

Report regarding the progress status of studies and problems encountered in 2004, and proposals regarding the implementation of further studies.

(1) Studies on evaluation and food policies

1) Studies on the evaluation of agricultural, forestry and fishery policies

In 2004, as part of study related to farm income stabilization program, impact of payment of indemnities under the Japanese agricultural insurance programs on the rural economy was evaluated, and the single payment scheme in England was analyzed. As to regulatory impact analysis (RIA), overseas examples were reviewed. And RIA on the above-mentioned scheme in England was examined in detail. The outcome of the study was offered to the relevant government agencies. Moreover, results of the survey implemented for the planning of the farm income stabilization program were analyzed.

In 2005, analysis of farm income stabilization measures will be continued. A study on the evaluation of the food supply system including evaluation of medium- and long-term strategy for improving food self-sufficiency and mathematical examination of food-supply stability will start.

2) Studies on the evaluation of the environment for food, agriculture and rural area policies

In 2004, as the starting year of the project-type study on multifunctional roles of agriculture, a study was implemented on building an environmental accounting framework in agriculture, forestry and fisheries taking into account the environmental benefit of multifunctional roles. A study on the evaluation of various different measures to exert multifunctional roles was also begun. Moreover, a study on sustainable development of agriculture and livestock farming in arid regions of East Asia was implemented. In this study, subsidies for livestock that conserve grassland in China and the economic efficiency of livestock in Mongolia were analyzed. Moreover, environmental policies related to agricultural production and implemented abroad were surveyed, to help the relevant agencies to plan policies

in Japan.

In 2005, further investigation will be made in the project-type study on multifunctional roles, and contributions will be made to policy planning.

3) Studies on the causes of changes in international and domestic food supply and demand and on forecasting of food supply and demand

In 2004, demand for vegetables for processing and business use and its relationship with imports were analyzed. The result was used as basic data in planning by bureaus related to the project to supply domestic vegetables for processing or business use. A comparative analysis between Japan and Korea on the production and distribution structure of vegetables was begun, and trends in vegetable production in Korea were analyzed. Moreover, an analysis of food safety and an international comparison of agricultural production cost were carried out.

In 2005, analysis on the production and distribution trends of Korean vegetables will continue and comparison with Japan will be made. Additionally, an econometric study concerning the impact of trade measures relating to food and animal safety on the international trade structure and domestic food system will start as a part of new project-type study on food safety.

4) Studies on food consumption trends and on food consumption policies

In recent studies on food consumption, the focus of analysis is shifting to food quality in addition to quantity and prices, and safety is especially the most important factor of food quality. In 2004, as the last year of a study project on establishment of risk management system for food and agriculture, further study on the comparative analysis of food-safety policies focused on the current situation in food traceability abroad was made. Additionally, consumer unease about food safety was analyzed by implementing an attitude survey. Moreover, the impact of raw milk trade in East Asia, if such trade were to occur, was analyzed by incorporating consumer preferences for domestic products.

In 2005, under the new project-type study on the changes to the food system and trade structure produced by food safety needs, a

study on the cost-benefit evaluation system on the measures to secure food safety and a study will start on the current situation of the attitude to food safety and risk management in related industries and consumers constituting the food system.

5) Studies on the efficiency and the stability of food supply systems from production to consumption and on related policies

In 2004, the price-related policy of sugar was analyzed, to clarify the trends in benefits produced by the policy to such related industries as the agriculture and sugar industries, and costs charged to consumers and taxpayers. The results were offered to the relevant government bureaus. The food distribution costs, the price transmission structure of food system, and the auction theory on rice bid market were also analyzed.

In 2005, study on the food system will be pursued in closer connection with the above-mentioned project-type study on food safety. Analysis on the food distribution system and on the price transmission structure in the food system will continue.

(2) Studies on rural development policies

1) Studies on policies for the development of management structure and operation of agriculture, forestry and fisheries

Adding to research on new entrants to farming and on public farming corporations to date, the following studies have been carried out in 2004.

A study on improvements to management of “certified farmers”, a study on local reaction to “reform of rice policy” designed to shape the future of paddy farming, and prospects analysis of aged farmers’ retirement and of farm size changes have been examined. Additionally, research has been carried out on a project for the modality of agricultural policies that develop and support the leading pioneers of food safety and environmentally friendly agriculture.

A study on the reorganization of vegetable production areas coping with an aging farmer population, and with increases in vegetable imports has been undertaken.

2) Studies on policies for stabilizing farming, forestry and fishing communities and

for improvement in welfare for farmers, forest workers and fishers

Through investigation into the actual conditions, the following have been analyzed.

A study on the welfare functions of rural communities, such as public nursing care insurance for the elderly; and on cultural functions in rural areas, such as theatrical activities have been performed on an ongoing basis.

In 2004, a cultural function analysis of rural literature and rural artists, and investigation into activities of agricultural training were carried out. Additionally, analysis of local organizations’ contribution to rural socio-economic stability focusing on farmers’ cooperatives was also carried out.

In 2005, a study on the social significance of gardening as a remedy for patients, and a study on marriage problems and declining birth rates in rural areas will start.

3) Studies on policies for economic revitalization in farming, forestry and fishing districts, hilly and mountainous areas

In 2004, as a part of studies focusing on economic revitalization in hilly and mountainous areas, a statistical analysis of vanished agricultural communities have continuously been carried out, utilizing agricultural census data that shows the phenomenon is caused mainly by reduction of households in a community and that the cases of rural exodus are unusual.

On the other hand, a research project titled “Studies on policy of building-up various lifestyles and revitalizing rural areas” has been carried out, which investigated actual conditions of urban-rural exchange as follows.

The following studies were carried out: a study on characteristics of people who have newly entered rural areas from urban areas and support systems, and measures on a local level to promote newcomers’ settlement in Shimane prefecture; a study on farming volunteers’ activities in the suburbs of Tokyo; a study on various types of green tourism in some regions, and a nationwide investigation of accession conditions of schoolchildren in mountainous areas; and study on activities of direct agricultural marketing.

In 2005, these studies on urban- rural exchange will be systematized.

4) Studies on policies for the conservation and better use of resources in farming, forestry and fishing districts, hilly and mountainous areas

A case study on the behavior of non-agri-

cultural enterprises which have newly entered farming has continuously been conducted to confirm the effects of promoting utilization of abandoned farmland, including them in Special Zones for Structural Reform.

As the result in case of enterprises financed by a food service chain company, the following was found. They can easily communicate with the parent company on business policy, but on the other hand, it is rather difficult to cope with relatively high land rents in the area and to communicate with related people there.

Also, an econometric study on farmland prices has clarified that they correlate with farm earnings over the long-term, but those influencing channels are different from region to region.

In 2005, an estimation analysis on reduction of environmental impact using organic resources such as livestock manure will start. Also, a study will begin on methods promoting of environmentally friendly agriculture, which focus on distribution of technical knowledge and other related information from leading farmers to other farmers.

(3) Studies on international policies

1) Studies on the trend of international relations as to food, agriculture and rural areas and on international adjustment policies

As a part of the studies on the measures taken in the transformation of rural communities in developed nations, the movement of agro-environmental payment policies was investigated in the US. It clarified the role of non-profit organizations for those policies.

In addition, as a part of the studies on free trade agreements (FTAs) and economic partnership agreements (EPAs), information about Korea was gathered and analyzed. Also, recent information about WTO panels on US cotton policy and EU sugar policy and review of agricultural modernization law in France was broadly gathered and analyzed. The particulars and impacts of FTAs between the US and Australia were examined.

As a part of the analyses of international trends with respect to agro-biotechnology regulations, legal status of precautionary principle, some problems of reports that accuse precautionary principle and the transition of US control over vegetable protein resources and European oilseed policy were clarified. The AGLINK model developed by OECD was improved to make an econometric analysis of the

international trade impact of food accidents such as the BSE crisis.

2) Studies on the trends of food, agriculture and rural areas and policy direction in Europe

As a part of a research project titled "Study on rural revitalization policy taking account of changes in lifestyle", the trends of a new policy called the "general guidance system" for new entrants in France, the effects and problems of the LEADER program introduced by the EU as a rural development policy tool, and the population movement returning into rural areas in the US were analyzed. A new study on vertical development of the food production and distribution system under labeling regulation in the EU, especially in France, was initiated.

3) Studies on the trends of food, agriculture and rural areas and policy direction in the Americas and Oceania

The studies on Brazil were furthered and expanded into the analyses of the political impact on trade structure of agricultural products by reviewing the transition of agricultural policies and trade data in a time series. This analysis clarified that Brazil has been gaining negotiating power by reinforcing its agricultural export competitiveness since the 1990s, when it made its policies in this area more market oriented. As a part of newly started research project titled "Studies on international trends of conflicts and harmonization of agro-biotechnology policies under WTO system", information about policy development in the US, Brazil, and Australia was gathered.

4) Studies on the trends of food, agriculture and rural areas and policy direction in Asia and Africa

New research projects were started in 2004 as follows: an analysis of the structure of comparative advantage of agriculture and non-agriculture in China; a study on rural development policy and farm management in China; an investigation of structural changes of food trade and those factors in South East Asian countries; and a study on changes in food supply and demand in East Asia. Also, research on low-income food-shortage countries in Africa and South Asia revealed the mechanism of desertification caused by human activity, and examines policies to solve the poverty problem.

● Study on the Establishing of a Risk Management System for Food and Agriculture

Ensuring the safety of agricultural commodities and food products will be indispensable to meeting Japanese consumers' demands for a food supply that offers greater safety and peace of mind. However, the growing frequency and seriousness of threats to food safety in recent years, such as BSE, have aggravated concern among consumers and cast grave doubts on current systems and policies in the field.

The objective of this study is to apply social scientific methods to the questions of what approaches should be adopted to construct a new food-safety system, and what policy measures will be needed to that end. Specifically, cost-benefit analysis, input-output analysis, conjoint analysis, and other tools of economic analysis have been harnessed for the purposes of elucidating the mechanism whereby risks to food safety arise, and assessing the economic ramifications and impact of the resulting damage in numerical (monetary) terms. Food safety policies adopted in recent years by the developed countries of North America and Europe have also been examined, both through actual field surveys abroad and through scrutiny of relevant sources. During FY 2004, its final year, the study focused on the following two areas in line with the recommendations made by the external evaluation committee in the previous year.

(1) Economic analysis of risks to food-stuffs and agricultural commodities

In this area, two analyses were implemented.

First, an analysis (regulatory impact assessment) was performed on policies designed to curb cadmium absorption by rice. This involved examining the costs and benefits (the latter pertaining mainly to consumers' health) that would arise were standards for cadmium content in rice different from what they have been heretofore. An analysis based on data from food balance sheets and other sources was implemented by means of a Monte Carlo simulation; this led to the conclusion that there would be virtually no gain in health benefits from lowering the permitted level of cadmium in rice from 0.4 ppm to 0.2 ppm, as long as one accepts the current level of provisional tolerable intake.

Second, an analysis was performed on the

findings from several questionnaires on consumer attitudes to fears about food safety. From the results of a survey of some 2,000 respondents, it became apparent that the form that consumer fears take -- distrust of society, concern about the environment, and the like -- differs depending on such factors as what type of stores people use, their age, and where they live. The results of another survey, this one of slightly less than 800 subjects, revealed that, depending on the types of fears that people have about food safety, there are differences in such factors as sources of information, food preferences, level of social distrust, and susceptibility to slogans. These findings suggest that allaying such fears will require fostering smoother risk communication by developing ways to disseminate information that addresses these areas.

(2) Comparative analysis of systems and policies relating to food safety

In this area, Japan's beef traceability system was compared with those of other countries. Specifically, Japan and other countries were examined in terms of public-sector assistance to and regulation of beef traceability systems, how those systems are actually run, and voluntary measures by the food industry. Comparative studies were carried out in five areas: (a) the content and scope of legal regulations; (b) ID programs, labeling, quality assurance, and the like; (c) the scope of legal requirements; (d) the scope of the meat subject to the system; and (e) division of costs and functions among national and local governments, the private sector, and producers. As a result, it was established that although the content of legal regulations and the scope of legal requirements in Japan are largely the same as in the EU, Japan differs in that the public sector, including the national government, bears the cost, and huge sums are spent on quality assurance and prevention of mislabeling.

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● Research in Measures for the Revitalization of Rural Communities in Response to Lifestyle Changes

The aim of this research is to promote the revitalization of rural areas capable of addressing the diverse expectations of consumers and the general public through interchange between urban and rural areas. In this study, we elucidate the formation of diverse lifestyles, the move into rural areas, and an approach to the development of conditions for further promoting this while also clarifying its impact and effects on rural communities.

This research deals with the following two issues. Issue 1 is the elucidation of the formation of diverse lifestyles in rural areas, and measures for the development of conditions for regional revitalization. Issue 2 is comparative international research into the conditions for the formation of diverse lifestyles for the revitalization of rural areas.

Relating to Issue 1, in 2004 we analyzed the following: In the flow of population between urban and rural areas, a large proportion of interchange took place without changing residence or job. The following are key factors: A system to help receivers; networks of

new-comers and mutual understanding, for the migration to rural areas, starting farm management for the first time; and voluntary participation in agricultural work.

For Issue 2, firstly in France, it is effective policy to match the farmers without successors with non-farmer youth hoping to get agricultural jobs. Secondly, in the EU, the active participation of the inhabitants and others in planning is important for the LEADER program to develop local areas. Thirdly, in the US, the non-metro areas where the population increased remarkably in the 1970s and 90s, are not the 'rural areas' supposed generally in Japan.

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● Policy Analyses and Evaluations with Respect to Multifunctional Roles of Agriculture

This three-year research project intends to analyze and evaluate policy measures with respect to multifunctional roles of agriculture. This project is composed of the following three research areas:

- Studies on environmental accounting for agriculture
- Analyses of policy measures with respect to multifunctional roles of agriculture in developed and developing countries
- Case studies in Japan

(1) Studies on environmental accounting for agriculture

Environmental accounting is a tool to measure environmental activities from the cost-effect aspect. Although it is widely used in the manufacturing and service sectors, it is hardly used in agriculture. There are two types of environmental accounting for agriculture: micro accounting focusing on an individual farm, and macro or meso accounting focusing on a national or regional area.

Problems in applying micro accounting to a farm were clarified. Meanwhile, a new framework of macro or meso accounting, based on NAMEA (National Accounting Matrix including Environmental Accounts) was proposed.

Taking into account the multifunctionality of agriculture, this framework can measure the sustainability of agriculture as well as environmental cost and effect.

A case study on the "Sakanano Yurikago Suiden" project (project to enhance paddy field environment) in Shiga prefecture was conducted. The multifunctionality of paddy fields connected with irrigation networks, rivers and Lake Biwa were estimated quantitatively with respect mainly to the propagation effect of native fish which use paddy fields as spawning beds.

(2) Analyses of policy measures with respect to multifunctional roles of agriculture in developed and developing countries

Developed countries

In the mid-1980s, environmental payment (direct payment for environmental benefit related to agriculture) was introduced in European Common Agricultural Policy (CAP). It intended to solve problems caused by agricultural production growth, such as surplus of products and contamination of underground water by excessive nitrogen input. Originally, environmental payment was limited to Envi-

ronmentally Sensitive Areas (ESAs) and Less-Favored Areas (LFAs), but has been applied to all agricultural areas since the 1992 CAP Reform. From the Agenda 2000 Reform on, environmental payment is to be paid only to those farmers who respect the code of 'good agricultural practices' (GAPs). Actually, GAPs are determined by each EU member country, and differ from one country to another. Harmonization of GAP standards is on the agenda of the 2003 CAP Reforms.

In Germany, some federal states introduced environmental payment schemes in the early 1980s which subsequently became model cases for the EU environmental payment program. These were the MEKA program in the state of Baden-Württemberg and the KULAP program in the state of Bavaria (Bayern).

In France, the "Contrat Territorial d'Exploitation", which was intended to remunerate farmers for their provision of multifunctional services, was introduced by the 1999 Agricultural Orientation Law. 49,300 contracts had been signed as of 2003. After the change of the government, this system was transformed to the more modest "Contrat Agricole Durable" scheme.

Developing countries

We address the issue of multifunctional roles of agriculture in developing countries in relation to the maintenance and management of common pool resources (CPRs) such as local forest, irrigation facilities, and grazing land.

In China's Yunnan Province, rural labor forces required for the maintenance of CPRs are sufficiently provided for, with the result that the resources are well managed. This is due to the fact that Chinese rural societies are characterized by sedentary agriculture with few landless classes. On the other hand, rural people who have technical knowledge are be-

ginning to form autonomous organizations for CPR management in some villages where market mechanisms have penetrated or irrigation facilities have already been modernized.

The multifunctional roles of forest and grassland resources in India, Nepal, and China have recently been recognized, and policies to maintain them have been implemented through the introduction of institutions and subsidies. However, because of the incentive of free-riding, underinvestment in CPRs is still a problem in those countries.

(3) Case studies in Japan

Two questionnaire surveys were carried out in Yonezawa city, Yamagata Pref. The first one was to clarify the differences in the outlook on regional agriculture between farmers and non-farmers. It was found that the difference between them was quite small, and it was unanimously presumed that regional agriculture will decline in the future. It was also unanimously recognized that some support to farmers is indispensable in order to keep agricultural lands in good condition. The second survey was on environmental payment policy. The following two facts were found by the second survey. On the one hand, farmers preferred flat-rate payment to graduated payment. On the other hand, they wanted to choose farming methods with smaller risk even though they could provide a smaller income.

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● Studies on International Trends of Conflicts and Harmonization of Agrobiotechnology Policies under WTO System

The intention of the current research project is to analyze policy developments in major players and in international fora with respect to agricultural biotechnology and related areas, based on the achievements of the research project; the "Study on Overseas Movements Regarding the Development and Regulations of Genetically Modified Crops" (1999-2003).

(1) Policy Developments in Major Players

In the EU, two regulations were enacted in April 2004: Regulation (EC) No. 1829/2003 on genetically modified food and feed, and

Regulation (EC) No. 1830/2003 concerning the traceability and labeling of genetically modified organisms. Thereafter, the European Commission lifted its six-year old *de facto* moratorium by authorizing Bt11 (sweet corn) in May 2004. Currently, the most notable issue in the EU is the so-called coexistence measures among GMOs, Non-GMOs, and organics, which were deemed to be under Member Countries' jurisdiction. However, early adopters of coexistence measures, such as Denmark, Germany, the Netherlands, and Italy, have already shown greater differences in their approach to liability and compensation schemes. It is arguable that the context of each country's political

situation and farming structure are eventually reflected in these differences found in coexistence measures.

In the US, we can witness continuous expansion of acreage planted to GMOs. This trend is expected to continue, if GM maize with stacked trait is placed on the market in the near future.

In Australia, although the Federal Government issued a license for commercial cultivation of GM canola, most State Governments froze its commercial cultivation. As a result, conflicts between the policies of the Federal and State Governments emerged.

In Brazil, the Biosecurity Law that allows the commercial cultivation of GM products came into effect in March 2005. As a result, it is expected that the cultivation of GM crops will increase rapidly in Brazil in the near future.

(2) Policy developments in International Fora

The “precautionary principle” is advocated to deal with a risk of scientific uncertainty in the environment and food-safety sectors. Al-

though it is not recognized as a principle of general or customary international law, it now has some influence on policy decisions and interpretation or application of treaties, or rules of customary law.

Theses that theoretically criticized the precautionary principle were analyzed. From this analysis, the following results were clarified: first, the theses are theoretically inconsistent; second, along those theses, the problem of GM evasion in developed countries (especially the EU) is substituted secretly by food problems in developing countries.

Changes of trade flow of soy grain and soy cake to EU market were analyzed. Brazil recently became the leading supplier of soy grain to the EU market, in place of the US, because EU importers avoided problems arising from importing GM soy grains from the US. Meanwhile, Argentina is now the leading supplier of soy cake to the EU market in place of Brazil. This is because even though GM soy is widespread in Argentina, a number of EU importers preferred Argentina to Brazil as a supplier of soy cake for which controls are less stringent than for soy grain.

Table 1. Early Adopters of Coexistence Measures in the EU

DENMARK
* Adopted in June 2004. * Required to get license from government to grow GMO. * Required to take course to learn good farming practice. * Inform GMO planting site to neighbors and government. * Liability: 1) Compensation fund will be created. 2) Fund are provided by producers and government. * Crops considered: maize, beet, potato.
GERMANY
* Adopted in November 2004 (part of Gene Technology Act). * Pre-registration of production site (open to public). * Good farming practice will be set by government. * Liability: 1) No compensation fund will be created. 2) Joint and several liability for all GMO producers. * Precautionary Measures are emphasized. * GMO planting is prohibited in ecologically sensitive areas.
THE NETHERLANDS
* Agreement reached on November 2004. * Detailed regulations will be laid down by government. * Pre-registration of GMO producers and Non-GMO (including organic) producers. * Good farming practice will be set by government. * Liability: 1) Compensation fund will be created. 2) Fund is provided by GMO producer, registered Non-GMO (including organic) producer, and related industry. * Crops considered: maize, beet, potato.

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● Study on the Modality of Agricultural Policies that Develop and Support the Leading Pioneers of Food Safety and Environmentally-friendly Agriculture

To compete with imported foods, which are expected to continue to increase in the future, it is essential to distinguish the quality of domestic food from that of imported foods by: (1) strategically developing an environmentally-friendly agriculture that produces foods that satisfy consumers needs for safe and high quality food and the reduction of their burden on the environment; and (2) the rapid establishment and spread of traceability systems and Good Agricultural Practices (GAPs) that increase cost performance to earn the confidence of consumers.

The following is, therefore, an explanation of conditions and support policies that will encourage such farm management organizations.

(1) Environmentally-friendly agriculture

1) When asked about policy needs, the representatives of farm management organizations making pioneering efforts made many requests related to encouraging organic farming and promoting consumption as follows:

- a) The introduction of an organic food inspection and certification system will realistically promote the import of overseas organic agricultural products.
- b) Support should be given to policies that contribute to increasing competitiveness of domestic organic agriculture (e.g. direct payments).
- c) Development of organic agriculture production technologies by the national and regional governments.
- d) Projects to educate consumers about organic agricultural products that are safe and worry-free and that reduce the impact on the environment.

2) In the US and Germany, where water pollution by conventional agriculture has harmed the environment, farmers are practicing environmentally-friendly agriculture. In recent years, measures have been taken to expand organic agriculture in particular. This has steadily expanded the market for organic agricultural products. But on the other hand, differences between large-scale producers and

small scale producers (US), and between extensive cropping and intensive cropping (Germany) have resulted in gaps between these efforts.

In Korea, the Sustainable Agriculture Promotion Act has been established, and since 1999, the introduction of diverse direct-payment methods with this as their foundation method has rapidly increased the number of farmers cultivating new environmental agricultural products that have been labeled as authentic, as well as the volume of these products that they produce.

(2) Traceability

1) According to a questionnaire survey of producers, distributors, and consumers (Minister's Secretariat, Information Division, "Consciousness Survey of Production and Distribution of Vegetables"), there are large gaps between the need for vegetable production and distribution information and labeling provided to meet this need at different stages of the food supply chain, and this is important in the study of a traceability system. For example, although the information that consumers need is the name of the producing region, shipping date, safety and other certifications, cultivation method, use of agricultural chemicals, and date harvested, the ability of retailers to provide such information is extremely low except for name of producing region (Table 1). Additionally, although distributors themselves recognize the need to provide information, there is actually some information that they cannot provide.

2) In Korea, a pilot GAP project started in 2003 and a pilot traceability-system project started in 2004. A total of 21 product categories and 350 farmers are subject to traceability. GAPs are applied to 67 product categories. Such efforts in Korea are more closely linked to guidance by the government and other concerned organizations than they are in Japan, and another characteristic of Korea is that they incorporate strengthening export competitiveness.

(3) GAP related

In the US, the USDA, FDA and other concerned organizations have provided guidance in cooperation regarding appropriate farming methods encompassing cultivation, harvesting, packaging, and shipping and implemented certification programs and extension education programs (mainly at Cornell University) to promote Good Agricultural Practices (GAPs) since the Clinton administration, in order to prevent foodborne illness associated with fruits and vegetables, based on voluntary measures by producers etc.. By crop, it in-

cludes 140 farms or facilities for fruit, and 131 farms or facilities for vegetables. The fruits that they are applied to include many apples, peaches, pears, and oranges, and the vegetables they are applied to include many potatoes.

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Table 1. Necessary Information and Ability to Provide It

①Producer — ②Wholesaler		③Wholesaler — ④Retailer		⑤Retailer — ⑥Consumer	
Production region	◎	Production region	○	Production region	○
Standard	◎	Standard	◎	Shipping date	×
Content quantity etc.	◎	Variety	×	Certification of safety	×
Shipping date	○	Content quantity etc.	○	Variety	△
Variety	△	Shipping date	○	Cultivation method	▽
Use of chemicals	×	Address of producer	×	Use of chemicals	××
Cultivation method	▽	Cultivation method	×	Seller's name	×
Address of producer	△	Harmful substances	××	Date harvested	××

Notes: 1. The information in the table is the top eight pieces of information that the downstream distributors reported that they needed.
 2. The symbols in the table represent the percentages of the upstream distributors who responded that they could provide each information item: ◎ : 80% or more, ○ : 60% or more, △ : 50% or more, ▽ : 40% or more, × : 20% or more, ×× : less than 20%.
 3. The shaded items in the table are related to safety.

● Research Relating to Agricultural Trade Policies Under Changing Economic and Social Conditions

As the globalization of trade advances, in addition to the WTO, which provides means for multinational negotiations, a lively trend has appeared linking Free Trade Agreements (FTAs) and Economic Partnership Agreements (EPAs), which are bilateral negotiations. Japan has already formed an EPA with Singapore and has even completed the signing of an agreement with Mexico. It is also negotiating with Korea and the members of the ASEAN.

In order to contribute to the study of future agricultural policies in Japan, surveys and analyses of the negotiating positions of other countries, the state of their domestic agriculture, and their impact on Japan, are conducted, mainly with Korea and the member nations of the ASEAN—countries with which Japan is conducting FTA negotiations—at the same time as the response to the WTO of developing countries is analyzed. In 2003, surveys and analyses were carried out on the FTA-related countries of Korea and Thailand,

and the WTO-related countries of Brazil, China, and India. The following surveys and analyses were carried out in 2004.

(1) Korea

1) Economic growth and agriculture

In Korea, rapid growth driven by industrialization has continued since the 1960s, making this country a member of the industrialized nations, but this process was accompanied by the gradual decline of the agricultural, forestry, and fishery industries' share of its overall economy. The decline of the added value and share of total employment provided by agriculture has had a severe impact on the rise of labor productivity. The contribution of the labor equipment ratio and the land equipment ratio to the improvement of labor productivity is small, and it is explained almost entirely based on total factor probability. The causes are assumed to be technological reform achieved by the introduction of new species

and chemical fertilizers up to the 1980s and greater efficiency achieved by structural reform since that decade.

2) Vegetable production and trade

In Korea, vegetable production has risen steeply since the 1980s, but this growth of production is supported mainly by protected fruit-vegetable cultivation. Korea's agricultural trade balance is far in the red, but its trade balance with Japan is in the black, and of these, most of its exports are of fresh vegetables are fruit-vegetables. Ninety-percent of all exports of fruit-vegetables are destined for Japan. On the other hand, deregulation has increased imports of vegetables from China and the like, resulting in a domino effect: China → Korea → Japan with Korea in the middle (See 37p. Fig. 1).

3) Impact of the Korea – Chile FTA

This agreement, signed in February 2003, took effect in March 2004. It is predicted that it will sharply increase future exports by Korea to Chile. In the agricultural sector, although rice, apples, and pears – which were expected to be most harmful to Korea – have been omitted from deregulation, it is predicted that it will be severely impacted by orchard products, particularly protected grapes, kiwi fruit, peaches, and plums, etc.

(2) The WTO panels on US cotton and EU sugar

In 2004, the WTO announced panel decisions regarding US cotton policy and EU sugar policy. The points at issue in the two cases differ, but they are similar in that domestic subsidies act as export subsidies and constitute the breaking of commitments regarding export subsidies. Both the US and the EU appealed their cases to the Appellate Body, and its decisions are expected in the first half of 2005. US cotton and EU sugar are one of the most strongly protected products in each country, and their impact on the domestic and foreign policies of the two countries are the focus of interest.

(3) France's agricultural law

In response to the revision of the Common Agricultural Policy of June 2003 and progress in WTO negotiations, France began to revise Agricultural Orientation Law in autumn of last year, and will enforce a new law at the same time as it implements its unit payment system in January 2006. According to a report issued to the ministers of agriculture by the Basic Policy Committee in December of last year, it is assumed that the revision will be centered on the study of an interim vision of

agriculture that can be shared by all the people of France (role of agriculture, concept of farm management organizations, governance), risk management methods, provision of systems to respond to the increase in corporate organizations, review of structural regulations, roles of the central and regional governments, and methods of paying for environmental services, and that a bill will be submitted to the legislature in the second quarter of 2005.

(4) Impact of the US – Australia FTA

The process of the agriculture-centered negotiation of the US – Australia FTA that took effect in January 2005 and its economic impacts were analyzed. An examination of the particulars of the agreement predicts that it will give adequate consideration to products sensitive to the US, and a GTAP analysis forecasts that the abolition of tariffs based on the agreement will leave Australia's producers of sugar and dairy products with greater dissatisfaction than if the two countries had bilaterally eliminated all their tariffs. Because the abolition of tariffs was focused on tariffs on agricultural products and these account for a small part of their overall economies, the static effects of the abolition of the tariffs is not very great for either the US or Australia, and have very little effect on Japan and other third countries.

List of Research Members

Masato Ito, Kiyofumi Ishihara, Kayoko Kubo, Yasuo Watanabe, Ryuichi Fukuda, Atsuyuki Uebayashi, Fumiaki Suda, Junichi Shimizu, Sotaro Inoue, Yoshihisa Aita, Takeshi Sakurai, Toshitaka Katsuki, Gyunghee You, Motoyuki Goda, Junichi Ito, Yuichiro Takahashi, Tomoko Ichida, Shigenori Kobayashi, Katsuya Takahashi, Tomoo Higuchi, Yasutomo Kojima, Akihiko Sakashita*, Hiroshi Fukagawa* and Kyoung Koo Kang*

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● Development of a Policy Evaluation Method Regarding Regulatory Impact Analysis

Based on the Three-year Plan for the Promotion of Regulatory Reform and Opening of the Private Sector that was enacted by the Cabinet in March 2004, a trial of Regulatory Impact Analysis (RIA) started in 2004 as part of policy evaluation performed by Japan's various Ministries and government agencies. In Japan, there are few cases of RIA efforts, and almost none in the agricultural field in particular. Thus, development of such an analysis method is an urgent challenge.

(1) Survey of overseas RIA

Cases of RIA implemented in the US (USDA) and Canada (CFIA) related to work under the jurisdiction of the Ministry of Agriculture, Forestry, and Fisheries were collected. The purposes and particulars of the systems, the comparative study of alternative proposals, analysis of cost-benefits, and consultation are the same in all countries, with no substantial differences between them. Many include quantitative analysis based on presenting monetary amounts, but there were also a number of cases where qualitative analysis is done when it is difficult to quantify benefits, and in Canada etc. extremely simplified analyses are published.

(2) Study of RIA cases concerning the introduction of the single payment system in the UK

Prior to the introduction of the single payment method in 2005 (a decoupling direct-payment system whose introduction was decided by the EU CAP reform of 2003), RIA was carried out in the UK for a number of alternate proposals related to the design of the system. The study of the alternate proposals was carried out by means of a quantitative analysis of the impact of each proposal on farm management, including analysis for each form of management and impact on the cost of their implementation by the government, while the social impact and environmental impact were analyzed qualitatively.

(3) Development of evaluation methods

The Ministry of Agriculture, Forestry, and Fisheries responded to the Cabinet decision by announcing a Regulatory Impact Analysis in October 2004, but it was only a qualitative evaluation. To perform quantitative evaluations in the future, an evaluation method that can be used for the regulatory impact evaluation of specific regulations based on a comparatively simple method will be developed, but because selecting appropriate analysis cases was difficult, specific analysis and methods were not developed.

List of Research Members

Kunihisa Yoshii, Kayoko Kubo and Tetsuro Yakushiji

● National Research on Cost of Land-use Agriculture

A study of non-product-specific direct payments was carried out in preparation for the revision of the basic plan for new food products, agriculture, and agricultural villages. While direct payment was studied basically to close the gap between domestic and overseas costs considering production conditions overseas, comparative studies were carried out of the production costs in Japan's major overseas sources of wheat, soybeans, sugar beets, sugarcane, and the like that are products with conspicuous productivity gaps and that can be targeted by new farm management stabilization measures.

Because the US was the only place where land rents and labor costs are calculated using a method that is to a certain degree comparable to that in Japan, a comparison based on recurrent costs obtained by removing land rents and labor costs from productions costs

was done. Fig. 1. shows an example of an international comparison of soybean production costs. In Hokkaido, the cost of producing 1 kilogram is from 10 to 20 times as high as it is in the US and Brazil. Although not as great as soybeans, a gap in production costs of wheat and commercial-use white potatoes of more than double has been observed. And even in the US, where sugar beets and sugarcane productivity is higher than in Japan, it is internationally a high cost as both a raw material and as a product.

In the case of the US, major crops including wheat, soybeans and the like are in the black when only the recurring costs are deducted from the income, but when they are analyzed based on production costs counted in capital interest, land rent, the agricultural incomes of almost all farmers, including operators of large-scale farms, are in the red. Therefore,

huge government payments have supplemented their earnings and incomes. The government payment share of receipts and income from grains and oil seeds is particularly high, and on average, the cash agricultural income of farm families whose major crop is wheat would have been in the red in 1999 and 2001, if they had not received government payments.

List of Research Members

Kunihisa Yoshii and Atsushi Tanaka.

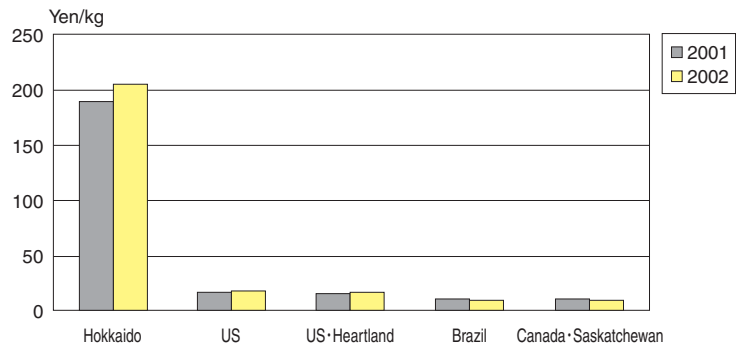


Fig. 1. Production Cost (excluding land rent & labor cost) of Soybeans

Source: Ministry of Agriculture, Forestry and Fisheries, Japan, USDA/ERS, Government of Saskatchewan, Canada

● Economic Analysis Relating to Sugar Price Policy

In the face of a demand for a prompt and appropriate response to a study of non-product-specific measures to review the Basic Plan for Food, Agriculture and Rural Areas, the following research was performed to contribute to the analysis of the cost-benefit effects of the domestically produced sugar subsidy system.

In order to clarify the income-related effects of the domestically produced sugar subsidy system on regional economies, an inter-region input-output table was used to measure the induced net production of sugar beets, beet sugar, sugarcane, and cane sugar.

When the citizen's financial burden required to operate this system (taxpayers' share and consumers' share) was calculated, and considering the ratio of the two to be the cost-benefit effects, changes in the B/C ratio from 1990 to 2002 were observed, clearly resulting in a rising tendency although there were fluctuations according to the sizes of the yields of raw materials.

Sugar production trends on isolated islands of Okinawa Prefecture where input-output analysis cannot be performed have been statistically studied, revealing that the importance of sugar and sugar related industries to the overall economic activity of Okinawa Prefecture has already declined, but they are still very important, particularly on some islands where sugarcane is produced without major alternative crops.

Direct planting of sugar beet has both the advantage in cost and disadvantage in unit yield compared with transplanting culture. Therefore, direct planting has both positive and negative impacts on the income of sugar beet farmers. This paper empirically analyzes the total effect of the introduction of direct planting on consumers, taxpayers, the market and farmers. In addition, it examines the total effect corresponding to various speeds of its in-

roduction because the total effect depends upon the speed of its introduction. The empirical analysis shows a certain speed of its introduction in next 20 years needed to reduce the public burden. At the same time, it shows a certain speed at which each farmer is required to expand their planted area annually in order to prevent a significant negative impact on the average income of sugar beet farmers.

List of Research Members

Tetsuro Yakushiji, Yasutomo Kojima, Sotaro Inoue and Atsushi Tanaka

List of the Research Subjects

Name of Subject	Name of Researcher
1. Studies on evaluation and food policies	
(1) Studies on the evaluation of agricultural, forestry and fishery policies	
Study on economic impacts of farm income stabilization programs in US, Canada, EU and Japan	Kunihisa Yoshii, Tomoko Ichida
Study on development of methods for the Regulatory Impact Assessment (RIA)	Kunihisa Yoshii, Kayoko Kubo, Tetsuro Yakushiji
(2) Studies on the evaluation of the environment for food, agriculture and rural area policies	
Studies on environmental accounting for agriculture	Motoyuki Goda, Takashi Hayashi, Atsushi Tanaka, Yoshifumi Takahashi
Analyses of policy measures with respect to multifunctional roles of agriculture	Motoyuki Goda, Takashi Hayashi, Hiroki Sasaki, Atsushi Tanaka, Junichi Ito, Shunji Oniki, Tomoko Ichida, Takeshi Fujie, Fumiaki Suda, Takeshi Sakurai
Policy analysis on sustainable development of agriculture in the arid regions of East Asia	Shunji Oniki, Shuang Xi
(3) Studies on the causes of changes in international and domestic food supply and demand and on forecasting of food supply and demand	
Economic analysis on food safety and risks	Taiji Yoshida, Kayoko Kubo, Kunihisa Yoshii, Yuichiro Takahashi, Junko Kinoshita, Yuki Suzuki, Tomoo Higuchi
Demand and Supply analysis of vegetable by items	Toshitaka Katsuki, Shigenori Kobayashi
A comparative study of vegetable production and distribution between Japan and Korea	Toshitaka Katsuki, Shigenori Kobayashi, Gyunghee You
(4) Studies on food consumption trends and on food consumption policies	

Name of Subject	Name of Researcher
Comparative study on institutions and policies for food safety	Tomoko Ichida, Hiroshi Kondo, Shoichiro Kawahara
Economic analysis of dairy product pricing for the GATT/WTO system in Japan	Junko Kinoshita
(5) Studies on the efficiency and the stability of food supply systems from production to consumption and on related policies	
Economic analysis of Japanese food distribution system	Tetsuro Yakushiji
An empirical analysis of price transmission system in the Japanese food industry	Yasutomo Kojima
Economic analysis relating to sugar price policy	Tetsuro Yakushiji, Yasutomo Kojima, Sotaro Inoue, Atsushi Tanaka
Institutional design on auction market of paddy rice using experimental economics	Tetsuro Yakushiji, Hiroki Sasaki, Yasutomo Kojima
2. Studies on rural development policies	
(1) Studies on policies for the development of management structure and operation of agriculture, forestry and fisheries	
Study on the modality of agricultural policies that develop and support the leading pioneers of food safety and environmentally-friendly agriculture	Kyoichiro Adachi, Yoshihiko Aikawa, Yoshihisa Aita, Katsuya Takahashi, Kiyofumi Ishihara, Akio Yamamoto, Kenichi Atsuta, Koichi Sato
A study on regional reactions to new rice policy	Takaaki Watanabe
Studies on retirement of farm workers born in the 1926-1935 period	Tsutomu Matsuhisa
(2) Studies on policies for stabilizing farming, forestry and fishing communities and for improvement in welfare of farmers, forest workers and fishers	
A study of welfare, cultural and social functions in agriculture and rural society	Yoshihiko Aikawa
(3) Studies on policies for economic revitalization in farming, forestry and fishing districts, hilly and mountainous areas	
Clarification of the co-operatives' roles for revitalization of rural economy	Osamu Chiba

Name of Subject	Name of Researcher
Studies on policy of building-up various lifestyles and revitalizing rural areas	Tomoaki Ono, Osamu Chiba, Toshitaka Katsuki, Yoshihiko Aikawa, Tsutomu Matsuhisa, Noboru Hashizume, Akira Egawa, Gentaro Suzumura, Takeshi Fujie, Koichi Sato, Takaaki Watanabe, Yoshihisa Aita
Studies on the necessary condition for continuance of rural community and management of farmland resource in hilly and mountainous areas	Noboru Hashizume
(4) Studies on policies for conserving and the better use of resources in farming, forestry and fishing districts, hilly and mountainous areas	
Case studies for nonagricultural business organizations' entry into farming	Tomoaki Ono
Time series analysis of farmland price using longitudinal data	Takeshi Fujie
3. Studies on international policies	
(1) Studies on the trend of international relations regarding food, agriculture and rural areas and on international adjustment policies	
Study on the adaptation process of rural communities to social change in developed countries	Masashi Tachikawa, Fumiaki Suda, Tomoko Ichida
Studies on agricultural trade policies under changing socioeconomic conditions	Masato Ito, Kiyofumi Ishihara, Kayoko Kubo, Yasuo Watanabe, Ryuichi Fukuda, Atsuyuki Uebayashi, Fumiaki Suda, Junichi Shimizu, Sotaro Inoue, Yoshihisa Aita, Takeshi Sakurai, Toshitaka Katsuki, Motoyuki Goda, Junichi Ito, Yuichiro Takahashi, Tomoko Ichida, Shigenori Kobayashi, Katsuya Takahashi, Yasutomo Kojima, Tomoo Higuchi, Gyunghee You

Name of Subject	Name of Researcher
Analyses of international relations with respect to agribiotechnology policies	Masato Ito, Yasuo Watanabe, Koichiro Akashi, Fumiaki Suda, Norio Fujioka
Quantitative analysis on the economic effect of the reform of the agricultural policies in the main countries	Atsuyuki Uebayashi
(2) Studies on the trend of food, agriculture and rural areas and policy direction in Europe	
International comparative study on conditions for building-up various lifestyles and for revitalizing rural areas	Masashi Tachikawa, Tomoko Ichida, Fumiaki Suda
Socioeconomic analysis of quality identifying arrangements for agricultural products: case study of France	Fumiaki Suda
(3) Studies on the trend of food, agriculture and rural areas and policy direction in the America and Oceania regions	
Clarification of the trading structure of agricultural commodities and trends in Brazil	Junichi Shimizu
Analyses of social and economic factors with respect to agribiotechnology policies	Yasuo Watanabe, Fumiaki Suda, Junichi Shimizu, Masashi Tachikawa, Tsukasa Chiba
(4) Studies on the trend of food, agriculture and rural areas and policy direction in Asia and Africa regions	
A study of the comparative advantage of Chinese economy	Junichi Ito
A study on the movement of agricultural and rural policies and farm management in China	Shoichiro Kawahara
Changes and driving forces in the food trade of Southeast Asian countries	Sotaro Inoue
Research on change of food demand and supply in East Asia Area and food trade trend that concern with the situations	Yoshihisa Aita
Fragility of the Sahelian farmers and soil degradation: A consideration of policy intervention	Takeshi Sakurai
Studies on policies for poverty alleviation by the enhancement of agricultural productivity in low-income, food-shortage countries	Takeshi Sakurai