Annual Report of JDS Program in Department of Bioresource and Bioenvironmental Sciences Graduate School, Kyushu University

Vol.8 (2010)

1. Introduction

Japan's Grant Aid for Human Resources Development Scholarship (JDS) Program is to provide opportunities for academic research at Japanese higher educational institutions under the Grant Aid assistance by Government of Japan. The objective of this program is to support the respective Government in its efforts to facilitate its own plans for human resource development mainly for capacity building and institutional building, and thereby extend and enhance the bilateral relationship with Japan.

The JDS Program targets young government officers for public sector, researchers, business people and others with the potential to play leadership roles in their specialties after return to each country as well as to become leaders in their homeland in the 21st century.

The JDS Program started in the Graduate School of Bioresource and Bioenvironmental Sciences, Kyushu University in 2001 and 32 students have graduated for those five years. In the 2008 school year, the graduate school has a total enrollment of 20 JDS students (11 of first year and 9 of second year students). They belong to the International Development Research Course. The JDS students are also studying in their laboratories for preparing of their Master thesis and attending the lectures conducted in English.

Scientific tour for JDS students was started in December 2003. The aims of these tours are to promote a greater understanding of policy, circumstances and technologies of Japanese agriculture. This annual report contains the scientific tour reports and research or campus life reports from JDS students.

2. List of JDS Students

Name	Nationality	Major Subject	Supervisor
Vongphachanh Souphinh	LAO PDR	Environmental Life Economics	Mitsuyasu YABE, Professor
May Lwin Oo	Myanmar	Environmental Life Economics	Mitsuyasu YABE, Professor
Khin Me Me Ko	Myanmar	Agricultural Policy	Shoichi ITO, Professor
Nilar Aung	Myanmar	Agricultural Policy	Shoichi ITO, Professor
Aung Ko Latt	Myanmar	Farm Management	Teruaki NANSEKI, Professor
Yin Lon	Myanmar	Farm Management	Teruaki NANSEKI, Professor
Nan Khine Su Thwin	Myanmar	Food Industrial System Analysis	Taiji YOSHIDA, Professor
Pham Van Tra	Vietnam	Food Marketing	Susumu FUKUDA, Professor
Bounthavy Khamphone	LAO PDR	Forest Policy	Noriko SATO, Professor
Ong Thi Anh Phuong	Vietnam	Microbial Genetics	Toshihisa OHSHIMA, Professor
Hoang Van Nam	Vietnam	Plant Genetics	Hikaru SATO, Professor
Pham Hieu Thi	Vietnam	Bioresources and Management	Keiji TAKASU, Assoc. Professor
Lay Lay Nwe	Myanmar	Plant Pathology	Kenichi TSUCHIYA, Professor
Kyaw Min Tun	Myanmar	Insect Natural Enemies	Masami TAKAGI, Professor
Yee Yee Myint	Myanmar	Insect Natural Enemies	Masami TAKAGI, Professor
Tran Huong Thi	Vietnam	Crop Science	Mari IWAYA-INOUE, Professor
Souphonphaacdy Daovinh	LAO PDR	Environmental Life Economics	Mitsuyasu YABE, Professor
Vanisaveth Viengpasith	LAO PDR	Environmental Life Economics	Mitsuyasu YABE, Professor
Nguyen Kien Duc	Vietnam	Agricultural Policy	Shoichi ITO, Professor
Xayyamonh Saleumsackd	LAO PDR	Environmental Soil Engineering	Masami OHTSUBO, Professor

3. Overview of International Development Research Course

The Graduate School of Bioresource and Bioenvironmental Sciences regards the role of agricultural sciences to overcome issues related to global food and the environment and to contribute to worldwide progress in maintaining a stable supply of food and materials, conservation of the environment, and promotion of health and welfare. To fulfill this, the School includes leading researchers and specialists highly knowledgeable in the fields of life science, environmental science and socio-economics.

The International Development Research Course aims to build on the capacity of the above fields for international students from developed and developing countries whose aim is to contribute to worldwide sustainable development. The Master's program emphasizes the acquirement of synthetic and practical abilities.

4. Description of the Program

Students will be awarded the Master of Science (M.Sc) on completion of a satisfactory thesis. Students are also required to complete a four-semester course over a two-year period. The course consists of lectures, practicals, seminars, and tutorials. Students must obtain 30 credits with a minimum pass grade of 60 %.

5. Qualification Requirements of Applicants for JDS student (Master's Course in 2010)

Note: As for further information, you should refer to guidelines for JDS applicants and the application form of the course.

(1) **Academic Requirements:** Academic Requirements: Applicants must hold a Bachelor's degree (or equivalent) awarded by a postgraduate school outside Japan or expect to receive a Bachelor's degree by September 30, 2010.
(2) **Health:** Certified as both physically and mentally healthy by a qualified and recognized physician.
(3) **Language:** Non-native English speakers must possess a sufficiently high official English qualification such as TOEFL, TOEIC, or the Cambridge Certificate.

6. JDS Scientific Tour

To disseminate knowledge and information on agricultural technologies and politics, JDS scientific tour was carried out as follows:

Date: May 22 (Sat), 2010 (AM9:00 - PM5:00)
・Planting Rice in Tanada Patty Fields (Ukiha town, Fukuoka)

7. Reports from JDS Students

Vongphachanh Souphinh

Consumers' preference toward organic glutinous rice attributes

During two years of my study at Kyushu University. First of all, I would like to express my sincere thanks and appreciations to Professor Mitsuyasu Yabe and Assistant Professor Goshi Sato at the Laboratory of Environmental Economic, Faculty of Agriculture of Kyushu University for his supervision, valuable times, useful guidance and helpful comments for my study. My thankfulness goes to all Professors in the Department of Resources Economics, Faculty of Agriculture of Kyushu University for providing significant lectures and valuable knowledge during my two years of study at Kyushu University.

My deepest appreciation goes to the Japanese International Cooperation Center (JICE), Japanese International Cooperation Agency (JICA) and the Lao Ministry of Education for providing me a good opportunity to be one of JDS student to study at Kyushu University.

The Summary of Thesis

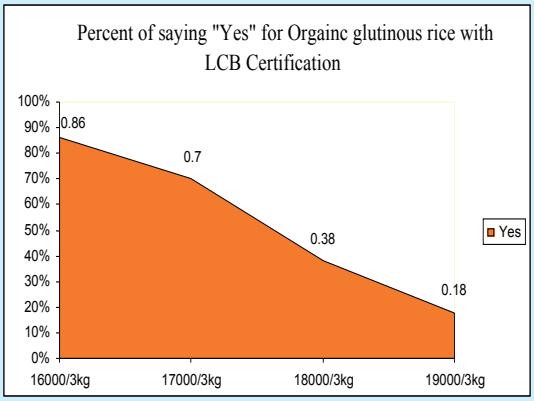
Biotic and Socio-Economic issues are mainly the constrained factors which affect on rice production in Lao PDR. In order to help farmers solve these problems, clean agriculture or organic agriculture has been identified as one of the agricultural development strategy which aims not only to improve living standard, income, welfare of rural farmers and protect bio-diversity, but also to promote and to develop organic farming industry for export in the future. The development of locally based certification has also been identified as one of the marketing development strategies that expect to control food safety and protect consumers' health and producers' production.

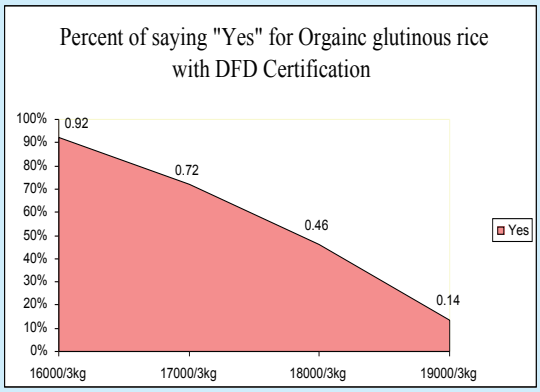
In organic agriculture, rice is one commodity that is potentially developed for both white rice and glutinous rice. Since glutinous rice is the main rice eaten in Lao PDR; it accounts for about 80 to 90 percent of population on rice consumption. It has had relation with culture and traditional activity for a long time. Thus, introduction of organic glutinous rice and locally based certification to domestic consumers is a kind of organic rice farming promotion and it is a challenge for organic producers to consider which characteristic of organic glutinous rice that would be preferred for domestic consumers and which certification is the most beneficial for the organic glutinous rice production. Increasing knowledge for domestic consumers on organic agriculture and certification system is also one of the issues that should be considered since the organically growing method and certification system are new concept for Lao people.

In this study, 201 samples were collected in Vientiane capital, Laos. At first, respondents were asked about awareness and knowledge on organic rice and locally based certification system in Laos. The result shows that more than half of respondents know about organic rice through media meanwhile locally based certifications (LCB and DFD certifications) are not well known among respondents and their trustiness on those certifications is not so high. Then, respondents were asked dichotomous question to vote "Yes" or "No" to pay 3 kilogram of organic glutinous rice with LCB and DFD certifications at a 4 different bid price. In the current market price, 3 kilogram of organic glutinous rice was sold at 1.5 thousand kip. However, the result of Logit model of the study reports that respondents have higher positive willingness to pay for 3 kilograms of organic glutinous rice with LCB and DFD certifications,

their willingness to pay for organic glutinous rice with LCB and DFD are 17.67 and 17.81 thousand kip per 3 kilograms respectively.

Eliciting Mean WTP for organic glutinous rice with LCB and DFD certifications





The result of Conditional Logit Model shows that respondents preferred SOFT, AROMATIC, Organic glutinous without certification, Organic glutinous rice with LCB and DFD certifications, and this study also reveals that between Organic glutinous rice without certification and Organic glutinous rice with LCB and DFD certifications, respondents preferred the organic glutinous rice with LCB and DFD certifications to the organic glutinous rice without certification. This study also eradicates that ASC_1 (organic glutinous rice packaged by farmer group) and ASC_2 (organic glutinous rice packaged by millers) were not important and not affect respondents' purchasing choice.

Estimated result of conditional logit model for each attributes

Variables	Coefficient	St. Error	P-value
ASC_1	0.982^{ns}	0.866	0.2567
ASC_2	0.831^{ns}	0.856	0.3321
AROMA	0.413**	0.117	0.0004
SOFT	0.509**	0.11	0
ORGWT	0.705**	0.21	0.0008
LCB	2.106**	0.182	0
DFD	1.793**	0.175	0
PRICE	-0.121*	0.05	0.0166

Note: ** and * indicate statistically significant from zero at 1% and 10%, respectively, ns indicates insignificant

Estimating Marginal Willingness to pay for Organic glutinous rice attributes

Variables	MWTP(Thousand KIP)	95%C.I*	
		Lower	Upper
ASC1	ns	-	-
ASC_2	ns	-	-
AROMA	3.42	0.61	6.24
SOFT	4.23	0.78	7.67
ORGWT	5.85	1.81	9.86
LCB	17.47	5.13	29.81
DFD	14.88	4.25	25.45

Name-May Lwin Oo

If we think about the day we came to Japan, all of us feel like yesterday. But, it's been already more than two years and we will graduate in a few months. Moreover, this is the last opportunity for us to write a few lines in the annual report of JDS program. So, I wish to acknowledge everyone concerned throughout my graduate study. First and foremost, I would like to express my deepest gratitude to my professor, Dr. Mitsuyasu YABE for providing me the invaluable suggestions and his guidance throughout the study. I am also grateful to my assistant professor; Dr. Goshi SATO.I would also like to express my sincere thanks to Japan International Cooperation Center (JICE) for the financial support throughout the JDS program. Eternal thanks go to the persons who concerned with the JDS program, JDS committee members from the University, my mother department (Department of Agricultural Research) and Ministry of Agriculture and Irrigation, Myanmar for giving this great opportunity to study in Kyushu University, Japan. Finally, I would like to extend my special thanks to my seniors, my colleagues, many friends and acquaintances who helped me and I've know two years in Japan.

I would like to introduce the summary of my research, **"Farmers' Perception, Knowledge and Pesticide Usage Practices on tomato production, Inlay Lake in Myanmar"**

Pest and disease infestations are a common occurrence in agricultural production. The use of synthetic pesticides in agriculture is the most familiar way to minimize potential crop yield loss due to pest and disease. While pesticides have increased agricultural production, the extensive use of such pesticides could also be detrimental to human health and the ecosystem. Adequate knowledge on how farmers perceive pests, their attitude, beliefs and practices to crop protection problems also requires to implement successful pest control programs.(AJAYIA, O., 2000)The use of pesticide is largely directed by self behavior and it is important to know what drives farmer's voluntary behavior of pesticide use. (Muhammad, K., 2009)

Prolonged monoculture system and weather condition is favoring pest and disease in Inlay Lake. Tomato floating islands were severely attacked by fungal diseases resulting in high yield losses during 1994 and 1995. (Khin H.Y., 1995) It is an unavoidable for the farmers in Inlay Lake to use chemical pesticides for crop protection. Steve B. & Myint S. (2001) concluded that the current pesticide use must be changed to protect the health of the residents. Therefore, farmer's knowledge and perception on pest and pest management, pesticide use practices, and the factor affecting pesticide usage are required to know.

The research was designed to study farmers' knowledge and attitude on pesticide, pest and pest management and their practices on pesticide usage. The research also attempts to find out the determinants of farmers' perception on pest related yield loss and the factors affecting pesticide usage by tomato farmers in Inlay Lake.

130 tomato farmers were randomly selected from 12 villages and face to face interview was conducted in Inlay Lake which situates in Southern Shan State of Myanmar with the aid of structured questionnaire. For data analyzing, descriptive statistics and multiple linear regression were used for the specific objectives.

According to the descriptive results, there were over 50 kinds of pesticides in different commercial names applied by tomato farmers. Most of pesticides found in the study are moderate hazardous II under WHO hazard category. 66.2% of farmers perceived that pests and diseases are increasing over the time. Most respondents perceived that pesticide is important in tomato production and complained that they couldn't continue the crop production without pesticide. In concerning with recommended pesticide dosage, 26.2% considered as under dosage. Farmers' knowledge based on the awareness of pest enemies and alternative pest management, even though only 40.7 % of farmers knew pests have enemies, they could not tell very well the kinds of pest enemies. Concerning on knowledge of IPM, while 80% of the respondents never heard about IPM, most of the respondents knew pesticide hazards. Although farmers knew pesticide hazards, only 86.9% of them always use protective things while spraying pesticides. The common protective accessory is nasal mask. Most respondents never wait at least 12 hours to enter in the field after spraying. As inappropriate practices, some respondents had experienced pesticide poison in the past. Training experience and advice from extension service on pest management and pesticide issues was very minimal in the study area. The regression results also showed that farmers' attitude on pesticide requirement, farmers' education and extension service are the major determinants of farmers' yield loss perception and the main factors affecting on the value of pesticide use were tomato cultivated area, farm experience, extension service and training experience.

Finally, it can be concluded the overall study results that farmers' knowledge on pest enemies and IPM was minimal in the study site and farmers were mainly dependent on pesticides with the lack of non-chemical alternatives. Although most farmers became aware of pesticide hazards, inappropriate practices caused possible poisoning symptoms. Concerning pesticide and pest management information, most of respondents got information from pesticide sale persons; some farmers followed their neighbors' advice. Based on the overall conclusions, there have been some recommendations .First; farmers should be educated on knowledge of pest and pest management, proper pesticide handling and safety measures. It also has to encourage the village pesticide retailers and the key farmers by participating the training sessions in order to disseminate and share the right information. Although training experience and advice from extension service on pest management and pesticide issues was minimal in the study area, the regression results have also been showed that training experience and extension have a discouraging effect on pesticide use levels. This indicated that if farmers can be educated by providing the relevant information on pest problems and pesticide issues via training sessions and extension service, the pesticide negative externalities will reduce with remaining crop productivity. Therefore, government should afford training sessions and extension service to the farmers.

Khin Me Me Ko

Laboratory of Food and Agricultural Policies

My studies here would not have been successfully completed if it had not been for the valuable contributions and

collaborations of the following people.

Firstly, I would like to express my sincere gratitude to Professor Dr. Shoichi Ito, my academic adviser; Professor Dr. Hiroshi Isoda, and Professor Dr. Andreas Neef who have supervised and guided me during the whole period of my study. Moreover, I am extremely thankful for their previous time, advice, supervision, encouragement, guidance and other efforts which made the completion of this possible. Secondly, I am deeply indebted to the Japan International Cooperation Agency (JICA) and the Ministry of Agriculture and Irrigation of Myanmar for providing me with the invaluable opportunity through the Japanese Grant in Aid for Human Resource Development Scholarship (JDS). If it had not been for this golden chance, I would never have realized my dream of accessing such a great study program at the internationally recognized Kyushu University. And, my deep thankfulness also goes to the Japan International Cooperation Center (JICE) for their support during my two-year stay in Japan. I also acknowledge my regards to all of the JICE staff for their kind assistances in assuring my comfort during my stay and studies in their wonderful land of Japan. Finally, I am deeply thankful to my colleagues, both in my motherland and my international friends, especially students, my dear friends and staff in my laboratory.

Regarding my research study entitled ***"Competitiveness of the United States and Thailand Rice Exports in Selected Importing Countries"***, I would like to show briefly the overall picture of what I have studied.

I. Introduction

In the international rice market, the major exporters compete each other to capture their markets; therefore, it becomes the field of competition. Competitiveness is ability of an exporter to achieve the market share in the international market versus its competitors and several factors involved in it, of which the price is the key factor. According to Kravis & Lipsey (1971), in terms of market shares, increasing relative prices of a country, which depends on the elasticity between exporters and other countries, competitiveness, may go up or down. Indeed well known measure of international competitiveness combine relative price and quality. Moreover, Ito (1991) described that "Competitiveness depends on several factors of which price competitiveness is only one" (p 17).Turning to the world rice export, it has increased since 1981. The U.S. and Thailand rice market share accounts approximately 50 percent of the world total export. However, they compete one another to hold their markets. As for the importing nations; they may favor goods from specific country as a result of trade agreement, quality, price, and trade policy. Of six selected designation markets, market share of the U.S. is higher than that of Thailand and of the other four markets; the U.S. is much lower than Thailand in the rest. This trend reflects that the U.S.'s competiveness in global rice export was lower than Thailand's. Realizing the key factors of competiveness between the two is the main strategy to maintain and/or increase the U.S. market share in the global rice markets. The purposes of the paper are to identify the key factors underlying competitiveness of the U.S. and Thailand in selected importing countries and to find out a measure of price responsiveness and importers' preferences as well as market share stability for rice import from the U.S. and Thailand.

II. Materials and Method

Using the data from the United Nations Commodity Trade Statistics Database based on the calendar year, this study was conducted between 1981 and 2008 by employing the linear regression method. To capture the effect of agreement and EU trade policy, two dummy variables were applied in the model depending on the importing countries.

III. Empirical Results and Discussions

The relative price coefficients have the expected negative sign for all importing countries. Market share elasticities support this study in measuring the responsiveness towards relative prices and budget expenditures. Therefore, elasticities of market share were calculated based on the estimated empirical results (Table 1). Nigeria and ROW have relatively large price elasticities. It can be interpreted that the consumers in Nigeria and ROW are very high responsiveness in relative price. With respect to the budget expenditures coefficients, the positive and negative signs are plausible in this model.

Table 1. Elasticities of the U.S. rice market share

Selected countries	Relative Price	Budget Expenditure
Italy	-0.331	0.682
France	-0.651	0.055
Netherlands	-0.581	0.531
United Kingdom	-0.259	0.121
Spain	-0.641	0.031
Japan	-0.149	0.195
S. Korea	-0.432	0.752
Saudi Arabia	-0.142	0.422
Nigeria	-2.01	-1.16
ROW	-0.831	-0.111

Compared with the study of Ito (1991), although other selected importers are not so much different, in Netherland market, relative price elasticity and budget expenditure elasticity changed from (-1.28) to (-0.58) and (-0.256) to (0.531), respectively. It can be explained that consumers' preferences in Netherland shift from Thailand rice to the U.S. rice because of economic growth of this country. In contrast, Nigeria not only keeps preferring Thailand rice to the U.S. but is more responsive to relative price as well. This can be interpreted by this analysis of which the result for Nigeria showed that relative price elasticity remarkably went up from (-1.485) in 1991 to (-2.013) in 2008 while budget expenditure elasticity shifted from (-0.162) to (-1.16) in the same period. It is probably due to low economic growth of this developing country, Nigeria. However, the study did not thoroughly examine other less developed countries owing to the data availability. It is also our limitation. To sum up, this study found that selected importers' preferences shift towards the U.S. rice.

IV. Conclusions and Policy Implications

The overall results conclude that selected rice importers are sensitive to the traditional variables: relative prices and budget expenditures. For EU countries, the dummy for Liberty Link crisis in late 2006 has negative impact on the U.S. market share and significant level except Italy. All this taken together suggest that the U.S rice was less competitive than Thailand rice in the international market in term of relative price in importing countries.

As the world moving more free trade, price will be considered for the U.S. rice exporters. Therefore, the results imply that firstly, the U.S. rice exporters and policy makers need to give additional consideration to relative prices and importers' import policies. Secondly, to regain market share of the U.S. in selected EU countries, the U.S. has to issue the new regulation to ban LL601 link product and finally for the importers who are sensitive to relative price and to change in budget expenditure, engaging the trading partners for the U.S. rice export is the strategy to increase the United States rice market share.

Nilar Aung

1. Introduction

International rice trade is a thin market but rice is critical to the diet of about half of the world's population. There are many exporters and importers in rice market. Most of the major rice exporting countries are developing countries such as Thailand and Vietnam. Export price of rice is important not only for exporting countries but also for importing countries. Thailand has been one of the largest rice exporters in the world since the middle of the 19th century. The 1980s were a decade devoted to liberalizing the rice policy; the Thai government more or less withdrew from the domestic market and let the world market determine the domestic rice prices. Thailand is very open to trade in rice; the domestic prices are largely dictated by the world market prices and the exchange rates to some extent (Forssel, [2]).

From being a chronic importer of rice in the 1980s Vietnam has transformed itself to the world's second largest rice exporter after Thailand in the late 1990s. The United States and Thailand are exporting rice to the same market, e.g. Japan and Saudi Arabia. Therefore, the United States are a major competitor of Thailand in the rice market. Vietnam and India are exporting rice to the same markets, for example the EU 27, and export quality of rice is not so different. Therefore, India is a major competitor of Vietnam in the rice market. Export price was marked by a downward trend from 1996 to 2001 but it was recovering from 2001 to 2007 (Fig. 1).

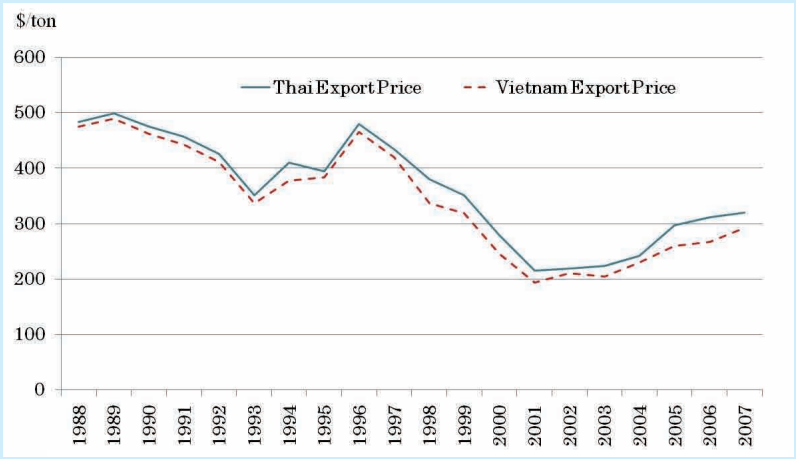


Figure 1. Thailand and Vietnam Export Price (1988-2007)
Source: Ito (2009) "World Food Statistics and Graphics", http://worldfood.apionet.or.jp

World stocks-to-use ratio is showing a declining trend from 2001 to 2007 (Fig. 2). Stocks-to-use ratio of world and Asia is nearly the same because almost 90% of world production and consumption is in Asia. Most of the decline was driven by stock decreases in China, however. The declines in stocks-to-use ratios for the world without China were much less rapid and the ratios did not reach particularly low levels before, or even during, the world food crisis. Although China's demand does influence world markets, it makes sense to analyze the stocks data without China because China is a relatively small player in world grain markets and because China's stocks management does not appear to influence or be influenced by world market trends (Dawe, [1]). Although Dawe holds that stocks did not have an important effect on the evolution of the world food crisis, exporting countries banned their export volume except the United States and Thailand because they were concerned about their food self- sufficiency when rice prices tripled from November 2007 to late April 2008. Therefore, this paper is an attempt to understand the effect of stocks-to-use ratio on rice export price in major exporting countries.

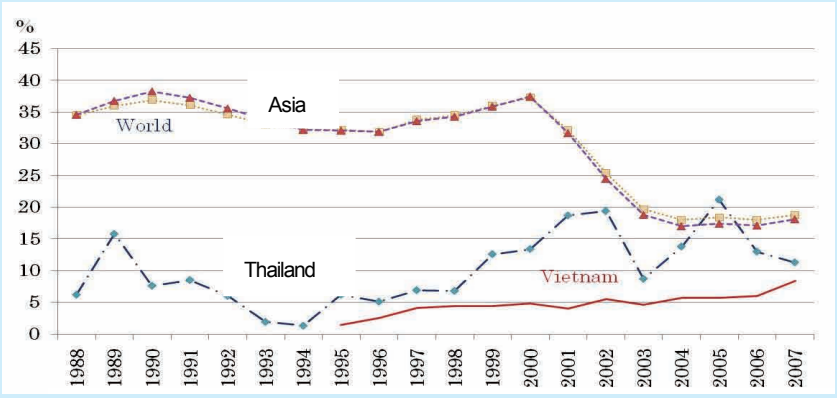


Figure 2. Stocks-to-use ratio (1988-2007)
Sources: Ito (2009) "World Food Statistics and Graphics", http://worldfood.apionet.or.jp

Most of the major rice importing countries are oil exporting countries. Jayne (1993) said that rice imports of Nigeria, Iran and the Middle East were shown to be quite sensitive to oil price. There is a market linkage between rice and petroleum. Therefore, the question is what are influencing rice export price in major exporting countries. This paper was done to answer this question. The objective of this paper is to determine some factors affecting rice export prices in major exporting countr ies.

2. Methodology

1) Data collection

Annual data of rice export prices and stocks-to-use ratio in Thailand and Vietnam, export volume of US and India, crude oil price were collected from 1988 to 2007. Rice export prices are 100% B f.o.b price for Thailand and 5% broken f.o.b price for Vietnam. Crude oil price is average price of crude oil from OPEC. Rice export prices and world crude oil price were

deflated with CPI.

Rice export prices and stocks-to-use ratio in Thailand and Vietnam, export volume of US and India were collected from website of World Food Statistics and Graphics, (http://worldfood. apionet.or.jp). Prices of crude oil were collected from website of HISTORY OF ILLINOIS BASIN POSTED CRUDE OIL PRICES, (http://www.ioga.com). Published statements issued by the United States Department of Agriculture (USDA), Food and Agriculture Organization of the United Nations (FAO), International Rice Research Institute (IRRI) and other sources related to the subject of study were used to collect information.

2) Data analysis

Multiple regression analysis was used with rice export price taken as the dependent variable and stocks-to-use ratio of respective country, world crude oil price and export volume of competitor taken as independent variables.


3. Results and discussion

According to the result of the analysis, stocks-to-use ratio of the respective country, world crude oil price and export volume of competitor may be strong factors influencing rice export prices in major exporting countries. The coefficients are shown in Table 1; in Thailand, if stocks-to-use ratio increases by 10%, export price of rice will decrease by 1.8%. If crude oil price increase by 10%, export price of rice will increase by 2.7% and if export volume of the United States increases by 10%, export price will decrease by 12.3%.

In Vietnam, if stocks-to-use ratio increases by 10%, export price of rice will decrease by 5.4%, if crude oil price increases by 10%, export price of rice will increase by 4.9% and if export volume of India increases by10%, export price will decrease by 3.4%. All of the estimated elasticity are inelastic except elasticity of US export amount for Thailand export price. The estimated elasticity of US export amount with respect to the Thailand export prices was estimated to be -1.23. This suggests that changes in export amount of US have a quite large influence on export price of Thailand.

A previous study showed that the world rice price is affected by the exports from major exporting countries. El-Sherif, [2] indicated that increase in American export by one million ton led to decrease in the World price of rice by 61 dollar/ton. The result of this study showed that the export price of rice in major exporting country is affected by stocks-to-use ratio of respective country, world crude oil price and export volume of competitor in rice market.

Table 1. Result of regression analysis

Independent variables	Dependent variables: Thailand export price ($/ton)	Dependent variables: Vietnam export price ($/ton)
Intercept	6.60***	5.19***
	(14.6)	(8.79)
Thai stocks-to-use ratio (%)	-0.178***	
	(3.07)	
Vietnam stocks-to-use ratio (%)		-0.543***
		(3.86)
Oil Price ($/barrel)	0.274*	0.485*
	(1.84)	(2.15)
US export volume (million tons)	-1.23***	
	(4.72)	
India export volume (million tons)		-0.337*
		(2.12)
R^2	0.708	0.723
Adjusted R^2	0.650	0.619
D.W.	2.08	1.17
n	20 (1988-2007)	13(1995-2007)

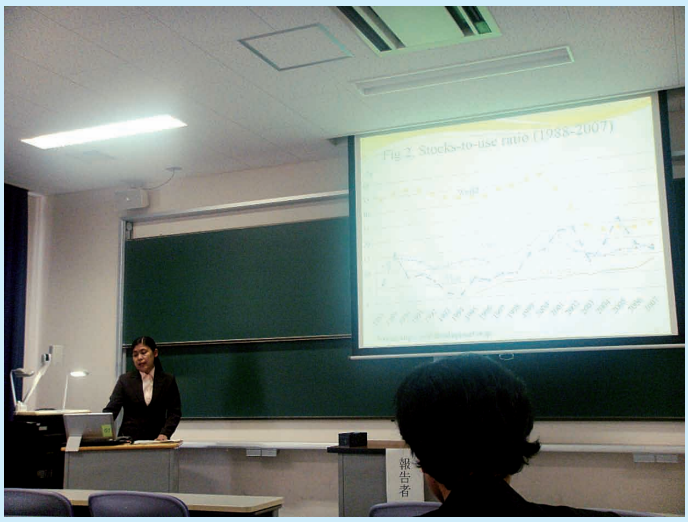
Note: Value in the brackets reflect the t values,
(*) (**) (***) significance levels at 10%, 5% and 1%,

4. Conclusion

The estimated elasticity of stocks-to-use ratio on rice export price in Vietnam is higher than in Thailand. It means that

stocks-to-use ratio may have more influence on export price in Vietnam than in Thailand. Even though elasticity of world crude oil price is inelastic, oil price is one of the important factors influencing rice export price in major exporting countries. The export volume of the US is elastic and dependent on agricultural support policy, implying that agricultural support policy of competitor may be one of the strong factors influencing rice export price in major exporting countries.

This study shows that stocks-to-use ratio has some effect on export price of rice in major exporting country, even though it is not the only one. This ratio can be used to predict the development of the export price of rice in major exporting countries.



Aung Ko Latt

Unbelievable, our two years studying in Japan is already over! This is the last chance for me to say something in the Annual Report of JDS Program in Graduate School of Bioresource and Bioenvironmental Sciences, Kyushu University. I have almost completed my Master Course. This study would not have been possible without the help and support of the kind people around me. I would like to express my deepest and sincere gratitude to my honorable supervisors, Professor, Dr. Teruaki Nanseki and Associate Professor, Dr. Hotta Kazuhiko and my former Assistant Professor, Dr. Shoji Shinkai for their guidance, kindness and mentoring throughout the completion of this study for the two years. I also offer my regards and blessings to all of those who supported me in any respect during the completion of the study. Here, I would like to show my study in brief titled with "Estimation of Technical Efficiency of Crop Production: A Case Study of Selected Monsoon Rain-fed Sesame Farmers in Myanmar".

I. Introduction

Edible oil is the second most important commodity in daily diet after rice which is staple food in Myanmar. Sesame (*Sesamum indicum*) is the most extensive and traditional oilseed crop among the principal oil crops. Sesame is grown for oil consumption as it is high in oil contents and farmers also derive a substantial proportion of their cash income from this crop in the region. Sesame has a premier place in the production of oilseeds in Myanmar and has export potentials in accordance with the global figures. It has been realized that the country's edible oil production is still lack of self-sufficiency for the domestic requirements. Consequently, to bridge the gap between supply and demand, several amounts of palm oil are being imported annually. Therefore, the current status of the oil crops sub-sector has important negative impacts for farmers, consumers and

national economy. A lack of productivity growth is common problem for the oil crops, including sesame, producing farmers. Productivity increase of individual sesame farmers is required not only for net foreign exchange cost saving but also for export earnings and to do so, production efficiency improvement is one of suitable approaches for developing country.

II. Objectives

The main objectives of this study are: 1) to estimate the effects of inputs used on sesame yield and the level of responsiveness of yield to these inputs, 2) to estimate the technical efficiency in given inputs used among the sesame farmers 3) to identify some socio-economic characteristics of farmers and farm specific characteristics that may affect the technical inefficiency.

IV. Data and Methodology

The production data used in the econometric analysis are primary cross-sectional data which were collected from 115 rain-fed sesame farmers in Magway Township. In this study, descriptive statistics were used to analyse the socio-economic characteristics of sample farmers, variables used in the model and the distributions of technical efficiency. To provide a direct measure of agricultural production and technical efficiency of sample farmers, this study used a stochastic frontier production function which incorporates a model for the technical inefficiency effects.

V. Results and Discussion

The empirical results in Table (1) indicate that farm yard manure, urea and labor have positive relationships with sesame yield and they are significant at the 10 percent, 1 percent and 1 percent level respectively. Seed rate used and animal power used have negative but no significant effect on sesame yield. Labor appears to be the most important variable followed by urea and FYM. The estimated gamma (γ) is 0.802 and highly significant at 1 % level. This implies that 80 % of the variation in sesame yield is attributed to technical inefficiency and 20 % is due to the stochastic random errors.

The distributions of technical efficiency (TE) are described in Table (2). The mean technical efficiency is 85 percent with the range of 54 to 97 percent. About 73.04 percent of farmers attain more than 80 percent of technical efficiency. The MLEs of determinants of technical efficiency in Table(3) indicate that the coefficients of farmers' operated farm size and farmers' age have positive relationship with inefficiency(negative relationship with efficiency) and farmers' education and soil condition have positive relationship with efficiency. However, only soil condition was found to be statistically significant at 10 percent level.

Table 1: Maximum Likelihood Estimates (MLEs) of model

Variables	Coefficients	t-ratios
Constant	3.800***	8.126
Seed Rate	-0.074 ns	-0.356
FYM	0.103 *	1.965
Urea	0.177***	4.518
Labor	0.329***	3.596
Animal Power	-0.018 ns	-0.181
Variance Parameters		
$\sigma_s^2 = \sigma_v^2 + \sigma_u^2$	0.044**	1.987
(Gamma) $\gamma = \sigma_u^2 / \sigma_s^2$	0.802***	6.619
LR-test of one sided error	13.748	
$\chi^2_{(6,0.95)}$ (mix Chi-square distribution)	11.911	

*,**, *** are significant at 10%, 5 %, 1 % level respectively and ns is non-significant

Table 2: Distribution of technical efficiency

Technical Efficiency (%)	Number of Farmers	Percent of Farmers
51-60	1	0.87
61-70	9	7.83
71-80	21	18.26
81-90	50	43.48
91-100	34	29.56
Total	115	100.00
Mean TE = 85 %		
Minimum TE = 54%		
Maximum TE=97%		

Table 3: Maximum Likelihood Estimates of technical efficiency of sesame farmers

Variables	Coefficients	t-ratios
Constant	0.060	0.099
Farmer's operated farm size	0.037 ns	0.527
Farmer's education	- 0.091 ns	-1.020
Farmer's age	0.069 ns	0.443
Soil conditions	- 0.313 *	-1.785

*is significant at 10% level and ns is non-significant

VI. Conclusions and Recommendations

The coefficients of labor, urea and FYM were found to have positive and significant effect on sesame yield. The increase of these inputs will lead to the increase of sesame yield. The average TE of sesame farmers is 85 %.This indicates that there is a scope for further increasing sesame production efficiency with the given set of inputs and technology. The balance use of FYM and urea fertilizer would enhance sesame yield per acre. Thus, the procurement and distribution of urea fertilizer may be the possible and appropriate way to improve sesame productivity, and then, it will also increase farmers' technical efficiency. Programs designed to educate rural households through introducing farmers' training school systems and/or giving proper extension services could assist farmers to be better decision makers of their farms. Many of the best practiced farmers achieving high and consistent yields and high technical efficiencies can be used effectively to demonstrate the benefits of good farming practices, including input use adjustments and undertaking soil conservation practices.

Yin Lon

I. Introduction

Land fragmentation where a single farm has a number of plots of land, is one of the important features of agriculture in many countries, especially in developing countries. In Myanmar, land fragmentation is common as well as land holding size is small. Most of agricultural land, which is about 19.49 million acres, is currently cultivated by small-scale farmers. The average farm size is 5.62 acres (2.3 ha) for a country level. Under the current land policy, land belongs to the state but farmers are given only land use rights which cannot be transferred, mortgage or sell. However, land right is legally inheritable by family members who remain as farmers and till the land by themselves. The land policy is observed to be rigid and land use system is oftentimes irrational and inefficient. These two factors served as disincentive to undertake land improvement activities. Consequently negative developments such as land fragmentation and degradation, and deteriorating land productivity have taken place. Land fragmentation may cause a loss of farmland area due to use of land for making boundaries, and a low efficiency in irrigation management because of the irregular shapes of numerous plots. Moreover, the dispersion of plots under a single farm not only deprives the distant plots from proper care but also weakens economic competitiveness of farmers through increased labor and transport costs leading to reduce net income. It also hampers proper land management and reduces the economic returns from land.

II. Research objectives

In order to address the impact of land fragmentation, there are two objectives in this study.

- To estimate the effects of land fragmentation on rice productivity, and
- To assess and compare the socio-economic, rice yield and farm profitability of farm households under different land fragmentation levels.

III. Methodology

Data for this study was obtained through a farm household survey conducted in 4 villages of Yamethin Township during

September-October, 2009. A total of 143 farm households were selected by random sampling method. The questionnaire by interview method was used for data collection. Data covered detail information on input and output, farm characteristics, and socio-economic characteristics of farm households for monsoon season irrigated rice for the crop year 2008 were collected. Cobb-Douglas frontier production function was used to analyze the effects of land fragmentation on productivity by specifying the number of plots cultivated as an indicator of land fragmentation. Moreover, descriptive analysis was used to assess and compare the socio-economic characteristics, rice yield and profitability of farm households under different land fragmentation levels.

IV. Results and Discussion

Descriptive analysis showed that most household heads under three levels of land fragmentation groups have primary and middle school (secondary school) education levels. Farm and non-farm incomes accounted for 96%, 91%, 98%, and 4%, 9%, 2% of total income of farm households for low, medium, and high degree of fragmentation groups respectively.

Table: Estimation result of effect of land fragmentation on rice productivity

Variables	MLE	Std. Err.	t-ratio
Constant	3.121***	0.360	8.664
Land cultivated	0.362**	0.159	2.278
Animal power	0.156^{ns}	0.125	1.247
Seed	0.284***	0.099	2.865
Labor	0.135**	0.063	2.151
Urea fertilizer	0.130***	0.032	4.033
FYM	0.016^{ns}	0.010	1.507
Number of plots	**-0.212*** **	**0.038**	**-5.629**
Variance parameter $_^2=_u^2+_v^2$	0.092***	0.017	5.301
(Gamma)_= $_u^2/ _^2$	0.894***	0.063	14.296
Number of respondents	143		

*, ** and *** indicate statistically significant at 10%, 5% and 1% level respectively. ns=not significant

Farms with low degree of fragmentation obtained the highest average rice yield (68 baskets per acre) and were the best performance with 34% of profit margin followed by 28% and 22% for medium and high degree of fragmentation groups. The empirical analysis (table) shows that all basic resource inputs except animal power and FYM statistically significant at 1% and 5% respectively and have positive effects on productivity. The output elasticity of land fragmentation with respect to productivity is estimated at -0.21, indicates that 1% increase in the number of plots, rice output is reduced by 0.21%. Fragmented land plots have a farm structure that may prevent application of inputs evenly to all plots of land and discourages farmers from efficient use of land. Moreover, Farms having may land plots lost space along plot boundaries which is directly related to yield decrease. Unsecure scattering plots may cause yield loss because field plots are scattered over a wide area.

V. Conclusion and Recommendation

Land fragmentation has a significant negative impact on rice productivity. Livelihoods of farm households mainly depend on farm income because of the scarce non-farm employment opportunities. Farms with low degree of fragmentation obtain the highest average rice yield and profit margin. Therefore, attention should be paid to addressing the structural causes underlying process of land fragmentation. Tradable land use rights should be provided to farmers so that they can legally transfer agricultural land in the market. Regarding the number of plots within a farm, the policy reducing the number of plots should be set depending on farm size to increase productivity. Development of rural infrastructure and creation of non-farm employment opportunities are needed to release pressure on land and enhance socio-economic status of farm households.

Nan Khine Su Thwin

It is getting very near to go back to our homeland. Though I am regretful to say "Sayonara" to Japan, I must go home and continue to do my responsibilities for my country. It becomes almost two years that I have been studied under the Laboratory of Food Industrial Economics, Department of Bioresources and Bioenvironmental Science, Faculty of Agriculture, Kyushu University. I got valuable knowledge in my specific research as well as uncountable experience in my daily life. This is because of precious kindness of my new family members in Japan. They are my professor, associate professor and class mate in my laboratory. First of all, I wish to express my sincere appreciation to my supervisor, professor Dr. Yoshida Taiji for giving me not only kind guidance but also valuable advices and worthy teaching. My sincere grateful to Dr. Koshi Maeda, Associate professor of my laboratory for his very helpful commands, wise guidance, good suggestions and completely understood my difficulties throughout my hard time. I am also grateful to the Japanese International Cooperation Center (JICE) and Japanese Grant Aid for Human Resource Development Scholarship (JDS) for both supporting generous financial assistance and giving me a chance to study in Japan. I also want to give my countless thanks to all of my colleges in my laboratory for their understanding, support and encouragement throughout my life in Japan.

And then I would like to express the brief explanations of my research which title is "Industrial structure in Myanmar using a new estimated input-output table (2000-2001)".

INTRODUCTION

It is very important for national planning of policy maker to understand the situation of the sectoral development and the flow of goods and services within the regional economy. The input-output analysis is the popular means of analyzing regional economic structure and assisting local economic development decision making. The application of input-output analysis required the preparation of input-output table of the economy. An input-output table permits us to analyze the characteristics of industrial structure of certain economy in a given period.

Most of the Asian countries have successfully compiled the table for every five years. In Myanmar, the last input-output table was constructed in 1994-95.So we have no up-to date input-output table that was constructed after the last table. In the previous studies, the investigation of industrial structure of Myanmar economy by using input-output analysis is not fully documented yet. It is required to develop up-to-date and comprehensive input-output table for the recent year and to analyze this new table to understand the full current picture of sectoral development of Myanmar's economy.

The main objective of this study is to investigate the characteristics of industrial structure of Myanmar economy (2000-2001) by using input-output technique. It is essential to draw up a new input-output table for Myanmar in that period. So the specific objective of this study is to estimate new input-output table of Myanmar (2000-2001). Moreover, the comparison between the input-output tables of Myanmar and Japan was made for showing difference in sectoral activities between developed and developing countries.

In this study, non surveys (secondary data) were used for updating, estimating and analyzing the table. Input-output table for Myanmar (2000-2001) was prepared with the help of (1985-86) input-output table as a base and the existing sources of information from SNA (System of National Account) of Myanmar.

RESEARCH METHODOLOGY

This study consists of two sections, estimation of new input-output table and analyzing that new table. In the method of estimation, Leontief's input-output model and RAS method were used to estimate new input-output table of Myanmar (2000-2001). After estimating new table, input coefficient and induced domestic product of each sector were also estimated based on newly estimated table. Then, multiplicative effect of sectors and one sector exogenous model were applied to investigate the comparative sectoral characteristics of each sector in Myanmar and Japan.

RESEARCH RESULTS

According to the specific objective, the new and balance input-output table of Myanmar (2000-20001) can be successfully estimated with the help of secondary data by using Leontief's input-output model and RAS method. From this table, we can examine that the input coefficient of agricultural sector row under the column of processing and manufacturing sector (0.5772)and it is the largest of the entire input coefficient. The second, the third and the fourth largest technical coefficient are (0.4065), (0.3493) and (0.3489) respectively. These are the technical coefficient of the row of processing & manufacturing sector under the column of construction sector, mining sector and financial sector respectively.

The results of induced domestic product indicate although Myanmar is an agricultural country, the index of induced domestic production by total final demand of agricultural sector is the lowest among thirteen economic sectors and it is lowers than non agricultural country, Japan in the same period. When we see the domestic product induced by export point of view, the index of agricultural sector is the highest of all industrial sectors in Myanmar's economy in (2000-2001). It can be interpreted that agricultural sector play the most important role for increasing export of our economy.

According to the results of power of dispersion of sector, we can tell that the processing & manufacturing sector is high in both power and sensitivity of dispersion in Myanmar economy and Japan economy. It can be concluded that the growth of that sector can stimulate not only on the growth of economy but also on that of other sectors. In Myanmar economy, agricultural sector is high in sensitivity of dispersion only. In the case of Japan, agricultural sector is low in power and sensitivity of dispersion than other sector. This is because the activities of food processing industry is not play the main role in Japan economy and that of food processing industry play the important role in Myanmar economy.

The results of one sector exogenous model explained that the effect of change in production of agricultural sector is 5.7% and it is the largest among thirteen economic sectors in Myanmar economy. From this facts it can be said that the production of agricultural sector is the most important for increasing GDP of Myanmar's economy. In the case of developed country, Japan, the production of rental& other services sector is the most important for enlargement of country's GDP. It can be noticed that the effect of change in production of that sector is relatively small in Myanmar economy.

CONCLUSION AND RECOMMENDATION

Most of the results of this study have revealed that agricultural sector and processing & manufacturing sector are the two most important sectors for the development of our economy. It is recommended that our government should pay attention on those two sectors by giving the policy priority and invest priority on those two sectors. It is essential to increase the production of these two sectors for the extension of primary inputs market and enhancing GDP and export of the country. Some results of this study pointed that there are some weakness in the social services sectors in our economy. It is suggested to create the appropriate policy for the improvement of that sector.

Pham Van Tra

Life in Japan

At the very first time we arrived in Osaka Kokusai Center of JICA, my life in Japan began with orientation section by

JICA experts and visiting professors. I still remember very clearly the lecture given by a JICA psychological expert on how our life in a foreign country would be like. She explained that it would be like the "sin graph", starting with "honey moon" time, getting down to "depressed" and up again for "stable", or for someone, "joyful" life.

Time flies so fast! It has been two years since I first arrived in Japan. Two years has gone with a lot of memories!

I was like a fish out of water at the beginning. I had quite a long time working with Japanese people when I was in our country. But here everything was so fancy to me, the people, the culture and things around. I enjoyed very much exploring things.

After 3 months taking Japanese course, I moved to Fukuoka. I found how beautiful to live here. Of course I wanted to become a "fish" in the water of this place, the city of canals. It was when I start my life at Kyushu University. With my poor Japanese, I tried to emerge myself into the campus life. I have many Vietnamese friends here, some foreign friends but none are Japanese. I went around, tasting, enjoying things. My "honey moon" lasted until several months later. During this time, I completely forgot about the "psychological rule" of the "sin graph".

It was about the end of the first semester, I started to recall it. I started to feel bad, started to enter "depressed time", started going down and down without knowing when it would be the "bottom" of the feeling. Everything was no problem at that time I guess, no financial problem nor crisis, everybody around me was nice to me, laboratory's members was very nice to me but I still felt like "a fish out of water". I did not know what happened to me and I felt fed up with the culture and the people even though they are perfect and so nice to me! I really wanted to go home, to come back to my life before. I guess my problem is the different in culture and I am not a well-adapted person.

The "depressed time" last pretty long. I found no way out until a year later as I had to deal deadlines of my master research. This time I felt like "a fish on a chopping-board". The feeling is getting stronger and stronger now!

After all, I recognize my love to this country and its people. Even in my "depressed time" I still see the charm of green leaves everywhere when the spring comes, still felt the warm from people's kindness regardless the difference in culture. I always wish people in our country will share the same happiness that the Japanese people have.

I know I will miss this country for all my life!

Best wishes to you all!

Bounthavy Khamphone

Introduction: Lao government has paid much attention to improve the livelihood of farmers, who live in the potential areas for agriculture and forestry development, which have created the convenient conditions for stakeholders in the commodity production processes especially rubber planting. Nowadays, rubber plantation process has been expanding among investors and local farmers in the northern part of the country. This study aims to share some information on the investment of stakeholders as well as investors who have been running the business on the rubber plantation in Luangnamtha province, northern part of Laos and investigate the contribution level of the rubber plantation on Hadyao villagers' livelihood improvement and difficulties what villagers have been facing in their commodity rubber production.

Methods: There are three main methodologies for this study: 1) we had surveyed the official documents on the rubber

plantation investment at the Planning and Statistics Unit of the Agriculture and Forestry Division in Luangnamtha Province. 2) Discussed with Hadyao Village Administration and the head of rubber production group in the village: Particularly, conveniences and difficulties of the rubber production in the village what villagers had facing after they had tapped their rubber trees and 3) Interviewed 30 selected households who sold the tub-lumps which focused to evaluate their livelihood status before and after the rubber plantation.

Results and Discussion: We found that the main investors who have been running on the business on the rubber plantation until 2008 in Luangnamtha province, there are 13 Chinese companies and involving with the contract farming and land concession. The total registered capital for the rubber plantation of those Chinese companies had reached to 9,314,500 $ and their contracted area covered 19,903 ha. Lao investment companies had covered 500 ha and invested 365,000 $ and 750 million kips. From the results it can be shown that the government administration of Luangnamtha province has been promoting Chinese investors in the rubber plantation with various arrangements and Chinese investors had become the main stakeholder of the rubber planter in Luangnamtha province as well as northern part of Laos.

Rubber plantation in Hadyao village, the villagers had involved with the smallholder planting model (villagers had invested by themselves), there were 76 households had started to tape their rubber trees since 2002 and increased to 138 households in 2009; they could generate the income from the tapping processes in each period. Difficulties of Hadyao villagers have been facing recently, Chinese traders have been controlling the tub-lump price in Hadyao village, the tub-lump price started from 2.8 Yuan/Kg in 2002 then it rose in 2004 to 4.3 Yuan/Kg. In 2009, the price fell to 3.5 Yuan/Kg (Exchange rate for May 5, 2009 is 8,569 kips / 1$ and 1,260 kips / 1 Yuan, Vientiane Time Source).

The requirement of rubber production groups want to enhance the higher tub-lump price and build the rubber processing factory by themselves which aim to ensure the rubber quality but lacking of fund for that. From the information it can be shown that the rubber price in Hadyao village depend on the Chinese traders only (Chinese traders gain advantage) and Hadyao villagers require the participation of the related sections from the local government in the negotiation on the rubber price issues between the village and Chinese traders.

The livelihood of 30 selected households in Hadyao village had improved positively after their rubber plantation. Before the rubber plantation period, their livelihood faced with the circumstance of poverty such as facing with the food insufficiency, insufficiency of clothing and impermanent houses; and their expenditure could not ensure for the health care and children schooling. From the information it can be shown that the commodity rubber production of 30 selected households is one of the most important events to pave the way for their livelihood improvement.

May I acknowledge and appreciate the useful guidance which given by Professor SATO NORIKO in the Laboratory of Forestry Policy, Faculty of Agriculture, Kyushu University, and Doctor SUKEHARU TSURU who is a senior researcher from Forestry and Forest Products Research Institute (Kyushu Research Center) who had supported my field trip in the Northern part of Laos (September to October of 2009). I would like to my express thanks to the related sectors such as Student Management Office in Faculty of Agriculture (Kyudai), JICE offices, the Agriculture and Forestry Section of Luangnamtha Province, and Hadyao village Administration.

(Contact: Bounthavy Khamphone, Email: KhamBTV@yahoo.com)

Ong Thi Anh Phuong

How fast time flies! I cannot believe two years have elapsed since the first day I came to Japan. The time I spent with Japanese friends in our laboratory, some beautiful places all over Japan I visited, the enthusiasms of some kind people when I lost the way to the subway station, the discussions about the experiments with my supervisor, etc. are sweet memories that I will remember ever.

Now I am still living here in Fukuoka, however, I am missing it. How strange it is! But it's true. I miss the spring with many blooming sakura flowers that were swaying in the light wind. In addition, I love the moments wandering with friends under the canopy of blue sky and white blooming sakura flowers; a relaxed and peaceful feelings. I also miss the time riding bicycle beside the rows of icho tree with whole leaves becoming yellow when the autumn comes. It was so romantic! The summer is a festival season of year in Japan. I can see the solidarity, the will, the patience in each Japanese in these very traditional festivals. The new experiences in the cold winter were very special with me because that was the first time I touched snow in the first winter I lived in Japan. It was interesting! All of these are now becoming the nice memories in me, in my heart.

Before moving to Fukuoka, I spent two and haft months in Kitakyushu to studying Japanese. I cannot forget my first Japanese teacher who guided me a many things about Japanese cultures, taught me how to pray and why we threw 5yen into the box when we visited some shrines in Kitakyushu. I miss not only her smile but also her teaching ways so much. Moreover, JICE coordinators who have always been beside me, made me feel safe and sharing with me from the first moments when I was still new to be surroundings until this present times. I greatly appreciate their helps, especially JICE coordinator of Kyudai group. I will miss her when I come back my country. Two-year study under the guidance of my supervisor gave me many lessons, experiences, and the mature. He taught me a lot in academic field, helped me the figure out in my mind about the ways I go and how to overcome the difficulties. I greatly appreciate what he has done and I miss his gentle and righteous smiles. Besides, my dear Professor who told to me about Japanese life styles, introduce me Japanese foods also make me to be moved by his solicitude. My labmates are the ones who have numerous memories with me because we do experiments, we joke, we eat, and sometimes we drink beer together. They are also the ones who said “gambatte ne” and “good luck ne” when I prepared my presentation for some conferences. They have encouraged me a lot. I have known that I miss them.

In fact, although there are many things which I do not mention here, I will miss them when seeing or touching something similar with these beautiful memories. Two-year living and studying in Japan really gave me deep impressions and many lessons about working with great cares, planning everything in details, having a sense of responsibility.

Hoang Van Nam

Two years have passed, it reminds us that time is actually flying by. Well, it is probably the last chance for me to write something in the JDS Annual Report and I have so many things to say. First, I would like to take this opportunity to express my sincere gratitude to my professors, Dr. Hikaru Satoh and Dr. Toshihiro Kumamaru for their kind instructions and encouragement during the time I studied here. In addition, I would like to extend special acknowledgement to Japan International Cooperation Center (JICE), JDS program committee of Kyudai and The University of Hue, Vietnam for the assistance, financial supporting and providing me the great opportunity to come here to study in Kyushu University. Moreover, I would like to express my hearty appreciation to professors who taught in special course 2008-2010, all the members of our beloved laboratory (Lab. of Plant Genetic Resources), my family and my dear friends for their guidance, constant encouraging and always being behind me in all the ups and downs of my life over the last two years. From the bottom of my heart, thank you, thank you and thank you very much for everything you have done for me.

Finally, I would like to introduce briefly my study on **“Physicochemical and genetic analysis of recombinant inbred IJwx lines”.**

BACKGROUND

Starch, namely the primary source of stored energy in rice, is the most dominant component in rice kernel and therefore its properties influence greatly not only on the cooking and eating quality but also on the processing quality. Starch consists of two types of polymers; amylose and amylopectin, whose content and structure contribute to significant differences in the architecture of starch granule, gelatinization and pasting profiles, and textural attributes. Besides, the ratio of amylose to amylopectin within a given type of starch is a very important point to consider with respect to starch functionality in foods. Although rice starch consisted of two types of glucose polymer, amylopectin is a major component, which composes of 80% of the starch. Due to lack of amylose in waxy mutant rice's starch, its starch contains essentially only amylopectin and exhibits very distinguished characteristics from normal ones.

OBJECTIVE

Starch properties, such as viscosity and thermal gelatinization, are markedly different between *Japonica* and *India* rice. Although there are at least 10 distinct genes involving in starch biosynthesis in rice endosperm, most of them are different in their gene sequences. Therefore, rice is a one of the best models to elucidate the *inter* and *intra* relationship among genes, enzymes, structures and physicochemical properties. The aim of this study was to analyze the influence of amylopectin structure on properties of starches from recombinant inbred IJwx lines, the cross between EM21 (waxy mutant induced from *Japonica* rice Kinmaze by the treatment of MNU) and EM2003 (waxy mutant induced from *Indica* rice IR36 by the treatment of MNU).

METHODOLOGY

Plant materials

Mature kernels harvested in crop season 2009 of parental cultivars IR36, EM2003, Kinmaze, EM21 (controls) and 117 IJwx lines were used for this study.

Methods

Total protein extracted from endosperm was separated by SDS polyacrylamide gel electrophoresis described by Laemmli (1970) and then GBSS protein expression was evaluated. Alkali digestibility score was assessed on the basic of individual grain expressed using the method of Little at al (1958). Iodine staining intensity of gelatinized starches was determined by measuring the iodine affinity of starch. Gelatinization and pasting properties were measured using a range of urea concentration from 0M to 8M and a rapid visco analyzer, respectively. Amylopectin chain - length distributions were analyzed quantitatively using a fluorophore - assisted capillary electrophoresis system.

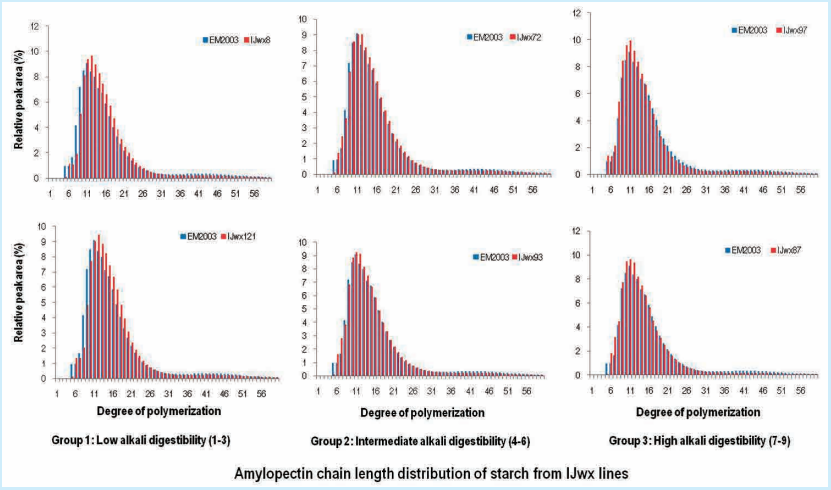
RESULTS

Studying on GBSS expression of IJwx lines and their parents revealed that there was a variation in expression of GBSS protein among cultivars and lines. Low intensity of GBSS (Wx^b) was observed in Kinmaze whereas high intensity of GBSS was observed in IR36 (Wx^a). On the other hand, GBSS was absent in EM21 but missense mutated GBSS was present in EM2003. IJwx lines were categorized into three groups in terms of GBSS intensity, ranging from absent (EM21 type), intermediate and high expression (EM2003 type).

Results also indicated that starches from IJwx lines exhibited a wide variation of alkali digestibility and gelatinization. In general, alkali digestibility of IJwx lines was recorded ranging from score of 1 to score of 9 and classified into four different groups; score of 1 (EM21 type), score from 2 to 6 (intermediate type), score of 7 (EM2003 type) and score for 8 to 9 (overdominant type). Urea gelatinization showed that *Japonica* rice starch started to gelatinize at urea concentration of 4M whereas *Indica* rice starch started to gelatinize at urea concentration of 5M. The swelling power's frequency distribution of IJwx lines at 4M urea displayed that 29.32%, 37.93%, 23.27% and 9.48% of studied lines showed the swelling power of

0.05-0.07, 0.08-0.10, 0.11-0.15 and 0.16-0.20, respectively. A tight correlation between alkali digestibility and gelatinization was recorded.

Iodine staining intensity results showed that IR36 and Kinmaze had high amylose content, staining dark blue and blue with iodine while their waxy mutants staining reddish brown. It also revealed that most of IJwx lines were stained reddish brown and reddish purple by iodine solution with different levels of spectrophotometric absorbance; this may indicate that the changing in amylopectin structure of starches from IJwx lines caused the significant difference in iodine staining intensity.



Amylopectin chain length distribution of starch from IJwx lines

Amylopectin chain length distribution and proportion of side chain fractions represented that Kinmaze and EM21 had a higher ratio of chains with DP 5 to 11 and a lower ratio of chains with DP 12 to 20 than IR36 and EM2003. Amylopectin chain length distribution varied among IJwx lines, which showed also a correlation with alkali digestibility as well as gelatinization swelling power. Compared with chain length distribution of EM2003, different groups of alkali digestibility showed significant difference in the ratio of fraction A and fraction B_1 (fa/fb_1).

CONCLUSIONS

In conclusion, starch properties are important factors affect rice quality in general and they involve many different physicochemical and genetic indices. Study suggests that there are multiple genetic factors controlling those characters like alkali digestibility and gelatinization. Correlation expressed between amylopectin structure, alkali digestibility and gelatinization indicates that amylopectin structure is an important factor influencing greatly on the starch properties.

Pham Hieu Thi

1. Introduction

1.1 Japan country in international student's understanding

Japan, an island nation in East Asia, is an archipelago (large group of islands) located east of the Korean peninsula. Japan is bordered by the Pacific Ocean on the north and east, by the Philippine Sea and the East China Sea to the south, and by the Sea of Japan / East Sea on the west. Japan's major cities, including Tokyo, its capital, and Yokohama, its major port, are located in the southeastern part of the country, on the main island of Honshu. Kyoto, Nagoya, and Osaka are in the southern part of Honshu. Sapporo is located on the northern island of Hokkaido. The other 2 main islands in the Japanese archipelago are Kyushu and Shikoku, to the southwest.

Japan has the world's second-largest economy, having achieved remarkable growth in the second half of the 20th Century after the devastation of the World War II. Its role in the international community is considerable. It is a major aid donor and a source of global capital and credit. More than three quarters of the population live in sprawling cities on the coastal fringes of Japan's four mountainous, wooded islands.

1.2 Introduction to JDS program

Under supporting from the Grant Aid assistance which is provided by Japanese Government, the JDS program has started in 1999 up to present. The major objective of the JDS Program is to support human resource development in each participating

country by fostering young government officials who are expected to facilitate the social and economic development of their countries in the 21st century. Additionally, JDS fellows also have a chance to gain their experience in Japan, to contribute to the broadening and enhancement of the foundation for bilateral relations between their countries and Japan.

1.3 Aims of the report

This report aims to review two major issues about Education and Culture in Japan based on personal experience during JDS program 2009-2011. Educational system, custom and traditions will be the main targets of the report.

2. Education

The Japanese education system consists of six years of elementary school, three years of junior and senior high school each and four years of university or two years of junior college. The Japanese school year starts in April and consists of three terms, separated by short holidays in spring and winter, and a one month long summer break.

As we expected while we are in Vietnam about Japanese Education, the students in Kyushu University have learnt a lot about formal education with supports from advanced lecturers and professors in Japan. The education in Kyushu university combine teaching and learning theory and practices through filed trips in Japan. As a result, students have a lot of chances to understand the real applications of what they have learnt in university in certain aspect of life in Japan. Since I have been studied in Kyushu University, my background and experience have been improved much through formal lectures, training courses, and co-operative workshop with exchange from international lectures.

3. Custom and Culture

A number of culture exchange programs have been carried in Kyushu University in order to help international student to understand about Japanese people and culture. It is also a good chance for us to share with the host about our culture and traditions. A home stay program has been implemented by JDS program and we had chance to live in a host family for 2 days. As a consequence, I have learnt a lot about culture there and it will be much useful for me during my studying time in Japan. During the course, many trips for visiting local areas in Fukuoka such as temples, holidays, festivals. Additionally, JDS also provides us chances to learn how to make Japanese tea, flower arrangement, origami.

Japanese language

The Japanese language has always played a significant role in Japanese culture. The language is spoken mainly in Japan but also in some Japanese emigrant communities around the world. It is an agglutinative language and the sound inventory of Japanese is relatively small but has a lexically distinct pitch-accent system. Early Japanese is known largely on the basis of its state in the 8th century, when the three major works of Old Japanese were compiled. Japanese is written with a combination of three scripts: Hiragana, derived from the Chinese cursive script, Katakana, derived as a shorthand from Chinese characters, and Kanji, imported from China. The Latin alphabet, r_manji, is also often used in modern Japanese, especially for company names and logos, advertising, and when inputting Japanese into a computer. The Hindu-Arabic numerals are generally used for numbers, but traditional Sino-Japanese numerals are also commonplace. After one year in Japan, I have chance to practice Japanese and it is so interesting even my Nihongo is not good. It is easier to understand people here if you can communicate in their own language.

Cuisine

Through a long culinary past, the Japanese have developed sophisticated and refined cuisine. In recent years, Japanese food has become fashionable and popular all over the world. Dishes such as sushi, tempura, and teriyaki are some of the foods that are commonly known. The healthy Japanese diet is often believed to be related to the longevity of Japanese people. I remember that at first, I could not taste sushi and sasimi but just in short time I become a fan of this kind of food. It is so lucky cause I stay in Fukuoka where Ramen is the most famous in Japan. Sometimes, I and my friend go to the restaurant and have great time together.

Festivals

Fukuoka is home to many festivals that are held throughout the year. One of the most famous Fukuoka Festivals is Hakata Dontaku that I and my friends joined once..

Hakata people love festivals. Festivals and events are held throughout the year and attract a large crowd of visitors.

Hakata Dontaku is a festival for the citizens and people parade through the streets in various costumes, some playing shamisen or drums, others clapping wooden spoons. It attracts approx. 2.1 million people every year.

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4. Suggestions

In brief, I am very satisfied with my course in Japan by JDS program. It is great to study in a developed country as Japan. Not only my knowledge has been improved much related to my background, but also my understanding about Japanese culture. However, it would be better if we have more school courses which providing a broad knowledge related to my expected gained knowledge for bringing back to my work in Vietnam.

Lay Lay Nwe

I am 2009 JDS fellow from Myanmar. I have been studying as a 1st grade Master student at Laboratory of Plant Pathology, Kyushu University. Now one year is already over. My past experience in Japan is full of wonderful and fantastic memories.

I am really very proud to get the chance of studying as a Master student in Japan, one of the most developed countries in the world. And I strongly wanted to visit Japan since I was a High School student. When I knew that I was selected to continue further studies in Japan, I was very happy and excited. I would like to say that I am deeply indebted to Japanese government and Japanese people for their support to study in Japan.

In 2009, 3 Agricultural students and 2 Law students from Myanmar won JDS Scholarship to study related Master Course in Kyushu University. We left Myanmar on 30th June, 2009 and arrived at Kansai International Airport, Osaka on 1st July. We stayed together with other JDS fellows from Cambodia, Bangladesh, Vietnam, Philippines and Kyrgyzstan in Osaka for two weeks. During those days, we studied Japanese Economy and Business, Japanese Education, and Japanese Society and Culture etc. As arranged by OSIC (Osaka JICA Center), we made field trips to the Sharp Memorial / Technological Hall and the Kyoto Disaster Prevention Centre and visited some famous sight-seeing places around Kyoto such as Kiyomizu Temple, Todaiji Temple and Nara Koen. While we were in OSIC, we got the chance to watch Rakugo, Japanese Cultural Performance by Mr.Kaishi Katsura who is a famous Rakugo performer not only in Japan but also worldwide. We had great experiences in Osaka.

After staying 2 weeks in Osaka, we moved to Kitakyushu JICA Center to learn Japanese language. We learned Japanese language with other international students there. Japanese language is very interesting for us. Maybe it is due to one of the reason that the structure of Japanese language is very similar to that of our native language (Burmese).We had unforgettable memories in that class. Besides Japanese language, we had the chance to learn Japanese culture. One of the wondeful experience is Wasshoi Million Summer Festival celebrated in Kokura. We happily participated the Festival and Million dance with JICA participants. I will never forget that event. Studying Japanese language

about two and half month in Kitakyushu, we moved again to Fukuoka where we have to start our student life in Kyushu University.

At Kyushu University, I have been studying advanced agricultural technologies, especially plant pathology. Nowadays, the control of plant diseases with antagonistic organisms is more and more popular in the world because people start to doubt chemical control on plant diseases that may leave adverse effects to the environment, human and living organisms. My research interest is related with biological control of some plant pathogens by antagonistic microorganisms. During my study, though I have some difficulties in doing experiments, I feel a relief as Professor; Dr. Kenichi Tsuchiya and Associate Professor; Dr. Naruto Furuya always give me strong support and valuable advice. Also, Associate Professor; Dr. Minoru Takeshita , Post doctoral fellows; Dr. Daisuke Kurose and Dr. Hoang Long and my tutor, Ms.Yumiko Matsuguma help me a lot in my experiments. More than that, they always kindly give me a hand if I have any problem in my daily life. So, I am very grateful to my professors, my seniors and colleagues from my laboratory.

At first, I had some difficulties in communicating with other students in my laboratory because of language barrier and different cultures. But, later I could create more familiar atmosphere as they are really kind and helpful. We sometimes go outside together to visit some places. The most enjoyable trip is Skiing trip to the Hiroshima on January 31st, 2010 which is the first time of skiing in my life. I felt surprised and excited when I saw and touched the snow for the first time. I still remembered that I couldn't use skis very well in the morning although my labmates patiently taught me how to ski. In the afternoon, my skiing ability was improved. I enjoyed this trip very much and it also made our friendship stronger.

Here I would like to express my sincere gratitude to our coordinator, Ms. Yoshino Chikako (Kitakyushu JICA Center) who always takes care of us when we have any problem such as health problem, computer problem (buying or repair) and many other problems. She is very nice coordinator for us.

During one year, we, JDS fellows made many trips such as the excursion to Ajinomoto Factory, Japanese Brewery Industry, Organic liquid fertilizer plant and egg farm in Chikujo Town, Planting rice in Tanada Paddy Field, etc. We got much knowledge and experience by joining these trips. Now I also get used to Japanese culture and food. For example, I am ready to have sashimi and nato (the fermented soybean) that I didn't want to try before.

As a member of Kyushu University Foreign Students Association (KUFSA) and Fukuoka Oversea Students Association (FOSA), we could have a lot of friends from every corner of the world. In addition, we could enjoy Japanese culture and traditional festivals like Dontaku Festival and Sakura Hanami together with them.

Finally, I would like to confirm that there are great benefits for us to get a chance to be a Master student under the JDS program. So, I really appreciate my student life in Japan-especially in Kyushu University as a JDS scholar.

Kyaw Min Tun

I am one of Myanmar JDS fellows, 2009, now studying at Insect Natural Enemies Laboratory, Department of Biological Control, Kyushu University. Life of being a student at one of the famous and prestigious universities of Japan is, undoubtedly, full of challenges, excitements, bliss and rapture. I am profoundly indebted to Japanese International Cooperation Agency (JICA) for giving me such a wonderful, delightful and terrific spin-off.

First of all, all JDS fellows including me who had settled down in Japan and studied at our respective universities would more or less suffered from cultural shock and posed some other minor problems in daily-communication and living style. I

was, sooner or later, wonted to them with the genial help and support of JICA staff members, my amiable Japanese friends and good-hearted professors. They are ever willing to lend me a helping hand and provide an emotional anchor for me whenever I am confronted with the social and academic difficulties. I forthrightly dare to say that without their succor, I would face many hurdles in living and studying here in Japan.

JICE have been planning many study tours and field trips in order for us not to broaden our scientific knowledge but to learn Japanese cultural and social norms. I had chances to study many interesting things ranging from traditional rice farming system in Tanada Paddy Fields, Ukiha Town, Fukuoka, to production of liquid crystal panel and solar cell at SHARP Memorial and Technology Hall in Osaka. Indubitably, no other scholarship programs can provide such valuable opportunities.

Lectures delivered by Japanese professors can widen my knowledge horizon. In addition, I also have a golden opportunity to attend the lectures given by professors of Kasasat, Chiang Mai and Hohenheim Universities. Furthermore, my supervisor, Dr. Takatoshi Ueno, is now closely guiding me and giving me valuable comments and suggestions in order to improve my competence and smoothly and successfully consummate my master degree. Being a student studying the modern and environmental- friendly technical know-how at Kyushu University is worthwhile and interesting. It is absolutely sure that having such an invaluable opportunity will be able to materialize my future career plan of not only upgrading my academic qualification but leading a successful life.

To sum up, one year went by and there is still another midway left out through my two years' stay here in Japan. I will need to learn more and more in order to grasp knowledge and experience available as much as I can and get better and better. Upon my return, my acquired knowledge and experience will assuredly be disseminated to my students and local farmers who are foundation stones for the development of agricultural sector of Myanmar. That will in turn lead to sustainable economic and technological development of Myanmar.

Yee Yee Myint

I am a first year Master Student under Japanese Grant Aid for Human Resources Development Scholarship (JDS) fellow (2009-2011). Now I have been studying in Institute of Biological Control, Kyushu University. I am very proud of being as a student of Kyushu University because Kyushu University is one of the most prestigious Universities in Japan. Moreover, Kyushu University gives all of us a variety of chances to study in my specific field with sufficient facilities. I have been in Japan for one year so I would like to share one year experience of enjoyable and memorable student life in Japan.

Firstly, I would like to express my sincere thanks to Japanese Government and Japanese Grant Aid for Human Resources Development Scholarship (JDS) program, to my mother Ministry and to the Kyushu University Academic Board for giving great opportunities. While staying in Japan, I have a chance not only to study advanced technologies but also to learn Japanese traditions and cultures.

The first day of my life in Japan made me so surprised because I only saw water from the airplane window when the plane landed to the Kansai International Airport. Then, I found out that it is built on a man- made artificial island.

Before moving to Kita Kyushu for studying Japanese language, I had to stay at Osaka JICA Center- OSIC to learn economy, policy, culture and life style of Japan for two weeks. During staying in OSIC, I had a chance

to visit Kyomizu temple, Natural Disaster Prevention Center in Kyoto according to the arrangement of OSIC. I really enjoyed drinking natural water there because it is famous as Pure Water Temple in Kyoto. Then, JICA Center-OSIC sent all of us to Todaiji Temple, one of Japan's most famous and historically significant temples where we could pay homage to the Japan's largest Buddha Statue (Daibutsu). We only had a short time to stay in Osaka but it was a great pleasure for us.

After that, I moved to JICA Center, Kita Kyushu to learn Japanese language. I had a great time in language class because all of Japanese teachers were very kind and good-hearted. We learnt not only Japanese language but also Japanese culture and life style by talking with some Japanese volunteers and some high school students. While studying Japanese, we got a chance to visit Yaskawa Robot Factory and Museum. Moreover, we participated in Wasshoi Million Dance in Kokura and Hanabi. Later, we visited the Sakura Mountain near Center and also Shimonoseiki, underground canal under the sea. It was unforgettable experiences for all of us.

After studying Japanese, I moved to Fukuoka and started my student's life in Kyushu University. I am very grateful to be given a chance to study in Institute of Biological Control in Kyushu University. With the good guidance of my supervisor, Dr. Masami TAKAGI, Professor of Biological Control Institute, my research related to Ecological Studies on Aphalara itadori on Japanese Knotweed is going fine. I would like to say my sincerely thanks to my professor, Dr. Takatoshi UENO and Dr. Midori TUDA for giving invaluable suggestions and advice on my studies. In fact, student life in Kyushu University is very enjoyable and memorable for me because I have marvelous research environment including good classmates, seniors and tutor. They willingly support and help me a lot. Moreover, we can frankly discuss with all of my professors, seniors, Japanese friends and international students in my laboratory. I am very lucky again in the lecture time because all of the professors from Kyushu University are very kind and patient to the students whenever the students want to discuss about their research inside or outside the class room. In addition, I have a chance to take some special lectures provided by the visiting professors from oversea University. Studying my master course, I could attend Japanese and English Communication class. I could also share my own culture with Japanese people through home stay program.

I also had great opportunities to join many field trips to Ajinomoto Factory, Organic Farming and Rice Planting

arranged by JDS program. I really enjoyed all of JDS one day study trips. Among these, rice planting tour was a memorable experience for my life. To balance my study life with social life, I could participate in Cherry Blossom Festival in Dazaifu and also take part in Fukuoka Dontaku Festival according to Kyushu University Foreign Students Association (KUFSA) progam .

Another special time of my student life here was Hokkaido trip arranged by

FOSA (Fukuoka Overseas Students Association. I felt really excited to see huge snow in Hokkaido and also enjoyed sight-seeings in shiroi kohibito (White lovers) which is very, very romantic and fantastic place.

Without the help and support of JICE staff and my Myanmar seniors, I could hardly get such a smooth study life here.

To sum up, I am very pleased to have the chance of studying in Kyushu University as a JDS fellow as I believe that I will surely acquire much advanced skills and knowledge to contribute my home country.

Tran Thi Huong

Osaka-first time and first impression in Japan

After about 7 hours flying, finally I was arival in Japan at around 10:30 pm, even after long flying time, I could not sleep at that night, both exciting and worrying in my mind. Two weeks of orientation here were useful and valuable for any JDS fellows because it gave us general view about Japanese policy, economy and culture as well as history that could help us to find our own way to adapt ourselves to new life here. At that time, we had Kyoto and Nara visit, the two popular places for tourists in Japan. I really enjoyed beautiful weather, impressive about the convenience of transportation, clean atmosphere, and Japanese food.

Move to Kitakyushu

This was my first experience about shinkansen, so I was really excited in the speed and the comfort of this high speed train brings us. I just could only utter “Wow!”

Kitakyushu is in the South of Japan, weather here was slightly hotter than in Osaka, but this was very peaceful place. Three months in JICA centre were really memorable time. I had chance to participate in multicultural environment, I could communicate with people from many countries such as Africa, South America, Asia, etc, enjoyed parties and traditional dancing. Japanese teachers were also very nice and interesting, made us enjoy the class any times. Living in Japan for almost 2 years, it is very important for every foreign student to be able to use Japanese if they do not want to be isolated in Japanese society. Three months here were also the time for me to discover surrounding places with many interesting experience.

University entrance, start my research and campus life

Studying and researching environment in Japan

I must say that, students benefit studying in Japan because every lab is well maintained with high-tech equipment, this is extremely important for research students in any scientific field. Service in my lab is also very well implemented. There is a person who is specially responsible for chemical stocks and instruments for experiments. We can focus on our research and avoid wasting time.

Another thing make me interest is studying methodology. In my lab, there is only one professor and one associated professor but they are able to manage the lab very well. Most Japanese students are active and self-motivated in their studies

and research. Understanding of the sempai and kohai structure explains why the lab can function well. Sempai have the responsibility to teach kohai basic techniques and knowledge and to participate in teaching assistant program. This is good way to use the knowledge of individuals and increase the cooperation between students.

Another important thing to mention is the weekly seminar. Every student has to search for a scientific paper and give a presentation about what they have learned. The huge benefit for any student studying here is the accession to information from library and internet. Students can update the latest science over the world. Seminar is very valuable time for students to learn new techniques to improve their research as well as learn from each other, presentation skill is also improved. This weekly seminar keeps students' study on going and encourages self-study a lot.

Most of student here are highly cooperative and have good sense of consensus. As belonging in crop science lab, we usually have field experiments, this is kind of hard working experiment, but you never have to work alone, all students will help each other in these tasks. Supervisor here is very friendly and helpful, students can consult with supervisor any time to figure out and deal with the problem in their research.

As foreign students, we are provided free Japanese classes as well as many excursions and field trips that give us good chances to obtain a view of agriculture sector and participate in farming community in Japan through the practical excursions.

There are many impressive experiences in campus life, however there are also many difficulties I myself are facing and need great effort to overcome. Japanese language still seems to be a barrier for me to participate well in my lab and Japanese society as well. Therefore, 3 months in Kitakyushu were really important and necessary for every JDS fellows to study seriously and as much as they can if they do not want to have more barriers in the coming research and life. Research is the most important for each student, but we also need to understand the real problem we are facing to be able to cope with it and manage our research successfully.

One year past with many impressive experience, JDS program gives me a good chance to widen my knowledge and view that is invaluable thing I can achieve and contribute to the development of my country on my return.

Souphonphaacdy Daovinh

One Year Experience in Japan!

I am Laos JDS fellow (2009), belong to the Laboratory of Environmental Life Economics, Department of Agricultural and Resource Economics, Faculty of Agriculture, I can say that, I am very lucky to have a chance to study in Japan. This is my first time in Japan; the country is I had strongly desire to go. In the beginning day of the arrival in Japan, I found very nice view of Kansai airport. I saw may things in Japan that I have never seen before in my countries. However, I felt a bit depress when I went out where everything is written in Japanese whereas my Japanese is very poor. After Japanese Training from JICE's staffs in Kitakyushu, I and other friends moved to Fukuoka and started on student life in Kyushu University. The feeling now is happy and comfortable with my daily life and study also.

My university life is very interesting and enjoyable on lectures and studying. In my laboratory, I have very kind professor, who really help and guide me on my study and research; I have Japanese and international friends, who are from several countries in the same study room to share experience and learning from them. Especially, when I have questions they always

give me comments and give me explanations.

Life here made me more interesting, after JICE provided us on home stay program. I have learned and know more about Japanese culture, living style and foods. Moreover, I am really happy that my host family has known and has ever been my country (Laos).

Daily life here is going so fast, I have been here nearly one year already. I have chances to go to field trips and learn how to planting rice on terrace field which very beautiful view.

When I was child, I dreamed to visit Japan in one day. Now my dream is already come true. I can see sakura and cherry flower blossom. I can absorb into the winter season, when snow falling down is very beautiful and very cold in the same time, but it looks so wonderful.

Finally, I would like to thank you Japanese Government and Japan International Cooperation Agency (JICE) for your support on my studying and Grand Aid for human resources development scholarship in my country.

Vanisaveth Viengpasith

I am one of Lao JDS fellows' 2009. I have been belonging at Laboratory of Environmental Life Economics, Department of Agriculture and Resource Economic, Faculty of Agriculture in Kyushu University. For nearly one year to study in Japan. Thus, I would like to share my personal experiences starting from my first arrival, student's life as well as activities.

At first arrival in Japan, there were symptoms of culture shock, being different in terms of culture, life style, transportation system, communication, food, although Japan International Cooperation Center (JICE) arranged the orientation course "studying and living in Japan" which took me a short time to adapt myself into Japanese life style. In addition to this, the Japanese course also helped me understand more about Japanese people. In fact, I found Japanese training course at Kita Kyushu JICA centre very useful. Of course, memorizing Japanese new words from teacher (sensei) was very important to me and practicing new words with my friends and teacher was worth. My study enivornment was in both in and outside the class. The daily language used were also practice in the real situation such as in the supermarket such as: simple questions to ask for prices: "Where is the computer?"; "How much does the computer cost?"; "Which computer is good one?"; "Can we bargain or discount or not?". Talking to native speaker was very important. We usually practiced our new words, expressions or sentences with the Japanese person while walking around the supermarket. Reflecting what we practice and reporting to teacher was remarkable process

of learning Japanese language. This experience allows foreigner like me to learn Japanese better, specifically daily basic languages. In addition to this, the chance of home stay with the host family allowed us to acquire language and cultural awareness which I found Japanese persons were very kind, hospitable and helpful in terms of personal assistance in language learning and exchanging cultural values and beliefs. After a while I realized that I was more comfortable and belonged to Japanese community and lifestyle.

After the Japanese training course, I moved to Kyushu University and start my Master Course. I have been studied in Hakozaki Campus since September 2009. My first impression when entering Kyushu University was not only the warmly welcome from professors and students in my laboratory, but also on the kind assistance from my tutor and other laboratory members. I can say that they are very kind and ready to help me in any circumstances. In my laboratory there are regular weekly seminars about various research topics regarding to agricultural economics, environmental life economics as well as discussion about research plan for each student. The seminars can share our knowledge and experiences.

During my study period at university, normally, I should get at least 30 credits in two years including major course, common course, special research and seminar. The lectures given by the professors in the Kyushu University were very informative. Apart from that, we also have good chance to take the special lectures by visiting professors from other developed countries with collaborating program with Kyushu University. Studying at Kyushu University is more convenient, because the facilities and supports from University to our study are very good. The University has a big library full of textbooks, journals, magazines and various studies of all students. Moreover, It has really great and excellent electronic system in which we can download textbooks, references and academic journals through Internet connection linked with Kyushu University Library.

In addition, there are many activities such as school festival, international students exchange with Japanese student, study trip, students' sport club, etc. Those activities were informed by email. I really liked the field trip to the chicken farm. At that time the farmers showed the technique of chicken feed as well as recycle the waste to organic fertilizer. Another trip was also good, it went to rice plantation. Moreover, I really enjoy the international students' sport club such as volleyball, baseball and badminton. The baseball I never played it before, but now I know how to play it !!!.

Finally, I would like to express my profound thanks to Japanese Government for giving me an opportunity to study at Kyushu University in Japan. I also would like to extend my acknowledgement to JICE that help us enthusiastically. I highly appreciate the JDS program and JICA providing me with financial support.

Nguyen Kien Duc

I am a Vietnamese JDS fellow attending International Research Course under JDS program in Food & Agricultural Policy Laboratory, Faculty of Agriculture, Kyushu University. It is my honor to be a JDS fellow and to study in one of the most prestigious university in Japan - Kyushu University. During my first year in Japan, I have a lot of memorable experiences including daily life and campus life.

Every one faces some difficulties during living and studying period in a foreign country and "*culture shocks*" appear when we change living environment. Thanks a lot to 4 months Japanese language and culture trainings, we were well-prepared before and after our departures to Japan. Our daily and academic lives are easier because we have learned basic Japanese language and Japanese customs.

I am really interesting for the campus life in Kyushu University. Under the International Course, we have "*United Nations*" classes with Professors and students from many different countries. It is the best chances for us to share our knowledge by discussing and exchange our traditional cultures with lecturers and friends from other nations. From different point of views, different backgrounds, we develop deeply our lectures so every student can understand it.

Besides studying, we also have many excursions organized by Kyushu University and JDS program. That is the practice way using to compare and contrast what we learn in textbooks and what really happens in the daily life. Moreover, we have many academic activities in our laboratories: weekly seminars, visiting lecturers, field trips...; that are why we can learn many things from our Professors, our researches and also from our friends.

For daily life, Professors and friends make my life happier in Japan. My laboratory looks like a family in which Professors and students always help others. We also have Student's Organization which organizes many activities for international students for sharing cultures, playing sports, traveling...That creates a friendly living environment for every international student from different countries.

Sleumsack XAYYAMONH

Academic life

I am Lao JDS fellow 2009, I am first year Master student belong to laboratory of Soil Environmental Sciences, department of bioproduction and environmental sciences, faculty of agriculture, Kyushu University

First time I came to my laboratory I really appreciate warm welcome from my Prof. Masami OHTSUBO my supervisor, associate Prof, assistance prof and lovely laboratory mate from India, Indonesia, Vietnam, Cambodia and specially thanks for Japanese students that help me many thing at my first period of starting academic life in Kyushu University.

Academic Research

"Study on the effects of flocculants for mud water treatment and the geotechnical properties of sediment of suspended solids"

Background

Lao PDR is facing significant challenges in addressing environmental issues in rapidly growing mining industries in the rural areas. The mining industries operations use hazardous chemical and use water from natural water resources for the processing released the water to the river with improper and inadequate management standards. This study focus is to ensure that the quality of water for fish and other biodiversity does not exceed the contamination standard for hazardous chemical use from the mining industry, so that local people can completely depend on natural resources for

their livelihood survival, which is critical to the future sustainable development of Lao PDR's natural resources.

General Objectives

The general objective of the study is to assess the natural resources quality to support local people dependence on natural resources for their livelihood in the mining area of, Lao PDR.

Specific objective

_ To research the risk of the local people who depend on natural resources for their livelihood survival from the mining industries

_ To improve the livelihood quality of local people who are living around the mining areas

_ To increase awareness of access to environment data and the impact on the natural resources

_ To provide of information for local people's livelihood in rural areas, and

_ To assess of environmental effects related to hazardous chemicals in the mining industries

Daily life and culture in Fukuoka

Life in Japan is the most comfortable for people such as: communication, transportation and supermarket, convenience stores are located easily to find every place.

I also enjoy the beautiful culture and seasons of Japan with my Lao's friends, international's friend and Japanese's friend, the people of Fukuoka Prefecture are known to have a cheerful and 'festival-loving' disposition. A total of nearly 300 festivals and events are held each year, all full of local colour. The city comes especially alive during the 820-odd-year old Hakata Dontaku Port Festival held every May. About 300 groups totalling some 25-thousand men and women of all ages participate in a costumed parade. The name Dontaku is derived from the Dutch word Zondag, which means holiday. There are also many international sporting and cultural events.

8. LIST of Subjects and Supervising Professors for on international Development Research Course (Academic Year 2009)

Division	Laboratory	Professor	Associate Professor	Assistant Professor
Bioresource Sciences				
Agricultural Bioresource Sciences	Plant breeding	Atsushi YOSHIMURA	Hideshi YASUI	
	Crop Science	Mari IWAYA-INOUE	Takashi YUASA	
	Plant Production Physiology	Osamu UENO	Kazuyuki SAITOU	
	Silkworm Science		Takahiro KUSAKABE	Jae Man LEE
	Zoology	Hiroshi IIDA		Takane KANEKO
	Entomology	Osamu TADAUCHI	Satoshi KAMITANI	
	Plant Pathology	Kenichi TSUCHIYA	Naruto FURUYA	Minoru TAKESHITA
	Insect Pathology and Microbial Control	Susumu SHIMIZU	Chisa YASUNAGA-AOKI	Kazuhiro IIYAMA
	Insect Natural Enemies	Masami TAKAGI	Takatoshi UENO	Midori TUDA
Animal & Marine Bioresource Sciences	Advanced Marine and Marine Bioresources		Hironori ANDO	Shozo TOMONAGA
	Functional Anatomy	Shoji TABATA	Shotaro NISHIMURA	
	Reproductive Physiology	Masa-aki HATTORI	Nobuhiko YAMAUCHI	Tomoki SOH
	Chemistry & Technology of Animal Production	Yoshihide IKEUCHI	Ryuichi TATSUMI	Wataru MIZUNOYA
	Regulation in Metabolism and Behavior	Mitsuhiro FURUSE	Masataka SHIMOJO	
			Shinobu YASUO	
	Animal Production & Ecology		Takafumi GOTOH	Yutaka NAKANO
	Marine Biology	Michiya MATSUYAMA	Tatsusuke TAKEDA	Akihiko YAMAGUCHI
	Fisheries Biology	Shigeo KAWAGUCHI	Noritaka MOCHIOKA	
	Aquatic Field Science	Michiyasu YOSHIKUNI	Shin OIKAWA	Norio ONIKURA
	Marine Environmental Science		Yuji OSHIMA	Yohei SHIMASAKI
Agro-environmental Sciences				
Forest Sciences	Plant Metabolic Physiology			Michito TSUYAMA
	Silviculture	Susumu SHIRAISHI	Koichiro GYOKUSEN	Kotaro SAKUTA
	Forest Production Control	Shoji OHGA	Shinya KOGA Tsutomu ENOKI	Naoaki TASHIRO
				Yasuhiro UTSUMI
				Takuo HISHI
	Forest Management	Shigejiro YOSHIDA	Nobuya MIZOUE	
	Forest Policy	Noriko SATO		Katsuhisa KOHROKI
	Erosion Control		Tetsuya KUBOTA	
	Ecohydrology	Kyoichi OTSUKI	Takao SETSU	Masaaki CHIWA Hikaru KOMATSU
			Tomo'omi KUMAGAMI	
			Atsushi KUME	
Bioproduction Environmental Sciences	Irrigation & Water Utilization	Yoshiyuki SHIONGI	Tetsuro FUKUDA	Kozue YUGE
				[Atsushi MARUI]
	Drainage & Water Environment	Kazuaki HIRAMATSU	Masayoshi HARADA	
	Environmental Soil Engineering	Masami OHTSUBO	Takahiro HIGASHI	Motohei KANAYAMA
	Environmental Geochemistry	Shin-Ichiro WADA		Yuki MORI
	Applied Meteorology	Masaharu KITANO		Kenji WAKIMIZU
	Bioproduction and Environmental Information Science		Yasumaru HIRAI	
	Bioproduction Engineering	Eiji INOUE	Takashi OKAYASU	Muneshi MITSUOKA
	Postharvest Science	Toshitaka UCHINO	Fumihiko TANAKA	Daisuke HAMANAKA
Agronomy & Environmental Sciences	Horticultural Science	Hiroshi OKUBO	Akira WAKANA	Michikazu HIRAMATSU
	Agricultural Ecology (University Farm)	Kei NAKAJI	Toshihiro MOCHIZUKI	Kaori SAKAI
			Yukio OZAKI	
	Environmental Control for Biology (Biotron Institute)	Jiro CHIKUSHI		
	Tropical Crops & Environment (Institute of Tropical Agriculture)	Kazuo OGATA		
	Bioresources and Management		Keiji TAKASU	
	Sustainable Agricultural Production			
Sustainable Bioresource Science	Wood Science	Kazuyuki ODA	Junji MATSUMURA	Masumi HASEGAWA
	Wood Material Technology		Noboru FUJIMOTO	
	Forest Chemistry and Biochemistry		Toshihiro ONA	Koki FUJITA
	Bioresources Chemistry	Hiroyuki WARIISHI	Takuya KITAOKA	Hirofumi ICHINOSE
	Systematic Forest & Forest Products Science	Ryuichiro KONDO	Yuji TSUTSUMI	Kuniyoshi SHIMIZU

Division	Laboratory	Professor	Associate Professor	Assistant Professor
Agricultural & Resource Economics				
Agricultural & Resource Economics	Environmental Economics	Mitsuyasu YABE		Goshi SATO
	Agricultural Policy	Shoichi ITO	Hiroshi ISODA	
	Farm Management	Teruaki NANSEKI	Kazuhiko HOTTA	Shoji SHINKAI
	Quantitative Economics of Food Industry	Taiji YOSHIDA	Koshi MAEDA	
	Food Marketing	Susumu FUKUDA		Masahiro MORITAKA
	Advanced International Development of Agriculture			
Bioscience & Biotechnology				
Molecular Biosciences	Biochemistry	Makoto KIMURA	Yoshimitsu KAKUTA	Takashi NAKASHIMA
	Marine Biochemistry	Miki NAKAO	Tomonori SOMAMOTO	
	Marine Resource Chemistry *	Makoto ITO	Nozomu OKINO	
	Applied Plant Science	Shoji YAMASHITA	Etsuko NISHIMOTO	
	Plant Nutrition	Ken MATSUOKA	Takeo YAMAKAWA	Masamichi KIKUCHI (Research Associate)
			Akiko MARUYAMA	
	Molecular Gene Technology *	Satoru KUHARA	Kosuke TASHIRO	Shigeru MUTA
	Protein Chemistry & Engineering	Yoshizumi ISHINO		Takeshi YAMAGAMI
	Pesticide Science		Akinori HIRASHIMA	Naotaka YAMADA
Systems Biology	Applied Biological Regulation Technology *	Masahiro OKAMOTO	Taizo HANAI	Hiroyuki HAMADA
	Cellular Regulation Technology *	Sanetaka SHIRAHATA	Yoshinori KATAKURA	Kiichiro TERUYA
	Silkworm Genetics	Yoichi ASO	Yutaka BANNO	Koji YAMAMOTO
	Plant Genetics	Hikaru SATOH	Toshihiro KUMAMARU	
	Metabolic Architecture Design *			
	Bio-Process Design *	Fumihide SHIRAISHI		
	Metabolic Regulation Research *	Shigeki FURUYA		
Applied Molecular Microbiology & Biomass Chemistry	Soil Microbiology	Kenji SAKAI	Sadao KAWAGUCHI	
	Applied Microbiology	Kaoru TAKEGAWA	Sadazo YOSHINO	
	Microbial Technology *	Kenji SONOMOTO	Jiro NAKAYAMA	Takeshi ZENDO
	Biomacromolecular Materials *		Daisuke TATSUMI	
	Microbial Genetics	Toshihisa OHSHIMA	Toshio HARA	
			Katsumi DOI	
			(Senior Asst. Professor)	
	Biomaterial Design *	Tetsuo KONDO		
Food Science & Biotechnology	Nutrition Chemistry		Masao SATO	Bungo SHIROUCHI
	Food Chemistry *	Koji YAMADA	Hirofumi TACHIBANA	Michiko NONAKA (Research Associate)
	Food Analysis *		Toshiro MATSUI	
	Food Process & Engineering	Mitsuya SHIMODA	Noriyuki IGURA	Seiji NOMA
	Food Hygienic Chemistry	Takahisa MIYAMOTO	Ken-ichi HONJOH	
* belongs to the Department of Innovative Science and Technology for Bio-industry in the Doctor's course				
Innovative Science & Technology for Bio-industry **				
Bio-System Design	Applied Biological Regulation Technology	Masahiro OKAMOTO	Taizo HANAI	Hiroyuki HAMADA
	Molecular Gene Technology	Satoru KUHARA	Kosuke TASHIRO	Shigeru MUTA
	Food Analysis		Toshiro MATSUI	
	Microbial Technology	Kenji SONOMOTO	Jiro NAKAYAMA	Takeshi ZENDO
	Metabolic Architecture Design			
	Bio-Process Design	Fumihide SHIRAISHI		
Functional Biomaterials Design	Marine Resource Chemistry	Makoto ITO	Nozomu OKINO	
	Food Chemistry	Koji YAMADA	Hirofumi TACHIBANA	Michiko NONAKA (Research Associate)
	Biomacromolecular Materials		Daisuke TATSUMI	
	Cellular Regulation Technology	Sanetaka SHIRAHATA	Yoshinori KATAKURA	Kiichiro TERUYA
	Metabolic Regulation Research	Shigeki FURUYA		
	Biomaterial Design	Tetsuo KONDO		
** opens only for the Doctor's course.				
	Foreign Student Support & International Affairs		Mako NAKAMURA (Senior Asst. Professor)	
	International Faculty Members		Layne WESTOVER	
			Chowdhury VISHWAGIT	
			Amelia B. HIZON (Senior Asst. Professor)	
	Global 30 Project Coordinator		Hisako NOMURA (Senior Asst. Professor)	
	Open Problem Study Program		Ik Joon KANG	
			Tohru SUZUKI	

9. Curriculum of International Development Research Course (Master's Course)

The Graduate School of Bioresource and Bioenvironmental Sciences runs two graduate education programs: the standard course and the special course. The special course, which focuses on International Development Research, is aimed at international students. The International Development Research Course follows a two-semester system, starting in October with the autumn term followed by the spring term, unlike the standard course which is taught in Japanese and commences in April.

(1) **Thesis work will be carried out in English.** Since the course is aimed at international students, all thesis work is carried out in English.

(2) Students are expected to learn the Japanese Language during the course of their studies, and while not compulsory, this is aimed at bettering communication during daily life.

(3) Thesis should be based on research conducted during the course, and on completion, should be submitted to the Division of Agriculture, the Graduate School of Bioresource and Bioenvironmental Sciences at Kyushu University. If the examiners' requirements are satisfied, an appropriate degree will be awarded.

Students will be awarded the Master of Science (M.Sc) on completion of a satisfactory thesis. Students are also required to complete a four-semester course over a two-year period.

The course consists of lectures, practicals, seminars, and tutorials. Students must obtain 30 credits with a minimum pass grade of 60 %. The Master's course curriculum is presented in Table 1.

Table 1. The Master's Course Curriculum

Code*	Subjects	Credit	Term**			
			Ⅰ (A)	Ⅱ (S)	Ⅲ (A)	Ⅳ (S)
C01	Master's Thesis Research Ⅰ	6	6			
C02	Master's Thesis Research Ⅱ	6			6	
C03	Seminar in Specified Field Ⅰ	2	2			
C04	Seminar in Specified Field Ⅱ	2		2		
C05	Seminar in Specified Field Ⅲ	2			2	
	(Subtotal)	(18)				
M01	Fundamentals of Agricultural Sciences	2	2			
M02	Biological Resources: Utilization and Conservation	2	2			
M03	Soil and Water Environment	2	2			
M04	International Rural Development	2	2			
M05	Advanced Technology in Agriculture	2			2	
M06	Food Science and Food Systems	2			2	
M07	Special Lecture on International Development Ⅰ	1			1	
M08	Special Lecture on International Development Ⅱ	1			1	
	(Subtotal)	(10)				
S01	Applied Genetics and Pest Management	2		2		
S02	Plant Resources	2		2		
S03	Bioscience and Biotechnology	2		2		
S04	Animal and Marine Bioresource Science	2		2		
S05	Agricultural and Resource Economics	2		2		
S06	Bioproduction and Environmental Science	2		2		
S07	Forest and Forest Production Science	2		2		
S08	Genetic Resource Technology	2		2		
	(Subtotal)	(2)				
	Total	30				

*C: compulsory subjects = 5 subjects (18 credit units); M: module subjects = 5 subjects (10 credit units) selected from a total of 8; S: specialized subjects = compulsory and particular to each department (2 credit units).
** A = Autumn term; S = Spring term

An outline of the Master's course subjects is given in Table2. Compulsory subjects consist of the thesis (12 credits) and laboratory seminars (6 credits); module subjects of 5 subjects from a total of at least 8 (10 credits); and specialized subjects of one specific subject (2 credits) given by the department to which the student belongs.

Table 2. Preponderant features of the Master's course subjects

	Aim	Lecture methods	Choice	Professors	Required
Compulsory subjects	Research practice	Conventional form	5 subjects	Laboratory Prof.	5 (18 credits)
Module subjects	Improvement of basic academic abilities focusing on agricultural administration and rural development	Block module	8 subjects	Special team	5 (10 credits)
	Cross-cutting or interdisciplinary research				
Specialized subjects	Improvement of expertise	Block module	8 subjects	Your Depts.	1 (2 credits)

Table 3. An Outline of the Module Subjects

Code	Subject	Specification	Relevant Departments
M01	Fundamentals of Agricultural Sciences	Fundamentals of Agriculture and rural development (Biostatistics, etc.)	All
M02	Biological Resources: Utilization and Conservation	Fundamental sciences necessary for maintaining biodiversity and sustainable utilization of biological resources	Applied Genetics and Pest Management, Plant Resources, Animal and Marine Bioresource Science, Forest and Forest Products Science, etc.
M03	Soil and Water Environments in Agriculture	Irrigation, drainage, reclamation engineering, and the control of water resources	Plant Resources, Agricultural and Resource Economics, Bioproduction Environmental Science, Forest and Forest Products Science, etc.
M04	International Rural Development	Fundamentals and practical research on international rural development	Plant Resources, Agricultural and Resource Economics, Bioproduction Environmental Science, Forest and Forest Products Science, etc.
M05	Advanced Technology in Agriculture	Agricultural life sciences and biotechnology	Applied Genetics and Pest Management, Bioscience and Biotechnology, Animal and Marine Bioresource Science, Genetic Resources Technology, etc.
M06	Food Safety and Security	Science, technology and economics related to food safety and security	Bioscience and Biotechnology, Agricultural and Resource Economics, Bioproduction Environmental Science, etc.
M07	Special Lecture on International Development I	Special lecture (Technical communication, etc.)	Adjunct professors
M08	Special Lecture on International Development II	Special lecture (Wide-ranging issues related to international development strategies, etc.)	Adjunct professors

Lectures are given in a **block module format**. Each semester comprises three blocks, each of which includes 1 to 2 module subjects. A brief outline of the various module subjects is provided in Table 3.

The topic of the thesis research is specified after discussion with your supervisor. Students **must submit their master thesis in English** to the appropriate examination board in the department consisting the teaching staff. Students are required to give an **oral presentation of the thesis during the spring semester of the second year. A committee will evaluate overall performance based on a report by the department committee**. Satisfactory performance will lead to an award of the Master of Science from Kyushu University.

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