by the improvement of access between rural areas that have comfortable natural environment and urban areas, and making available for rural areas the infrastructure that is no less than that of urban areas and services that are available in urban areas.

### **(1)      Necessity for vitalization of rural areas**

- <1> Vitality of the rural society is declining due to insufficient employment opportunities, delay of improvement in the life infrastructure and insufficient services that are available in the urban society, in rural areas.
- <2> It is difficult to re-vitalize community activities that are stagnant due to the decrease in population and aging simply by intrinsic activities of the administration and the residents of municipalities as the units. Revitalization of rural areas must be tackled by requesting support by urban areas.
- <3> As the results of urban/rural area exchange activities, residents of rural areas indicate re-recognition of the attraction of their regions and introduction of opportunity on beautification and conservation of the environment of the region. Interchange with urban areas is necessary to revitalize rural areas.

### **(2)      Increase of interest in rural areas by urban residents**

- <1> Public opinion survey indicates transformation of emphasis of people's awareness from "materialism" to "spiritualism". Those who wish to experience life in nature such as "enjoying tranquil countryside" are increasing.
- <2> An increasing number of urban residents are dissatisfied with their living environment such as poorer living conditions and safety in urban areas with more stress than rural areas.
- <3> With the background of such dissatisfaction, those who chose rural areas as the ideal locality due to the satisfaction of the life in rural areas where their rich nature provides "healing." The number of residents in urban areas wishing to move into rural areas is increasing, seeking for healthy life and new life style in rural areas.

Figure 35 Results achieved by interchange with urban residents (multiple answers)

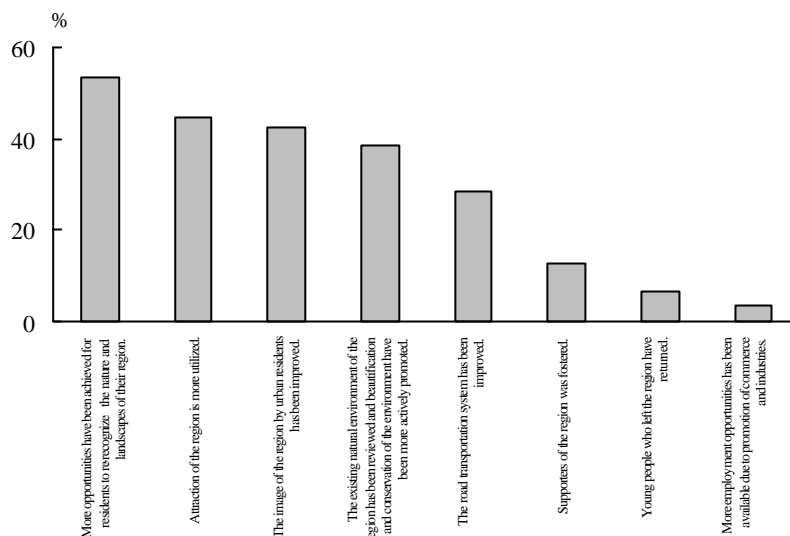


Figure 36 Transition of the concept in future lifestyle

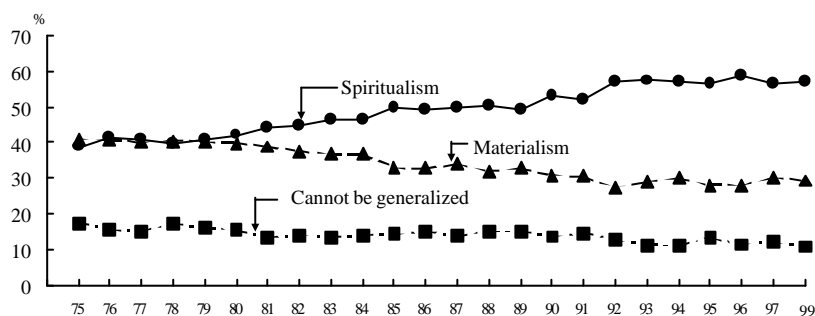
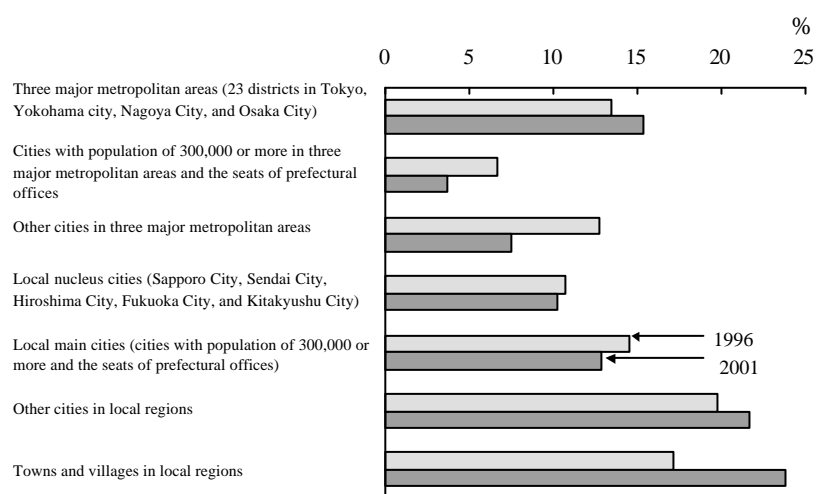


Figure 37 Ideal residential areas that are perceived by the people



### **(3) Issues and direction of solution for creating new rural communities**

#### **<1> Creation of open rural society**

As the problems for settling in rural areas, some urban residents indicate low employment opportunities and complicated human relationships. It is necessary to improve conditions to facilitate urban residents to participate in rural areas by reviewing the old customs.

#### **<2> Social foundation of rural areas**

Improvement of the fundamental living environment in rural areas is still at a low level. It is necessary to improve the social foundation that facilitates access to urban areas by clarifying the image of rural areas that are to be targeted by residents of rural areas subjectively and associating operations and policies under the orderly land utilization schemes. In addition, the association among operations by Governments is necessary.

#### **<3> Measure for aging**

Improvement of conditions such as barrier-free concept is necessary to enable older people's life-time participation in activities as operators of a rural society. It is feared that there would be a deterioration of welfare services such as delay of participation of private care service companies into rural areas and reduction of agricultural management scales due to the burden of aged care. Active participation in care services by agricultural cooperatives is necessary due to the future increase in the number of aged persons who require care.

#### **<4> Promotion of industries in rural areas**

The role of direct sales depots is attracting attention through interchange with urban areas and the depots are being evaluated as a means for the creation of employment and income opportunities in rural areas and places for interchange with residents of urban areas. Some municipalities are developing compound agricultural business for promoting local employment. In future, it will be necessary to promote the operations such as creation of brands for securing repeat customers and propaganda using local resources.

#### **<5> Improvement of information base in rural areas**

Since the Internet utilization by farmers is lower, development of a system satisfying the requirements of farmers is necessary to improve this situation.

There is a gap between rural areas and urban areas in improving condition of the advanced information communication base. The urgent task is to improve this communication base to prevent a new gap in the living condition and economic condition that may be created by this gap.

#### **<6> Coexistence with nature**

To prevent destruction of the ecological system by public works that place priority on efficiency, it is necessary to promote operations that give consideration to the environment, by trying to obtain consent of local residents.

In this viewpoint, the Land Improvement Law was revised to give consideration to the environment and was enforced from FY2002.

Figure 38 Condition of major living environment facilities (March 2000)

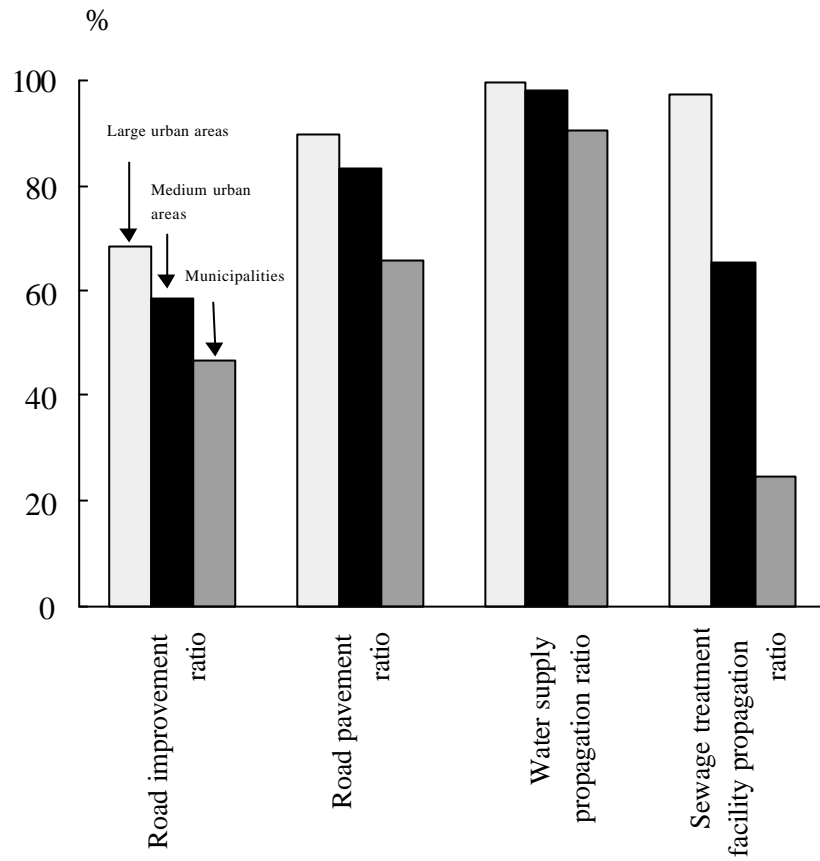
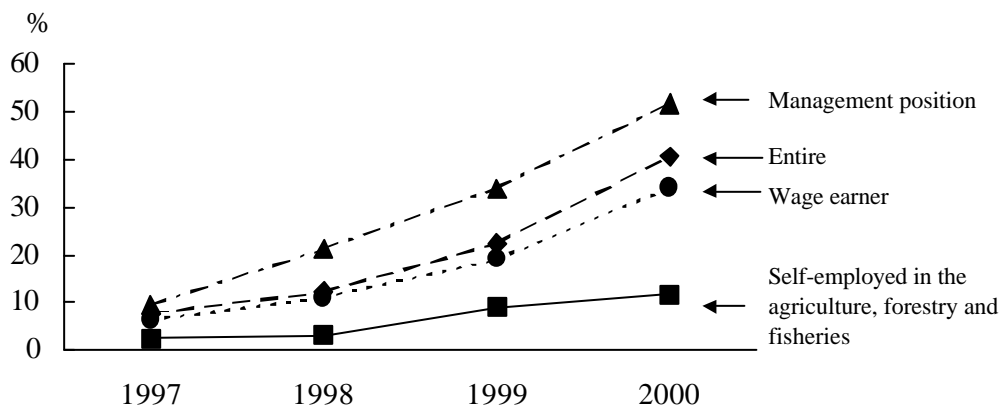


Figure 39 Transition of Internet utilization rate by occupation of the head of household



#### **(4) Concrete efforts for interchange between rural areas and urban areas**

<1> While the tendency of the nation towards "spiritualism" is becoming stronger, urban residents are aspiring "comfort" and "tranquility" to local resources of rural areas such as the rich nature and beautiful landscape. Residents of rural areas are placing high expectations on revitalization of interchange between urban areas and rural areas such as green tourism from viewpoint of regional development.

<2> Many urban residents intend to visit rural areas more often. The requirements vary over a wide range from leisure to deep involvement in agriculture and/or rural life.

Rural areas must provide various choices corresponding to such requirements. Therefore, it is important to establish a promotion system that local residents can make efforts such as improvement of projects using local resources and grasping the urban residents' needs and related organization supports their efforts.

<3> "Colaboration " is developed in many areas. "Colaboration " means that urban residents who are interested in farming experience and rural residents who wish to enhance regional conservation cooperate with each other.

To widely promote co-habitation and interchange between urban areas and rural areas as mentioned above, improvement of a support system for NPO, which is the center of the activities, is necessary.

<4> The agriculture in urban and surrounding areas produce about 40% of vegetables and flowers, and ornamental plants in value, and also play various roles such as formation of landscapes and providing opportunities for farming experiences. The efforts for the establishment of welfare plantations used for rehabilitation of the handicapped persons are also increasing.

Figure 40 Leisure activities in rural areas which urban residents wish to experience more in the future

