International Symposium on Cocreation of Social System and Technological Innovation for Global Food Resources

November 17 and 18, 2021

Conference Hall, Hokkaido University

PROGRAM

Symposium Chair:

Dr. Nabeshima Takako, Professor of Research Faculty of Media and Communication and GCF, Hokkaido University

Organized by Global Center for Food, Land and Water Resources- GCF, Research Faculty of Agriculture, Hokkaido University
Co-organized by Graduate School of Global Food Resources, Faculty of Economics and Business, Public Policy School, and Research and Education Center for Robust Agriculture, Forestry and Fisheries Industry, Hokkaido University
Supported by Global Institution for Collaborative Research and Education, GI-CoRE, Hokkaido University

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Symposium Program

Day 1: November 17th (Wednesday)

10:00 – 10:15

Opening Address
Prof. Nishimura Takanori (Onsite)
Dean of Research Faculty of Agriculture, Hokkaido University

Prof. Takahashi Masashi (Onsite)
Director of Global Center for Food, Land and Water Resources (GCF), Research Faculty of Agriculture / Dean of Graduate School of Global Food Resources, Hokkaido University

Session 1: Consideration of economic gap between rich and poor for promotion of welfare

10:15-11:00

Keynote Lecture I
Prof. Kohama Hirohisa (Onsite)
Professor Emeritus of Economics, University of Shizuoka / Guest Speaker, Graduate School of Global Food Resources, Hokkaido University
"Economic Development: Growth with Equity"

11:00-11:30

Lecture I
Prof. Mitsugi Hiroto (Onsite)
Senior Advisor to Director-General, FAO / Former Assistant Director-General, Forestry Department FAO, UN / Visiting Professor of GCF, Hokkaido University
"Food and Forest; How do we feed people with conserving forest?"

11:30-12:00

Lecture II
Dr. Hiwatari Masato (Online)
Associate Professor, Faculty of Economics and Business, Hokkaido University
"Development and Social Institutions: Why is Agricultural Development in Uzbekistan Challenging?"

12:00-13:00 **Lunch**

13:00-13:30 **Poster Session**

13:30-14:15

Keynote Lecture II
Prof. Asanuma Shinji (Onsite)
Former Professor, School of International and Public Policy, Hitotsubashi University / Guest Speaker, Graduate School of Global Food Resources, Hokkaido University
"The Face of ODA Tomorrow: MDGs, SDGs, and Reality Checks"

Session 2: Student Presentations

14:15-16:15

Presentation by the students from Graduate School of Global Food Resources
(15 min / person)

Day 2: November 18th (Thursday)

Session 3: "Glocal" viewpoints of social system and technology near to local population

10:00-10:45

Special Lecture I
Amb. Hobo Nobuhito (Onsite)
Former Ambassador of Japan to Sri Lanka and Maldives / Professor of National Graduate Institute for Policy Studies / Strategic Advisor, Visiting Professor, GCF, Hokkaido University
"The Case of Sri Lanka: Dialogue for Development"

10:45-11:15

Lecture III
Prof. Kwon Oh Sang (Video, Q&A Online)
Professor, Department of Agricultural Economics and Rural Development, Seoul National University Korea / Invited Professor, GCF, Hokkaido University
"R&D Expenditure, Agricultural Productivity, and Farm Income in Korea"

11:15-11:45

Lecture IV
Dr. Methee Kaewnern (Online)
Associate Dean, Assistant Professor, Faculty of Fisheries, Kasetsart University Thailand / Associate Professor, GCF, Hokkaido University
"Small scale fishing villages engagement in fishery resource restoration: A case of Crab Bank Project in Thailand"

11:45-13:00

Lunch

13:00-13:30

Lecture V
Dr. Chi Naomi (Onsite)
Associate Professor, Public Policy School, Hokkaido University
"Underclass, Poverty and Social Inclusion in East Asia: Listening to the Voices of the Voiceless"

13:30-14:15

Special Lecture II
Amb. Akasaka Kiyotaka (Onsite)
Former Ambassador of Japan to UN / Former Under Secretary-General of UN / Guest Speaker, Graduate Scholl of Global Food Resources, Hokkaido University
"How to Govern the Global Challenges"

14:15-15:00

Keynote Lecture III
Prof. Imasiku Anayawa Nyambe (Online)
Professor, University of Zambia Integrated Water Resources Management Centre
"Environmental Effects of Mining on Agricultural Products on Zambian Copperbelt, Africa"

15:00-15:15

Break

15:15-16:15

General Discussion (Onsite & Online)

16:15-16:20

Award ceremony for students with excellent presentation (Onsite)

16:20-16:30

Closing Remarks (Onsite)

Economic Development: Growth with Equity

Kohama Hirohisa

Professor Emeritus of Economics, University of Shizuoka / Guest Speaker, Graduate School of Global Food Resources, Hokkaido University

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1. What is Economic Development?
Improvement of ordinary people's living standard.
Social stability is crucially important for sustained economic growth.

2. Efficiency enhancement and income distribution.
Growth *with* Equity? Growth *vs.* Equity?

3. Kuznets' Inverted-U hypothesis: Economic Growth and Income Distribution
According to the conjecture of Simon Kuznets, if historical statistics are available to draw the measures of inequality (say Gini coefficient) in the vertical axis, the relationship would be curved in an inverted-U shape with an initial phase of increasing inequality succeeded by a phase of decreasing inequality.

4. Modern Economic Growth (MEG): 6 characteristics
MEG and the Developing World: Growth demands a stable, but flexible, political and social framework, capable of accommodating rapid structural change and resolving the conflicts that it generates, while encouraging the growth-promoting groups in society.

5. Growth and the Poor
Growth is good for the Poor?
Globalization is good for the Poor?

6. Policy philosophy
"Growth and equity" is a big issue for development policy. Is there trade-offs between growth, in other words, efficiency enhancement and equity aspect of development, which includes income and asset distribution and employment. Governments should consider equity aspect for social stability. In spite of Kuznets' inverted U-shape hypothesis, efficiency enhancement and equity pursuit do not always contradict each other. We observe the concurrent increase in efficiency and equity in some East Asian countries. The Japanese government announced a policy philosophy on "growth *and* equity" in 1954. It said that although simultaneous pursuit of both growth and equity was very difficult, Japan pursued both targets at the same time. Such a clear statement on policy philosophy is very important to understand Japan's high growth alongside social stability.

Food and Forest; How do we feed people with conserving forest?

Mitsugi Hiroto

Senior Advisor to Director-General, FAO / Former Assistant Director-General, Forestry Department FAO, UN / Visiting Professor, GCF, Hokkaido University

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Between 720 and 811 million people over the world faced hunger in 2020. The impact of COVID-19 pandemic has increased the number of undernourished people. With the world population projected to exceed nine billion people by 2050, agricultural products must expand by an estimated 60 percent to meet global food needs. Escalating demand for food with expansion of farm land has caused deforestation and loss of biodiversity, and diminishing water availability - all of which reduce food security, especially for the poor. In addition, deforestation increases the emission of carbon dioxide as well as loses the function of mitigating climate change.

We are confronting a challenge of feeding people with conserving forest and nature

Year 2021 is regarded as a super year for nature. Through UN Food System Summit, UNFCCCCOP26 and CBDCOP15, international communities have discussed this challenge which would be a core of transformative change for food security and nutrition, climate change and biodiversity.

Hunger will not be eradicated by 2030 unless bold actions are taken to accelerate progress, especially actions to address inequality in access to food. The bold actions should be nature positive and transformative for stopping deforestation and biodiversity loss. With looking at current status of food, including food waste and loss, and forests, we should consider the possible way of nexus between food and forest and the role of scientists and practitioners to put the way into practice.

Development and Social Institutions: Why is Agricultural Development in Uzbekistan Challenging?

Hiwatari Masato

Associate Professor, Faculty of Economics and Business, Hokkaido University

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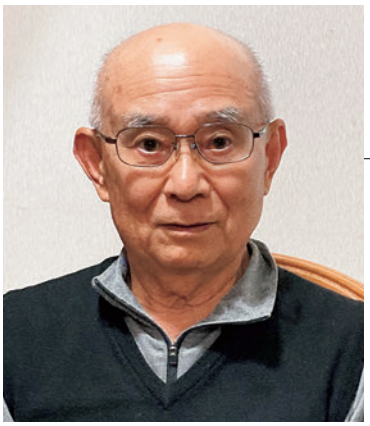
This presentation will examine the difficulties in linking social institutions and development in the case of Uzbekistan, a former socialist country, and consider what needs to be done to solve the problem.

Uzbekistan is a country in Central Asia that has been transitioning to a market economy since its independence from the former Soviet Union. In terms of social institutions, the country has a community society characterized by “mahallas,” or strong networks of human relations. In terms of agriculture, the country's agricultural sector during the socialist era was a monoculture economy of cotton production, despite the high production capacity of horticultural crops due to climatic conditions.

In recent years, the Uzbek government has been actively engaged in policy utilization of the mahalla. The government not only uses it as the smallest administrative unit, but also encourages economic activities. It was symbolic that a new ministry, the ministry of Mahalla and Family Support, was launched last year. In addition, the entire country is making efforts to increase the production of horticultural crops. Under the support of Japan and international organizations, a vast number of green houses have been established throughout the country.

The direction of these recent reforms does not seem to be wrong. However, they are not always successful when observed in the implementation phase. This presentation will consider what prevents them from realizing their rich potential and what needs to be done for a more tailored approach to development.

The Face of ODA Tomorrow: MDGs, SDGs, and Reality Checks



Asanuma Shinji

Former Professor, School of International and Public Policy, Hitotsubashi University / Guest Speaker, Graduate School of Global Food Resources, Hokkaido University

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The 2000 UN Millennium Summit launched the Millennium Development Goals, setting out 8 major goals for global development by 2015, followed by the Sustainable Development Goals at the conclusion of the MGD period. The SDG goals to be achieved by 2030 had been extended to 17, including, among others, growth and employment, infrastructure, gender, peace and justice, and added emphases on environmental sustainability.

In the Millennium Development Goals Report 2015, the then UN Secretary-General Ban Ki-moon stated "The global mobilization behind the Millennium Development Goals has produced the most successful anti-poverty movement in history." This is nothing but a BIG LIE. Poverty headcounts had declined significantly, and many other economic and social indicators had improved along with it. But these progresses had little to do with the MDGs. The 20 years from 1990 to 2010 were the "golden years" for developing country growth, and the major driving forces behind that were the globalization and the world commodity boom.

At the fundamental level, the MDGs and the SDGs do not provide for a satisfactory global development strategy framework, because they are formulated as a communications strategy but never fully developed for policy/program actions. The goals are set out without establishing structural inter-relationships among them, and the objectives and means as well as the cost-benefit considerations have not been well considered. As a result, the SDGs have turned out to be a utopian illusion lacking realism.

What we in the international development community needs most is not a new "aid paradigm" such as MDGs or SDGs but instead a serious pause for reflection on the role of international development community based on our collective country and field experiences over the past half-century.

The Case of Sri Lanka: Dialogue for Development

Hobo Nobuhito

Former Ambassador of Japan to Sri Lanka and Maldives / Professor of National Graduate Institute for Policy Studies / Strategic Advisor, Visiting Professor, GCF, Hokkaido University

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There were good and sad news about Sri Lankan development. Good news was the World Bank upgraded economic status of Sri Lanka from Lower-middle income to Upper-middle income in 2019. Sad news was the economic growth rate of Sri Lanka recorded worst ever minus (-) 3.6% in 2020 for COVID-19.

Sri Lanka is an island country known as its tropical beauty and often referred to as "the Pearl of the Indian Ocean". In terms of economic and social development, Sri Lanka has unique features. The official country name is "the Democratic Socialist Republic of Sri Lanka". Sri Lanka maintains a free-market economy but keeps the word of "Socialist". Sri Lanka is the highest ranked in South Asian countries on the Human Development Index (positioned 72nd out of 189 countries), and has the second highest per capita income (3,682 US$ in 2020) in the region. Sri Lanka still maintains free education from elementary to university level that is the background of high literacy rate (92.5%). Similarly the "pro-poor" medical care system over the country supports high life expectancy of 77.9 years at birth.

Japan and Sri Lanka maintain historically cordial relationships and high level of economic cooperation between the two countries. Japan started its technical cooperation first to Sri Lanka in 1954 after joining Colombo Plan, an international organization for technical cooperation. Since then Japan has extended Official Development Assistance to Sri Lanka, amounted over 1.4 trillion Japanese yen by FY 2019 in various forms.

SDGs tells us development of a country should go beyond GDP statistics. Every country has to interpret goals and targets of SDGs and to prioritize development needs by themselves, reflecting existing conditions.

In that context, Japan attaches importance to dialogue over the policy orientations and the actual needs of the counterpart country. Showing the case of such policy dialogue with Sri Lanka, development strategy of Sri Lanka will be discussed.

R&D Expenditure, Agricultural Productivity, and Farm Income in Korea

Kwon Oh Sang

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Agricultural economics literature has estimated and reported very high rates of return from public agricultural R&D investment. However, estimating the direct productivity improvement effect might be only one of the R&D-related issues. Most of all, the decline in agricultural output prices caused by the productivity improvement may possibly harm farm households while consumers benefit from the price decline. Thus, there could be a welfare distribution issue between producers and consumers. Moreover, there would be distribution issues within producer group and consumer group as well. It is often mentioned that small scale farms with low productivity may be negatively affected by the R&D-driven price decline while large scale farms earn more income owing to the increased productivity. Among urban households, those with relatively high food expenditure share may obtain larger benefits from the price decline. The impacts of agricultural R&D may not be confined to domestic agricultural sectors; non-agricultural sectors and foreign countries may also be affected. Korean agricultural sector achieved a rapid structural transformation over several decades, and public R&D expenditure was one of the drivers of the transformation. This presentation reviews the empirical works on the contributions of public R&D expenditure to Korean agricultural productivity, price, farm income, and consumer welfare. The historical trend of agricultural total factor productivity is introduced. The estimated contributions of R&D expenditure to productivity improvement and price change are discussed. The within sector farm income distribution impacts of R&D are introduced and discussed. The consumer benefits from the R&D expenditure are also discussed.

Small scale fishing villages engagement in fishery resource restoration: A case of Crab Bank Project in Thailand

Methee Kaewnern

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Marine fishes and shellfishes are the important sources of protein and income, through fisheries, for number of people in Thailand, in particular those whom live along the coastlines like small-scale fisher which is the main sector of fisher in Thailand. It is recognized that, in this recent years, the marine fishery resources especially the blue swimming crab (BSC) have become depleted due to high fishing pressure. The BSC is one of the most economic species of fishery industries in Thailand and exported worldwide. Therefore, reduction in abundance of this species unavoidably affect to the fishers, all the supply-chain sectors and country's GDP from fishery products, respectively. To restore the BSC abundance in its natural habitat, a project called “crab bank” was initiated in Thailand as the community engagement project to not only support the fisher and stakeholders needs but also to build partnership and strengthening their participation. Nowadays, the project is considered as a national agenda on marine resource restoration, not only the main organization like the Department of Fisheries (DOF) plays it role on project implementation but also research funding agencies such as National Research Council of Thailand (NRCT), Agricultural Research Development Agency and Ministry of Science and Technology also support many related research activities. The crab bank is the program on taking the caught gravid females BSC in the in rearing condition, allowing them to spawn and then releasing the zoea and young crabs back to the sea. According to this project, number of scientific studies to assess the condition of the BSC stocks, evaluate the fishing habitat, and other relevant issues have also been conducted. Among the stakeholders, small-scale fishing villages along the coastal of Thailand plays important role on this activity. Case studies on issues mentioned above and lessons learned are discussed.

Underclass, Poverty and Social Inclusion in East Asia: Listening to the Voices of the Voiceless

Chi Naomi H.J.

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A class in social terms can be define as large scale grouping of people who share common economic resources which strongly influence the type of lifestyle they are able to lead (Giddens, 2001). Typology of class has diversified in recent years, but we can argue that the main types of classes in society today are the upper class, working class (middle to lower class) and the underclass. We view the underclass being structured by the bottom of society, but who are the underclass exactly?

One of the common features of the underclass is that they are unable to escape from poverty, for example, the passive poor who are long term welfare recipients (elderly or single mothers), poor youth and migrant workers dependent on precarious work (sometimes involved in underground economy, sex industry or crime), or those who have been traumatised (the homeless, drifters, substance abuse, mental illness). Western scholars have tried to put their finger on the causes of the rising underclass in the West, for example, Giddens believes that the underclass are vulnerable people unable to find secure jobs. He sees this as a consequence of the dual labour market, where there are high paid stable jobs on one hand and low paid insecure jobs on the other.

Of course, the problem of the underclass is not unique to the West, and in recent years we have witnessed what some refer to as the "collapse of the middle class" in East Asia and are able to confirm common or similar phenomena in Japan, Korea and Taiwan such as the increase in youth poverty, working poor, bipolarization of class and low-skilled foreign migrant workers. However, there are also features that may be unique to the East Asian context, such as part time or irregular workers in Japan as well as the low-skilled women migrant workers in Korea and Taiwan. Against this background, this presentation aims to identify, analyze, and explore the following:

1. Who are the underclass, and what are the causes of the increase of the underclass in the East Asian context?
2. How can civil societies in East Asia contribute to empowering these people?

How to Govern the Global Challenges

Akasaka Kiyotaka

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Multilateralism, embodied in the UN system, has been in danger of collapsing due to the increasing number of countries which do no respect international laws, rules and norms.

The COVID-19 pandemic has exacerbated the crisis as nationalism and populism have resurged in many countries, with scant attention to the need of international cooperation to resolve global problems.

UN Secretary-General Antonio Guterres has also been repeating his warning that the world is splitting in two, with the two largest economies on earth creating two separate and competing worlds. Global governance in dealing with mounting problems worldwide including food security will not be manageable in such a divided world.

The Sustainable Development Goals (SDGs) have 17 goals including ending poverty and hunger and achieving food security by 2030. Between 720 and 811 million people in the world faced hunger in 2020. New projections confirm that hunger will not be eradicated by 2030 unless bold actions are taken to accelerate progress, especially actions to address inequality in access to food. All other things constant, around 660 million people may still face hunger in 2030.

There are a number of UN agencies working for the food security issue, but when a global crisis breaks out, like in the case of 2008, global governance should not repeat the haphazard response to the crisis. The UN system must be well prepared for such crisis.

The UN has to deal with too many challenges such as food security, climate change and global pandemic. There is no more single global leader to be able to galvanize the whole world, and the current governance structure must be revisited and reestablished to ensure that coordinated and effective responses are taken to deal with global crises. There may be many options for such reforms including the better use of regional co-operation and a coalition of like-minded countries. Japan, in collaboration with the U.S. and other partners, should take a lead in strengthening the global governance over those challenges.

Environmental Effects of Mining on Agricultural Products on Zambian Copperbelt, Africa

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Huge tonnes of copper and cobalt produced over 90 years of mining on the Zambian Copperbelt have produced enormous amounts of waste due to mining and processing resulting in an environmental degradation. This study determined the extent of industrial contamination on the Copperbelt on agricultural plants. A broad range of effects of mining on crops were identified including:

(i) Open-cast operations with high tonnage of waste rocks and overburden disposed of in waste dumps that represent an important source of dust fallout;

(ii) Ore crushers and concentrates with a lot of dust which in Mufulira, for example, contains 39,100 ppm of Copper (Cu), 12 ppm Cobalt (Co), 20 ppm Lead (Pb) and 1.2 ppm Arsenic (As);

(iii) Washing of old flotation tailings and their sedimentation in Pollution Control Dam e.g. at Chingola, the suspensions contain 1 600 ppm Cu, 450 ppm Co, 14.7 ppm As and 12 ppm Pb;

(iv) Tailing impoundments providing dust fallout on dry sections ("beaches") affecting plant leaves to a distance of a few kilometers from the source of pollution, whereas their dams of are leaking, discharging a pulp rich in iron. The contents of Cu in these precipitates vary between 800 and 2 500 ppm, Co between 780 and 1 900 ppm, As 2.7 up to 350 ppm, and Pb 14 and 270 ppm; and

(v) Smelters with emissions of sulphur oxides containing on average up to 70 µg.m-3. Emissions of SO2 from the Copperbelt smelters before closure ranged between 300,000 and 700,000 tons per year. Dust aerosol in the environs of smelters contains as much as 0.108 µg. Cu per m3 of air, 0.008 µg.m-3 Co, 1.09 µg.m-3 Zn, and 0.498 µg.m-3 Pb.

Contents of arsenic in fresh agricultural products of cassava and sweet potato leaves reach as much as 7 ppm, cobalt 18.9 ppm, copper 253.8 ppm, nickel 3.4 ppm, lead 5.04 ppm and zinc 161 ppm, and could have led to a sharp decline in agricultural production in the polluted areas.

Note


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