

JIRCAS Newsletter

for

INTERNATIONAL COLLABORATION



Women in Mekelle City, Ethiopia, sorting chili peppers, an essential ingredient in Ethiopian cuisine
(Photo by Satoshi Tobita)

Special Feature: JIRCAS Initiatives in Africa

In This Issue

Foreword

JIRCAS Contributes to the SDGs through Research Activities in Africa	3
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JIRCAS Initiatives in Africa

- Development of Techniques to Combat Desertification and Food Shortage in West Africa 4
- Development of a Comprehensive Micro-watershed Management Model in the Ethiopian Highlands..... 5
- Development of New Fertilizers Utilizing Unused Phosphates from Africa 6
- Delivery of Necessary Resources to Farmers for Enhanced and Stable Rice Production in Africa 7
- Utilization of Regional Crops to Enrich People's Livelihoods in West Africa..... 8
- Improvement of Livestock Farmers' Incomes in Africa through Crop-livestock Integration..... 9

Collaborative Research Institute

- Forest Research Institute Malaysia (FRIM)..... 10

JIRCAS TODAY

- OPEN HOUSE 2019..... 11
- JIRCAS President at the G20 Niigata Agriculture Ministers' Meeting..... 12

JIRCAS Contributes to the SDGs through Research Activities in Africa

JIRCAS's research activities in Africa started in the 1980s when it was still known as the Tropical Agriculture Research Center (TARC). The activities were individual and small in scope before large international projects commenced in 1997.

The first international project was the collaboration with the West Africa Rice Development Association (WARDA, presently known as the Africa Rice Center) in Cote d'Ivoire, on the wide hybridization between Asian and African rice species, followed by collaborations with West African countries like Ghana, Guinea, and Senegal, etc. A series of rice research activities produced achievements, e.g., the New Rice for Africa (NERICA) varieties, that had greatly contributed to achieving the goal of the Coalition for African Rice Development (CARD) to double rice production in Sub-Saharan Africa (SSA, the area in the African continent that lies south of the Sahara Desert) in ten years (2009-2018). Additionally, the collaboration with the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) to improve the low-fertility sandy soils of the Sahel was implemented in Niger from 2003 to 2010, generating technologies for the sustainable management of soil and other natural resources that form the basis of agricultural production. Techniques for preventing desertification caused by wind erosion were also developed during this period.

During the Third Medium-term Plan from 2011 to 2015, JIRCAS implemented projects associated with the aforementioned CARD initiative, and launched new projects for the introduction of conservation agriculture and the farm-level optimization of cropping/farming systems in savanna environments. JIRCAS also commenced research on regionally important crops, such as yam and cowpea, which had been receiving less attention from researchers. Moreover, the area of our activities in Africa expanded to the east in Ethiopia and to the south in Mozambique.

Based on the above accumulated experiences and findings in Africa, JIRCAS formulated the current research programs and projects under the Fourth Medium to Long-term Plan (2016-2020) with a clear



intent to contribute to the SDGs (The 17 Goals of the 2030 Agenda for Sustainable Development).

JIRCAS is currently running the flagship project “Food Security in Africa” (under the Stable Agricultural Production Program) in Senegal, Burkina Faso, Nigeria, Mozambique, and Madagascar. This project aims at crop and food diversification and the improvement of food and nutrition security in SSA while promoting rice production, regional crop utilization, and crop-livestock integration, thereby contributing to the 2nd SDG (No Hunger).

JIRCAS also implements the “Watershed Management in Africa” project (under the Environment and Natural Resource Management Program) in Burkina Faso and Ethiopia, taking cognizance of the rapid farm expansion and deforestation that have caused the degradation and erosion of vulnerable soils in SSA. This project intends to propose sustainable and intensive land use systems in the watershed through technology development for the effective utilization of soil, water, and forest resources. JIRCAS is expected to contribute to the 15th SDG (Life on Land) through this project. Moreover, noting the huge amount of unutilized phosphate rocks in the African continent, technologies that would enable chemical fertilizers to be manufactured locally using indigenous mineral resources will be developed, and these fertilizers will be used effectively for the promotion of agricultural production in Africa.

Satoshi Tobita
Program Director
Environment and Natural Resource
Management Program

Development of Techniques to Combat Desertification and Food Shortage in West Africa

Desertification and food shortage are major problems in West Africa, where countries classified as “least developed” are widely distributed. Desertification is defined by the United Nations Convention to Combat Desertification (UNCCD, 1994) as the reduction of productivity in dry regions. You may imagine an expansion of the desert or sand dune from the word ‘desertification’ but desertification is wider than the idea of an expanding desert or sand dune. Desertification in West Africa has been caused mainly by soil erosion, i.e., loss of topsoil in the cultivated field due to strong wind (wind erosion) or by heavy rain (water erosion), as a result of the inappropriate use of land, i.e., over-cultivation, over-grazing, and excessive use of firewood.

To cope with desertification and food shortage in West Africa, JIRCAS has conducted three projects since 2003: Soil fertility management in Africa (2003-2009 in Niger), Improvement of farming systems in African savanna (2010-2015 in Burkina Faso), and Watershed management in Africa (2016-2020 in Burkina Faso). In the first project, we developed a new technique, called the “Fallow Band System,” in collaboration with the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and Kyoto University. This technique can control wind erosion by 70% and improve crop production by 36-81%. We also revealed an effective dissemination method for the Fallow Band System, which had been widely adopted by local farmers in 89 villages across five regions in Niger (data as of March 2013).

In the second project, we worked on improving the conservation agriculture (CA) technique in collaboration with the Institute of Environment and Agricultural Research (INERA, Burkina Faso). CA is a farming system guided by three principles: 1) minimum soil disturbance (e.g., no or minimum tillage); 2) soil cover (with crop residues or cover crops); and 3) diversification of crop species grown in sequence (e.g., crop rotation) and/or association (e.g., mixed farming or intercropping). Although recommended by the FAO, CA has not been embraced

in West Africa because the three-component CA is a heavy burden for the farmers who have meager cash and labor resources. Our field experiments, however, have shown that the two components—minimum soil disturbance and soil cover—are sufficient for water erosion control, thus lightening the burden of CA adoption and facilitating its future promotion to the smallholder farmers.

In the third ongoing project, we are examining the effects of a low-input countermeasure against water erosion in collaboration with INERA (Photo 1). So far, we have found that the Fallow Band System, which was designed for reducing wind erosion, is also able to control water erosion by 80%. In addition, we have revealed the optimal combination of fertilizer amount \times planting density \times variety on each dominant soil type for sorghum and cowpea, which are major crops in West Africa. These findings can provide valuable information that farmers can use to increase crop productivity in West Africa.

In a future research project, I would like to improve on the above-mentioned techniques with local farmers and disseminate them widely in West Africa to resolve the problems of desertification and food shortage.

Kenta Ikazaki
Crop, Livestock and Environment Division

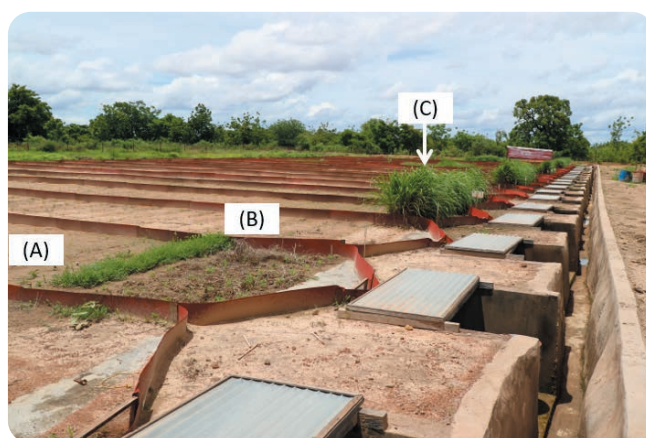


Photo 1. Measuring the effects of low-input techniques on water erosion control in Burkina Faso. (INERA Saria station) (A) plot with “Fallow Band System,” (B) control plot (without any countermeasure against water erosion), and (C) plot with *Andropogon* grass strip

Development of a Comprehensive Micro-watershed Management Model in the Ethiopian Highlands

The Federal Democratic Republic of Ethiopia (hereinafter Ethiopia) is an inland country located in the eastern part of Sub-Saharan Africa, known as the Horn of Africa. It has the second largest population (after Nigeria) in the African continent with about 100 million inhabitants. Its main industry is agriculture, with cereals (maize, sorghum, wheat, barley, and indigenous teff), pulses (broad bean and chickpea), and indigenous coffee, etc. as its most important products. Most of the national land in Ethiopia is located in a highland at an altitude higher than 1,500 m above sea level (a.s.l.) and is characterized by its greatly varying topography formed from the Great Rift Valley. Moreover, surface runoff flow down the slopes during intense rainfall events, carving deep, V-shaped valleys. This natural process degrades farmlands by eroding the nutrient-rich topsoil, making it a severe problem for the agricultural sector.

JIRCAS carries out a joint research project with Mekelle University at the Adizaboy micro-watershed (with an area of about 8.5 km²) located north of Mekelle City, Tigray, Ethiopian Highlands. The project site has a tropical alpine climate and reaches an altitude of about 2,200 m a.s.l., with intense sunlight during daytime and cool temperatures in the morning and at night. With most of its annual rainfall (about 500 mm on average) dropping during the rainy season between mid-June and mid-September, large-scale gullies (valley-shaped ditches on the ground surface excavated by concentrated rainwater flow) have been growing in the micro-watershed (Photo 1) and sedimentation has been proceeding at Adizaboy micro-dam in the downstream part (at the outlet) of the micro-watershed.

At first, we evaluated the present situation of Adizaboy micro-dam by carrying out a bathymetric survey using weather observation data collected in the upstream part of the micro-watershed to calculate the H-Q curve, sediment volume, and water balance. Consequently, we deduced that there were water leakages through the micro-dam embankment and bedrock, as well as through sediments in the micro-dam. We assumed that the water leakages were caused by cracks in the micro-dam embankment, detachment between bottom pipe and embankment, and cracks in the limestone bedrock.

Moreover, we tried to verify if the conservation agriculture technology mitigated soil erosion in the farmlands within the micro-watershed by planting wheat and green manure at a homogeneous slope in the upstream part of Adizaboy micro-watershed. The impacts of soil conservation technology will be validated through the amount of post-harvest residues left in farmlands and the different tillage methods.

Furthermore, we performed trials to test the vegetable cultivation technique by dredging the

sediments in Adizaboy micro-dam, thereby conserving the micro-dam at the same time. The sediments in Adizaboy micro-dam were found to be fine-grained and nutrient-rich. We reclaimed a bare land near the micro-dam into a farmland by stacking the sediments and some local stones (Photo 2), and cultivated cash crops such as garlic and onions. We noted that whereas the reservoir water slowly dried up during the dry season, the farm pond constructed in the reclaimed farmland and the drip irrigation system worked well.

Going forward, we will aim at developing a comprehensive micro-watershed management model that integrates 1) crop cultivation based on conservation agriculture principles, 2) vegetable cultivation on reclaimed farmlands utilizing micro-dam sediments, and 3) water resource management.

Kazuhisa Koda

Rural Development Division

Fujio Nagumo

Crop, Livestock and Environment Division



Photo 1. Gully erosion at the upstream part of Adizaboy micro-watershed



Photo 2. The reclaimed farmland near Adizaboy micro-dam where vegetable cultivation tests were conducted

Development of New Fertilizers Utilizing Unused Phosphates from Africa

Low soil fertility, particularly phosphorus deficiency, is a major factor limiting crop production in many African countries. Generally, the problem can be solved by applying phosphorus fertilizer but the global supply of raw materials (phosphate rock; hereinafter PR) is being depleted, making it more expensive to obtain. Because Africa relies on imported fertilizers, many of the locally distributed fertilizers are also becoming expensive and difficult for small-scale farmers to purchase and use.

Although PRs are widely distributed in Africa, they have remained unutilized and are considered difficult to use for various reasons. These unused PRs are also called “low-grade PRs,” but there is a strong hope for its development for future usage.

The Japan International Research Center for Agricultural Sciences (JIRCAS) is developing new phosphorus fertilizers using Burkina Faso low-grade PR and aiming to produce inexpensive fertilizers from Africa compared to imported fertilizers. Many low-grade PRs contain a large amount of impurities such as quartz, iron, and aluminum, making fertilizer production difficult; therefore, we tried to solubilize PRs that contain such impurities through the calcination method and the partial acidification method.

So far, we have clarified that calcination and partial acidification treatments can solubilize Burkina Faso PRs. In addition, we have shown that application of the resulting (newly developed) fertilizers can significantly improve crop yield. Fertilizers obtained by calcination and partial acidification differ greatly in terms of their properties such as solubility and pH value. Using this difference in properties, we are planning to provide suitable phosphorus fertilizer for local application under various soil environments in Burkina Faso. We are currently examining the effect of applying the new fertilizer at various points in Burkina Faso.

At the same time, we are also examining the method of applying low-grade PRs from Burkina Faso directly to the crop (direct application method). Direct application of low-grade PRs from Burkina Faso, which was shown to be ineffective in previous studies, revealed that it has certain effects in rainfed lowland rice cultivation. To further enhance the effect of applying low-grade PR in rice cultivation, we are developing an application method and selecting the best-suited rice varieties. In addition to lowland rice, we are conducting tests in leguminous and tree crops to select crops that show significant effect when directly applied with PR. A technology that involves

combining/composting PRs and crop residues was recommended to enhance the effect of PR direct application in Burkina Faso, but this enhancement effect has not been confirmed yet because we are still determining the most efficient way to apply the compost. Therefore, we produce compost and add the PRs, and we verify the optimum composting method when adding PR based on the relationship between the changes in microflora in the compost and the solubility of PRs.

As described above, we are developing various technologies using low-grade PR from Burkina Faso, and we will predict their impacts on the regional economy and farmers’ incomes in future studies. We will also propose to the national government a mechanism for the sustainable and appropriate utilization of phosphorus resources in Burkina Faso.

Satoshi Nakamura
Crop, Livestock and Environment Division



Phosphate rock (PR) direct application experiment at a rainfed lowland rice field in Burkina Faso



Installation of equipment for PR calcination in Burkina Faso

Delivery of Necessary Resources to Farmers for Enhanced and Stable Rice Production in Africa

Chronic food shortages caused by rapid population increase are observed in Sub-Saharan Africa (SSA); nevertheless, rice consumption in the region has been increasing. They said that rice consumption increased because it can be quickly cooked and served within 30 minutes, a process that fits the lifestyle of busy people in urban areas. However, domestic rice production is not enough to meet demand, thus necessitating importation from North America or Asia, which in turn requires a certain amount of foreign currency. Foreign currency is needed to develop infrastructure in the countries of SSA but importing food, including rice, is also very important. In other words, more foreign currency could be spent to develop infrastructure if they could produce more rice for domestic consumption or even for exporting. JIRCAS is tackling this issue by conducting research and development in various fields for enhanced and stable rice production through the “Food Security in Africa” project together with national and international research institutions and/or government organizations.

One of our research activities is the development of breeding materials that can be utilized for further breeding of new varieties suited to the African environment. The research targets are high nutrient (e.g., nitrogen or phosphorus) uptake efficiency and improved resistance to rice blast. The evaluation of developed breeding materials is conducted in collaboration with the Sahel regional station of the Africa Rice Center (AfricaRice) in Senegal. We are planning to subject the promising materials with superior performance to a multilocation trial in Africa through the Breeding Task Force which is coordinated by AfricaRice. In addition, we are conducting domestic germplasm evaluation in Guinea together with the Institut de Recherche Agronomique de Guinee (IRAG) to explore useful agricultural traits for further breeding activities. We are also examining a fertilizer application method that substitutes the necessary nutrient in each field using locally available fertilizer in Madagascar.

Water is also an important factor in enhancing and stabilizing rice production. JIRCAS is carrying out research and development of technologies that would enable rice farmers in SSA to utilize water efficiently and effectively. We have been working on developing techniques for the maintenance of irrigation canals at a low life-cycle cost. We have also developed the “Pair Pond System (PPS),” which can minimize rice yield loss by providing rice fields with supplemental irrigation in case of dry spells during the critical period of crop growth, from panicle differentiation to flowering under rainfed field conditions. Researchers are also dealing with the problem of water shortage observed at the terminal plots in the irrigation system, which was constructed in Tanzania years ago with financial support by the Japanese government, in collaboration with the Tanzanian government.

In the area of social science, an impact assessment of materials or technologies developed or to be developed for the farmers is being conducted. We are monitoring farm households and diets of farmers who use the PPS previously mentioned. A strategy that would enable farmers to have access to loans for purchasing agricultural machineries necessary for intensive rice cultivation is being formulated in collaboration with the government of Ghana.

Some of the activities mentioned above had been tied with the CARD initiative whose aim was to double rice production in SSA. Rice farmers in SSA can increase rice yield by obtaining seeds of new varieties and the latest information on improved fertilizer application methods, as well as access to irrigation water and the necessary funds to immediately purchase agricultural machines. We hope that these techniques and strategies contribute not only in increasing the income of rice farmers but also in solving food and nutrient shortage and reducing poverty in SSA.

Seiji Yanagihara

Biological Resources and Post-harvest Division



Transplanting seedlings for experiments in a farmer's field (Tanzania)



Providing training on rice plant crossing techniques to IRAG staff (at JIRCAS)

Utilization of Regional Crops to Enrich People's Livelihoods in West Africa

Cowpea (*Vigna unguiculata*) and Guinea yam (*Dioscorea rotundata*) are “regional crops” that originated and have a long history of cultivation and utilization in West Africa. They play important roles in the region's food and nutrition security as well as social customs and traditions (Photo 1). Interestingly, these two crops are also familiar to people in Japan, though 85-95% of world production come from West Africa (Fig. 1). Cowpea has over 1000 years of cultivation history in Japan, where it is called sasage/sasagi and used in some Japanese cuisines. Sasage-jima (Sasage Island) in Ehime Prefecture, among other places, even took its geographical name from the crop. Related species of Guinea yam, such as Japanese yam (*D. japonica*) and Chinese yam (*D. batatas*), are used as a regular part of their daily diets and hold an important position in Japanese food culture.

Recently, the roles of “regional crops,” including cowpea and Guinea yam, have been revisited as a useful means toward achieving SDGs 1 and 2 (No Poverty and Zero Hunger). These crops hold tremendous potential to improve the livelihood of poor farmers in the region through their high food quality attributes as well as high nutritional and market values and well adapted nature to the environments of the region. Moreover, these two crops are deeply linked with regional culture and are thus indispensable to peoples' lives. For example, in the yam production area of Nigeria, a huge pile of white Guinea yam is necessary for the wedding ceremony and is presented to the bride's family as a betrothal gift, indicating the health and wealth of the groom.

However, despite the important roles that cowpea and Guinea yam play in West Africa, these regional crops suffer from research neglect. There is a wealth of cowpea and yam genetic resources gathered from all over the world and stored in International Institute of Tropical Agriculture (IITA). However, while they hold great potential to improve crop productivity and product quality to meet regional needs and preferences, they have not been utilized fully in breeding programs due to lack of understanding of their characteristics. To address this issue, JIRCAS together with several Japanese research institutions and IITA have initiated a collaborative research project to promote genetic resource utilization and genetic improvement of these two important regional crops for West Africa. So far, various useful data and tools, such as the open access “EDITS-Cowpea” database (<https://www.jircas.go.jp/en/database/edits-cowpea>), have been developed for the efficient utilization of the rich genetic resources in breeding, which would enable all cowpea breeders and researchers to identify potential cowpea genetic

resources. For Guinea yam, the first whole genome sequence of *D. rotundata* has been published, which would enable yam researchers to identify the genetic regions in the genome and clarify the roles of genes of interest without laborious conventional genetic analysis. We hope that the outcomes of our research activities will accelerate and empower the breeding programs of these regional crops to develop suitable and improved varieties.

Although West Africa is far from Japan, it is our dream to contribute to rural livelihood improvement in the region by empowering farmers through enhancement of these regional crops, cowpea and Guinea yam, which are also familiar to us in Japan. We at JIRCAS will advance our research agenda in collaboration with our partners and work toward achieving this dream.

Satoru Muranaka
Crop, Livestock and Environment Division



Photo 1. Cowpea (left) and Guinea yam (right) play important roles in the regional food culture of West Africa (Photos by Satoru Muranaka in Nigeria and Ghana)

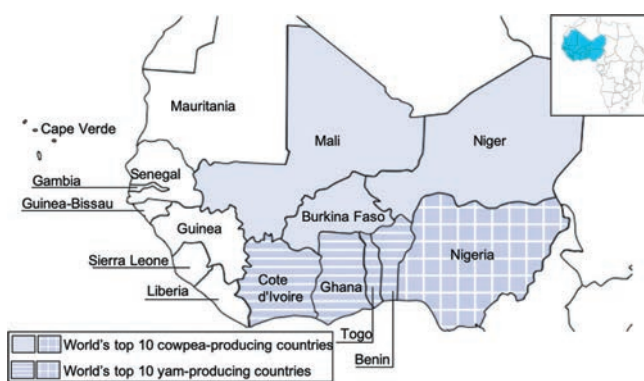


Fig. 1. Major cowpea- and yam-producing countries in West Africa (FAOSTAT, 2017)

Improvement of Livestock Farmers' Incomes in Africa through Crop-livestock Integration

Agriculture is the main sector driving economic growth in many countries in Sub-Saharan Africa. In most countries of eastern and southern Africa, cattle meat and/or fresh milk are among the top five agricultural products based on production value. This shows that livestock farming is important not only in providing protein as an essential nutrient for the human body but also in improving farmers' incomes.

In Japan, dairy farming for fresh milk production developed mainly in cool and humid areas like Hokkaido because dairy cattle are sensitive to heat. In Africa, dairy farming is carried out mainly in the highlands of Kenya and Ethiopia, and in Zimbabwe and South Africa where the climate is cool and humid. Even in the tropical savanna area, dairy farming is carried out mostly using Jersey cows, which are more tolerant to heat.

However, the tropical savanna area has a half-year-long dry season (without rain), which restricts the production of forage and food crops for cow feed. Therefore, resolving feed shortage is the key toward improving fresh milk productivity. There are two effective ways. One way is to ensure the generation of feed resources during dry season. Drought-tolerant forage crops can grow and provide fodder even in dry season, and byproducts generated from food processing are available year-round. The other way is to make feed resources obtained during rainy season usable in dry season. Inedible crop parts such as stem and leaves (residues) and forage crops harvested during rainy season can be preserved as dry hays and silage to be utilized as feeds during dry season.

JIRCAS is conducting studies on the above-mentioned subjects in a tropical savanna area in Mozambique, southern Africa, in collaboration with the National Agricultural Institute of Mozambique (IIAM). 'Crop' production by farmers is essential for 'Livestock' farming from the point of view of ensuring feed supply for animals. Conversely, it is important to utilize wastes from 'Livestock' farming to maintain soil fertility for sustainable 'Crop' production. This system, called the crop-livestock integration system, is drawing attention for its effective and efficient utilization of locally available resources.

JIRCAS is developing 'Crop' and 'Livestock' technologies and evaluating their effects on productivity improvement. It is also developing a 'decision support model' that recommends to each farmer an optimal and balanced selection of crops and farm works to maximize their incomes for better farming. So far, the farming status of each farmer has

been understood based on a farm household survey in the target area as well as the amount of feed intake and milk produced by dairy cattle. High quality silages (Photo 1) were prepared with sugarcane top, corn stover, and Napiergrass, and a total mixed ration (TMR) was prepared from such feed materials with food processing byproducts like wheat bran. It was observed that the TMR increased milk production compared with conventional feeding, and that the amount and quality of residues of multi-purpose crops such as cowpea and sweet potato changed in response to various environmental conditions (Photo 2).

It is our hope that our crop-livestock integration model and decision support model can help farmers improve and sustain their agricultural productivity and livelihood, and consequently improve their nutritional status.

Tetsuji Oya

Crop, Livestock and Environment Division



Photo 1. Feeding silage and wheat bran to dairy cattle



Photo 2. Cowpea, sweet potato, and maize in a farmer's field

Forest Research Institute Malaysia (FRIM)

The Forest Research Institute Malaysia (FRIM), located in Kepong district in the northwest of Kuala Lumpur, was established as the Forest Research Institute (FRI) in 1929 by the British colonial government. It conducts research and development for the sustainable utilization and management of tropical forests using its species-rich secondary forests and planted forests for experiments and observations.

The main building (Photo 1) was built when FRI was launched, but it was taken over by the Japanese Army during World War II. Japanese scientists recognized the scientific value of a remnant manuscript titled “Foresters’ Manual of Dipterocarps,” and they had it published under the supervision of imprisoned British scientists. This publication has since become the basis for tropical forest research. After World War II, FRI was managed again by the British until the independence of the Federation of Malaya in 1957 and the establishment of Malaysia in 1963. FRI was re-organized as FRIM in 1985 and became one of the core research centers for tropical forest research in Southeast Asia, conducting many research projects not only with Japan but also with several other countries. For this purpose, 50 hectares of forest monitoring plots were established in the Pasoh Forest Reserve (Photo 2) of FRIM Research Station in 1986, which has been registered as a core site of the Group on Earth Observations (GEO).

There has been a long history of collaborative research between FRIM and JIRCAS, starting in 1971 with the Tropical Agriculture Research Center (TARC), the predecessor of JIRCAS. Irregular supra-annual flowering and fruiting were observed in major Southeast Asian tropical tree species, making regular production of tree seedling difficult. Thus, tree physiological studies were conducted until 1980 to develop vegetative reproduction techniques, such as cutting and grafting, for dipterocarp species.

A new project was restarted in 1991 and the collaboration has been continuing until now with changing research themes. Twelve JIRCAS researchers have been dispatched to FRIM so far. During this period, large areas of lowland forests in peninsular Malaysia were converted to rubber and oil palm plantations, shifting logging operations to hill dipterocarp forests at elevations between 300 to 800 meters above sea level. Therefore, with the aim of developing sustainable forest management techniques in hill dipterocarp forests, we studied the mechanism of forest regeneration and recovery of secondary forests after logging, and developed low-impact harvesting techniques. In particular, we proposed an improved

logging scheme based on research outcomes showing the vulnerability of pollen dispersal and the mating system against tree density reduction due to logging. We also proposed a regional management system involving forest reproductive materials based on the regional genetic structuring of indigenous tree species. Our research outcomes were not only published in scientific journals, but also presented at seminars in the presence of policy makers in peninsular Malaysia and proposed to the Forest Department through FRIM. A new MoU between FRIM and JIRCAS was signed in March 2019 after enforcement of the new FRIM Act in October 2016 and reorganization of the supervising Ministry of Water, Land and Natural Resources in 2018. In line with the current 4th Medium to Long-term Plan of JIRCAS for the FY 2016-2020 period, we will continue our research studies on the resilience of dipterocarp timber species against environmental changes in order to develop resilient and sustainable tropical forest management techniques against environmental changes such as climate change.

Naoki Tani and Hiroyasu Oka
Forestry Division



Photo 1. FRIM Main Building



Photo 2. Pasoh Forest Reserve

OPEN HOUSE 2019

(Open House at JIRCAS Headquarters in Tsukuba City, Ibaraki)

As part of the Science and Technology Week celebrations in late April, various research institutes in Tsukuba, including JIRCAS Headquarters, held Open Day events to showcase their work. JIRCAS HQ opened its doors to the public on April 19-20 (Fri-Sat) with the following activities: poster presentation of research highlights, tropical fruit tasting, a tour of the shrimp culture facility, biomass materials and quinoa exhibits, traditional/international costume-fitting and picture-taking, distribution of hibiscus and pineapple seedlings, and goldfish scooping. Researchers also conducted mini-lectures and gave away prizes to quiz game winners. The weather was fine during the two-day event, enabling many people to visit, observe, and enjoy.



Mini-lecture



Quinoa exhibit

(Open House at JIRCAS-TARF in Ishigaki City, Okinawa)

On June 30 (Sun), JIRCAS-TARF (Tropical Agriculture Research Front) held its 14th Open House, counting from its first in 2006. In addition to disseminating its research activities through information sessions, this year's well attended event also focused on TARF's international collaborations and contributions to achieving the Sustainable Development Goals (SDGs), a set of goals that aim to address global issues affecting humankind.



Photo exhibit themed "The world as seen by JIRCAS researchers"



Exhibit and tasting of fruits bred at TARF

JIRCAS President at the G20 Niigata Agriculture Ministers' Meeting

The G20 Agriculture Ministers' Meeting, one of the eight ministerial meetings taking place in Japan alongside the G20 Osaka Summit, was convened on May 11-12, 2019 at Ginza Messe in Niigata City, Niigata Prefecture. In this meeting, JIRCAS President Masa Iwanaga reported the key outcomes of the G20 Meeting of Agricultural Chief Scientists (G20 MACS) to the Agriculture Ministers of the G20 countries. President Iwanaga was the chairman of the two-day G20 MACS held in Tokyo on April 25-26.

The G20 MACS members are responsible for making strategic advice on global agricultural research agendas to their decision makers, including their respective Ministers of Agriculture. Dr. Iwanaga reported to the G20 Agriculture Ministers some of the key outcomes of the 2019 G20 MACS, including the two main themes discussed, namely, transboundary plant pests and social experiment-like approaches to facilitating on-site adoption of climate-smart technologies. The report also mentioned the support of G20 MACS members for Japan's proposal to organize international workshops on the above two themes later in 2019, and the proposal for the Ministers to provide support to activities that would enhance international research collaboration on the issues discussed at G20 MACS.

As part of the exhibits at the meeting venue, JIRCAS presented posters and communication materials under the theme, "Contribution to SDGs through agricultural sciences," which highlighted JIRCAS's research programs and projects aimed at enhancing income earning opportunities, stable food supply, and climate change adaptation in developing regions.



JIRCAS President Masa Iwanaga reporting on the key outcomes of the 2019 G20 MACS at the G20 Agriculture Ministers' Meeting (Photo by the Agriculture, Forestry and Fisheries Research Council, MAFF)



JIRCAS's exhibit booth at G20 Niigata

JIRCAS Mail Magazine (English) Registration Guidance

JIRCAS Mail Magazine, the online quarterly publication of JIRCAS, provides information on the latest topics, events, seminars and workshops, as well as new technologies, research highlights, and guidance publications. To subscribe online, please use the following link. Thank you very much.

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JIRCAS Newsletter

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