

SYMPOSIA AND WORKSHOPS

1) INTERNATIONAL SYMPOSIA

Between 1967 and 1993, the Tropical Agriculture Research Center (TARC), JIRCAS's predecessor, sponsored annual international symposia in order to promote scientific exchange while accurately gauging and responding to agriculture, forestry and fisheries needs of the world's developing regions. Since its transition from TARC, JIRCAS has continued this practice. At

present, each year's JIRCAS International Symposium is organized around themes of central importance to international agricultural research.

Appropriately, the 9th JIRCAS International Symposium, held in October 2002, focused on "Value-addition to agricultural products", and the program appears below.

9th JIRCAS International Symposium

VALUE-ADDITION TO AGRICULTURAL PRODUCTS – TOWARDS THE INCREASE OF FARMERS' INCOME AND VITALIZATION OF THE RURAL ECONOMY –

On October 16-17, 2002, JIRCAS held its 9th International Symposium entitled "Value-addition to agricultural products - towards the increase of farmers' income and vitalization of the rural economy" in cooperation with the National Agricultural Research Organization (NARO), National Food Research Institute (NFRI), Fisheries Research Agency (FRA), and the PhAction and Food Forum Tsukuba. A total of 209 scientists, administrators and technical experts representing 40 different countries participated in the symposium and exchanged views on the issues raised during each session.

Opening address and welcoming remarks

- Inaugural address by Dr. Takahiro Inoue, (former) President, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan
- Welcoming remarks by Mr. Katsuyuki Nagayama, Research Councilor, Agriculture, Forestry and Fisheries Research Council Secretariat (AFFRC), Japan

Keynote addresses

- "Status of the postharvest sector and its contribution to agricultural development and economic growth" by Dr. Geoffrey C. Mrema and Dr. Rosa S. Rolle, Food and Agriculture Organization of the United Nations (FAO), Italy
- "Linking farmers to markets" by Dr. Guy Poulter, Natural Resources Institute (NRI), University of Greenwich, United Kingdom

Session 1: Current status of the rural economy, measures for increasing farmers' incomes and vitalization of the rural economy

Chaired by Dr. Greg Johnson, Australian Centre for International Agricultural Research (ACIAR), Australia, and Mr. Kazuyuki Tsurumi, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan

- Government measures to increase farmers' income and develop the rural economies in China. S. Li, Chinese Academy of Agricultural Sciences (CAAS), China
- The Philippine rural economy: Status and measures for increasing farmers' income and economic vitalization. N.M. Manalili and H.C. Jalotjot, Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA), the Philippines
- Current status of the Vietnamese rural economy and measures for its vitalization and improving farmers' income. L.V. To, Post Harvest Technology Centre (PHTC), Vietnam
- Current status of the rural economy and measures for vitalizing it and increasing farmers' income in Indonesia: Development of substantial Gedong gincu mango plantations in West Java. M.S. Mahendra, M. Suryadi, and N. Padmono, University of Udayana, Indonesia
- Postharvest innovation systems in South Asia: Research as capacity development and its prospects for impact. A. Hall and R.V. Sulaiman, Department for International Development (DFID), Crop Post-Harvest Programme, South Asia, India
- Strategic alliances of cassava farmers with private and public sectors: A new approach for

the development of cassava crop in Latin America. B.O. Patino and R. Best, Latin American and Caribbean Consortium to Support Cassava Research and Development (CLAYUCA), Colombia

- The challenges of globalization and opportunities for accessing value-added markets for African producers. R.S.B. Ferris and P. Robbins, International Institute of Tropical Agriculture (IITA), Uganda

Session 2: Systems for ensuring food quality and safety

Chaired by Dr. Tadahiro Nagata, National Food Research Institute (NFRI), Japan and Dr. Toshiaki Taniguchi, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan

- Codex standards and food safety. Y. Yamada, National Food Research Institute (NFRI), Japan
- Grain quality from harvest to market. J.F. Rickman, International Rice Research Institute (IRRI), the Philippines
- Safety of feed and animal products. A.W. Speedy and D. Battaglia, Food and Agriculture Organization of the United Nations (FAO), Italy
- Extending the pre-rigor state of fish by enhancing mitochondrial ATP synthesis. S. Watabe and S. Itoi, University of Tokyo, Japan

Session 3: Research on value-addition and novel utilization

Chaired by Dr. Kouji Nakamura and Dr. Kazuki Shinohara, National Research Institute of Fisheries Science (NFRI), Japan

- Issues facing the traditional fish products industry in Southeast Asia. Y. Soon-Eong and T. Sen-Min, Southeast Asian Fisheries Development Centre (SEAFDEC), Singapore
- Development of an intermediate foodstuff from freshwater fish in China. X. Wang, Y. Fukuda, S. Chen, M. Yokoyama, Y. Cheng, C. Yuan, Y. Qu, and M. Sakaguchi. Shanghai Fisheries University, China
- Application of value-adding technologies in Thailand. G. Trakoontivakorn, Institute of Food Research and Product Development, Kasetsart University, Thailand
- Inventory of indigenous plants and minor crops in Thailand based on bioactivities. K. Nakahara, M.K. Roy, N.S. Alzoreky, V.N. Thalang, and G. Trakoontivakorn, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan
- Functionalities of traditional foods in China. L. Lite, Y. Lijun, Z. Jianhua, Z. Xiaofeng and Z. Lin, China Agriculture University, China
- Functional foods and their utilization in Japan. M. Shimizu, University of Tokyo, Japan

Session 4: General discussion

Chaired by Dr. Geoffrey C. Mrema, Food and Agriculture Organization of the United Nations (FAO), Italy, and Dr. Toru Hayashi, Japan International Research Center for Agricultural Sciences, Japan

- What needs to be done to make postharvest research and development serve the needs of poor farmers in their efforts to find markets for their products?
- Changing focus of postharvest research - from postharvest losses towards value-addition - re-evaluation of indigenous products and traditional foods

Closing Remarks by Dr. Le Van To, Post Harvest Technology Centre (PHTC), Vietnam

2) SPECIAL PROGRAMS

WORKSHOP ON THE RESULTS AND PROSPECTS OF “COMPREHENSIVE STUDIES ON THE DEVELOPMENT OF SUSTAINABLE AGRO-PASTORAL SYSTEMS IN THE SUBTROPICAL ZONE OF BRAZIL”

The research project entitled “Comprehensive studies on the development of sustainable agro-pastoral systems in the subtropical zone of Brazil” has been in operation since 1996, with a primary focus on

the following four subjects: 1) Analysis and evaluation of traditional land utilization systems for agriculture; 2) Multidisciplinary studies for the adoption of sustainable crop-pasture rotation systems; 3) Socio-economic

Workshop participants pose for a group photo during the final evaluation meeting for the project "Comprehensive studies on sustainable agro-pastoral systems in the subtropical zone of Brazil." (Photo: T. Taniguchi)



evaluation of crop-pasture rotation from the standpoint of farming systems; and 4) On-farm participatory research on newly developed "agro-pastoral systems." These studies are being carried out in collaboration with the National Beef Cattle Research Center (EMBRAPA-Gado de Corte), Campo Grande, Mato Grosso Do Sul, Brazil, International Center for Tropical Agriculture (CIAT) and JATAK (Federacao Nacional das Cooperativas Agricolas de Colonizacao) Agricultural Training Center (JATAK-ATC).

In order to support the project's final goals, a workshop was held at Tsukuba from

March 18-19, 2003 in order to review the results obtained during the implementation of the project, and to discuss future prospects for agro-pastoral systems in Brazil. Dr. Peter C. Kerridge, former Coordinator of International Center for Tropical Agriculture (CIAT)-Asia, Prof. Kazuo Kawano, Kobe University, Prof. Makie Kokubun, Tohoku University and Dr. Muneo Oikawa, Director of Research Division, Japan Grassland Farming Forage Seed Association, were invited to serve as commentators, and approximately fifty scientists from Brazil and Japan participated in the workshop.

Opening address by Dr. Takahiro Inoue, (former) President of the Japan International Research Center for Agricultural Sciences (JIRCAS), Japan

Keynote address by Dr. Marcio C.M. Porto, Brazil, "Importance of agro-pastoral systems in Brazil"

Session 1: Project outputs

- Development of grassland management technology for sustainable agro-pastoral systems in the subtropical zone of Brazil. T. Kanno, National Agricultural Research Center for Tohoku Region, Japan
- Results of soybean yields, grass productivity and soil fertility changes in agro-pastoral systems. C.H.B. Miranda, National Beef Cattle Research Center (EMBRAPA-Gado de Corte), Brazil
- Nitrogen dynamics in agro pastoral-systems. K. Kanda, National Institute for Agro-Environmental Sciences, Japan
- Characterization of nitrogen utilization by tropical grasses in Brazilian savannas. T. Nakamura, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan.
- Organic residues accumulation in soil under agro-pastoral systems in the Cerrados of Brazil. C.H.B. Miranda, National Beef Cattle Research Center (EMBRAPA-Gado de Corte), Brazil
- Effects of termite activities on nutrient recycling in agro-pastoral systems. E. Fukuda, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan
- Enhancement of phosphorus leaching by soybean cultivation especially in Brazilian oxisols. N. Ae, National Institute for Agro-Environmental Sciences, Japan
- Inhibition of nitrification in *Brachiaria humidicola*, T. Ishikawa, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan

Session 2: Prospects for agro-pastoral systems

- Diagnosis of pasture degradation by multi-temporal satellite imagery. Y. Yamamoto, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan
- Problems and perspectives of regional land conservation systems in the cerrados highlands in relation to the Pantanal wetland. O. Correa de Souza, National Beef Cattle Research Center (EMBRAPA-Gado de Corte), Brazil
- Tropical forage breeding in EMBRAPA: Current situation and prospects, C. Borges do Valle, National Beef Cattle Research Center (EMBRAPA-Gado de Corte), Brazil
- Socio-economic evaluation of agro-pastoral systems. Y. Sugai, National Beef Cattle Research Center (EMBRAPA-Headquarters), Brazil
- Actual situation and possibilities of the extension of agro-pastoral systems in the subtropical zone of Brazil. S. Aoki, National Institute of Livestock and Grassland Science, Japan

A SYMPOSIUM ON SUSTAINABLE AGRICULTURAL TECHNOLOGY RESEARCH AND DEVELOPMENT

The year 2002 marked the observance of 30th Anniversary of the Restoration of Diplomatic Relations between Japan and China. During these last three decades, exchanges of agricultural science and technology between Japan and China have facilitated substantial progress in terms of agricultural production, as both countries have similar small-scale farming and labor-intensive systems in the Asian Monsoon region. This year was crucial for China because of the country's restructuring. Various activities are being undertaken to develop sustainable agriculture in both China and Japan under the international framework of the World Trade Organization (WTO). With

the aim of promoting further development of sustainable agriculture, the Japanese Ministry of Agriculture, Forestry and Fisheries (MAFF), the Chinese Ministry of Agriculture (MOA) and the Japan International Research Center for Agricultural Sciences (JIRCAS) jointly held a symposium on June 27-28, 2002 at the China-Japan Research and Development Center for Agricultural Technology, Beijing, also the venue for the celebration of the Center's establishment, which was financially supported by the Japan International Cooperation Agency (JICA). The symposium was attended by more than 100 participants from Japan and China.

Opening address and welcome remarks

- Mr. Liu Jian, Vice Minister, Ministry of Agriculture (MOA), People's Republic of China
- Mr. Akihiko Ohmori, Senior Councilor for Technical Affairs, Ministry of Agriculture, Forestry and Fisheries (MAFF), Japan
- Dr. Zhai Huqu, President, Chinese Academy of Agricultural Sciences (CAAS), People's Republic of China
- Dr. Takahiro Inoue, (former) President, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan

Keynote address

- Prof. Tian Weimin, China Agricultural University, People's Republic of China
- Dr. Takashi Shinohara, Director General, Policy Research Institute, Japan

Session 1: WTO and agricultural policy

Chaired by Mr. Kazuo Hirashima, General Food Policy Bureau, Ministry of Agriculture, Forestry and Fisheries (MAFF), Japan

- Adjustment of Chinese agricultural policy to the WTO accession. Z. Hongyu, Department of Agricultural Policy, Ministry of Agriculture, People's Republic of China
- Proposal by Japan on WTO agricultural negotiations. S. Akahori, General Food Policy Bureau, Ministry of Agriculture, Forestry and Fisheries, Japan
- Adjustment of Chinese agriculture and rural economic policy after the WTO accession. X. Xiaoqing, Development Research Center of the State Council, People's Republic of China

- Economic development and agriculture in East Asia. A. Ikegami, Meiji University, Japan
- Comparative competition of Chinese agriculture after the WTO accession. Q. Keming, Institute of Agricultural Economics, Chinese Academy of Agricultural Sciences (CAAS), People's Republic of China
- For establishing fair and appropriate rules of agricultural product trade. Y. Nakamura, Central Union of Japan Agricultural Cooperatives, Japan

Session 2: Sustainable agriculture

Chaired by Dr. Kao Shangbao, Department of Education, Ministry of Agriculture, China

- Sustainable agriculture in Japan, challenges and issues. K. Cho, Kyushu University, Japan
- Sustainable development and technology transfer to China. W. Yiming, China-Japan Research and Development Center for Agricultural Technology, Chinese Academy of Agricultural Sciences (CAAS), People's Republic of China
- Environmental conservation and sustainable agriculture. K. Minami, National Institute for Agro-Environmental Sciences, Japan
- Expected achievements in the China-Japan Sustainable Agricultural Technology Research and Development Project. Y. Huaiwen, China-Japan Research and Development Center for Agricultural Technology, Chinese Academy of Agricultural Sciences (CAAS), People's Republic of China
- Case study in development of a sustainable agricultural system for various agro-ecosystems. O. Ito, Y. Hosen, N. Matsumoto and T. Watanabe, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan; and K. Yagi, National Institute for Agro-Environmental Sciences, Japan
- Ecological environmental safety and agricultural sustaining development. L. Erda, China-Japan Research and Development Center for Agricultural Technology, Chinese Academy of Agricultural Sciences (CAAS), People's Republic of China



Signboard in Chinese for the Sustainable Agricultural Technology Symposium.

WORKSHOP AND FINAL EVALUATION MEETING OF THE COLLABORATIVE PROJECT ON EVALUATION AND IMPROVEMENT OF REGIONAL FARMING SYSTEMS IN INDONESIA

A final evaluation workshop was conducted on February 25, 2003 at JIRCAS's premises in Tsukuba in order to conclude the research project entitled "Evaluation and improvement of regional farming systems in Indonesia" carried out with the Agency for Agricultural Research and Development (AARD), Indonesia since 1998. Since the project was reorganized to focus on the evaluation of vegetable-based farming systems and the improvement of vegetable and fruit cultivation in the highland regions of West Java, research achievements from only the previous three years of the project were presented.

The project consisted of five research subjects, including the use of geographic information systems (GIS), socio-economic analyses, plant protection and the utilization of biological resources. During the workshop, research successes based on the use of interdisciplinary approaches in each subject were discussed in addition to the insights provided from the unidisciplinary studies. Representatives from the counterpart institute provided their comments on the implications and the future prospects of each research subject, and concluded that the project yielded many applicable research outputs as well as unprecedented experiences during the region-specific comprehensive research project.

Welcome address by Dr. Takahiro Inoue, (former) President, Japan International Research Center for Agricultural Sciences (JIRCAS)

Project Introduction by Mr. Osamu Koyama, Project Leader, Japan International Research Center for Agricultural Sciences (JIRCAS)

Reporting Session

Chaired by Mr. Osamu Koyama

- Analysis of physical environment resources for evaluation and improvement of vegetable-based farming systems in the highland regions of West Java - Development of techniques to integrate information on spatial characteristics for the management of regional agricultural systems. S. Uchida, Development Research Division, Japan International Research Center for Agricultural Sciences (JIRCAS), and Wahyunto, Center for Soil and Agro-climate Research and Development (CSARD), Indonesia. Comments by Dr. Abdurachman Adimihardja, Director, CSARD.
- Changes in farming systems and analysis of future demands for domestic consumption and exports - historical review of development of temperate vegetable production and prediction of future development. H. Mayrowani, Center for Agro Socio-Economic Research and Development (CASERD), Indonesia; K. Miyatake, National Agricultural Research Center, National Agricultural Research Organization (NARO), Japan; and S. Kosugi, Development Research Division, Japan International Research Center for Agricultural Sciences (JIRCAS).
- Evaluation of new technologies for temperate vegetable production in terms of the household economy. S. Kosugi, Japan International Research Center for Agricultural Sciences (JIRCAS); H. Mayrowani, CASERD; and T. UBARNA, West Java Assessment Institute for Agricultural Technology (AIAT-West Java), Indonesia. Comments by Dr. Pantjar Simatupang, Director, CASERD.
- Spatial analysis of the cropping patterns of temperate vegetables and identification of research topics in collaboration between farmers' associations and regional research. J. S. Caldwell, Development Research Division, Japan International Research Center for Agricultural Sciences (JIRCAS); and I. Ishaq, AIAT-West Java. Comments by Dr. Bram Kusbiantoro, AIAT-West Java.
- Analysis and evaluation of marketing systems for temperate vegetables in West Java. W. Adiyoga, Research Institute for Vegetables (RIV), Indonesia; A. Nonaka, National Agricultural Research Center for Tohoku Region, National Agricultural Research Organization (NARO), Japan; and S. Kosugi, Japan International Research Center for Agricultural Sciences (JIRCAS). Comments by Dr. Pantjar Simatupang, Director, CASERD.
- Evaluation of the present cultivation and plant protection technologies of temperate vegetables and development of sustainable technologies. M. Yamada, Crop Production and

Environment Division, Japan International Research Center for Agricultural Sciences (JIRCAS); H. Higashio and T. Kitamura, National Institute of Vegetables and Tea Science, National Agricultural Research Organization (NARO); and A. A. Asanshi, RIV. Comments by Dr. Anna L. H. Dibiyantoro, Senior Researcher, RIV.

- Evaluation and utilization of indigenous upland crops and fruit trees planted in the farming systems in the highland regions. Y. Egawa and H. Fukamachi, Okinawa Subtropical Station, Japan International Research Center for Agricultural Sciences (JIRCAS); and I. Ishaq, AIAT-West Java. Comments by Dr. Bram Kusbiantoro, Research Program Coordinator, AIAT-West Java.

General Discussion

Chaired by Mr. Osamu Koyama, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan

General Comments

Dr. Joko Budianto, Director General, Agency for Agricultural Research and Development (AARD), Indonesia

WORKSHOP ON THE DEVELOPMENT OF NEW TECHNOLOGIES AND THEIR PRACTICE FOR SUSTAINABLE FARMING SYSTEMS IN THE MEKONG DELTA (MEKONG II)

JIRCAS has conducted the Mekong Delta Project (Mekong II) since 1999 in collaboration with Cantho University, the Cuu Long Delta Rice Research Institute (CLRRI), and the Southern Fruit Research Institute (SOFRI) for the purpose of developing technologies that can reuse and recycle by-products and wastes generated by VACR systems (VACR is a Vietnamese acronym standing for fruits and vegetables, aquaculture, livestock, and rice-farming systems). On November 27-29, 2001, the CLRRI hosted a three-day workshop to serve as a venue for the mid-term evaluation of the project. More than 100 participants attended

the workshop, including members of the Vietnamese local authorities and agricultural extension departments, as well as representatives from Tan Phu Thanh Village, one of the on-farm trial sites, and faculty members from Cantho University. During the workshop, a consensus was reached that the technologies developed thus far in the project should be tested at farm sites, and that technology-specific farming systems should be proposed based on the results. On the final day of the workshop, all participants visited the on-farm trial sites and exchanged views on project performance, while also providing suggestions for future research strategies.

Session 1: Developing technologies for rice production

Chaired by Dr. Pham Sy Tan, Cuu Long Delta Rice Research Institute (CLRRI), Vietnam

- Genetic variability of salt tolerance in rice. N.T. Lang, Cuu Long Delta Rice Research Institute (CLRRI), Vietnam
- Development of salt tolerant varieties in the Mekong Delta. N.T. Lang, Cuu Long Delta Rice Research Institute (CLRRI), Vietnam
- Optimum seed rates derived from row seeding using different crop management practices. T.Q. Khuong, Cuu Long Delta Rice Research Institute (CLRRI), Vietnam
- Effect of seed rates and seeding methods using different nitrogen rates. T.Q. Khuong, Cuu Long Delta Rice Research Institute (CLRRI), Vietnam
- Effect of irrigation and drainage management practices on rice yield under irrigated rice culture. T.Q. Khuong, Cuu Long Delta Rice Research Institute (CLRRI), Vietnam
- Lowland rice weeds in Vietnam. D.V. Chin, Cuu Long Rice Research Institute (CLRRI), Vietnam
- Biological control of *Leptochloa chinensis* (L.) Nees. using fungus *Setosphaeria rostrata*. D.V. Chin, Cuu Long Rice Research Institute (CLRRI), Vietnam
- Rice resistance against insect pests and natural enemies determined by yield: Comparing the effectiveness of early protection - one day before sowing - and partial protection - the four leaves stage. L.M. Chau, Cuu Long Rice Research Institute (CLRRI), Vietnam
- Third year report on pest constraint surveys in Tan Phu Thanh Village. P.V. Du, Cuu Long

Rice Research Institute (CLRRI), Vietnam

- Effect of organic and bio-fertilizer applications on rice-soybean-rice cropping systems. T.T.N. Son, Cuu Long Rice Research Institute (CLRRI), Vietnam
- Performance test of fabricated simple small dryers. L.V. Banh, Cuu Long Rice Research Institute (CLRRI), Vietnam
- On-farm trials of seeding and fertilizer application methods on wet direct seeding rice (WS 2001 and DS 2001-02). H. Kobayashi, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan

Session 2: Fruit production

Chaired by Dr. Pham Van Kim, Cantho University, Vietnam

- Third year progress report on fruit tree production based on integrated pest management (IPM) in Tan Phu Thanh Village of the Mekong Delta, Vietnam. D. Minh, Cantho University, Vietnam
- Case study on the spread of greening disease (Huanglongbing) into new citrus orchards in Tan Phu Thanh Village (Chau Thanh District, Can Tho Province). D. Minh, Cantho University, Vietnam
- Useful histological methods for distinguishing citrus yellowing leaves infected with Huanglongbing from those caused by other factors. N.T.N. Truc, Southern Fruit Research Institute (SOFRI), Vietnam
- DIBA test for quick detection of virus on vegetable crops in Tan Phu Thanh Village. B.T.N. Lan, Southern Fruit Research Institute (SOFRI), Vietnam
- IPM on citrus with an emphasis on citrus psylla control in Tan Phu Thanh Village. H.T. Duc, Southern Fruit Research Institute (SOFRI), Vietnam
- Progress report on integrated pest management (IPM) systems for mango using green ants, *Oecophylla smaragdina*, in Tan Phu Thanh, Can Tho Province, Mekong Delta. H.T. Duc, Southern Fruit Research Institute (SOFRI), Vietnam
- Preliminary observations of the natural infection of alternative citrus species hosts by Huanglongbing pathogens. N.T.N. Truc, Southern Fruit Research Institute (SOFRI), Vietnam
- Screening for the water logging and salinity tolerances of citrus species. V.H. Thoai, Southern Fruit Research Institute (SOFRI), Vietnam

Session 3: Livestock production

Chaired by Dr. Seishi Yamasaki and Ms. Akemi Kamakawa, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan

- Utilization of water spinach (*Eichhornia crassipes*) as a supplement in diets for fattening pigs. V.V. Son, Cantho University, Vietnam
- Replacement of protein concentrates with water hyacinth (*Eichhornia Crassipes*) in the diets of growing pigs. L.H. Manh, Cantho University, Vietnam
- Evaluation of water hyacinth diets for fattening pigs in Tan Phu Thanh Village. L.T. Men, Cantho University, Vietnam
- Water hyacinth (*Eichhornia Crassipes*): ensiling techniques, its nutritive value, and intake for pigs. N.X. Dung, Cantho University, Vietnam
- Effect of admixing synthetic antioxidants and sesame with rice bran on daily weight gain, feed intake and feed efficiency of swine in the Mekong Delta, Vietnam. S. Yamasaki, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan
- Pig management in Tan Phu Thanh Village and characterization of losses. A. Kamakawa, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan
- Sero-survey of viral porcine diseases in the Mekong Delta. A. Kamakawa, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan
- Genomic and serological characteristics of pathogenic *Escherichia coli* from growing pigs in the Cantho Province of Vietnam. L.T.L. Khai, Cantho University, Vietnam
- Prevalence of pathogenic *Escherichia coli* in an environment of swine breeding in Cantho Province of Vietnam. L.T.L. Khai, Cantho University, Vietnam
- Isolation and identification of piglets' diarrhea caused by enterotoxigenic *Escherichia coli* K88, K99, K987P and treatment using antibiotics in Cantho Province, Vietnam. L.T.L. Khai, Cantho University, Vietnam
- Efficiency of loperamide HCl in treating acute diarrhea in piglets. H.T.V. Thu, Cantho

University, Vietnam

- Study on tapeworms (class Cestode) in duck in the Chau Thanh and O Mon districts of Cantho Province. N.H. Hung, Cantho University, Vietnam

Session 4: Aquacultural production

Chaired by Dr. Duong Nhut Long, Cantho University, Vietnam

- Rearing of climbing perch (*Anabas testudineus*) in concrete tanks. N.A. Tuan, Cantho University, Vietnam
- Study on the effects of vitamin C sources and levels on the growth and survival rates of giant freshwater prawn (*Macrobrachium rosenbergii*) larvae. T.T.T. Hien, Cantho University, Vietnam
- Culture of freshwater prawns in rice fields and orchard canals in Tan Phu Thanh Village, Chau Thanh A District, Can Tho Province. P.T. Liem, Cantho University, Vietnam
- Study on the effects of feeding diets on the growth of climbing perch (*Anabas testudineus*) cultured in ponds. P.T. Liem, Cantho University, Vietnam

Session 5: Development of technology for environmental conservation

Chaired by Dr. Ngo Ngoc Hung, Cantho University, Vietnam

- Nitrogen flow estimation in Can Tho province in 2010. T. Watanabe, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan
- Improvement of soil fertility by rice straw manure. L.H. Man, Cuu Long Rice Research Institute (CLRRI), Vietnam
- Tentative report on nitrogen dynamics and phytoplankton in the irrigated water of paddy fields. T. Watanabe, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan
- Introduction of low-cost plastic biogas digesters in the integrated farming systems of small-scale farms. V. Lam, Cantho University, Vietnam
- Development of techniques to make swine compost suitable for small farms in the Mekong Delta. T.T. Phan, Cantho University, Vietnam

Session 6: Farming Systems

Chaired by Dr. Vo-Tong Xuan, Mekong Delta Farming Systems Research and Development Institute, Cantho University, Vietnam

- Application of the socio-economic characteristics of land evaluation using GIS techniques - a case study in Tan Phu Thanh Village, Chau Thanh district, Can Tho province. V.Q. Minh, Cantho University, Vietnam
- Multicriteria and multi-objective land use planning - a case study in Tan Phu Thanh Village, Chau Thanh District, Can Tho Province. V.Q. Minh, Cantho University, Vietnam
- Economic evaluation of bio-gas digesters in Tan Phu Thanh Village, Can Tho Province. R. Yamada, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan
- Economic evaluation of row seeding technologies in Omon District, Can Tho Province. R. Yamada, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan
- Economic effects of component technology development for use in integrated farming systems at the farm-household level. N.Q. Tuyen, Cantho University, Vietnam
- Preliminary diffusion of new technologies during the Japan International Research Center for Agricultural Sciences's project. L.C. Dung, Cantho University, Vietnam
- Impact of household resource management by adopting new technologies. L.C. Dung, Cantho University, Vietnam
- Specifying the difficulty of farmers joining in cooperative economic organizations in Can Tho. T.V. Binh, Cantho University, Vietnam
- Evaluating the operating efficiency of cooperative economic organizations in Can Tho Province. N. Hao, Cantho University, Vietnam
- Developing a model for an economic community organization in Can Tho Province. N.P. Son, Cantho University, Vietnam
- Sustainable farming systems research on acid sulfate soil: sustainable development. D.V. Ni, Cantho University, Vietnam
- A participatory research approach supporting small-scale household farming development in rainfed lowland in Bac Lieu. N.D. Can, Cantho University, Vietnam

Session 7: Discussion on the activities planned for the final year of the Project

Chaired by Dr. Vo-Tong Xuan, Cantho University, Vietnam, and Mr. Satoru Miyata, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan

STUDIES ON SUSTAINABLE PRODUCTION SYSTEMS OF AQUATIC ANIMALS IN BRACKISH MANGROVE AREAS.

On December 2-3, 2002, JIRCAS and Malaysia's Department of Fisheries held a joint workshop for the international comprehensive project entitled "Studies on sustainable production systems of aquatic animals in brackish mangrove areas" in Penang, Malaysia. The thirty-five workshop participants included officials of the Government of Malaysia, members of the Malaysian Fisheries Research Institute, long-term and short-term visiting JIRCAS

researchers, counterparts of JIRCAS, members of the Fish World Center, and JIRCAS organizers. Following the workshops, a mid-term evaluation meeting was conducted, and it was announced that the project was being successfully and efficiently implemented. The participants of the meeting are continuing their efforts to achieve the planned results through the subsequent three-year period, ending in 2005.

Opening address by Dr. Takahiro Inoue, (former) President, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan and Mr. Hashim Ahmad, Director General, Department of Fisheries, Malaysia

-Topics-

- Migration, growth and feeding habits of John's snapper *Lutjanus johnii* and duskytail grouper *Epinephelus bleekeri* in the Merbok mangrove brackish river. Y. Ogawa, Japan International Research Center for Agricultural Science (JIRCAS), Japan
- Actual conditions of marine capture fisheries and aquaculture of snappers and groupers in Malaysia. S.H. Yahya, Fisheries Research Institute (FRI), Malaysia; and Y. Ogawa, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan
- Preliminary study of the stomach contents of snappers and groupers of Pulau Sembilan Coral Reefs. M.P. Abdullah and C.Z. Ismail, Fisheries Research Institute (FRI), Malaysia
- Mangrove zooplankton of Matang mangrove estuaries: Preliminary assessment of spatio-temporal abundance in relation to environmental parameters. C.V. Ching, O.A. Lin, C.L. Lee, University of Malaya, Malaysia; and Y. Ogawa, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan
- A study on the meiobenthic community in mangrove purification experimental tanks. C. Aryuthaka, Kasetsart University, Thailand; T. Shimoda, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan; and S. Pleumarum, Kasetsart University, Thailand
- Fisheries management, utilization of fishing ground and marine catches in Peninsular Malaysia. M.F. Haron, Fisheries Research Institute (FRI), Malaysia; and Y. Ogawa, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan
- Reproductive performance of the mangrove red snapper, *Lutjanus argentimaculatus*, fed broodstock diet. A.C. Emata, I.G. Borlongan and E.S. Garibay, Southeast Asia Fisheries Development Center, Aquaculture Department (SEAFDEC/AQD), Philippines; and H.Y. Ogata, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan
- Notable features of fatty acid composition in mangrove fish species. H.Y. Ogata, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan; A. Cabading Emata, E.S. Garibay, Southeast Asia Fisheries Development Center, Aquaculture Department (SEAFDEC/AQD), the Philippines; and H. Furuita, Fisheries Research Agency (FRA), Japan
- Development of control methods of factors suppressing sustainable production of aquaculture species: Isolation of a piscine nodavirus from hatchery-reared sea bass, *Lates calcarifer* in the Philippines. Y. Maeno, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan; and L.D. de la Pena and E.R. Cruz-Lacierda, Southeast Asia Fisheries Development Center, Aquaculture Department (SEAFDEC/AQD), the Philippines

- Development of control methods of factors suppressing sustainable production of aquaculture species: Experimental transmission of viral nervous necrosis induced by piscine nodavirus to orange-spotted grouper *Epinephelus coioides*. Y. Maeno, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan; and L.D. de la Pena and E.R. Cruz-Lacierda, Southeast Asia Fisheries Development Center, Aquaculture Department (SEAFDEC/AQD), the Philippines
- Phosphorus budget in mangrove woods and ecosystems added with artificial nutrients and wastewater from shrimp aquaculture ponds. T. Shimoda, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan; and C. Aryuthaka and C. Srithong, Kasetsart University, Thailand
- Trends in cultivation management after the decline of prawn production in brackish water aquaculture in the Philippines. T. Matsuura, Fisheries Research Agency (FRA), Japan
- Above ground dry matter gain and loss of a young mangrove forest in the stand development process - an example in Southern Thailand. R. Tabuchi, Forestry and Forest Products Research Institute (FFPRI), Japan; and S. Bunyavejchewin, Royal Forest Department (RFD), Thailand



Presentation session at the workshop for the brackish water project.

MEKONG REGION RAINFED AGRICULTURE PROJECT 2002 PARTICIPATORY METHODS WORKSHOPS

The Rainfed Agriculture Project, in collaboration with the International Center for Tropical Agriculture (CIAT) and the Participatory Research and Gender Analysis (PRGA) Working Group on Natural Resource Management, held two workshops on participatory methods during 2002. The first workshop titled, “Improving Adoption of Agricultural Technologies – How Participatory Research can Complement

Conventional Research Approaches,” was held from March 4-8, at Tsukuba, Japan, and attended by JIRCAS project members. The second workshop titled, “Mini-Workshop on Participatory Research (PR) Methods,” was held from October 28-29, at Khon Kaen, Thailand, and was attended by Thai project members, with support from the International Training Center for Agricultural Development (ITCAD) and Khon Kaen University.

WORKSHOP ON “IMPROVING ADOPTION OF AGRICULTURAL TECHNOLOGIES – HOW PARTICIPATORY RESEARCH CAN COMPLEMENT CONVENTIONAL RESEARCH APPROACHES”

This workshop was the first of two workshops conducted under the Rainfed Agriculture Project in collaboration with International Center for Tropical Agriculture (CIAT) and the Participatory Research and Gender Analysis (PRGA) Working Group on Natural Resource Management. It was designed to give participants practical experience with approaches, skills and tools for better targeting of research toward the development of agricultural technologies with greater farmer acceptability. Thirteen participants used a range of techniques, including idea generation, card voting, focus groups, ranking and weighting, preference analysis, and scoring. Case studies were presented where participatory approaches

have led to successful improvements by farmers. The goal of participatory research is to develop a wider range of options for unpredictable, risky outcomes, rather than to seek one solution that all farmers are expected to adopt. This involves a process of farmer needs assessment, identification of entry-point technologies to provide quick initial results for a key problem, and negotiation among researchers and farmers for research on longer-term, more difficult problems. Participants were divided into two groups, each of which developed a research plan: 1) erosion, focused on problems identified from farmer needs assessment in 2001; and 2) dry season lowland water management, for priorities to be identified in 2003.

AFRICAN AGRICULTURE SEMINAR IN 2002

JIRCAS has undertaken preparations for a new project coming in April 2003 at Niamey, Niger in collaboration with the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT). The five-year project focuses on soil fertility preservation through organic matter management, and through introduction of legumes to diversify and enrich agricultural systems.

In this context, a series of seminars was organized in this fiscal year in order to widen understanding and exchange views on the semi-arid zones of Africa.

In total, six seminars were carried out from March 2002 to March 2003. Seminar speakers were invited from universities, national research institutes and NGOs, including Kyoto University, the National Institute for Agro-Environmental Sciences, Hokkaido University, Tokyo University of Agriculture, Earth and Human Co. Ltd., and the National Agricultural Research Center. The number of the speakers totaled 16, and seminar titles were as follows:

- On the concept of soil fertility in tropical Africa and proposed research directions for improvement.

- Environmental problems of agriculture and rural societies in semi-arid Africa.
- Problems in soil preservation in arid and semi-arid Africa.
- Utilization of plant genetic resources in semi-arid regions.
- Soil and environmental problems in semi-arid tropical Africa, and related activities at the Sahelian Center of ICRISAT
- Development of agricultural technologies and their extension in Africa.

During the seminars, issues such as the efficacy and utilization of organic matter and chemical fertilizers in the region, the relationship between livestock systems and crop cultivation, and the diversity and utilization of indigenous plant genetic resources were discussed.

This seminar series on African agriculture will be continued in 2003 with wider perspectives, focusing not only on semi-arid zones, but also on agricultural problems and research needs in tropical Africa, with particular emphasis on rice production.

JIRCAS SEMINAR ON “A NEW STRATEGY FOR INTERNATIONAL COLLABORATIVE RESEARCH TOWARD THE COEXISTENCE OF VARIOUS AGRICULTURAL SYSTEMS”

On January 26-27, 2003, JIRCAS hosted a seminar on new international collaborative research strategies being employed to achieve sustainable development and the coexistence of various types of agriculture, forestry and fisheries in cooperation with the Institute of Development Economics (Japan External Trade Organization), International Cooperation Center for Agricultural Education (Nagoya University), Graduate School of Asian and African Area Studies (Kyoto University), and the Graduate School for International Development and Cooperation (Hiroshima University). The seminar was conducted to review international collaborative research activities carried out by various Japanese institutions including public institutions, universities and NGO/NPOs, and to establish a common

consensus and working platform in order to improve their efficiency. More than 100 participants, including current students, scholars, researchers, and government officials attended the seminar, discussing and formulating potential strategies for international cooperation between institutions and universities that have faced rapid and extensive organizational changes. Particular attention was given to regional strategies focusing on collaborative research and development in Africa, South Asia and East Asia, which possess dense populations suffering from hunger and malnourishment. In order to build upon and further promote achievement of the seminar's goals, JIRCAS has initiated a follow-up international meeting scheduled to take place in the fall of 2003.

Inaugural Address by Dr. Takahiro Inoue, (former) President, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan

Keynote Address

Chaired by Mr. Osamu Koyama, Director of the Development Research Division, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan

- Issues and perspectives of Japan's international cooperation for development. Prof. Hiroyuhi Kohama, Shizuoka Prefectural University, Japan

Session 1: Perspectives on area and development studies and their implications for technology development

Chaired by Dr. John S. Caldwell, Dr. Kensuke Okada, and Mr. Satoru Miyata, Japan International Research Center for Agricultural Sciences (JIRCAS)

- Reconstructing African economics. K. Hirano, Institute of Development Economics, Japan External Trade Organization (JETRO), Japan
- Characteristics of African agriculture and issues for its sustainable development. S. Araki, Graduate School of Asian and African Area Studies, Kyoto University, Japan
- Issues on agricultural research and development in Africa. J. Sakagami, Japan International Center for Agricultural Sciences (JIRCAS), Japan
- Economic reform and labor markets in India. S. Uchikawa, Institute of Development Economics, Japan External Trade Organization (JETRO), Japan
- Issues on agricultural research and development in South Asia. S. Mukai, Japan Green Resource Cooperation, Japan
- Linkages in food and agricultural commodities in East Asia. H. Shuto, Tsukuba University, Japan
- Issues for the sustainable development of agriculture in East and Southeast Asia. K. Tanaka, Center for Southeast Asia Studies, Kyoto University, Japan

Session 2: Present status of international collaborative research and potential changes

Chaired by Dr. Shuichi Asanuma, Head of the Research Planning Section, Research Planning and Coordination Division, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan

- Approaches used by university agricultural faculties. T. Matsumoto, International Cooperation Center for Agricultural Education, Nagoya University, Japan

- Approaches used by graduate schools to foster international development and cooperation. T. Nakao, Graduate School for International Development and Cooperation, Hiroshima University, Japan
- Approaches used by government-linked institutions. S. Miyata, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan

Session 3: Synthesis and new proposals

Chaired by Dr. Akinori Noguchi, Director of the Research Planning and Coordination Division, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan

JOINT WORKSHOP ON COPING AGAINST THE EL NIÑO FOR STABILIZING RAINFED AGRICULTURE: LESSONS FROM ASIA AND THE PACIFIC

A workshop “Coping against the El Niño for stabilizing rainfed agriculture: Lessons from Asia and the Pacific” was organized by the UN-ESCAP/CGPRT Centre (Regional Coordination Centre for Research and Development of Coarse Grains, Pulses, Roots and Tuber Crops in the Humid Tropics of Asia and the Pacific, United Nations Economic and Social Commission for Asia and the Pacific) in coordination with JIRCAS, the Philippine Department of Agriculture, the Australian Center for International Agricultural Research (ACIAR), and the International Water Management Institute (IWMI) and took place in Cebu, the Philippines from September 17-19, 2002.

The main purpose of this workshop was to exchange and disseminate the results of the research project entitled “Stabilization of upland agriculture and rural development in the El Niño vulnerable countries,” which was conducted by the ESCAP/CGPRT Centre and funded by the Government of Japan. Over 60 participants from seven countries and three international organizations attended the workshop.

During the opening session, an inaugural address was delivered by Dr. Takahiro Inoue, (former) President of JIRCAS, through which he conveyed the significance of the El Niño study and the importance of technological development for sustaining crop production under unfavorable climate conditions.

On the first day of the workshop, four prominent scientists delivered keynote presentations related to climate change and the use of disaster mitigation systems. Dr. Felino P. Lansigan from IWMI introduced a method of systems analysis for evaluating the

impact of climate variability and initiatives in coping with climate variability. Dr. Jeff F. Clewett from the Department of Primary Industries, Australia, presented a case study based on the development and application of “Australian rainman,” a computer package that helps farmers develop skills for managing climate variability by analyzing the effects of the El Niño on rainfall. Dr. Masaharu Yajima, from the National Agricultural Research Center in the Tohoku Region of Japan, introduced the “Climatic early warning system,” created to address damage caused by cold summer conditions. And lastly, Mr. Shigeki Yokoyama of the CGPRT Centre presented ENSO impacts on food crop production and the role of CGPRT crops in Asia and the Pacific.

On the second day, officials from Indonesia, Malaysia, Papua New Guinea, the Philippines, and Thailand presented country reports detailing the impact of the El Niño and the methods used to mitigate its adverse effects, while specialists from each country delivered supplementary comments. Through the subsequent discussions, the participants reached a consensus that a socioeconomic approach, in addition to agronomical and plant physiological approaches, was necessary in order to accurately describe the vulnerability of the Asian and Pacific regions to El Niño-induced weather changes. At the culmination of the workshop, it was concluded that the findings of the project should be published in order to disseminate needed technical information to farmers, and that further estimation of the value of mitigation measures would be useful to policy makers.

3) INTERNATIONAL RESEARCH WORKSHOPS

Attended jointly by JIRCAS researchers and foreign invitees, these workshops aim to facilitate discussion regarding the numerous collaborative research projects that JIRCAS is currently undertaking with counterpart institutions throughout the world.

- May 28, 2002 Workshop on “Development of high biomass forage crops tolerant to water stress by interspecific, intergeneric crossing.” Tsukuba, Japan
Attended by representatives of JIRCAS, Japan; Khon Kaen Field Crop Research Center (KKFCRC), Thailand
- June 3, 2002 Workshop on “Strengthening collaboration between JIRCAS and the LDD.” Tsukuba, Japan
Attended by representatives of JIRCAS, Japan; Land Development Department (LDD), Thailand
- August 5, 2002 Annual planning meeting “Increasing economic options in rainfed agriculture in Indochina through efficient use of water resources.” Khon Kaen, Thailand
Attended by representatives of JIRCAS, Japan; Department of Agriculture (DOA), Land Development Department (LDD), Department of Livestock Development (DLD), and Khon Kaen University, Thailand
- September 18-19 2002 Symposium on “White spot virus of shrimp.” Penang, Malaysia
Attended by representatives of JIRCAS and Fisheries Research Agency, Japan; Department of Fisheries, Fisheries Research Institute, National Fish Health Research Center, and National Prawn Fry Production and Research Center, Malaysia
- November 26-28 2002 Annual workshop on “Development of new technologies and their practice for sustainable farming systems in the Mekong Delta.” Cantho, Vietnam
Attended by representatives of JIRCAS, Japan; Cuu Long Delta Rice Research Institute, Southern Fruit Research Institute, and Cantho University, Vietnam
- December 2-3 2002 Workshop on “Sustainable production systems of aquatic animals in brackish mangrove areas.” Penang, Malaysia
Attended by representatives of JIRCAS, Forestry and Forest Products Research Institute, and Fisheries Research Agency, Japan; Department of Fisheries, Fisheries Research Institute, and Institute of Biological Sciences, University of Malaya; Department of Marine Science, Kasetsart University, Thailand; Aquaculture Department, Southeast Asian Fisheries Development Center, the Philippines; and World Fish Center (formerly ICLARM).
- January 9-10, 2003 Workshop on “Development of early prediction systems for stable crop production in China.” Tsukuba, Japan
Attended by representatives of JIRCAS, National Agricultural Research Organization, National Institute for Agro-Environmental Sciences, International Research Division of the Agriculture, Forestry and Fisheries Research Council (AFFRC), the Ministry of Agriculture, Forestry and Fisheries (MAFF), Japan; Department of International Cooperation of Ministry of Agriculture, Institute of Natural Resources and Regional Planning of Chinese Academy of Agricultural Sciences, Crop Cultivation Institute of the Heilongjiang Academy of Agricultural Sciences, People’s Republic of China
- February 10, 2003 Annual outcome discussion meeting on the project “Increasing economic options in rainfed agriculture in Indochina through efficient use of water resources.” Khon Kaen, Thailand

Attended by representatives of JIRCAS, Japan; Department of Agriculture (DOA), Land Development Department (LDD), Department of Livestock Development (DLD), and Khon Kaen University, Thailand

- February 12, 2003 JIRCAS-CIAT-NAFRI seminar on "New collaboration on spatial analysis for water resource assessment in Laos." Khon Kaen, Thailand
Attended by representatives of JIRCAS, Japan; Centro Internacional de Agricultura Tropical (CIAT); National Agriculture and Forestry Research Institute (NAFRI), Thailand
- February 24, 2003 Seminar on "Identification of soil structure and water movement." Khon Kaen, Thailand
Attended by representatives of JIRCAS, Japan; Land Development Department (LDD) and Khon Kaen University, Thailand
- March 11-12, 2003 Sixth planning workshop on "Evaluation and development of methods for sustainable agriculture and environmental conservation." Nanjing, China.
Attended by representatives of JIRCAS, Japan; Institute of Soil and Fertilizer, Chinese Academy of Agricultural Sciences and Institute of Soil Sciences, Chinese Academy of Sciences, People's Republic of China
- March 18-19, 2003 Workshop on "Results and prospects of comprehensive studies on the development of sustainable agro-pastoral systems in the subtropical zone of Brazil." Tsukuba, Japan.
Attended by representatives of JIRCAS, National Agricultural Research Center for Tohoku Region, National Institute of Livestock and Grassland Science, and National Institute for Agro-Environmental Sciences, Japan; Headquarters of Brazilian Agricultural Research Corporation (EMBRAPA) and National Center for Beef Cattle Research (CNPGC), EMBRAPA, Brazil
- March 19, 2003 Workshop on "Production, distribution and international competition of Chinese rice." Beijing, China.
Attended by representatives of JIRCAS, Japan; Institute of Agricultural Economics, Chinese Academy of Agricultural Sciences, People's Republic of China
- March 21, 2003 The second workshop on "Strategic restructuring and sustainable development of Chinese agriculture." Beijing, China.
Attended by representatives of JIRCAS, Japan; Research Center for Rural Economy, Ministry of Agriculture and Institute of Natural Resources and Regional Planning, Chinese Academy of Agricultural Sciences, People's Republic of China

4) INTERNATIONAL RESEARCH SEMINARS

International research seminars are held throughout the year, either on JIRCAS premises or overseas. During these seminars, foreign guests give presentations on topics of

importance related to international agricultural research. The following ten seminars were held in FY 2002.

April 25, 2002	Japan and CIAT: New direction for a mature relationship. <i>J. Voss</i>
June 17, 2002	Agricultural development in Africa and the CGIAR system. <i>P. Hartmann</i>
July 17, 2002	Current situation and activity of IFPRI. <i>M. Cohen</i>
July 17, 2002	Bolivian agriculture and the Bolivia CIAT's initiative in research and development. <i>J.L. Llanos</i>
July 31, 2002	Issues and challenges facing the development of technologies for the sustainable production of rice. <i>D.V. Tran</i>
August 30, 2002	Soil degradation in Ghanaian agriculture. <i>R.D. Asiamah</i>
October 22, 2002	Current status and prospects on rice research in China. <i>C. Shihua</i>
December 2, 2002	What is FARA? <i>M. Jones</i>
January 22, 2003	Impacts of China's accession to the WTO. <i>Q. Keming</i>
March 12, 2003	ICARDA's research in water and agriculture in CWANA. <i>A.S. El-Beltagy</i>

5) JIRCAS RETURN SEMINARS

At JIRCAS, researchers returning from overseas dispatches or research projects give an oral presentation accompanied by a written summary of activities that is distributed to JIRCAS staff. These sessions are termed "JIRCAS Return Seminars" and are held

during the interim or upon the completion of research projects or dispatch assignments. Such seminars are ordinarily held twice per month, and each year approximately 30 scientists give presentations.