We Are *Tomodachi*

Autumn 2017

Feature:
Hand in Hand for a Better World

Contributed Article:
Izumi Nakamitsu
Japan and the United Nations

Feel Future Society at the World Expo 2025 Osaka, Kansai

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The website features a number of official magazines/publications, including "We Are *Tomodachi*." You can also access the websites for related ministries and government agencies.

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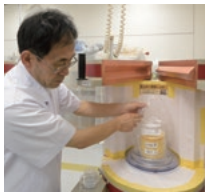

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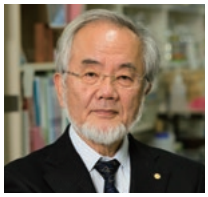

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Cover: In August 2016, Prime Minister Shinzo Abe visited Nairobi in the Republic of Kenya and attended the Sixth Tokyo International Conference on African Development (TICAD VI). TICAD was launched in 1993 to promote high-level policy dialogue between African leaders and development partners. TICAD VI was the first TICAD held on African soil.

"We Are *Tomodachi*" is a magazine published with the aim of further deepening people's understanding of the initiatives of the Government of Japan and the charms of Japan. *Tomodachi* means "friend" in Japanese, and the magazine's title expresses that Japan is a friend of the countries of the world—one that will cooperate and grow together with them.

This is Japan

Festivals in Fukushima

All over Japan, countless festivals big and small known as *matsuri* are held each year, with estimates putting the number of events between 100,000 and 300,000. Fukushima, too, has *matsuri* with a long history, fulfilling the important role of connecting people.

Nihonmatsu Lantern Festival — October 4-6, 2017

A festival with a tradition dating back about 370 years. On the first night of the festival, seven parade floats adorned with about 300 *chochin* paper lanterns each are marched through the town, accompanied by music and cheers. The festival was held even in 2011, the year of the Great East Japan Earthquake, uniting the hearts of people praying for recovery from the catastrophe.

Aizu Festival — September 22-24, 2017

Centered around Aizuwakamatsu's landmark Tsuruga Castle, the festival consists of various events such as traditional dances, processions of lanterns, and a parade with local elementary school marching bands. For the main event, a total of around 500 people dressed up as warriors and nobles march through town in the Aizu Feudal Lords' Procession.

Soma Nomaoi Festival — scheduled for July 2018

The festival's origins are thought to date back a millennium, beginning as a military exercise of catching a wild horse and a ceremony dedicating the horse to Shinto gods. More than 500 armored warriors on galloping horses ride during the festival, creating an impressive spectacle. The festival is scheduled to be held next year at the end of July.

Fukushima Prefecture Overview

- Population: Approximately 1.88 million
- Total Area: 13,780 km² (5,320 mi²)
- Prefectural Capital: Fukushima City
- Access: Approximately 300 km (186 mi) from Tokyo to Fukushima; 90 minutes by Shinkansen.

Japan and the United Nations: Toward a More Perfect Partnership

Izumi Nakamitsu

Ms. Izumi Nakamitsu became the first Japanese woman to assume the position of Under-Secretary-General and High Representative for Disarmament Affairs at the United Nations on 1 May 2017. Prior to taking on this post, she served as Assistant Administrator of the Crisis Response Unit at the United Nations Development Programme (UNDP) since 2014. She has many years of experience within and outside the United Nations system, including in the UN Department of Peacekeeping Operations, Executive Office of the Secretary-General, and United Nations High Commissioner for Refugees (UNHCR). Born in 1963, Ms. Nakamitsu holds a Master of Science degree in Foreign Service from Georgetown University in Washington, D.C., and a Bachelor of Law degree from Waseda University in Tokyo.

Japan prizes multilateralism, and it has been a strong member and supporter of the United Nations since joining the organization in 1956.

The Constitution of Japan may help to explain the country's consistent readiness to invest in the work of the United Nations. The preamble states: "... We desire to occupy an honored place in an international society striving for the preservation of peace, and the banishment of tyranny and slavery, oppression and intolerance for all time from the earth. We recognize that all peoples of the world have the right to live in peace, free from fear and want." All of these aims go to the heart of the mission and objectives of the United Nations.

Japan is one of the largest financial contributors to the United Nations, and it has long been a leader in the areas of development and humanitarian cooperation. In fact, its government was one of the first to emphasize human-centered approaches to these activities by encouraging ownership of development processes by communities they affect. The member states of the United Nations hold Japan in equally high esteem on matters of peace and security, as they have demonstrated by appointing it to the Security Council on more occasions than any other country elected to the body. Japan is currently serving its eleventh two-year Security Council term.

To tackle today's profound global challenges and ensure a livable world for ourselves and coming generations, we need multilateralism and the United Nations more than ever. Through the United Nations, the international community has already achieved the landmark 2030 Agenda for Sustainable Development, whose 17 goals will guide our joint efforts to eradicate extreme poverty and protect the planet while "leaving no one behind." Governments also acted through the United Nations to produce the Paris Agreement, which will guide our critical work to address global climate change. Japan remains one of the most important champions of these multilateral efforts, which will have a defining impact on the future of humanity and our planet.

In addition, the United Nations offers a crucial means

of orchestrating action on growing challenges to peace and security. These challenges include the return of rivalries and tensions reminiscent of the Cold War, as well as new risks posed by non-state actors and terrorist organizations with regional and global influence. UN forums can also help the world to address rapid technological and scientific innovations with the potential to bring enormous prosperity, but also to upend the international security environment if they are weaponized or harnessed with malicious intent. We within the United Nations must act to prevent conflict while ensuring that our peace operations can protect civilians, restore stability and sustain peace more effectively. We must also redouble our efforts to advance disarmament causes—the oldest mandate of the United Nations, agreed upon by its first General Assembly resolution in 1946. Arms control, non-proliferation and disarmament efforts build confidence, reduce tensions and contribute to political solutions to conflicts.

Japan, with its proven record in multilateral affairs, has a central role to play in all of these efforts. On behalf of the UN Secretariat, I propose three ways in which Japan may be able to strengthen its support even further for the United Nations and, by extension, the entire international community.

First, Japan could expand its role as a bridge builder at the United Nations, bringing together various perspectives and positions on difficult issues. For the United Nations to work effectively, member states must find common approaches to tackle global challenges. In today's difficult political environment, a group of trusted countries is needed to help narrow differences and find areas of agreement. Japan enjoys global respect and appreciation for its moderate and peace-seeking foreign policies over the past seven decades, coupled with its long-running, sincere efforts to support development around the world. Its trust and credibility among UN members could prove to be a great asset in supporting a well-functioning UN system.

Second, Japan could assume a greater leadership role in the potentially difficult endeavor of upholding or restoring the universal values that the United Nations seeks to advance: human rights, the rule of law, and various international norms and instruments that the world community has labored to establish over generations—in some areas longer than a century. The Middle East has seen brazen violations of both international humanitarian law and the universal taboo against chemical weapons use, and these are just two worrying examples of the possible erosion of international norms. An immediate and vigorous effort to stop further erosion is essential. Japan has always acted in a rigorous and exemplary manner at the United Nations to uphold the rule of law, and the world could only benefit from further Japanese efforts in this regard.

Third, we hope Japan will strongly support the institutional reform efforts initiated and spearheaded by UN Secretary-General Guterres. As the world goes through profound changes, the United Nations will have to change with it. The reforms we must undertake might be at times painful for UN staff and delegates, but they are necessary if multilateralism and the United Nations are to remain relevant in the twenty-first century. Such reform efforts are important to ensure that the United Nations system will not only perform more efficiently in today's changing world, but also deliver on its goals more effectively. The United Nations should become more innovative and creative, while also learning to work more effectively with the private sector, civil society actors, and young people. Japan played a key role in past UN reform efforts, and we hope it can again lead and support us in this latest reform process.

The United Nations is by no means perfect, but it is evident that global challenges require global engagement and a collective effort. We at the United Nations are certain that we can achieve a better, more prosperous and more secure world for all—if we can work closely with member states such as Japan.

Improving Kenya's Soybean Supply Chain to Support Smallholder Farmers

Tomoko Yakushigawa

Born in 1988. Graduated *summa cum laude* from the University of Texas at Arlington in 2011 with bachelor's degrees in political science and French. She then joined the Norinchukin Bank where she learned the structure and business practices of Japan Agricultural Cooperatives. In 2014, she was posted to Migori County in Kenya as a member of the Japan Overseas Cooperation Volunteers. In 2016, she established Alphajiri Ltd.

Whenever East Africa experiences a drought, there is a decrease in the harvest of corn—the country's main staple food—which drives prices up and threatens the livelihoods of the people. To help stabilize the food supply, the Government of Kenya has turned its focus to the soybean, a nutritious protein source and a crop that can be harvested in a short period of time. In 2011, funded by the Japanese government, the Kenya Industrial Ministry together with the United Nations Industrial Development Organization (UNIDO) built three soybean processing factories to promote the spread of locally produced and locally consumed soybeans.

Joining these efforts to expand soybean consumption, Tomoko Yakushigawa was posted to Kenya's Migori County near the border of Tanzania when she became a member of the Japan Overseas Cooperation Volunteers in 2014. "To get more people eating the soybean flour produced at the processing factories that were built, we asked the local women to help us think of ways to use the flour in Kenyan cooking, and we traveled to schools and hospitals to teach the nutritional value of soybeans."

But as her efforts progressed, she realized that there was a fundamental problem: Kenya had almost no established supply chain for raw materials. As a result, farmers were unable to earn a stable and continuous income through the production of farm products.

"For the farmers producing soybeans, finding a market was not easy because of limited information. Even if they found one, it was beyond their capacity to meet the amounts and delivery times that the processors demanded. Meanwhile, processing manufacturers were unable to obtain steady supplies of high-quality soybeans. This situation required a thorough solution that would improve everything from soybean cultivation to consumption."

In February 2016, Yakushigawa established Alphajiri Ltd. together with three Kenyan supporters as an organization to link farmers with the processing

At a meeting held in June 2017, field officer contracts were signed with 23 individuals chosen by each village in Migori County.

The employees of Alphajiri Ltd. directly educate the field officers who assist the local farmers.

Alphajiri Ltd. derives its name from the Swahili word "Alfajiri," which means "sunrise." Yakushigawa explains, "We chose the name to evoke the image of the Kenyan people plowing the fields in the early morning. At the start of a day, the name also reminds me of the reason I came to Africa and ensures that I never forget my original purpose."

Services offered by Alphajiri Ltd.

Process	Seeding	Farm management	Harvesting	Crop assembly	Sorting/ classification	Transport	Processing
Services by Alphajiri Ltd.	Providing agricultural materials			Purchasing at market price		Direct transportation to factory	
	Farmer training for higher productivity					Collective mass distribution	
	Inventory control					Stable supply	
	Quality control					Supplying high quality crops	

manufacturers and to build a soybean supply chain. Alphajiri Ltd. makes contracts with farmers and comprehensively manages their business transactions. This includes purchasing soybeans produced by the farmers at fair prices, selling them to the processing manufacturers, and everything in between. In addition, to increase harvest output and improve the supply volume of individual farmers, the company loans seeds, fertilizer, etc. and provides technical guidance. To ensure that the farmers receive instructions and advice in a timely manner, the company appoints a field officer in each village. After acquiring cultivation know-how from Alphajiri employees, the field officer makes rounds of a village on bicycle and provides immediate help where it's needed. For example, if the officer finds harvested soybeans exposed to rain, the officer will instruct the farmer on covering the harvest with tarpaulin sheets. It's a detail-oriented system that truly employs the Japanese philosophy of "Kaizen," the pursuit of continuous improvement.

The contracted farmers enjoyed the clear instructions and reliable cash income, while the processing manufacturers widely accepted the stable high quality of the soybeans. At the company's outset, contracts with farmers numbered around 50. Today, there are approximately 2,000 farmers annually contracted to the company. The growth of the business has allowed for more efficiency on a large scale, and now the soybeans can be collected at one location and transported in large volumes at once. With this and other improvements, the business has truly taken off.

Yakushigawa enthusiastically explains, "Our objective is to achieve a yearly total of 10,000 contracted farmers by 2020. In the future, Alphajiri Ltd. will also handle products other than soybeans as we expand our business throughout Kenya and to other countries in East Africa, helping farmers in more places earn a stable and continuous income."

Sharing Japanese-Style Education Abroad

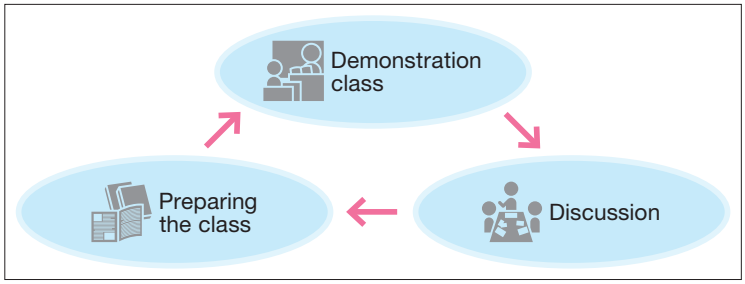
Lessons in problem solving stimulate a varied approach to debating. In Thailand, Japanese-style instructional systems can now work on their own and help engross children in mathematics lessons.

The Japanese education system is receiving much attention. This all started in 1964 with an international math education study conducted by the International Association for the Evaluation of Educational Achievement (IEA). In the 1964 study, Japan placed second in mathematics and came first in the following study. As a result, researchers from industrialized nations flocked to Japan, and various comparative studies between the systems in the United States and Japan launched in the 1980s, while the movements for standardizing the schooling curriculum thrived in the United States. In the 1990s, research on comparative math education made clear that the secret behind the scholastic achievements of Japanese students was Japanese-style education, especially the teaching of problem-solving in brainstorming sessions to stimulate alternative methods, and the lesson study (*jugyo kenkyu*) that teachers were encouraged to engage in. In subsequent studies, Japan has maintained a position in the top five rankings.

"We are helping others introduce a Japanese-style system of education, and we are very happy when we hear how children in countries that have actually adopted such a system look forward with enthusiasm to going to school every day," recounts Masami Isoda, director of the University of Tsukuba's Center for Research on International Cooperation in Educational Development (CRICED). CRICED was founded in 2002 with the objective of providing aid to foreign countries by sharing the Japanese educational model.

The aspect of Japanese-style education that first caught the attention of overseas educators was its lesson study. Teachers research instructional materials together, and observe one another's teaching during open classes. Their consultations with one another over methods of instruction help refine teaching materials

The lesson study (*jugyo kenkyu*) process

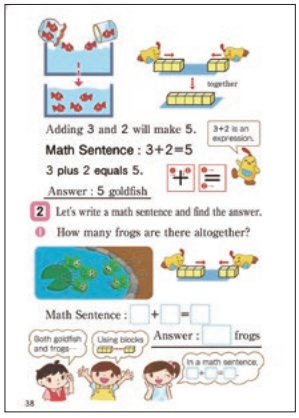


Striving to improve the quality of education, teachers conduct research during daily classes by repeatedly researching instructional materials, holding classes, and reflecting on their instruction.

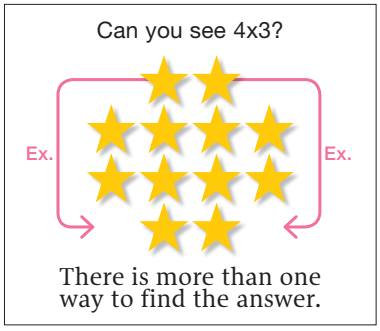
Dr. Masami Isoda

Director of the University of Tsukuba's Center for Research on International Cooperation in Educational Development (CRICED). Professor of the Faculty of Human Sciences. PhD in Education. Representative of the APEC lesson study project since 2006.

The 11th workshop class held at Khon Kaen University. Over 2,000 teachers gathered from throughout Thailand to participate in the event and observe classes being conducted onstage.



Japanese-style mathematics textbooks are translated to the English, Thai and Spanish languages. The problem solving process is presented with a variety of examples and repeated for easy learning. Pictured here is the English version (Gakko Tosho Co., Ltd.).



Example of counting. Students talk with one another and come up ideas for how to easily solve the problem by rearranging the stars as a visual aid.

and teaching methods, to provide a better hands-on model and encourage efforts for even better instruction. This approach is praised overseas as an activity to improve teacher self-education.

"In countries other than Japan, the Japanese method of teachers observing one another's classes is often misunderstood as skill assessment. Japanese-style education involves having teachers compete with one another, strive to improve lesson study, and train children to think on their feet. This was especially important when CRICED was founded. Overseas schools that have adopted this education system provide an innovative teaching experience where mutual learning and successive fine tuning of lesson study have led to dramatic improvements in student achievements," says Isoda. Since 2006, the Asia-Pacific Economic Cooperation (APEC), an organization working for economic development, has launched research projects on Japanese-style education with the aim of raising the quality of education. Serving as a prime mover in this project, CRICED organizes a 21-economy lesson study network in its efforts to promote lesson study.

Japanese textbooks have caught the eyes of educators around the world as the result of lesson study. Especially, arithmetic and mathematics textbooks are designed to teach students mathematical concepts by having them think on their own and discuss with one another.

"In the past 15 years, we have worked to share Japanese-style education through the universal language of mathematics. CRICED currently works in partnership with associates all over the world. Through these associates we deploy lesson study, provide an innovative teaching experience and encourage efforts for even better instruction in various countries and regions. We would now like to widen this sphere to include other subjects. It is our intention to make use of Japanese-style teacher-training systems and other useful expertise," explains Isoda.

In addition to such efforts, the Japanese Ministry of Education, Culture, Sports, Science and Technology began its "EDU-Port Nippon" initiative in April 2016. The project coordinates expanding Japanese-style education overseas with public-private partnerships, works to expand musical and physical education, and explores the academic uses of ICT devices. The Japanese government plans to further increase its international contribution in the field of education in the future.

Japan's SMEs Provide Solutions for Sustainable Growth

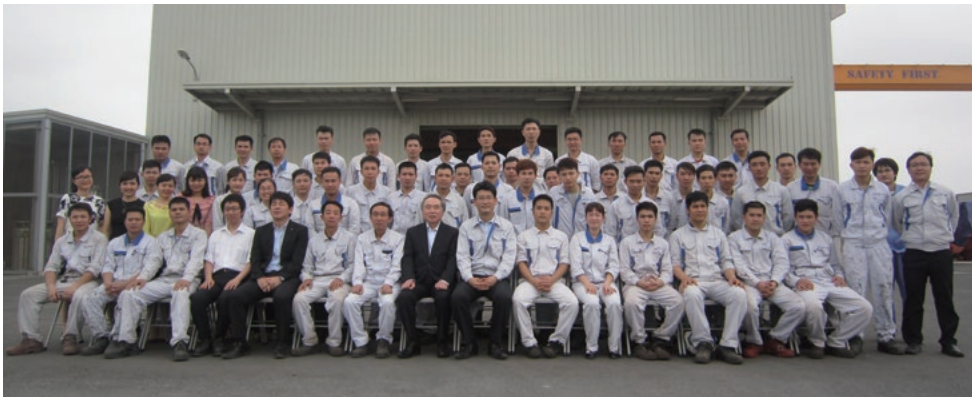
Japan's Small and Medium Enterprises (SMEs) form the backbone of its high degree of technological development. A large number of these businesses possess expertise and know-how that can help solve issues in developing countries. However, most SMEs find it difficult to conduct market research or procure proper personnel for carrying out overseas projects on their own. In response, the Japan International Cooperation Agency (JICA) introduced a new program for assisting the overseas expansion of SMEs. It enables SMEs to explore their technologies and products' usability, and serves as a foothold for businesses that contribute to overcoming the obstacles developing countries are faced with. The program has been running for five years and substantial achievements made by Japan's SMEs are beginning to emerge.

One of these contributions is the work done by Japanese storage tank manufacturer Tamada Industries, based in Ishikawa Prefecture, to provide safer gasoline tanks to Vietnam. Most of the tanks used at gas stations in Vietnam are made of iron and pose a risk of leaking gasoline into the environment when they deteriorate. Double-wall tanks whose outer layer is shielded with fiber-reinforced plastics (FRP) can prevent such deterioration over time and ensure greater safety.

Tamada Industries is the largest manufacturer of double-wall tanks in Japan. It has introduced a unique production method which fuses iron and FRP to increase safety, and specializes in high-precision processing. "The

Yoshihisa Tamada

President, Tamada Vietnam Co., Ltd. (Tamada Industries' Vietnamese subsidiary)



Tamada Industries has founded a Vietnamese subsidiary and built a factory in the harbor city of Haiphong. Local production began in 2015.

Under Tamada Industries' supervision, FRP is being manually crimped to a tank.

A double-wall tank made in Vietnam is laid in the ground at a gas station in Ho Chi Minh City.

increased use of automobiles has led to a greater demand for gasoline storage tanks in Vietnam, in turn creating a need for safer double-wall tanks. Careful study of local markets and planning of local storage tank production lines supported by JICA greatly facilitated our entry into Vietnam," explains the President of Tamada Industries' Vietnamese subsidiary, Yoshihisa Tamada.

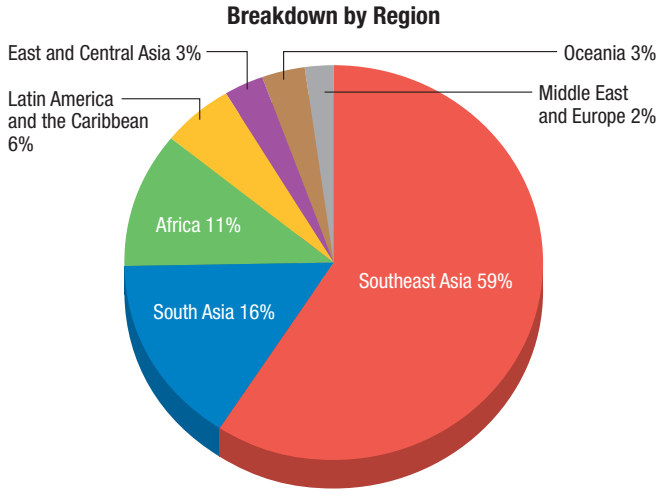
Tamada Industries used JICA's support to cooperate with Vietnam's largest supplier of petroleum products, Petrolimex, and undertook efforts to evaluate the effectiveness of double-wall tanks, share its production expertise, and develop maintenance and inspection procedures. Furthermore, locally trained engineers made great contributions by eagerly applying their newly-acquired skills.

Tamada Industries established its Vietnamese subsidiary in 2013, which currently employs approximately 70 individuals. Yoshihisa Tamada enthusiastically states, "By increasing the number of safe tanks in Vietnam, we can prevent accidental leaks as Japan experienced in the past. We promote sustainable development that balances economic growth with environmental protection."

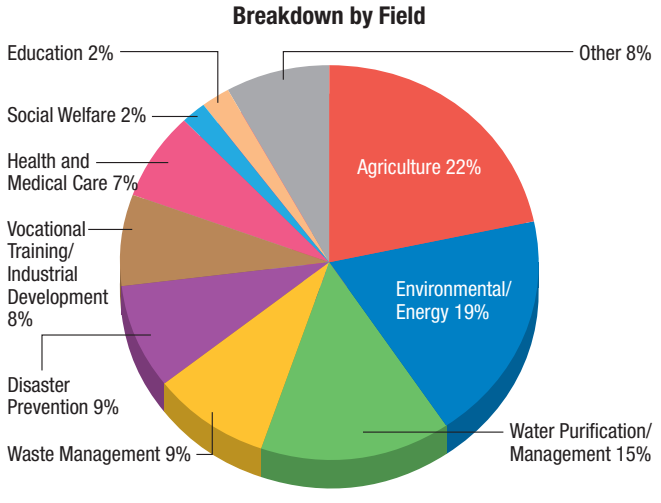
JICA's Executive Senior Vice President, Kazuhiko Koshikawa, introduced this JICA program that has supported Tamada Industries' activities in Vietnam. He explains, "Japan's Official Development Assistance (ODA) used to consist mainly of aid for large-scale infrastructure, such as developing airports, highways, and bridges, just to name a few examples. However, now that the pursuit of sustainable development has led to a diverse array of issues, what developing countries need nowadays is small but tailor-made support that incorporates promising technologies. In response to such changing needs, our mission is to connect developing countries with Japan's SMEs, which are an invaluable source of diverse technologies and expertise. As these partnerships contribute to solving the world's problems, Japan's SMEs also gain confidence that their own technology and expertise have great potential to help developing countries. What we are trying to do with this program perfectly matches our Sustainable Development Goals (SDGs) and we will continue making effort for high-quality development."

Kazuhiko Koshikawa
Executive Senior Vice President, Japan International Cooperation Agency (JICA)

Breakdown of the program for assisting the overseas expansion of Japan's SMEs (April 2012 - June 2017)



The program extends support primarily to Southeast Asia, but also to South Asia, Africa, Latin America and the Caribbean, East and Central Asia, Oceania, Middle East and Europe.

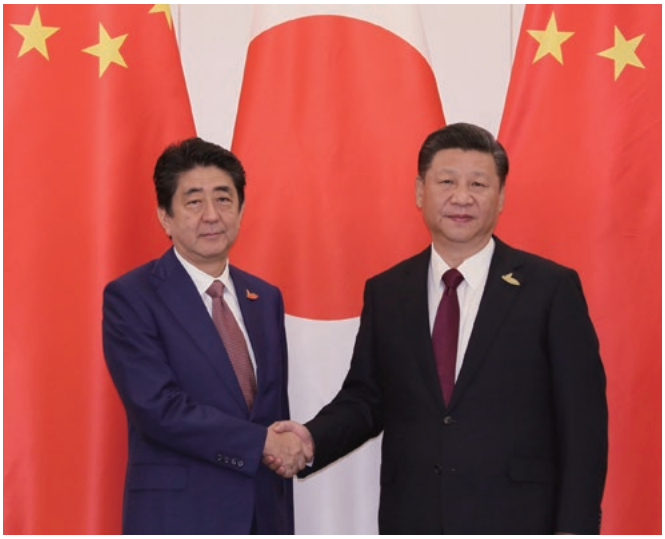


The program provides tailor-made solutions based on evaluations of local needs.

Prime Minister Abe in Action

Attended the G20 Summit on Financial Markets and the World Economy, chaired by Chancellor Angela Merkel of the Federal Republic of Germany, as part of his visit to Hamburg in the Federal Republic of Germany. The G20 is the premier forum for international economic cooperation, and at Session 1, "Economic Growth and Trade," which dealt with the most important challenges facing the G20, Prime Minister Abe led the leaders' discussion as the lead speaker. (July 2017)

Met with the Honorable Donald J. Trump, President of the United States of America, and H.E. Mr. Moon Jae-in, President of the Republic of Korea, in Hamburg, Germany. (July 2017)

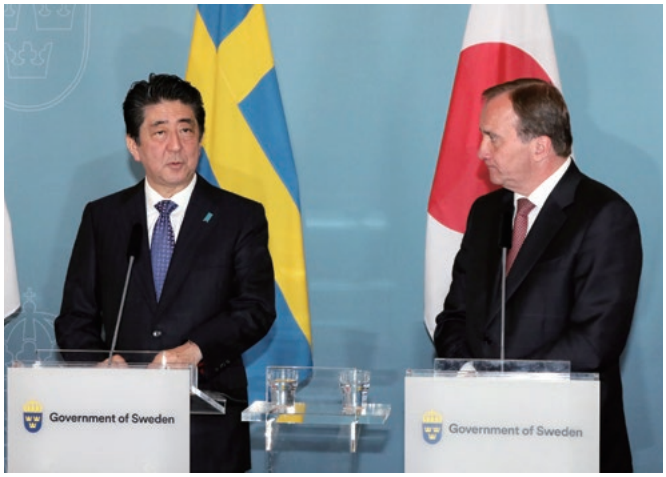


Met with H.E. Dr. Xi Jinping, President of the People's Republic of China, in Hamburg, Germany. (July 2017)

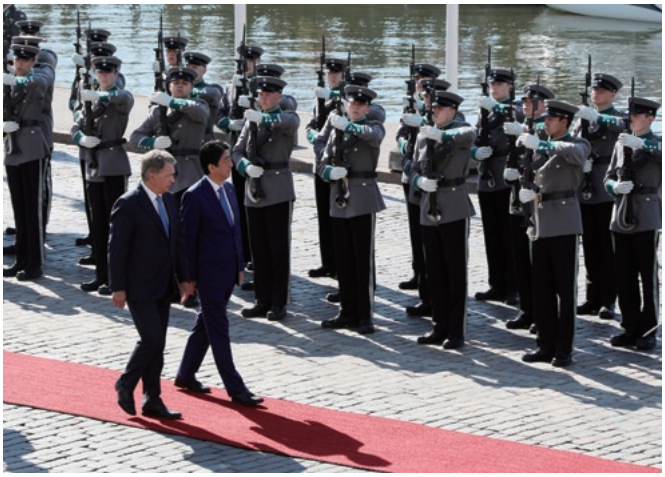
Met with H.E. Mr. Donald Tusk, President of the European Council, and H.E. Mr. Jean-Claude Juncker, President of the European Commission, for a Japan-EU regular summit in Brussels, Belgium and held a joint press conference. They confirmed that they have reached agreement in principle on the Japan-EU Economic Partnership Agreement (EPA) and Strategic Partnership Agreement (SPA). (July 2017)

Met with H.E. Mr. Vladimir Vladimirovich Putin, President of the Russian Federation, in Hamburg, Germany. (July 2017)

Attended a dinner party in Brussels, Belgium with H.E. Mr. Charles Michel, Prime Minister of the Kingdom of Belgium. (July 2017)



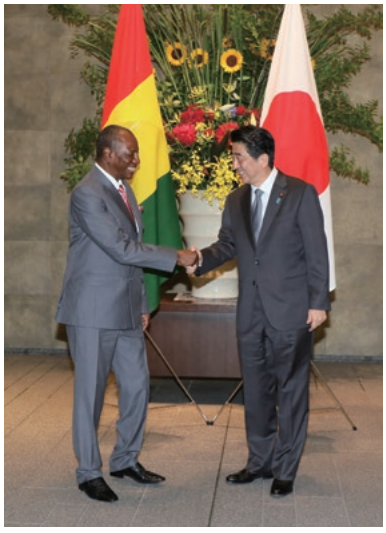
Visited Stockholm, Sweden, where he met with H.E. Mr. Stefan Löfven, Prime Minister of the Kingdom of Sweden. (July 2017)



Visited Helsinki, Finland, where he met with H.E. Mr. Sauli Niinistö, President of the Republic of Finland. (July 2017)

Visited Copenhagen, Denmark, where he met with H.E. Mr. Lars Løkke Rasmussen, Prime Minister of the Kingdom of Denmark, and held a joint press conference. (July 2017)

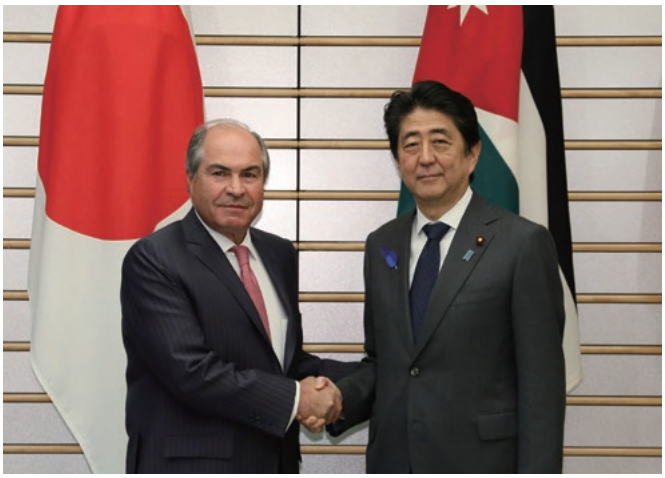
Held a summit meeting with H.E. Mr. Nguyen Xuan Phuc, Prime Minister of the Socialist Republic of Vietnam, at the Akasaka State Guest House. On the day prior to the meeting, the two leaders attended the Vietnam Investment Conference which was held in Tokyo. (June 2017)



Held a summit meeting with H.E. Professor Alpha Condé, President of the Republic of Guinea, at the Prime Minister's Office. (June 2017)

Held a summit meeting at the Akasaka State Guest House with H.E. Dr. Thongloun Sisoulith, Prime Minister of the Lao People's Democratic Republic. (June 2017)

Held a summit meeting with H.E. Mr. Bohuslav Sobotka, Prime Minister of the Czech Republic, at the Japanese Prime Minister's Office. (June 2017)



Held a summit meeting with Dr. Hani Al-Mulki, Prime Minister of the Hashemite Kingdom of Jordan, at the Japanese Prime Minister's Office. (July 2017)

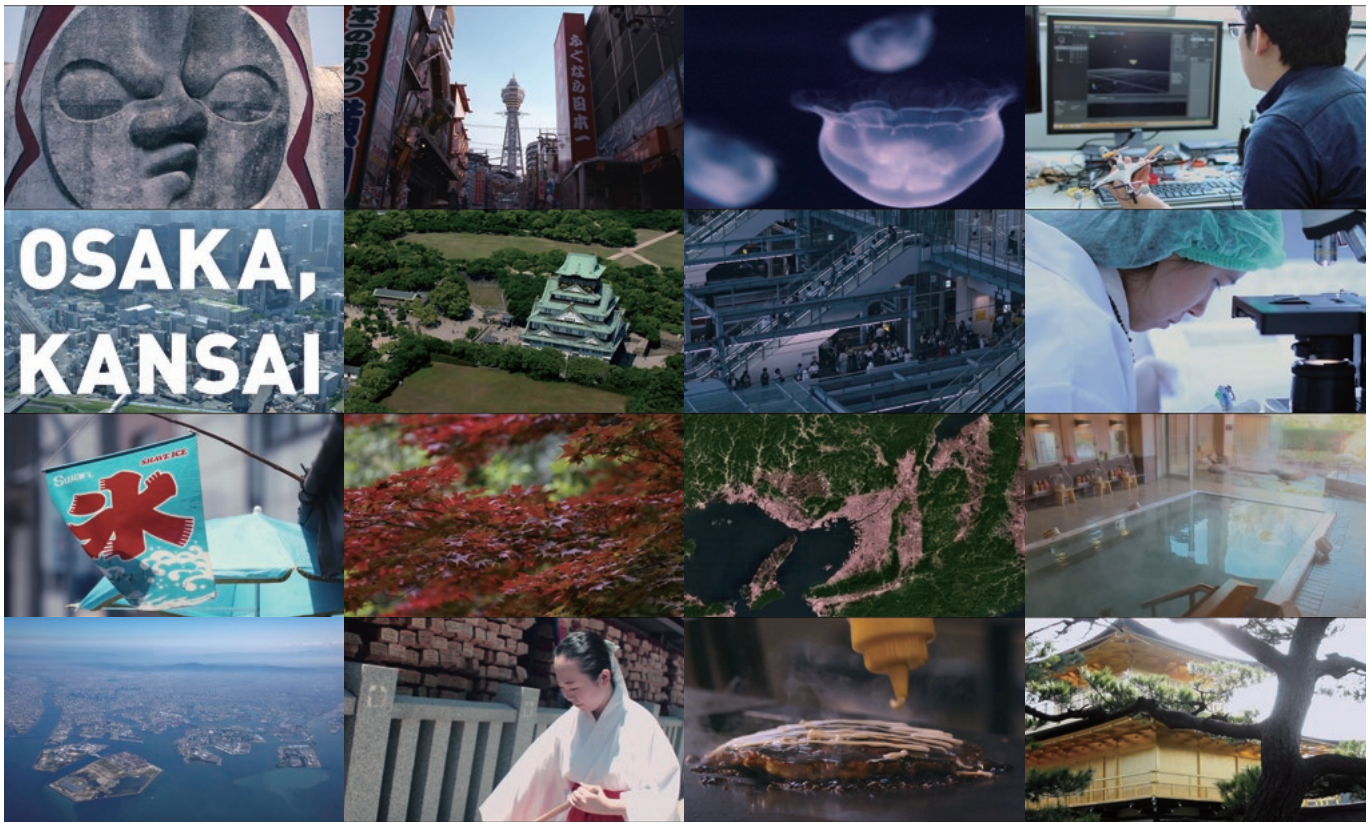
Hosted an *Iftar* (a fast-breaking dinner during the Holy Month of Ramadan) with the Diplomatic Corps of Islamic Countries at the Prime Minister's Office. This year's *Iftar* was attended by members of the Islamic Diplomatic Corps and other officials representing 35 countries and regions. (June 2017)

Visited Iitate Village in Fukushima Prefecture which was devastated by the Great East Japan Earthquake. While there, he paid a visit to a hand-made *udon* noodle restaurant whose owner returned to the village immediately after the evacuation order was lifted in March 2017 and quickly reopened it for business. (July 2017)

Visited Oita Prefecture and Fukushima Prefecture to inspect the damage caused by the torrential rains resulting from Typhoon No. 3 and the seasonal rain front. (July 2017)

Held a commemorative photograph session at the Prime Minister's Office following the inauguration of the Third Reshuffled Third Abe Cabinet. (August 2017)

Feel Future Society at the World Expo 2025 Osaka, Kansai



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http://www.expo2025-osaka-japan.jp

Expo will showcase solutions to humanity's universal challenges

On April 24, 2017, Japan presented to the Bureau International des Expositions (BIE) to officially announce its bid as a candidate to host the 2025 World Expo. The proposed location is Osaka and Kansai, with the theme of "Designing Future Society for Our Lives."

Among developed countries, Japan has one of the fastest decreasing birth rates and most rapidly aging populations. The social problems related to medical treatment, healthcare, and other topics that directly face Japan today also will concern other nations. Japan is now focused on solving these problems through the implementation and application of technological prowess and social infrastructure. This makes hosting the World Expo 2025 Osaka, Kansai the ideal occasion to share our vision of a future society with our fellow people from all over the world.

Sadayuki Sakakibara, Chairman of the 2025 Japan World Expo Committee and the Japan Business Federation, expresses his resolve in the following statement: "At present, the government and private sector in Japan are jointly promoting a national project called 'Society 5.0.'"

"Society 5.0 is designed to realize a future where people's lives and society are optimized by fully implementing

Currently, in preparation for the BIE vote scheduled for November of next year, Japan is carrying out an ongoing nationwide promotional effort. A comprehensive presentation was given to the BIE on June 14, 2017, including a video message from Japanese Prime Minister Shinzo Abe, along with footage of Japan's technology in action and other imagery to demonstrate the appeal of the proposed theme and of the Osaka, Kansai region.

Related Videos:

Message from Prime Minister Abe: https://youtu.be/RmPMuCpMvao
Exposition Concept: https://youtu.be/eCS9HD0wf_M
Introducing Osaka and Kansai: https://youtu.be/jry0kiizZfs

Sadayuki Sakakibara

Born in 1943. Worked at Toray Industries successively as President and as Chairman of the Board. Served as President of Japan Chemical Fibers Association. Currently serves as Chairman of Keidanren (Japan Business Federation), as well as Chairman of the 2025 Japan World Expo Committee.

innovative technologies such as IoT, AI, robots, and Big Data. The future society we aim to realize is a society in which global problems including medical treatment and healthcare, food and agriculture, environment and climate change, energy and resources, safety and disaster prevention, and human and gender equality, are solved. Such a society would be exactly the embodiment of a society in which the United Nations' Sustainable Development Goals (SDGs) have been achieved. We believe that the World Expo 2025 Osaka, Kansai is the perfect occasion to share this vision of a future society with our fellow people from all over the world."

A new model of Expo which shows ways to improve people's lives

Dr. Shinya Hashizume, Chairman of the International Exhibition Osaka Planning Commission and Professor at Osaka Prefecture University, was in charge of concept development. He explains: "The World Expo 2025 Osaka, Kansai will present strategic solutions to humanity's universal challenges, and be a venue that generates massive innovation by putting new ideas into practice. The Expo will test futuristic social infrastructure and become a magnificent living laboratory for each organization to showcase new technologies."

"In the past, Expos have been structured primarily to explain new technologies in an easy-to-understand way to visitors, but this Expo will have a completely new format. Not only the pavilion areas, but the passageways and open spaces will also be included as exhibit spaces. The Expo will be operated with one unified management structure. Security will be achieved with the latest technologies, and there will be no wait times at the pavilions. By utilizing Big Data, we will be able to map out the optimal site experience plan for each visitor. High-quality entertainment will be provided at the sites, with opportunities for international exchange unlike anyone has seen before. Furthermore, by connecting the world's people through cutting-edge information and communications technology (ICT), everyone will also be able to enjoy the exhibitions in virtual space together, and to learn from them."

The World Expo 2025 Osaka, Kansai

Theme:	Designing Future Society for Our Lives
Subthemes:	- How to Lead a Healthy Life in a Diverse Manner - Sustainable Socioeconomic Systems
Basic Philosophy:	Create an exhibition together with its participants (People's Living Lab) - Jointly create a vision of a future society and economy in which individuals are able to live their lives to their fullest potential and enjoy true prosperity
Dates:	May 3-November 3, 2025 (185 days)
Estimated Number of Visitors:	Approximately 28-30 million visitors

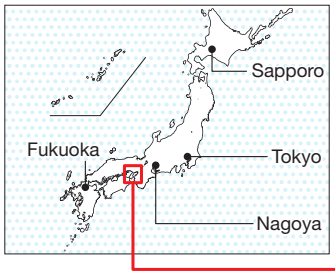
Dr. Shinya Hashizume

Born in 1960. Research Professor at the Graduate School of Economics at Osaka Prefecture University. Doctor of Engineering. Specialist in such fields as urban planning, architectural history, and urban cultural theory, and has extensive knowledge pertaining to exhibitions from an academic viewpoint. Also works as Special Advisor to Osaka Prefecture and the City of Osaka.

The World Expo 2025 Osaka, Kansai aims to be a participatory, experiential, solutions-oriented exposition based on the concept of a “People's Living Lab,” where experiences provide a starting point for people to live their lives more fully, enjoyably and healthily. “It is important that the new experiences and new discoveries at the Expo not be transient,” emphasizes Chairman Hashizume. “We want this exhibition to become a springboard for reaffirming the preciousness of life, giving people a chance to live healthier lives and achieve each of their dreams. This legacy will remain in the heart and memories of each participant. We sincerely hope to share an unforgettable experience that will move and inspire them.”

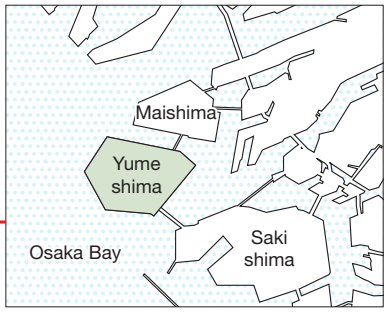
The World Expo 2025 Osaka, Kansai setting abounds with sightseeing attractions

An early advocate for Osaka’s candidacy, 2025 Japan World Expo Committee Deputy Chairman and Governor of Osaka Prefecture Ichiro Matsui explains, “Our starting



Access Time

Kansai International Airport	▶ Yumeshima	40 min.
Yumeshima	▶ Kyoto Station	1 hr.
Yumeshima	▶ Nara (Todaiji)	1.5 hr.
Yumeshima	▶ Shin-Kobe Station	1 hr.
Yumeshima	▶ Tokushima Awaodori Airport (by car)	2 hr.



The proposed site of Yumeshima (“Dream Island”) provides exceptionally convenient access to Kansai’s popular tourist destinations in Kyoto, Nara, and Kobe.

In 1970, Osaka hosted the first World Exposition in Asia. The event was a huge success, setting an attendance record with over 60 million visitors. The Expo grounds were later turned into a park that is still loved by the local people today.

Osaka is one of Japan’s favorite tourist destinations. It features many bustling sightseeing spots such as Dotonbori and the gorgeous Osaka Castle, as well as one of Japan’s most popular theme parks: Universal Studios Japan. Going from Yumeshima to downtown Osaka currently takes about 30 minutes by car, and with the future extension of the subway system it will take about 20-30 minutes by train.

point is the idea that Osaka is the ideal location for an Expo that focuses on how to create a society that helps people live healthier lives, and for disseminating this to the world."

Kansai is a base for world-leading life sciences research facilities. For example, Kyoto has institutions conducting research on iPS stem cells used in regenerative medicine. And in 2018, a new Osaka Heavy Ion Therapy Center, with facilities that can eliminate cancer cells without surgery, is scheduled to be opened in cooperation with the International Cancer Center.

Kansai also has the power to turn research results into real-life applications. The area is home to many companies in pharmaceutical and other scientific industries, and it is such a stronghold for corporations with advanced technical abilities that the locals say, "There is nothing that can't be made in Osaka." As Prime Minister Abe conveys in his video message, the Osaka tradition of innovative spirit that drives its companies is exemplified by the saying "Well, get to it then!" This spirit has spawned many innovations and dispatched them to the world. The Osaka, Kansai region are the perfect stage for the Expo, as they are deeply rooted in the ethos of encouraging people to take on new challenges.

The proposed venue for the World Expo 2025 Osaka, Kansai is Yumeshima ("Dream Island"), a vast 390-hectare (964-acre) man-made island in Osaka Bay.

"Just like the meaning of its name, we want this to be a place that makes the dreams of visitors come true,"

Ichiro Matsui

Born in 1964. Governor of Osaka Prefecture. A politician serving as Secretary-General of Nippon Ishin (Japan Innovation Party) and Osaka Ishin no Kai. After being elected for three terms to the Osaka Prefectural Assembly, he is currently serving his second term as elected Governor of Osaka Prefecture.

Governor Matsui enthusiastically explains. "The strengths of Kansai lie not only in the venue, but also in its rich heritage of history, culture, and the arts, and its many attractions for visitors to enjoy. Most of all, the people of Osaka love to welcome guests. Steeped in the tradition of *omotenashi*, their hospitality is their expertise. In addition, Osaka is located nearby the magnificent cities of Kyoto, Nara, and Kobe which feature many of Japan's most famous sightseeing spots. We hope that by hosting the World Expo 2025 Osaka, Kansai, we can help as many people as possible to experience the wonders of Kansai.

Osaka is also a cultural entertainment capital of Japan. Since days of old, it has been a base for bunraku, a form of traditional Japanese puppet theater (also known as *Ningyo Joruri*). Today, comedy culture thrives as well: Osaka is a popular place to catch *rakugo* and *manzai* shows, which are Japanese traditional forms of comedic storytelling. Pictured in the photo is the Namba Grand Kagetsu theater, where *rakugo*, *manzai*, and Yoshimoto New Comedy acts appear on stage 365 days a year.

Kansai is home to many research institutes, including Kyoto University's Center for iPS Cell Research and Application (CiRA) directed by Dr. Shinya Yamanaka, winner of the 2012 Nobel Prize in Physiology or Medicine. With the goal of "contributing to achievements in regenerative medicine," the facility primarily conducts wide-ranging research on induced pluripotent stem cells (iPS cells), studying everything from the fundamentals all the way to real applications in the field.

Fukushima Foods: Safe and Delicious

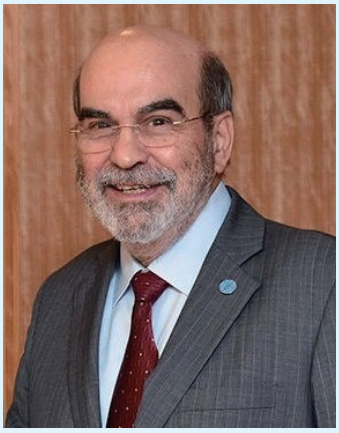
Six years have passed since the 2011 Great East Japan Earthquake, and the prefecture of Fukushima is making steady progress in its reconstruction and revitalization. Fukushima has long been famous for its agriculture, known since old times as one of Japan's premier rice-growing regions, and also earning the nickname "The Fruit Kingdom." Fukushima's agriculture suffered drastically after the earthquake and the nuclear power accident that followed, but as a result of thorough safety measures implemented through national efforts, foods produced in Fukushima have been recognized as safe by the FAO (Food and Agriculture Organization of the United Nations), as well as by many individual countries, and the prefecture's exports are increasing. Japan hopes that more and more people will enjoy the safe and delicious foods from Fukushima in the years to come.

• Fukushima Reconstruction Mascot: Kibitan
A mascot designed based on a bird known as *kibitaki* (narcissus flycatcher), local to Fukushima Prefecture. Kibitan has been a mascot character representing Fukushima Prefecture since 1995, and since 2011, he has been a symbol of the region's reconstruction.

Director-General of the Food and Agriculture Organization of the United Nations (FAO) supports Japan's efforts to ensure food safety in Fukushima

The latest assessment of the food safety situation in Fukushima by the Joint FAO/IAEA Division* (May 2017) reports that "measures [taken by the Japanese authorities] to monitor and respond to issues regarding radionuclide contamination of food are appropriate, and that the food supply chain is controlled effectively by the relevant authorities." In support of this assessment, Dr. José Graziano da Silva, Director-General of FAO, who participated in the Fukushima Sweets Tasting Event held publicly in Tokyo on 10 May 2017 during his visit to Japan, commended the Government of Japan for being "very supportive and very transparent in the face of this situation" and reassured that "we don't see any reason to raise concern about the safety of food [from Fukushima]."

*FAO and IAEA have the Joint FAO/IAEA Division, which regularly assess the food safety situation in Fukushima, based on the information provided by the Government of Japan.



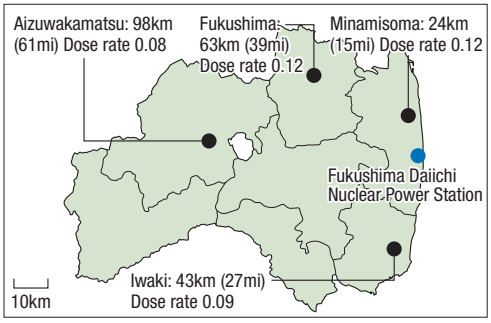
Dr. José Graziano da Silva
Director-General, FAO

Q&A

Q In 2011, Fukushima experienced a nuclear power accident. Is it safe to eat foods from Fukushima?

A Yes, it's safe. To ensure the safety of foods produced in Fukushima Prefecture, Japan conducts multi-layer examinations for radioactive substances at each phase of production and distribution and publicizes the results. The safety of these foods is evaluated highly by the FAO. It should also be noted that the area around the Fukushima Daiichi Nuclear Power Station has been restricted as a No-entry Zone, and the atmospheric radiation dose rate in populated and agricultural areas is roughly at the same level of major cities abroad (see below for details).

City	Dose rate (μSv/h)	Measurement date
New York	0.044	Dec. 18, 2016
London	0.109	Dec. 18, 2016
Berlin	0.075	Dec. 19, 2016
Hong Kong	0.080-0.150	Dec. 19, 2016
Seoul	0.119	Dec. 19, 2016
Fukushima	see right map	Dec. 19, 2016



Q What is the scientific basis for asserting that food from Fukushima is safe to eat?

A There is an international standard for radionuclides in foods known as CODEX. Japan conducts examinations using CODEX-based standards that are far stricter than those used by other countries. All Fukushima foodstuffs that are sold on the market and consumed have cleared these standards (see below for details).

Unit: Bq/kg

Nuclide species: Radioactive cesium (sum of ^{134}Cs and ^{137}Cs) CODEX (international standard) — Infant foods: 1,000 / General foods: 1,000		
Japan standard	EU standard	U.S. standard
Drinking water: 10 Milk: 50 Infant foods: 50 General foods: 100	Drinking water: 1,000 Dairy products: 1,000 Infant foods: 400 General foods: 1,250	All foods: 1,200

Q Are people eating foods from Fukushima?

A Yes, high-quality foods from Fukushima are sold in supermarkets all over Japan and are quite popular. At the same time, as the safety of Fukushima foods is being acknowledged internationally, import restrictions by individual countries are being lifted step by step. The EU's European Commission is also currently considering lifting its import restrictions on rice and other foodstuffs this autumn.

[Status of Import Restrictions on Fukushima Foodstuffs]

(As of July 25, 2017)

Content of restrictions and number of countries / regions			Country / region
Import restrictions imposed after accident: 81	All Fukushima foodstuff imports allowed: 72	Complete lifting of import restrictions: 23	Canada, Myanmar, Serbia, Chile, Mexico, Peru, Guinea, New Zealand, Colombia, Malaysia, Ecuador, Vietnam, Iraq, Australia, Thailand, Bolivia, India, Kuwait, Nepal, Iran, Mauritius, Qatar, Ukraine
		Reinforced examination at time of import: 3	Pakistan, Israel, Turkey
		Inspection certificate required at time of import in some cases: 46	Indonesia, Argentina, French Polynesia, Oman, Saudi Arabia, Bahrain, Egypt, Democratic Republic of the Congo, Morocco, Brazil, EU (28 countries), EFTA (Iceland, Norway, Switzerland, Liechtenstein), Brunei, New Caledonia, United Arab Emirates, Lebanon
	Fukushima foodstuffs can be imported, except for items that have shipment restrictions within Fukushima Prefecture: 2 (Inspection certificate required at time of import in some cases)		USA, Philippines (Philippines only restricting some marine products)
	Fukushima foodstuffs can be imported, but imports of some foodstuffs are suspended: 5 (Inspection certificate required at time of import in some cases)		Republic of Korea, Singapore, Hong Kong, Macau, Russia
	All Fukushima foodstuff imports suspended: 2		People's Republic of China, Taiwan (Taiwan's restrictions do not apply to alcohol)

Note: The Thai government has lifted restrictions, but requires inspection certificates for some wild animal meats.

FOOD EXAMINATION

Through multi-layer examinations for radioactive substances at each phase of production and distribution, Japan is enforcing a system in which only agricultural products that are confirmed to be safe are shipped.

During the production phase in particular, the Fukushima Agricultural Technology Centre conducts thorough and detailed examinations of agricultural products to be shipped and distributed, with 11 staff operating 11 germanium semiconductor detectors at full capacity. Furthermore, for rice, the staple food of the Japanese

MESSAGES FROM FARMERS

Rice:
"Fukushima is a beautiful place, known as the 'land of water.' Because of its rich supply of excellent water, the land produces great rice and great sake! Please visit, eat and discover Fukushima! Our rice is delicious! And safe, of course!"

The Goto family grows rice in Motomiya City, Fukushima, and they experienced a drastic decline in sales after the earthquake. They found that they could no longer rely on their old way of thinking, that "Fukushima rice is so good that it needs no advertising," so they started a website to publicize the various safety measures they're taking to reassure customers. The Goto family also welcomes everyone to visit and see the safety of its rice in person, offering hands-on farm tours and operating a farm-inn, which are receiving highly favorable reviews from customers.

Fruits:
"To reassure people around the world that our fruits are safe, we've earned JGAP and Global G.A.P. safety certifications. Come visit our orchard and pick some fruit for yourself!"

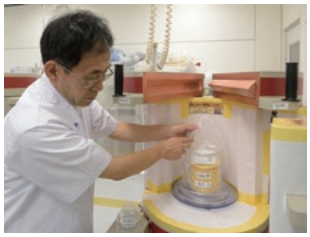
The Sato family orchard is located in Iizaka, Fukushima City. After the earthquake, the Sato family participated in numerous seminars regarding food safety and has made many efforts to demonstrate the safety of its fruit. For example, they put their focus on earning JGAP certification, which is only given to those who undergo yearly third-party evaluation of food safety and environmental protection and meet the necessary criteria. At present, the Sato family's entire farmland is JGAP certified. Their apples and persimmons have also achieved international "Global G.A.P." certification, and they are preparing to acquire this certification for their peaches, grapes, and pears in time for the 2017 fall harvest as well.

Vegetables:
"Please try our delicious cucumbers! They're grown in a safe environment in greenhouses in the spring and fall, and they're juicy on the inside and crunchy on the outside."

The Saito family grows cucumbers in Okajima, Fukushima City. Before the earthquake they also grew other vegetables, which were so highly regarded that they were even sold at high-end grocery stores in Tokyo. But after the quake, the family decided to focus on cucumbers exclusively, in order to better manage their cultivation. Using information gathered all over Japan, the Saito family is actively exploring new farming methods, including soil improvement. They are also ensuring the utmost safety by taking measures such as only purchasing fertilizer that has been examined for radioactive cesium and other hazards.

people, all volume and all bags of rice are swiftly examined using approximately 200 belt conveyor–type radioactive cesium concentration detectors installed in the various production districts throughout the prefecture.

In all examinations of Fukushima Prefecture rice, fruits, and vegetables in the 2016 fiscal year, none exceeded the standard level of 100 Bq/kg established by the Japanese government.



CONTRIBUTED MESSAGES

Mr. Malcolm Crick, Secretary, United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR):

Mr. Malcolm Crick
Secretary, UNSCEAR

The United Nations Scientific Committee on the Effect of Atomic Radiation (UNSCEAR) is a committee of the United Nations composed of scientific experts nominated by 27 Member States. Following the accident at the Fukushima Daiichi nuclear power plant, the Committee decided to initiate a two-year assessment of the levels and effects of exposure to radiation resulting from the accident. Its findings were published in April 2014 as the UNSCEAR 2013 report.

In general, because the doses following the accident were low, cancer rates are accordingly not expected to be significantly elevated due to radiation exposure of the population affected by the accident. One of the reasons seems that prompt precautionary restrictions on foodstuffs at the accident have contributed substantially to reduction of internal exposure.

While more information will become available in the future and some details may change, the Committee does not expect the overall picture to change dramatically. The results of the reviews of relevant scientific literature published by the end of the year 2016 will be published as the 2017 white paper on the Committee's website at www.unscear.org.

Mr. Juan Carlos Lentijo, Deputy Director General of the Department of Nuclear Safety and Security, International Atomic Energy Agency (IAEA):

Mr. Juan Carlos Lentijo
Deputy Director General, IAEA

The IAEA has conducted several missions related to the Fukushima Daiichi NPS accident at the request of Japanese authorities. On food, based on the information that has been made available, the IAEA and the FAO understand that measures to monitor and respond to issues regarding radionuclide contamination of food are appropriate, and that the food supply chain is controlled effectively by the relevant authorities. Our assessment is that the measurements of caesium radionuclide levels in foodstuffs, together with appropriate regulatory action and public communication such as the publication of monitoring results, help maintain confidence in the safety of the food supply. The revisions and updates of food restrictions in line with the results of food sampling and monitoring indicates the continued vigilance of the authorities in Japan and their commitment to protecting consumers and trade.

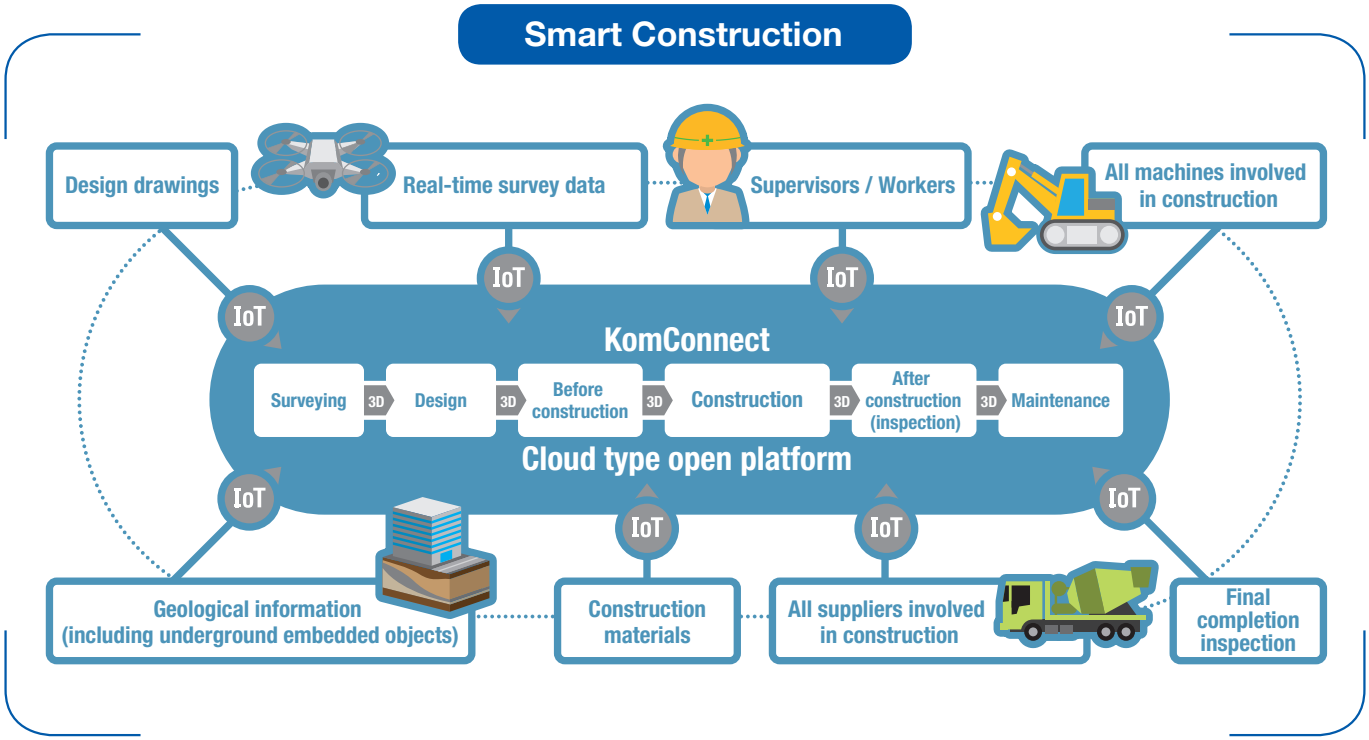
The close cooperation between Japan and the IAEA has contributed to Fukushima's ongoing recovery. The IAEA is ready to continue supporting Japan and Fukushima Prefecture at the request of Japanese authorities.

Bringing Innovation to the Worksite with “Smart Construction”

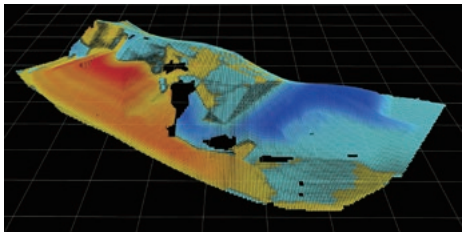
As with many developed countries, Japan is facing a decline in its working-age population. By 2025, the number of workers at construction sites is expected to decline by 1.3 million, creating an urgent need for improvement in productivity. With this in mind, the Japanese government is working together with private enterprises to implement new construction technology using ICT (Information and Communication Technology) throughout the industry. In 2015, Japan’s Ministry of Land, Infrastructure, Transport and Tourism announced its new “i-Construction” standard for surveying, construction and other tasks that utilize 3D data. To realize a world-leading “Super Smart Society” (Society 5.0), the Japanese government and construction industry are currently working as one to achieve ICT-driven technological innovation.

A stand-out leader in this innovation is Komatsu, the construction machinery manufacturer with the second largest share of the world market. Since 2002, the company has equipped all of its construction machinery with wireless communication, allowing data from the equipment to be monitored and managed using its KOMTRAX management system. Using the sensors installed in the machinery, the system collects information including location, operation status and fuel level to effectively manage operations, optimize fuel usage, anticipate machine trouble, and more.

What's more, in 2008, Komatsu integrated new ICT technology into its construction machinery with the development of its Autonomous Haulage System (AHS), the world’s first unmanned operation system for super-large dump trucks. Then in 2015, the company launched its “Smart Construction” platform which uses ICT to organically connect not only the construction machinery, but all stages of the construction process, and achieve overall optimization.



Smart Construction uses the latest ICT technology and 3D data to connect all information on job sites, uniting every process of the construction work with all related human resources, objects and events, and managing it all with a cloud type open platform called “KomConnect.”



Construction range and soil volume is calculated by combining the drone's measurement data with the completion plan. Based on that data, the construction equipment is semi-automatically controlled.

Chikashi Shike

Executive Officer and President, Smart Construction Promotion Division, Komatsu Ltd.

"AHS" is a system that uses GPS along with a gyroscope for detecting angle and speed and combines it with technology such as laser guidance to remotely control unmanned super-large dump trucks. The system is in use at the Chuquicamata copper mine in Chile and the Yandicoogina iron mine in Australia.

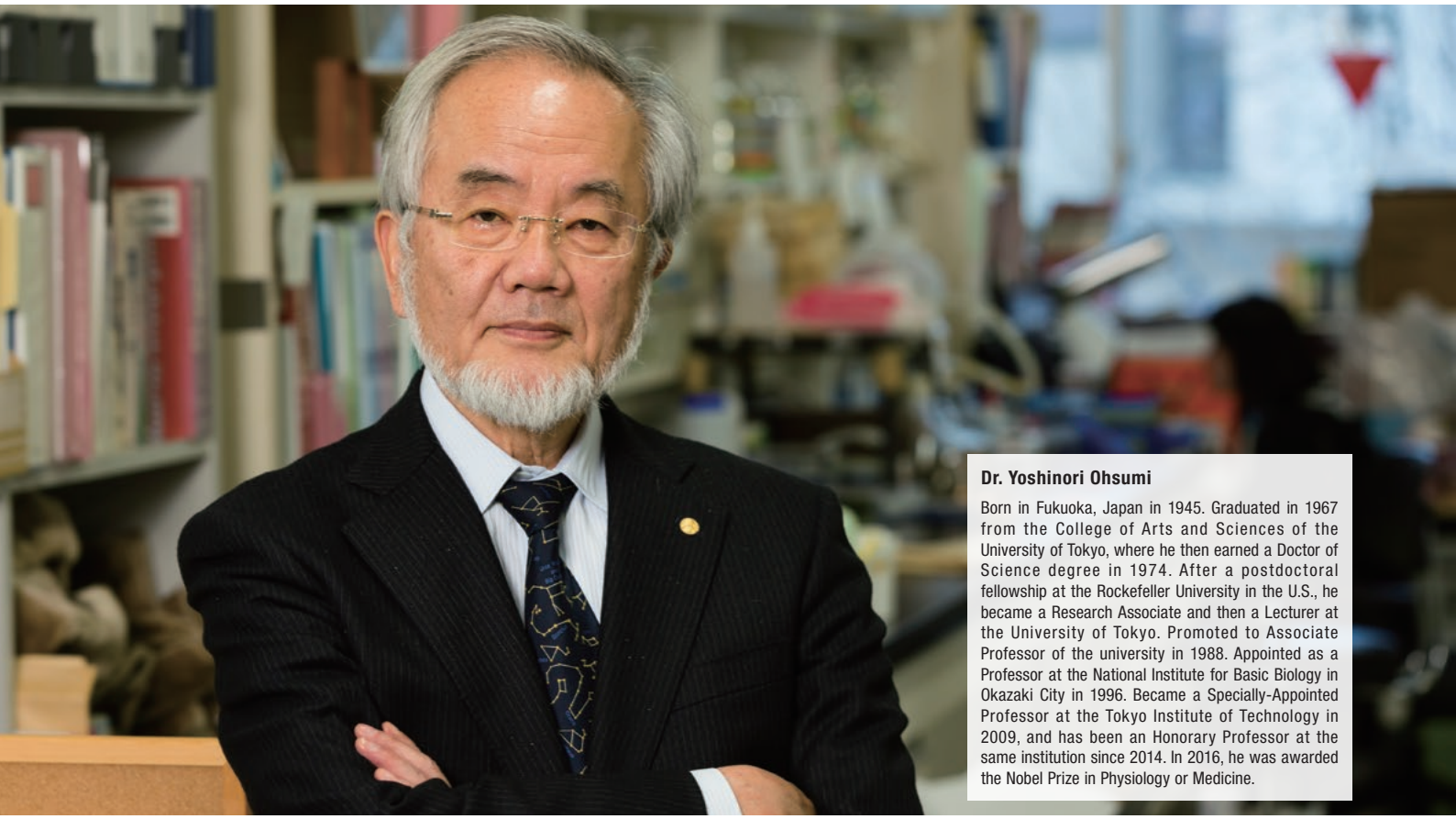
Komatsu's CSR efforts extend around the world, taking part in antipersonnel mine removal in countries such as Cambodia, Laos and Afghanistan, as well as disaster recovery aid in nations including Brazil and the Philippines. Komatsu is also contributing to human resources development in various regions; for example, the company is assisting the rapid infrastructure development of Liberia by supporting the operation of a training facility for construction machinery operators.

One of the benefits of Smart Construction is a stunning improvement in productivity. Survey work that used to require two workers to cover several hundred points per day while advancing only a few meters at a time can now be done in less than an hour using specialized drones. Another advantage is that the 3D survey data obtained from the drones has much higher precision in terms of terrain measurement, with accuracy that has improved from units of several meters down to just a few centimeters. Additionally, new functions have been added to assist the operation of construction machinery at the worksite. For example, the digging depth of a hydraulic excavator can be automatically controlled to a precision of ±30 mm based on 3D data, eliminating unnecessary work from over-digging. There are also advantages from a safety standpoint. Normally, an assistant would be required to stand near the construction machine to direct the operator —a dangerous task in itself. But automatic control eliminates the need for an assistant, significantly improving safety. Another benefit is that operations that once required a certain degree of expertise could now be handled by non-expert operators. Smart Construction is already in use at over 3,300 sites throughout Japan, and will be test marketed in North America, Australia, and other regions within the year.

Komatsu executive officer Chikashi Shike says, "I believe that Smart Construction will prove to be of benefit to other developed countries that are concerned about their decreasing working-age population in the same way as Japan. Developing countries, too, are experiencing a shortage of operators for construction machinery. Overseas, Komatsu is involved in CSR (Corporate Social Responsibility) activities such as the training of operators, and the introduction of Smart Construction will pave the way for even non-expert engineers to have active roles at worksites. I believe that our company will significantly contribute to the infrastructure maintenance and urbanization of these countries."

Japan hopes that growing adoption of ICT technology into its construction industry through government collaboration will enable it to make greater contributions to the world.

Autophagy Research Opens New Medical Frontiers



Dr. Yoshinori Ohsumi

Born in Fukuoka, Japan in 1945. Graduated in 1967 from the College of Arts and Sciences of the University of Tokyo, where he then earned a Doctor of Science degree in 1974. After a postdoctoral fellowship at the Rockefeller University in the U.S., he became a Research Associate and then a Lecturer at the University of Tokyo. Promoted to Associate Professor of the university in 1988. Appointed as a Professor at the National Institute for Basic Biology in Okazaki City in 1996. Became a Specially-Appointed Professor at the Tokyo Institute of Technology in 2009, and has been an Honorary Professor at the same institution since 2014. In 2016, he was awarded the Nobel Prize in Physiology or Medicine.

In 2016, the Nobel Prize in Physiology or Medicine was awarded to Dr. Yoshinori Ohsumi of the Tokyo Institute of Technology for elucidating the mechanisms underlying autophagy. Autophagy (a term originating from the Greek words *auto-*, meaning "self," and *phagein*, meaning "to eat") is a vital function in which intracellular protein is broken down to be reused for generating the amino acids needed to sustain life. This function is also known as the "intracellular recycling system."

Dr. Ohsumi was the world's first to observe the autophagy process through an optical microscope in 1988. The professor was studying yeast cells, which are commonly used in cell research, and was focused on a particular organelle—the vacuole. He was working to elucidate the mechanism of its degradative function in yeasts, a function that was not clear at the time. As a result, he confirmed that cytoplasmic components such as proteins are taken in by the vacuole. Dr. Ohsumi recalls, "It was an awe-inspiring sight that I could have kept watching for hours. At that point, I didn't grasp the full significance of what I was watching, but I knew I'd made a very important discovery. For me, that was the breakthrough moment that I would look back on whenever I felt discouraged by not yet being able to see the true nature of what I was studying."

Dr. Ohsumi was driven by the desire to know more about the phenomena that he had observed. Using instruments such as an electron microscope, he observed the detailed process in which intracellular protein was taken in by a vacuole for degradation into amino acids and

Dr. Ohsumi participated in the Nobel Prize Award Ceremony held in Stockholm on December 10, 2016. The professor received his medal for Physiology or Medicine from His Majesty King Carl XVI Gustaf of Sweden.

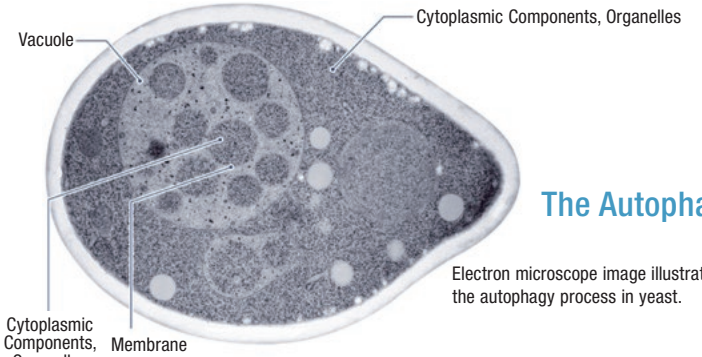
Dr. Ohsumi and members of the Tokyo Institute of Technology's Ohsumi Laboratory. The laboratory has a friendly atmosphere, and the members are drawn by the professor's passion for research and his unpretentious manner.

then returned to the cytoplasm. With this observation, he published a scientific paper in 1992 that led to the proof of autophagy. The following year, he began his work on identifying the genes related to autophagy, discovering and announcing 14 of the main related genes.

From 1996, Dr. Ohsumi worked together with laboratory members to determine that autophagy was a process not just limited to yeast, but was a shared mechanism in all animal and plant organisms. "Although my study was focused on yeast, the laboratory at the time accommodated several outstanding researchers who were studying the cells of plants and animals," he recalls. "These members joined in my research to form an ideal team. I believe that the time spent drinking with them and discussing our research contributed to the rapid progress of my study."

Today, autophagy research is being intensely pursued all over the world. It has been discovered that some illnesses such as Parkinson's disease are triggered by the accumulation of abnormal proteins resulting from disrupted autophagy in the nerve cells of the brain. Elucidating the basic mechanisms of autophagy may possibly lead to discovering the causes of illnesses as well as the development of cures, and is expected to contribute towards defining the mechanisms of aging and metabolism.

Regarding his approach as a researcher, Dr. Ohsumi says, "The thought that drives me to study the subjects that I want to know has always been, 'Do what no one else is doing.' My mission is to shed light on the fundamental functionality of the cell. I want to keep moving forward with my studies to help solve the biological mysteries of life."



Electron microscope image illustrating the autophagy process in yeast.

The Autophagy Mechanism in Yeast

In yeast autophagy, a membrane is initially formed within the cell. This membrane grows to completely wrap around proteins and other cytoplasmic components that are targeted for degradation. The resulting double-layer membrane is called an "autophagosome," the outer membrane of which can then fuse with the vacuole membrane. The inner membrane and cargo of the autophagosome are thereby released into the vacuole, where the structure is referred to as an "autophagic body." The membrane and contents of the autophagic body are finally broken down by degradative enzymes within the vacuole. The raw components derived from this degradation can then be returned to the cytoplasm for reuse.

My Bonsai Dream

"My friends said I was crazy and my parents weren't happy when I told them I chose bonsai for my career," smiles Costa Rican bonsai artist Juan Andrade, recalling the day he decided to leave home to pursue his dream in Japan.

Andrade started doing bonsai at the age of 15. Growing up in Costa Rica, where over half of the land preserves national forests and even the smallest home boasts a flower garden, nature ran through his veins. "We have great appreciation for nature in Costa Rica, just like the Japanese people. That's probably why I became fascinated with bonsai."

Unfortunately, Andrade had no teachers to guide him in Costa Rica, and only a small bonsai club and the Internet were his sources of knowledge. So when he passed the national university entrance exam with the second highest score in the nation, he chose to major in plant biology hoping to acquire knowledge that could be used for bonsai. Even after graduating from university, he would use his holidays to travel abroad to take bonsai classes from various professional teachers.

His family and friends thought Andrade had a successful career and life in Costa Rica, but one day, he made a sudden detour. On that day, Andrade went home to tell his parents that he was going to Japan to become a bonsai artist. "Bonsai is considered a rich man's hobby, not a career in my country, and I am not even from a rich family. So, I sold my car, my apartment and basically everything I had to go to Japan." Andrade continued to explain that when he went travelling abroad to take bonsai classes, he was actually searching for a bonsai master who would accept him as an apprentice. "I stayed true to my dream and it took me 15 years just to become an apprentice."

The bonsai master that Andrade found was Junichiro Tanaka, the fourth-generation bonsai master of Aichi-

Before (left) and after (right) 8 hours of wiring and cutting. It will take several years for the bonsai branches to attain their desired natural shape.

Aichi-en Master Junichiro Tanaka and Andrade. “From the very beginning, he let me try many things.”

Apprentices live together as part of Tanaka’s family at Aichi-en.

Andrade demonstrating on stage at the 8th World Bonsai Convention, held in April 2017 in Japan. © bonsaiempire.com

Juan Andrade

Born in Santa Ana, Costa Rica. Majored in plant biology at the University of Costa Rica. Currently based in Costa Rica, he travels around the world to teach and promote bonsai.

en, established in 1896. “Being an apprentice requires a very strong commitment,” cautions Andrade. Taking just a day off each month and a week off a year, Andrade worked for three years in Achi-en, watering and weeding in the nursery and its fields where new stock grew, and visited customers’ homes to care for their trees. Only at night did he have time for his own projects, wiring, cutting, and repotting trees, and to interact with his master to discover new techniques. Typically, it takes around five to six years to complete an apprenticeship, but Andrade took only half this time.

Andrade explains that having studied karate in his childhood years also helped speed up his learning. “In karate, during the detailed patterns of movements, each part of the body must be balanced with the other parts. When I work with bonsai, I break down the tree into its elements of branches, trunks, and roots, applying the same principle.” Andrade adds that cultivating and coaxing out each tree’s natural beauty entails a very personal relationship. “Master Tanaka always reminded me that bonsai is a collaboration between man and nature. Every effort you put into a tree, the tree will give back to you, becoming healthier, more beautiful, or more blooming.”

When asked about the most difficult aspect of bonsai, Andrade explains that nothing is easy, but grasping Japanese aesthetics, the *wabi-sabi*, took the longest. “To put it simply, Western art is about flair and impact, and is very showy. On the contrary, Japanese aesthetics are about acceptance of transience and finding beauty in imperfection. I gradually came to understand this in my daily life in Japan by observing traditional architecture and gardens.” Andrade explains, “the best bonsai transmit peace of mind.”

Today Andrade travels around the world to demonstrate the tree shaping art. He even demonstrated with Master Tanaka on the stage before bonsai fans from all over the world at the 8th World Bonsai Convention held in April 2017 in Japan.

Andrade says that doing bonsai, “I do not feel like I am working. I just feel like I am living every single moment of my day. Everybody wants that out of life. I want to keep on doing bonsai till the day I cut a bonsai, go to bed, and die.” Andrade is eager to share his passion for bonsai with others. He envisions creating bonsai academies around the world where students can learn from a variety of teachers with different specialties to find their own Bonsai Dream.

Series: The JET Programme

From Anime to Akita

Jennifer Campbell

Born in Wisconsin, United States. Has worked as a CIR in Akita Prefecture since 2015. Enjoys doing capoeira, a Brazilian martial art, in her free time. Loves visiting Akita's beautiful beaches, hot springs, and mountains.

At first I didn't know I was interested in Japan. I'd been watching anime since I was a little child, but not until high school did it dawn on me that anime was Japanese. By then, I had moved from watching anime to playing Japanese video games. I liked to try memorizing the game theme songs, even though I could not understand the words.

Perhaps it was my affinity towards Japanese anime that led me to major in Japanese in college. I have to say, I fell in love with my Japanese class from day one. To be honest, however, I did not learn much of the language in my first two years. It was when I came to study in Tokyo for my junior year abroad that I made significant progress. Language school drilled us so hard in grammar, kanji, and writing that I could not help but to fall asleep at my desk doing homework.

In Tokyo, along with language, I learned the tea ceremony from very strict teachers. If I made one mistake, they had me start all over again from the very beginning. My legs ached when I stood up from the *seiza* kneeling position. But being the last student to leave the room gave me a closer relationship with my teachers. At our final tea ceremony, they presented me with a *yukata*, a summer kimono. To me, it was a token of both our tight relationship and my hard work.

I also took koto lessons in Tokyo. I had played string bass and guitar for many years, so my fingers were already calloused, making it easier for me to press down hard on the horizontal koto strings. Koto's unique musical notation led to my interest in the katakana writing system, now used primarily for foreign loan words. I surveyed different generations of Japanese as to how they used katakana, research that formed the basis for my senior thesis on the evolution of katakana usage.

The day after graduation, the JET Programme accepted me as a Coordinator for International Relations (CIR) and I flew to Akita. As my plane was landing, everything looked so green that I felt I had not left my Wisconsin hometown. My state has a lot of nature, agriculture, and beer, and Akita has a lot of nature, agriculture, and sake. Like my hometown in Wisconsin, Akita has that country hometown feel. People know each other and greet on the street.

Akita is known for its beautiful ladies, but I am more impressed by the beautiful hearts of the Akita people. After a flood in July 2017, the Shinkansen bullet train I was supposed to take to Tokyo to pick up new JET

Campbell balances *kanto*, long bamboo poles with lanterns, which are used in Kanto Matsuri, a popular festival in Akita.

At an Akita-JET organized sumo wrestling competition.

At Tokyo Metro Museum in Edogawa City, Tokyo. (Campbell studied for a year in Tokyo.)

Meeting with colleagues from the International Affairs Division.

Official mascots of Akita, Sugitchi (left) and Ndatchi (right), welcome guests at the entrance of the prefectural office building.

participants was cancelled. I panicked, but my co-worker's mother helped me change my ticket, took me to the station at five the next morning, and made sure I had breakfast. At times when I was sick, my co-workers brought food and snacks to my house out of pure kindness, without me asking at all.

My work as a CIR includes interpretation, and translating things like notices for citizens and letters from ambassadors. I make sure JET participants are adapting well and living comfortably, and coordinate events that bring together JET participants and local people. I also visit schools to teach American History, and have students re-enact the Boston Tea Party, for example, to get the feel of the American Revolution.

This job has taught me much about taking responsibility. Along with Japanese culture, I have also learned about Russian, Brazilian, New Zealand, South African and other cultures through interacting with JET participants. I have gained a lot of knowledge about Japan and a huge global perspective. My advice? Be willing to accept anything that comes to you, because something cool will happen. Things will turn out to be okay.

My path from anime to Akita has given me precious understanding of the Japanese language and culture. When my term here is over, I plan to study engineering in Boston. I also hope to apply to work as a resident assistant at the school dormitory that houses female students from Japan. As a bridge across our countries, I want to return to others the hospitality I have so appreciated in Japan.

About the Japan Exchange and Teaching (JET) Programme

The Japan Exchange and Teaching (JET) Programme began in 1987 with the goal of promoting grass-roots international exchange between Japan and other nations, and is now one of the world's largest international exchange programs. JET participants are placed in every region of Japan and work in one of three positions: assistant language teachers (ALTs), coordinators for international relations (CIRs), or sports exchange advisors (SEAs). In 2016, the JET Programme welcomed 4,952 participants, and currently there are approximately 62,000 alumni from 65 countries living in all parts of the world.

The JET Programme official website
http://jetprogramme.org/en/

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