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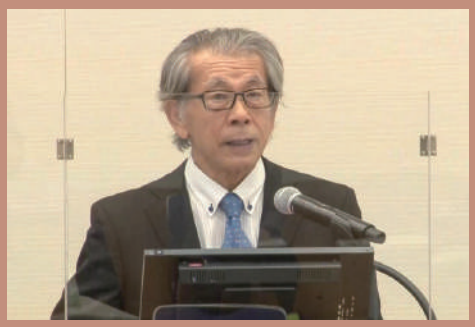
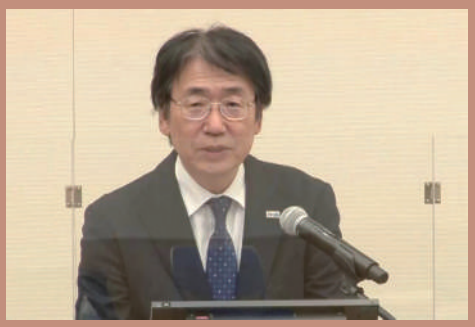
JIRCAS Newsletter

for

INTERNATIONAL COLLABORATION





Special Feature: JIRCAS 50th Anniversary International Symposium 2020

JIRCAS
JAPAN INTERNATIONAL RESEARCH CENTER FOR AGRICULTURAL SCIENCES

In This Issue

On the 50th Anniversary of JIRCAS

Since the establishment of JIRCAS as the Tropical Agricultural Research Center (TARC) in 1970, our mission has always been to contribute to global food and nutrition security. JIRCAS has been distinguished for its approach of implementing on-site collaborative research with partners in developing countries with the aim of developing agriculture, forestry, and fisheries technologies and solving food and environmental issues of both local and global relevance.

In turn, with the increasing trend of globalization over the last 50 years, the food and environmental challenges have kept evolving, becoming more complex, and affecting many dimensions of our planet as well as our daily lives. Climate change and transboundary pests and diseases do not respect national borders. Today, global food production seems enough to feed 7.8 billion people at face value, yet with significant health and environmental costs. The majority of the world's population suffer from some form of malnutrition due to poor-quality diets, whose production process subsequently leads to greenhouse gas emissions and loss of biodiversity.

The COVID-19 crisis has just revealed how interconnected the global food system is and through which shocks can be transmitted rapidly to affect many regions and countries. At the same time, it has exacerbated social and spatial inequality, from which vulnerable populations in developing countries suffer the most.

Looking further ahead in the coming decades, it will be the developing countries that can pose further challenges to the resilience of the global food system as rapid population growth and urbanization are expected, accompanied with changes in food demand both in quantity and in quality. Science, technology, and innovation are urgently needed in the agriculture, forestry, and fisheries sectors of these countries, in order to nourish the current and future generations within the planetary boundaries.

At regional and country level, we must keep in mind that the global issues – such as the impacts of climate change and nutritional challenges – present location-specific features. Therefore, it still holds true that agriculture, forestry, and fisheries technologies must be tailored to meet the needs of farmers, foresters and fishermen in locally specific contexts, if we are aiming at maximum developmental impacts. Indeed, the strength of JIRCAS lies in its joint on-site research activities with partners. And this should remain so, even in the post-COVID-19 era. Until the time we can resume our activities on the ground, JIRCAS as well as our partners must take advantage of this moment to reflect on the lessons learnt so far and to share new ideas in search of more effective modes of collaboration.

To "build back better," extensive collaborations and partnerships are essential. This is the time we need to consolidate our efforts to act collectively, to tackle the enormous challenges ahead, and to build a resilient, equitable, and sustainable future. As we celebrate our 50th anniversary, we would like to reaffirm our commitment to continue our mission of addressing global problems through innovative research and technology development.

IWANAGA Masa
President

The role of international collaboration in agricultural research to address challenges in the post-COVID-19 global food system

The JIRCAS 50th Anniversary International Symposium, titled "The role of international collaboration in agricultural research to address challenges in the post-COVID-19 global food system," was successfully held in webinar format from 15:00 to 17:30 on November 10, 2020 with 365 online attendees. Dr. Baltazar Antonio, JIRCAS Communications Advisor, served as symposium emcee.

The year 2020 will be remembered as the time when the global community encountered an unprecedented health, economic, and climate emergency. Against this backdrop, the symposium was presented with a focus on achieving the global agendas. Our distinguished partners and counterparts contributed to the symposium by sending their messages to commemorate JIRCAS's 50th Anniversary with their wishes to further strengthen their collaboration with JIRCAS.

On behalf of the Ministry of Agriculture, Forestry and Fisheries (MAFF), Mr. HISHINUMA Yoshihisa, Director General of the Agricultural, Forestry, and Fisheries Research Council Secretariat, congratulated the participants on the 50th anniversary of JIRCAS and talked about the contribution of JIRCAS to the improvement of technology in the world's agriculture, forestry, and fisheries and the increase of food production in developing regions since its establishment as TARC in 1970. He added that JIRCAS has been working with overseas research institutes and international organizations to solve increasingly complex global issues, and concluded by saying that he expects JIRCAS to play an active role as Japan's main player in strategically promoting technological development and other activities that contribute to the development of the world's agriculture, forestry, and fisheries by strengthening cooperation with overseas research institutes and international organizations to solve global challenges.

Representing international organization partners, Dr. Kundhavi Kadiresan, Managing Director, Global Engagement and Innovation, CGIAR System Organization, reviewed the global challenges and the evolution of the agricultural technology research agenda since 1970, and highlighted the impact of joint research between JIRCAS and CGIAR, including the development of Biological Nitrification Inhibition (BNI) technology that not only reduces fertilizer use but also increases yields and reduces greenhouse gas emissions. She also cited examples of breeding methods, producing crops that are more stress-resistant and more sustainable under the effects of climate change, and stable production technologies for staple food crops in West Africa such as yam and cowpea.

Congratulatory speeches were also delivered by six domestic and international joint research partners, representing institutions in Japan, Asia, Africa, and Latin America. The speakers were as follows: Dr. MATSUDA Atsuro, Vice-President of the National Agriculture and Food Research Organization (NARO); Dr. Sun Tan, Vice President of the Chinese Academy of Agricultural Sciences (CAAS); Dr. Pichet Wiriyapaha, Director General of the Department of Agriculture (DOA), Thailand; Dr. Mamoudou Traoré (on behalf of Director General H. Traoré) of the Institute for the Environment and Agricultural Research (INERA); Dr. Lala Razafinjara, Director General of Madagascar Centre National de la Recherche Appliquée au Développement Rural (FOFIFA); and Mr. NAKAMURA Kenji, President of Directive Committee, Fundación Nikkei-CETAPAR, Paraguay. They all expressed their gratitude for the joint research and their expectations for stronger cooperation in the future.

Not only was this our first time to organize and hold an online symposium, it was also an opportunity to realize the power of new technologies that enable many of our partners to connect with each other despite physical and social distances, as the international community faces the most urgent health, economic, and climate crises that it has ever faced.

(Note: The main lectures and the panel discussion are summarized in the following pages.)

IIYAMA Miyuki and KANAMORI Norihito
Research Strategy Office

HISHINUMA Yoshihisa, Director General, Secretariat of AFFRC, MAFF

Kundhavi KADIRESAN, Managing Director, Global Engagement and Innovation, CGIAR

Mamoudou TRAORÉ (on behalf of Director General H. TRAORÉ), Head of the Natural Resources Management and Production Systems, Institute for the Environment and Agricultural Research (INERA), Burkina Faso

MATSUDA Atsuro, Vice-President (International Collaboration, Intellectual Property, International Standardization, Public Relations), National Agriculture and Food Research Organization (NARO)

Lala RAZAFINJARA, Director General, Madagascar Centre National de la Recherche Appliquée au Développement Rural (FOFIFA)

SUN Tan, Vice President, Chinese Academy of Agricultural Sciences

NAKAMURA Kenji, President of Directive Committee, Fundación Nikkei-CETAPAR (CETAPAR), Paraguay

Pichet WIRIYAPAHA, Director General, Department of Agriculture (DOA), Ministry of Agriculture and Cooperatives, Thailand

Symposium Emcee: Baltazar ANTONIO, JIRCAS Communications Advisor

Presentation 1
JIRCAS 50th Anniversary: Looking back on experiences in international collaboration in agricultural research

This presentation, which was delivered at the beginning of the symposium commemorating the 50th anniversary of Japan International Research Center for Agricultural Sciences (JIRCAS), looked back at the history of the past half century and provided materials for guiding future directions. The following is a brief summary of the lecture.

The Tropical Agriculture Research Center (TARC), the former body of JIRCAS, was established in June 1970. It opened its headquarters in Tokyo, together with the Okinawa branch in Ishigaki Island. In 1993, TARC was reorganized to JIRCAS. Until April 2001, TARC/JIRCAS was under the jurisdiction of the Ministry of Agriculture and Forestry and later, the Ministry of Agriculture, Forestry and Fisheries of the national government. Through administrative reform, JIRCAS became an Independent Administrative Agency in 2001. In 2015, new categories of Independent Administrative Agency were created, and JIRCAS became a National Research and Development Agency, one of 27 such organizations in all academic fields nationwide.

TARC was a unique institution in the Ministry of Agriculture as its mission was to contribute solely to the tropical and subtropical regions. And the term "Center" instead of "Institute" was intentionally used in its name in order to emphasize the need for cooperation among other institutes. Its activity was focused mainly in South and Southeast Asia, and Latin American countries such as Brazil. In the first years, researchers were dispatched individually on a long-term basis, i.e., 2-3 years, to different countries where they tried to solve specific local problems.

In 1977, TARC moved to Tsukuba Science City in Ibaraki Prefecture. In the 1980s, it started research activities at Tsukuba campus to support researchers dispatched overseas. Information analyses became a major part of TARC's activities in line with the diversification of research needs among the target regions. The target regions were expanded to include China and Africa.

By the reorganization of TARC into JIRCAS in 1993, the target area was enlarged to cover all developing regions, and fishery research was included in its mandate. Furthermore, many comprehensive and multidisciplinary projects were financed and implemented. These projects formed a sound basis for JIRCAS's subsequent phase of research activities. Basic and advanced researches, such as biotechnologies, were also initiated.

In the decade starting in 2000, JIRCAS introduced complete project-based management, ahead of its sister organizations in Japan. All research activities were conducted in the form of fixed-year research projects where the goals and schedules were clearly specified. In 2008, JIRCAS took over several agricultural development projects from the Japan Green Resources Agency (J-Green), another Independent Administrative Agency, and activities in Africa were strengthened. In 2011, JIRCAS commenced its third 5-year plan, in which we introduced three research "Programs" that connected the research projects with the global development agenda such as the Millennium Development Goals of the United Nations (MDGs) at that time. Outcome-oriented researches are strongly encouraged by the government, and all research projects are managed to make social impacts. Thus, research activities in JIRCAS have been changing along with the times. The share of research budget allocation for Africa has also been gradually increasing.

What is the difference between JIRCAS research collaborations and other international research projects? The difference is continuity, in other words, long-lasting partnership. Through continuing collaboration, researchers from both sides often find innovative research themes that eventually lead to achieving common goals. For example, in 1997, we started a soybean research project in Latin America. This project led to the development of new soybean cultivars, including recently registered cultivars with strong resistance to Asian rust disease. Another example is the agropastoral system research that started in 1996 in Brazil, which transitioned to the research focused on Biological Nitrification Inhibition (BNI), for which JIRCAS is now being recognized as a leading research facilitator in the world.

Moreover, JIRCAS's research collaboration with AfricaRice, one of the CGIAR Centers, is the main source of knowledge for the continuing rice research in Africa not only for JIRCAS but also for all Japanese cooperative activities. Similarly, the project on the Mekong Delta farming system, which started in 1994, has led to continuous collaboration with Vietnam's Can Tho University for more than two decades and to our current projects on climate change. Many similar cases of continuing collaboration with our counterparts have led to further agricultural innovations in target countries.

The research priorities of TARC and JIRCAS have changed or evolved along with the need of the times. We must continue to change, maybe by extending collaborations beyond traditional stakeholders, and by adopting more intelligent techniques and using analytical power to deal with complicated issues. These candidate priorities are needed so JIRCAS can effectively provide solutions to global environmental problems and food insecurity. Nevertheless, the basic principles should remain unchanged. JIRCAS will continue to provide scientific solutions to global food and environmental problems by proposing optimum technologies and by making full use of the most up-to-date scientific knowledge. And, as a center of excellence in international agricultural research representing Japan, we will lead international scientific dialogues and contribute to global as well as Japanese societies. In short, JIRCAS, representing Japan, will continue to contribute to global agendas such as the Sustainable Development Goals (SDGs).

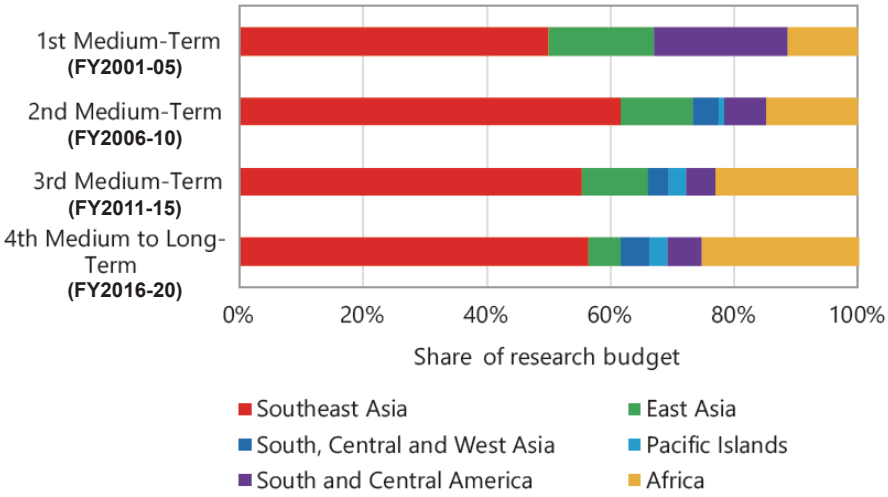
The lecture was concluded with words of gratitude to the people concerned.

Over the past 50 years, many great predecessors and senior colleagues have accumulated not only scientific knowledge but also other wealth, such as partnerships, institutions, etc., which have laid the foundation for the current JIRCAS. We need to look back at their contributions on this occasion. We are deeply grateful to all of our stakeholders, many of whom have been participating in our symposiums, and we would also like to give thanks particularly to our counterpart researchers and institutions overseas, for their long-lasting cooperation. Without their cooperation, we would not have been able to fulfill our missions and achieve our goals in the last 50 years. We will continue working hand in hand with them so we will be able to find and create a splendid future for our planet.

KOYAMA Osamu
Vice-President

JIRCAS Vice-President KOYAMA Osamu

Changes in research target areas at JIRCAS



Long-term collaboration

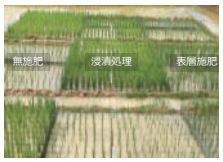
Research evolution derived from long-lasting collaborations

Soybean production (1997-)

Cultivars against Asian rust disease

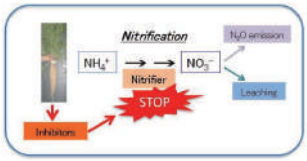
NERICA rice (1998-)

CARD projects (2008-)



New technologies in Madagascar

Agropastoral system (1996-)



BNI research in various crops

Mekong Delta farming system (1994-)

GHG reduction by AWD

Changes in research priorities

Era	World trend(key words)	Research priorities
1970s	Food availability Oil shock	Southeast Asia, Productivity increase, rice
1980s	Low commodity price Trade liberalization	Production system, overseas investigation
1990s	Global environment Sustainability	Bio-technologies, food technologies, fisheries
2000s	Emerging economies Biofuels	Africa, bio-materials, emerging economies
2010s	**Digital economy SDGs**	**Climate change, rice in Africa, outcome-oriented**
2020s -	**With (post) Covid19 Global fragmentation?**	**Wider academic front, intelligence function**

Presentation 2
The impacts of COVID-19 on the resilience of the global food system

Early alarms

The onset of the COVID-19 pandemic triggered alarmist views on whether international markets would still have the capacity to meet demands from countries who are dependent on trade, including their food security and export earnings. Leading authorities, such as the World Trade Organisation (WTO) and the International Monetary Fund (IMF) forecasted precipitous (record) declines in global merchandise trade, reasoning that international supply disruptions and lower global demand fuelled by economic recession would result in sharp contractions in world trade.

How is trade in food expected to fare in 2020?

Data available up to September 2020, projected to the full calendar year of 2020, suggest a contrasting picture on the resilience of the global food sector to COVID-19 shocks. The pessimistic trade forecasts at the global level do not concord with the observed data for food imports for the first nine months of 2020 and the forecast remaining months. On the contrary, global volumes of imported traded foodstuffs look set to increase by more than one percent from 2019, while for developing countries, the resilience is more remarkable, thanks to China, in which imported volumes are expected to rise by almost 6 percent. This comes against current rises in many international food prices as measured by FAO's Food Price Index. Among the 11 categories of foodstuffs, the majority of staple foods are expected to register marked increases in global trade in 2020, compared with 2019, but those which are considered more income elastic are expected to contract (i.e., beverages; fish; coffee, tea, cocoa; and dairy); while for imports by developing countries, only beverages and fish products are foreseen to register year-on-year declines.

What about the more vulnerable country groups?

Food imports by the group of Least Developed Countries (LDCs) and the aggregate of countries situated in sub-Saharan Africa (SSA) would seemingly be more vulnerable to COVID-19 shocks, since lower purchasing power and supply chain disruptions are expected to be more pronounced. However, LDC imports in 2020 are expected to show little change from 2019, with vegetable oils as well as coffee, tea, cocoa, and spices expected to offset declines in many other food categories. For SSA, the picture is very different. Apart from products in the oilseed complex, most other volumes of imported foodstuffs are foreseen to decline in 2020, resulting in a contraction of trade volume-wise by almost 2 percent compared to 2019.

But vulnerabilities extend elsewhere. COVID-19 is also accentuating the exposure of already economically vulnerable countries in the financing of their food imports. Countries in North Africa and the Near East have food import dependency rates in the proximity of 90 percent, while 27 countries situated in SSA have rates well above 40 percent. Indeed, Africa and the Near East dominate the intersection of food import vulnerabilities, notably food import dependency, primary commodity export dependency (especially, hydrocarbons and minerals) and "commodity currencies," in which exchange rates co-move with world prices of their primary exports. The intersection also comprises falling foreign exchange reserve levels, whereby countries should have enough to pay for three to six months of imports that would prevent food shortages, as well as sovereign debt and credit ratings, which govern the ability to access international credit markets. Dependency on tourism and inbound remittances are also being influenced by the global pandemic.

While countries in Latin America benefit from low rates of food import dependency, they are still exposed through falling revenues of crude oil and mineral exports as well as real depreciation of their local currencies. In terms of sovereign debt, Venezuela (Bolivarian Republic of) has already defaulted in its repayment obligations.

Josef Schmidhuber
Deputy Director, Market and Trade Division
Food and Agriculture Organization (FAO)

Presentation 3
The post-COVID-19 global agendas for agricultural R4D

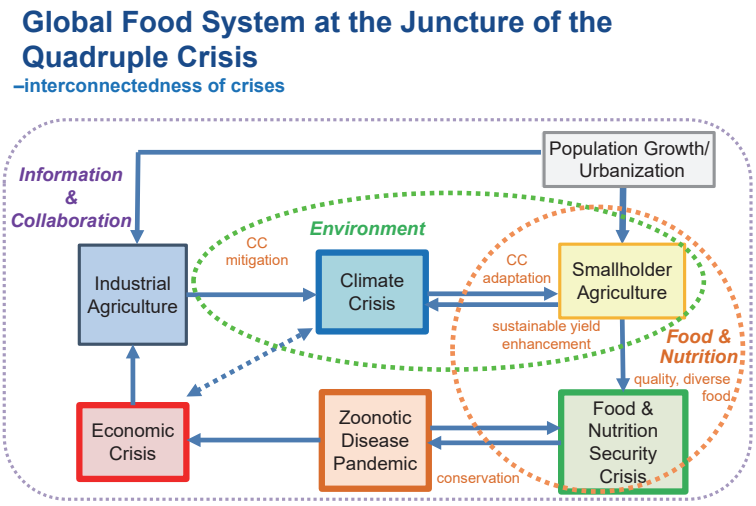
The year 2020 was marked by the exposure of the global community to the quadruple crises (i.e., the pandemic, economic fallout, climate emergency, and food and nutrition insecurity), simultaneously affecting both human and planetary health. These crises are intricately interlinked through the global food system, which has been a major force driving agriculture to overstep the safe operating space of the planetary boundaries.

This presentation proposed a conceptual framework that views the global food system as comprising of two sectors with distinctive technological evolutions, environmental footprints, and nutrition discourses. On the one hand, there's the highly specialized industrial production sector, which is not only among the leading emitters of anthropogenic GHG due to large application of chemical inputs, but is also associated with unsustainable diets. On the other hand, there's the agroecologically conditioned smallholder sector in developing countries, which is still struggling to ensure the stable supply of nutritious food to its population as it chronically suffers from stagnant productivity with little input application while also being increasingly stressed by the vagaries of climate change. Meeting the demand to feed the growing population in the latter sector has driven land use change to expand farmland, resulting in deforestation and environmental degradation with increasing chances of zoonotic diseases through wildlife-livestock-human contact. From this perspective, the COVID-19 crisis just turned out to expose the hidden but overdue structural costs of the global food system.

Reversing the situation requires a fundamental transformation of the global food system to make it serve both human and planetary health. With the projected doubling of the population in many developing countries by 2050, sustainable agricultural intensification in the smallholder sector is a top-priority strategy for achieving the "Great Food Transformation," a coordinated effort that promotes the production of nutritious food while mitigating and adapting to climate change.

Strategic areas in agricultural research for development (R4D) have been identified, including sustainable agricultural intensification, which, combined with the use of smart technologies, accelerates breakthroughs by enabling the fine-scale spatio-temporal application of optimal agronomy technologies. To disseminate these technologies, enabling conditions are necessary, especially interdisciplinary research, public-private investment in R4D, and collaboration between research and development agencies.

IIYAMA Miyuki
Director, Research Strategy Office



Panel Discussion
The modus-operandi of international collaboration

The Panel Discussion, themed "The modus-operandi of international collaboration," was joined by distinguished panelists, namely, Dr. IWANAGA Masa, President of JIRCAS; Mr. SATO Tadashi, Vice President of Japan International Cooperation Agency (JICA); Dr. Marco Wopereis, Director General of World Vegetable Center (WorldVeg); and Dr. Nteranya Sanginga, Director General of the International Institute of Tropical Agriculture (IITA).

The chair started the session by summarizing the previous presentations. His summary highlighted the rather surprising resilience of today's global food system against global shocks caused by COVID-19, in terms of the supply of staple crops for cheaper calories, yet it also indicated that COVID-19 has revealed structural problems in today's global food system in terms of providing quality food within planetary boundaries.

The panelists then shared their opinions on international partnership, based on the idea that the global food system needs fundamental transformation toward a sustainable and resilient future.

First, Mr. Sato explained the results of a survey implemented by JICA in developing countries to assess the impacts of COVID-19 on the agricultural sector, which revealed deteriorating food and nutrition security due to disruptions in distribution channels. He said that JICA responded by providing seeds, fertilizers, and other essentials to ensure the food and nutrition security of the target populations. He also stressed JICA's commitment to help the agricultural sector of developing countries improve resilience through capacity development and investment in infrastructure, and to work with research institutions for larger developmental impacts.

Dr. Wopereis in turn acknowledged the dominant presence of private players in the vegetable sector, especially in seed production. He also emphasized the critical role of public investment and research to address locally specific needs in order to achieve healthy diets through vegetable production and consumption, and appealed for strengthening the alliance among WorldVeg, CGIAR, and international and national agricultural research institutions.

Dr. Sanginga, for his part, shared his concern over the dilemmas and challenges facing African agriculture – the aging of its farming population, the unemployment among the youth with college degrees, all while the food import bill has been rising; in other words, the "exportation of jobs" to Asian rice-exporting countries. Based on his experiences of interacting with a Japanese yam-processing firm, he stressed the urgency of private sector involvement and business-led agriculture transformation for inclusive growth.

Dr. Iwanaga, reflecting on the challenges of the current global food system with the triple burden of malnutrition while overstepping the planetary boundaries, proposed a shift of research priorities from internationally traded crops to locally important crops that have been nutritionally and economically valued, yet whose research has been relatively neglected. He then emphasized the importance of communicating the contribution of agricultural research to build a sustainable future to encourage investment and promote collective actions.

At the end of the session, ideas were expressed based on the current situation wherein the development of technologies and innovations are evolving at an accelerated rate. In conclusion, the panelists agreed on the need to look for an effective modality of operation for international collaboration between research institutions and implementing agencies to tackle global challenges, including climate emergencies and pandemics. They also emphasized the importance of communication among farmers, researchers, and private sectors, as well as collaboration with various fields such as environment and health, in the food and agricultural sectors.

SAITO Masayoshi
Director, Research Planning and Partnership Division

Panelists - Upper row, L-R: Dr. Saito, chair of the session (Director, JIRCAS), Mr. Sato (Vice-President, JICA), Dr. Iwanaga (President, JIRCAS); Lower row, L-R: Dr. Wopereis (Director General, WorldVeg), Dr. Sanginga (Director General, IITA)

JIRCAS 50th Anniversary International Symposium 2020

The role of international collaboration in agricultural research to address challenges in the post-COVID-19 global food system

Program

15:00 - 15:10 | Opening remarks **International collaboration to build a resilient, equitable and sustainable food system**
M. IWANAGA, JIRCAS President

15:10 - 15:20 | **Welcome remarks**
Y. HISHINUMA, Director General, Secretariat of AFFRC, MAFF

15:20 - 15:30 | K. KADIRESAN, Managing Director, Global Engagement and Innovation, CGIAR System Organization

15:30 - 15:50 | Speech **JIRCAS 50th Anniversary**
– Looking back on experiences in international collaboration in agricultural research
O. KOYAMA, JIRCAS Vice President

15:50 - 16:20 | Message from counterparts
A. MATSUDA, Vice-President (International Collaboration, Intellectual Property, International Standardization, Public Relations), National Agriculture and Food Research Organization (NARO)
T. SUN, Vice President, Chinese Academy of Agricultural Sciences
P. WIRIYAPAHA, Director General, Department of Agriculture (DOA), Ministry of Agriculture and Cooperatives, Thailand
M. TRAORÉ (on behalf of Director General H. TRAORÉ),
Head of the Natural Resources Management and Production Systems, Institute for the Environment and Agricultural Research (INERA), Burkina Faso
L. RAZAFINJARA, Director General, Madagascar Centre National de la Recherche Appliquée au Développement Rural (FOFIFA)
K. NAKAMURA, Paraguay (CETAPAR), President of Directive Committee, Fundación Nikkei-CETAPAR (CETAPAR)

16:20 - 16:35 | Speech **The impacts of COVID – 19 on the resilience of the global food system**
J. SCHMIDHUBER, Deputy Director, Market and Trade Division Economic and Social Department Stream, Food and Agriculture Organization (FAO)

16:35 - 16:50 | Speech **The post-COVID – 19 global agendas for agricultural R4D**
M. IIYAMA, Director, JIRCAS Research Strategy Office

16:50 - 17:25 | Panel: **The modus-operandi of international collaboration**
M. IWANAGA, JIRCAS President
T. SATO, Vice President, Japan International Cooperation Agency (JICA)
M. WOPEREIS, Director General, World Vegetable Center
N. SANGINGA, Director General, International Institute of Tropical Agriculture (IITA)
Chair: M. SAITO, Director, JIRCAS Research Planning and Partnership Division

17:25 - 17:30 | Closing remarks **Toward the next decades**
O. KOYAMA, JIRCAS Vice President

2020 Japan International Award for Young Agricultural Researchers (Announcement of Winners)

The Japan International Award for Young Agricultural Researchers (Japan Award), which began in 2007, is organized and presented by the Ministry of Agriculture, Forestry and Fisheries (MAFF) of Japan to honor young foreign researchers whose outstanding achievements promote research and development of agricultural, forestry, fishery and other related industries in developing regions. Up to three young researchers under age 40 (as of January 1st, award year) who have shown

(1) outstanding performance in research and development in agriculture, forestry, fisheries, or related industries in developing regions and
(2) outstanding achievements in research and development that will lead to future technological innovation in agriculture, forestry, fisheries or related industries in developing regions

are invited yearly to Japan to receive certificates of commendation from the chairman of the Agriculture, Forestry and Fisheries Research Council (AFFRC Chairman's Award) and USD 5,000 monetary incentives (MOTAI-JIRCAS Award).*

**The MOTAI-JIRCAS Award is funded by an endowment from former AFFRC Chairman MOTAI Shigeru, with support from JIRCAS.*

The 2020 awardees are as follows:

Awardee: Dr. Saraswathipura Lakshmaiah KRISHNAMURTHY (39, Indian)
Affiliation: ICAR-Central Soil Salinity Research Institute
Research Achievement: Development of salt-tolerant rice varieties through conventional and molecular breeding approaches

Awardee: Dr. Kwanrawee SIRIKANCHANA (39, Thai)
Affiliation: Chulabhorn Research Institute
Research Achievement: Novel microbial tools to distinguish fecal pollution sources from livestock for effective agricultural watershed management

Awardee: Dr. Edmore GASURA (37, Zimbabwean)
Affiliation: University of Zimbabwe
Research Achievement: Strengthening quality protein maize resilience and utilization as nutritious food and feed in rural areas of Zimbabwe

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 in advance.
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