Keynote Lectures

Date and time: 11/24 (Fri) 13:45 to 15:00
Venue: Meeting Room B, 8th floor

〈Speakers〉
Michinari Hamaguchi
President, Japan Science and Technology Agency (JST)
Dwikorita Karnawati
Director General, The Agency for Meteorology,
Climatology and Geophysics, Republic of Indonesia
Former President, Gadjah Mada University (UGM) Indonesia
Muhammad Yunus
2006 Nobel Peace Prize Laureate, Grameen Bank Founder,
Economist

Prof. Dwikorita Karnawati, a scientist representing Indonesia, and Prof. Muhammad Yunus, an economist from Bangladesh and a Nobel Peace Prize winner, talked about the challenges of changing the world as two people from different countries and specialized fields.

Prior to the keynote lectures, Dr. Hamaguchi gave a speech on behalf of the host. He said, "Human societies are now facing a very difficult phase. Depletion of resources, air pollution, food shortages, poverty, North-South gap issues, and so on cannot be solved unless everyone is active throughout the world. At that time, science and technology are at the core. However, if they remain only in the ivory towers, the problems will not be solved. It is time to widely expand their activities in collaboration with societies and to discuss extensively how to create sustainable societies," he said, introducing the two keynote speakers as follows. "Prof. Karnawati's initiatives are a good example of a university collaborating with the local community. Like Japan, Indonesia has many volcanoes and many earthquakes. At Gadjah Mada University, all faculty members and students go out into the rural areas and mountainous areas, and work on activities to think together with the residents about how to stop or minimize the damage from natural disasters. Prof. Muhammad Yunus,

the other of our invited speakers, is a good example of someone not thinking about eradicating the social problem of poverty through solutions like donations and support, but rather by creating self-sustaining activities for people. Prof. Yunus says that the goals of zero poverty, zero unemployment, zero carbon emissions cannot be attained without the development of new science and technology." Finally, Dr. Hamaguchi said, "How will we coordinate science and social activities? I am hoping that we will all gain something from the stories of these two keynote speakers."

[Lecture 1] The Challenge for Scientist Social Responsibility: Development of Resilient Society in Disaster Prone Region

Prof. Dwikorita Karnawati looked back on research activities that have continued in Indonesia where disasters occur frequently with the theme, 'How can people avoid danger in the event of a disaster by using science and technology,' and talked about the ideal form of collaboration between society, science and technology.

"At Gadjah Mada University, we had been working on the development of an early warning system for landslides for over 20 years. We go out to the villages where the damage from earthquakes is great and collect data, predict how the ground will move when an earthquake occurs, and simulate how we can protect ourselves as we evacuate. This could be understood even by kindergarten children as shown in the illustration. However, when earthquakes actually occurred, many people died without being able to utilize this system," she said. The reason she pointed out is that "people in the area did not fully understand the meaning of this system and how to use it. In other words, there was no connection between the technology and the daily life of the people."

Based on that reflection, efforts began to build a new disaster prevention system. "We studied, not only as scientists, but also with the cooperation of anthropologists, psychologists and sociologists to learn how to develop techniques that could be used by the local people," she related.

"We began with students going out into the community and

starting to communicate the risks of disasters to the local people using easy-to-understand language, and we aimed to develop a simple and user-friendly system based on local culture and knowledge. We also worked on mitigating the risk accompanying disasters by controlling the usage of land with the cooperation of local governments in each region. After these initiatives continued for about 10 years, we completed a new landslide early warning system. Millennial generation students who are digital native are also involved in the development, and I have great hopes for their abilities." she said.

She also introduced the fact that a tsunami early warning system has also gone into operation under the jurisdiction of the Agency for Meteorology, Climatology and Geophysics, of which she serves as Director General, saying, "From the control room in the director general's office we are monitoring seas throughout the entire Asia-Pacific region."

【Lecture 2】 Technology and social business to achieve three zero worlds

Prof. Muhammad Yunus, who founded the Grameen Bank in Bangladesh and "microcredit" to grant poor women small, unsecured loans at low interest rates, talked about the possibility of using social business to solve social problems with the power of business and the role that science and technology should play there. Talking about the history of the Grameen Bank, Prof. Yunus first said, "Banks should lend money to poor people, but they just finance the rich in urban areas and have not come to poor villages. I began lending the money I had on hand because I wanted to do something to help poor people, and this managed to spread and gradually expanded."

There is no need for collateral or a contract to receive a loan. He continued, "In the 41 years since the opening of the bank, some 9 billion people have borrowed money, and the repayment rate is very high. Small loans in the economy are like oxygen. By giving oxygen to the poor who are suffocating, those people will breathe it back and eventually the economy will be activated. A woman who received a loan of 30 dollars from the Grameen Bank began her own business, and was repaying the loan with interest and expanding her business several years later. She has never received an education, and she could not read at first. Even if they have received a higher education, there are people who are stricken by job shortages. To them I want to say, 'Become a person who creates job, not a person seeking job!' At that time, if you look at the various problems surrounding society, consider what you can do to solve them from the perspective of social business, you will discover the seeds of entrepreneurship naturally," he said.

"Furthermore, before thinking about how to make use of human technology in order to achieve a world with zero poverty, zero unemployment and zero total carbon emissions, I would like students to think about how the future can be drawn. Current science and technology are merely diverting to society something made for war and for maximizing profits. Science and technology created to solve social problems should be totally different. Although the world has been approaching a state of crisis, I want you to change that by using wisdom that makes use of technological capabilities," he said, concluding his lecture.

■ Writer's Comment

Prof. Karnawati has built a system that is deeply connected to the community beyond the boundaries of the university and contributes to a reduction in regional disasters. Prof. Yunus has founded a new bank by himself with the desire to help people who are impoverished and he appeals the possibility of changing the world through social business to the younger generation. From the enthusiastic stories of these two speakers, I realized that it was already impossible to change the world through the power of science and technology alone. On the other hand, if we gather people's wisdom and knowledge beyond the boundaries of nations, cultures, academic disciplines, and generations, and if we master new technologies, there is plenty of potential to solve the difficult problems the world faces. This was the feeling of hope I was felt after these lectures.

Responsible Writer: Junko Ito (Freelance writer)
*Translated in English by JST