# Research Exchanges

## Research Cooperation

**Joint research planning with the Korea Rural Economic Institute**

Joint research with the Korea Rural Economic Institute (KREI) was implemented by means of a questionnaire composed of multiple-choice and descriptions for farmers. The research consisted of the farmers' views on agriculture itself and on the direct payment policy in hilly and mountainous areas. The former study included comparisons among Japan, Korea and the U.K., the aim of which was to clarify the characteristics of views on agriculture, environment, life and agricultural policy. Through the latter study researchers attempted to clarify differences regarding what Japanese and Korean farmers think of various aspects of the influence on agricultural structure, core farmers, environment and way of implementing policies and to finally induce the characteristics of Japan's and Korea's paddy field direct payment policy as a whole.

The study in Korea was attempted by Gyu-Cheon Lee, KREI researcher, in collaboration with Tomoaki Ono and Yoshihisa Aita, PRIMAFF researcher, as well as You Gyunghee, PRIMAFF Science and Technology visiting researcher. The study in Japan was attempted in two towns each in Akita and Tottori prefecture, in cooperation with Masanori Matsuoka, professor of Akita University, and Yoshinori Ikemoto, assistant professor of Hiroshima International University. The U.K. study was implemented by a U.K. research institution. The research was implemented by making use of the PRIMAFF budget for the "Rural Economy Revitalization Project".

**The heads of three institutes of agricultural economics for China, Korea and Japan met in Tokyo, in March, 2003.**

The second Leaders' Conference of World Agricultural Policy Institutes for the year 2002 was held in Chicago. In order to promote their research activities, leaders from many institutes met there and discussed sincerely and freely about strategies and evaluation methods for research, human resource management, cooperation with administrative sections and so on. It was clearly recognized that each institute feels very strongly the necessity of international exchange of information and research activities. As we have been making an effort in that field, we invited the heads of two institutes of China and Korea in March, 2003. Three heads discussed about and agreed to future collaboration in research activity and decided that a joint seminar of the three countries will be held every year.

## Exchange of Researchers

### 1) Overseas Activities

**A report on staff currently overseas on assignment, those on assignment from overseas, and their activities**

# Pleasant Work in the OECD


## Ryuichi FUKUDA

Trade and Market Division, Directorate for Food, Agriculture and Fisheries, OECD


OECD (Organization for Economic Co-operation and Development) and PRIMAFF realized a program of exchanging their researchers for enhancing interaction. I am a researcher sent to OECD from PRIMAFF. I joined the Trade and Market Division in the Directorate for Food, Agriculture and Fisheries in 2003, and am engaged in improving 'AGLINK' which is a famous econometrical model that is able to project the world agricultural commodity markets in the medium-term. I am trying to improve the feed demand module in AGLINK which plays a very important role for world food demand projection.

There are about ten staffs in total in the division that works on AGLINK. Forecasting the commodity market with AGLINK is the most important work for us, as mentioned before, and maintaining and updating AGLINK is important work as well. We publish our analysis results in

"Agricultural Outlook" and so on. AGLINK is such a large econometrical model, with thousands of equations and variables, it should require a collaboration of researchers. The country module now extends even to non-OECD member countries, such as Argentine, China, and Brazil. Moreover EU enlargement may require the model be enhanced for countries more than now. As a matter of course, my work of improving the feed module requires to holding frequent meetings with my colleagues. It is important to keep good communication with each researcher to utilize AGLINK.

The jurisdiction of Saint-Emilion in France, the world heritage, inscribed in 1999.





## 2) Visiting Researchers

### You, Gyunghee*

(Rural Economies Section, Department of Rural Development Policy; January 1, 2001 ~ December 31, 2003)

I contributed a scientific thesis to the *AGRICULTURAL MARKETING JOURNAL OF JAPAN* in 2002. It was published in December 2002 (Vol.11 No.2, Serial No.56) as a result.

I want to explain some of the content of the thesis.

First of all, the title of the thesis is as follows.

**Analysis of the Japanese black calf data in the Hokkaido Tokachi cattle market: From the viewpoint of market correspondence with the elucidation of the price formation factor.**

The purpose of this paper is to analyze price formation factors of the Japanese black calf.

Therefore, the analysis method used quantification methods on analytical data of the Tokachi market in Hokkaido, which consisted of trade results for one year, a total of 7318 head.

The Results were summarized as follows.

1. The effect of body weight and bull is the biggest price formation factor of the Japanese black calf.
2. For expensive sales, optimum semen in which security and body weight are efficiently increased, is important.
3. In the future, cooperation from not only individual farmhouses but also the public is urgently required in order to effectively utilize the above result.

*Japan Society for the Promotion of Science (Domestic Research Fellowship)

## Shuang Xi*

(Supply and Demand Analysis Section, Department of Food Policy and Evaluation; January 1, 2002 ~ December 31, 2004)

In recent years, desertification is progressing in the arid region of Northern China, and the yellow sand generated as a result is blown to the Korean Peninsula and also Japan. The desertification of the northern part of China, especially the Loess Plateau and the Mongolia Plateau, not only threatens the lives of the local residents, but is also very harmful to agricultural and livestock production, living conditions and health in the neighboring regions and countries. Appropriate prevention measures are called for.

Up to now, research on desertification has concentrated on natural science fields, such as the soils and grassland sciences. In fact, at the heart of the desertification problem in China are the social and economic issues of the rapid shift to a market economy, and poverty in the frontier regions. However, social and economic fields remain almost untouched in desertification research.

I am researching the grassland desertification problem of the Inner Mongolia Autonomous Region of Northern China, where desertification has been progressing the most.

*Japan Society for the Promotion of Science (Domestic Research Fellowship)

## Wyatt Thompson*

(International Affairs Section, Department of International Policy; July 1, 2002 ~ December 31, 2003)

**Some Practical Implications of Group Expenditure in Almost Ideal Demand System Estimation (3.11.2003: # 1916)**

Almost Ideal demand systems have been applied for several decades as a useful estimation technique for demand analysis. In particular, this structure offers consistency with certain theoretic properties derived from utility maximization while at the same time presenting researchers with a feasible set of equations. However, recent papers have raised serious questions about the role of group expenditures, which have traditionally been held exogenous in AI system estimation and analysis. This seminar focused on some of the practical implications of varying assumptions about the group expenditures. These included the estimation of parameters, the calculation of elasticities, and the theoretic consistency of the results. An example of how improper application of an AI model can mislead researchers was drawn from a quick analysis of the shift in Japanese beef demand following the BSE crisis. Some revisions to the work, particularly with respect to some of the data and the treatment of wagyu beef, have been undertaken based on useful comments by participants during the meeting.

*Organization for Economic Co-operation and Development

# Attendance at International Conferences and Researches Abroad, etc.

| Name | Affiliation | Function | Place of Assignment | Period of Assignment |
|---|---|---|---|---|
| Takashi Shinohara | Director General | Agricultural symposium on the 30th anniversary of normalization of diplomatic relations between Japan and China | China | 26th June 2002 - 29th June 2002 |
| Takashi Shinohara | Director General | Attendance at World Agricultural Economic Research Institute Directors' Meeting, etc. | Germany, Czech, Italy, Norway | 22nd September 2002 - 3rd October 2002 |
| Takashi Shinohara | Director General | Meetings with FAO agricultural committee and OECD | Italy, France | 30th March 2003 - 5th April 2003 |
| Takeshi Nishio | Deputy Director General | Attendance at World Summit on Sustainable Development (WSSD), 4th Standards Committee | Indonesia | 1st June 2002 - 9th June 2002 |
| Junichi Shimizu | Department of Research Planning and Coordination | Survey on the demand trend for Brazilian soybeans | Brazil | 23rd November 2002 - 15th December 2002 |
| Ryohei Kada | Policy Research Coordinator | Attendance at meeting for the Project to Analyze the Socioeconomic Role of Agriculture | Italy | 30th June 2002 - 5th July 2002 |
| Ryohei Kada | Policy Researc Coordinator | Survey on state of food safety policy and the OECD food safety research project | France, Belgium, UK | 19th October 2002 - 2nd November 2002 |
| Tetsuya Nakata | Policy Research Coordinator | Assigned as agricultural function specialist | Myanmar | 25th August 2002 - 1st September 2002 |
| Tetsuya Nakata | Policy Research Coordinator | Assigned as agricultural function specialist | Myanmar | 17th November 2002 - 23rd November 2002 |
| Mitsuyasu Yabe | Department of Food Policy and Evaluation | Assigned as agricultural function specialist | Vietnam, Laos | 12th May 2002 - 20th May 2002 |
| Mitsuyasu Yabe | Department of Food Policy and Evaluation | Assigned as agricultural function specialist | Vietnam | 6th August 2002 - 11th August 2002 |
| Mitsuyasu Yabe | Department of Food Policy and Evaluation | GMO project research; local survey in UK and Germany | UK, Germany | 20th October 2002 - 30th October 2002 |
| Mitsuyasu Yabe | Department of Food Policy and Evaluation | Assigned as agricultural function specialist | Philippine | 3rd November 2002 - 9th November 2002 |
| Kentaro Yoshida | Department of Food Policy and Evaluation | Attendance at OECD task force on Agricultural Policy/Markets (APM) | France | 20th May 2002 - 25th May 2002 |

| Name | Affiliation | Function | Place of Assignment | Period of Assignment |
|---|---|---|---|---|
| Kentaro Yoshida | Department of Food Policy and Evaluation | Local survey related to the creation of food/agriculture crisis management systems | USA | 23rd July 2002 - 2nd August 2002 |
| Shunji Oniki | Department of Food Policy and Evaluation | Econometric research survey related to nomad grazing and grassland desertification | Mongolia | 6th July 2002 - 27th July 2002 |
| Shunji Oniki | Department of Food Policy and Evaluation | Econometric research survey related to nomad grazing and grassland desertification | China | 29th August 2002 - 21th September 2002 |
| Tomoko Ichida | Department of Food Policy and Evaluation | Survey on comparative analysis of institutional construction regarding rural development policy planning | Germany | 8th September 2002 - 16th September 2002 |
| Kyoko Sato | Department of Food Policy and Evaluation | Survey on state of risk communication practices in USA | USA | 24th February 2003 - 6th March 2003 |
| Tomoaki Ono | Department of Rural Development Policy | Survey on rural communities in disadvantaged areas of Korea | The Republic of Korea | 15th October 2002 - 18th October 2002 |
| Hitomi Nakamichi | Department of Rural Development Policy | Local survey for spontaneous development and environmental protection in agricultural mountain villages | Romania, Italy | 20th August 2002 - 10th October 2002 |
| Motoyuki Goda | Department of International Policy | Assigned as agricultural function specialist | Cambodia | 27th February 2003 - 2nd March 2003 |
| Keiichi Ishii | Department of International Policy | Survey on the role of community in policies for agricultural promotion | France | 13th October 2002 - 27th October 2002 |
| Takashi Okae | Department of International Policy | Research on system for shifting to a market economy in Vietnam | Vietnam | 28th February 2003 - 27th February 2005 |
| Masashi Tachikawa | Department of International Policy | Attendance at research meetings and local surveys on revitalizing rural communities | Canada | 24th October 2002 - 6th November 2002 |
| Masashi Tachikawa | Department of International Policy | Local surveys in China for GMO project research | China | 1st December 2002 - 7th December 2002 |
| Fumiaki Suda | Department of International Policy | Local surveys regarding regional promotion of rural communities through the promotion of regional specialty production | France | 23rd February 2003 - 23rd March 2003 |

## Research Seminar

### 1) Onigiri Omusubi* Kondan-kai (Brown Bag Lunch Seminar)

The "Onigiri Omusubi* Kondan-kai" is a lunchtime research seminar held at the Institute's branch office at Kasumigaseki with the objective of providing opportunities for frank discussion on various issues related to agriculture and agricultural policy. During fiscal 2002, research professionals, farmers, and other speakers were invited to deliver lectures, which were as follows:

○ 10th April 2002
"Agriculture in Indonesia"
Reported by H. M. Ishaka (Agricultural attaché, The Embassy of Indonesia)

○ 18th April 2002
"Agriculture in the United States of America"
Reported by S. K. Hale (Agricultural attaché, The Embassy of the USA)

○ 31st May 2002
"Policy Research for WTO Negotiation Strategy"
Reported by Nobuhiro Suzuki (Associated professor, Kyusyu University)

○ 8th July 2002
"Korean National Agricultural Co-operative Federation's Marketing Strategy under the WTO Agreement"
Reported by Kazuko Yamamoto (Journalist) and Takeyoshi Maeda (Deputy Director, Agricultural Promotion Division, Central Union of Agricultural Co-operatives)

○ 4th October 2002
"The Possibility of Indigenous Evolution of Agribusiness"
Reported by Osamu Saitou (Professor, Chiba University)

○ 1st November 2002
"Mid- and Long-term Forecasting of Food Consumption under Aging: A Cohort Analysis"
Reported by Hiroshi Mori (Professor emeritus, Sensyu University)

○ 16th December 2002
"Understanding Variable Evolution of Farm Management Organizations: Formal and Substantial Aspects"
Reported by Sirou Inamoto (Professor, Kyoto University)

○ 7th January 2003
"Can Japanese Fisheries Survive ?: Current Situation of the Production Structure of the Fisheries Industry"
Reported by Katsuji Hiroyoshi (Professor, Hokkaido University)

○ 6th February 2003
"Mid-term Global Food Supply and Demand Projection: FAO's Operation"
Reported by Koji Yanagishima (Economist, Economic and Social Department, FAO)

○ 21st February 2003
"Resource Management in the EU Fisheries Industry: Development of By-catch Prevention Techniques"
Reported by Yasuzumi Fujimori (Assistant, Hokkaido University)

○ 10th March 2003
"Promoting Regional Agriculture Through the Tea Industry"
Reported by Katsuya Hata (President, Yamasen Company Inc.)

○ 13th March 2003
"Food Safty and Reliability in Milk Production and Marketing"
Reported by Yukitoshi Ide (President, Ide Dairy Farm Company Inc.)

*Onigiri and Omusubi are rice balls and a typical Japanese food for outings.

○ 20th March 2003
"Women's Role in Farming"
Reported by Kanae Ueno (Farmer, Takisawa Village, Iwate Pref.)

○ 24th March 2003
"About Food Safety & Reliability and the Role of Media"
Reported by Yasuhiko Nakamura (Visiting Professor, Meiji University)

○ 28th March 2003
"Agriculture in the Island of Okinoerabu: Flower Production Strategy and Environmental Conservation"
Reported by Seiichirou Wakita (Farmer, Watomari Town, Kagoshima Pref.) and Isamu Oofuku (Director, Economic Division, Watomari Town Government, Kagoshima Pref.)

## 2) Summary of the Research Conference

**Summary of the research conference with guests from foreign countries**

### A Hedonic Price Analysis of Agricultural Prices in England and Wales

**David Maddison**
Invited Researcher
2002. 4. 4

With the hedonic approach, farmland price differentials are held to be indicative of underlying productivity differences. Data charactering over 400 separate transactions in farmland in England and Wales in 1994 are analysed, and the marginal value of particular farmland characteristics is computed. The analysis indicates that climate, soil quality and elevation are all important characteristics, in addition to the structural attributes of farmland. It is found that landowners are unable to costlessly 'repackage' their land and that regulated tenancies have farm values. Some doubt is cast on the accuracy of professional valuations performed by land agents.

### (A)Marginal Cash Market Behavior
### (B)Optimal Land Conservation at the Rural-Urban Fringe with Positive and Negative Agriculture Externalities

**(A) Hikaru Hanawa**
**(B) Jeffery M. Peterson**
Kansas State University
2002. 5. 28

In the first presentation trade behavior in a marginal cash market was analyzed for the U.S. egg industry. In 2001 approximately 750 producers supplied 230 million cases but 60 producers supplied 95% production and only 5% were available in the open market. Egg Clearinghouse, Inc. (ECI) established in 1971 traded 80% production in the open market.

The Multinomial Discrete Choice Model was used to estimate which factors affect the trade behavior in producers and buyers. Explanatory variables were operation type, production type, egg type, quality, lag between trade and delivery and price expectations. The results show that a marginal cash market allows quantity risk management in a contract-dominated market, that product specification which meets trader's needs is critical to success, that scale affects trade behavior, and that price expectations affect trade behavior.

In the second presentation a theoretical model of land development was considered and a social efficient development pattern was solved for optimal land conservation at the rural-urban fringe with positive and negative agriculture externalities. Simulation results showed that the optimal development tax was $730 per acre. Also in the unregulated equilibrium, land was developed later than optimal planning and negative externalities evidently outweighed positive ones.

## Policy Making: From Farmer-Orientation to Consumer-Orientation; The Experience in the Netherlands

**Gerrit Meester, Prof. Dr.**
Policy Advisor to the Ministry of Agriculture, Nature Management and Fisheries of Netherlands
2002. 6. 26

In response to the changing environment that surrounds agriculture in the Netherlands, the Government of the Netherlands published a report, titled "The future of livestock industry in the Netherlands". It made an analysis of where the problems were, and made an outlook towards a sustainable livestock sector. In the report, emphasis was made on topics such as the environmental problem of manure, animal welfare issues, food safety, the ongoing internationalization of food, etc., which the agriculture of the Netherlands needs to tackle. All these topics come from the viewpoint of the consumers. Especially, the importance of traceability from producer to consumer, the clear distinction in the area between intensive and extensive livestock production, and the role of extensive livestock farming for the maintenance of the rural community, are described in the report.

## The Significance of Renewable Energy in Germany

**A. Heissenhuber**
Professor of Muenchen University of Technology
2002. 10. 7

There is an increasing interest in utilizing biomass energy among advanced countries. Their main concerns are the following two points: to decrease consumption of fossil energy and to reorient agricultural policy in order to increase non-food production. The consumption of renewable energy is now less than 10% in Germany. In Europe the sources of renewable energy are biomass (52%), water (27%), and wind (11%). Recently the cultivation of oil seeds for energy has increased. Especially non-food rape seeds are planted in agricultural land and land that has been set-aside as well. The CAP subsidizes oil seeds planting by paying 350 euro per hectare. In addition the oil tax is exempted for diesel oil from oil seed. As a result, consumers can buy diesel oil cheaper than that of fossil origin by about 1 euro per liter. Supported by this program, the sale of bio-diesel was 7 million hectoliters in 2001 compared to 1 million in 1997. Now there are more than 800 diesel stands in Germany. The laws regulating disposition of organic wastes have been in place since 1994, when comprehensive laws regulating wastes in general were enacted. After 1998, landfill disposal of organic wastes has been strictly controlled, and some laws to promote renewable energy production were enacted in 2000.

Besides bio diesel, biogas production has been accelerated during the last decade. The raw materials for it are animal manure, residues of food processing and used oil. The number of biogas plants was a little more than 400, but today they work in 1600 different places. The situation described above shows the new direction of agricultural practice and a new step in energy production other than fossil resources.

## Korean Agricultural Policies after the Establishment of the WTO

**Ang Ing-Chang, Prof. Dr.**
Visiting Research Fellow to the University of Ibaraki
2002. 11. 13

Rice has been regarded as the core product of Korean agriculture. Further, special treatment of rice was accepted in the WTO agreement, wherein Korea was exempted from the duty of tariffication, but Korea had to set a minimum access quota of 1 to 4 per cent of total domestic consumption. As a result of this quota, the government of Korea was confronted with an accumulated stock problem. Therefore, the government abolished the purchase of rice, and from the year 2003 introduced direct payments to farmers who cooperated in setting aside paddies.

However, the introduction of setting-aside paddies might have the side-effect of preserving small-scale farmers, thereby preventing the structural change in the Korean agricultural sector.

The direction which Korean agricultural policies should take, is the one that is clearly targeted

at the demand side, but consideration of the supply side should not be forgotten. A well-balanced combination of these two elements might open a new path for Korean agricultural policies.

## Agricultural Policy in China after Joining WTO

**Keming Qian**
IAE/CAAS
2003. 1. 24

China carries out green box policy, yellow box policy and blue box policy, which are applied to developing countries as agricultural policies prescribed by the WTO. The main agricultural policies that China adopted as green box policies from 1996 to 1998 were general government outlay for increased production, a supplement for stable supply and a subsidy to farmers for abolishing earnings differentials. Compared with other countries, China spends larger sums of money on general government outlay and supplement for food stock, which is connected with increased production, but spends small sums of money on fairness and stability. Economic development is remarkable, but the difference between urban areas and farm villages is expanding in China.

When verifying about green box policies put succinctly, the order is science and technology promotion, education for farm villages, the servicing of infrastructure and investment in farm production. When looking at actual investment in public utilities, the ratios of the pace of simultaneous expansion, when actually measured, were servicing the infrastructure, educating farm villages, and promotion of science and technology in the opposite order. The reason for this is that there is a delay before the outlay connects with profit in the fields of science and technology and education. This is because these take time. Because external effects occur, the effect of the investment in these isn't readily evaluated. Because time delay and outside-ness aren't conspicuous in the servicing of infrastructure, there is the side that the investment becomes popular.

When attempting to analyze efficiency by the partial equilibrium analysis, using research investment in which the return on the investment is the maximum as an example, it was found that the difference between the ideal investment effect and the actual effect is big, and there is little research investment in agriculture. As for the causes, the repartition of public goods and private goods is not definite in the economic structure in China, allocation of resources inside the central government and local governments is not rationally accomplished, and problems in the commonweal exist.

## In Searching for an Environmental Course of Agricultural Development in China

**Liu Guangming**
Division of Macroeconomic Studies, Research Center for Rural Economy, Ministry of Agriculture
P. R.China
2003. 2. 18

In China the main focus of Chinese agricultural policy appears to be on the production side. In fact the Chinese government has made a great effort to arrange resources, social systems, and social needs for that purpose, and this has had a considerable result. However, due to strong environmental concerns it has also implemented agricultural policy which is targeted both at structural reform and balancing rural and urban developments along with a mid-term social development policy. One of the typical policy measures is the re-forestation policy, which converts agricultural land with steep slopes back into forest.

Farmers are paid when they comply with the conditions this policy requires, so that they can be better off to a certain degree. In this sense, it is a policy against poverty.

Although it was accepted by many regions and the Chinese government intends to continue it, there are many difficulties with its promotion, for instance financial restrictions, equal opportunity and so on.

## Poverty Analysis in Tanzania: Micro-Simulation Analysis

**Kiyoshi Taniguchi**
Agricultural Sector in Economic Development Service, Food and Agriculture Organization of the United Nations (ESAE/FAO)
2003. 3. 4

In Tanzania, rural livelihood of different groups of the population is little known. The purpose of this study is twofold: clustering rural households according to livelihood and conducting micro-simulation to investigate the changes in poverty incidence and welfare. In this study, we utilize the 2000/01 Tanzanian Household Budget Survey. We first identify a vulnerable group according to asset holding; in order to do so, we utilize the *k-means* cluster analysis. In the cluster analysis, we particularly focus on gender, educational attainment (human capital), and access to financial as well as social capital. Second, we utilize the Almost Ideal Demand System to estimate consumption function according to the household typology defined above; the results will be used to derive the compensating variation welfare measure. Finally, applying the micro-simulation technique, we analyze the changes in household-level welfare under a new equilibrium, reflecting changes in prices, wages, and educational attainment. We also investigate in poverty incidence. From the results, we can identify a vulnerable group as well as the magnitude of the change according to a policy regime change. Since this sequence of the models has never implemented before, the results will be intriguing for researchers as well as policy makers.