

Chapter 5 Development and Promotion of Policy in Collaboration with Society.

Section 1 Deepening the Relations between the Society and Science, Technology and Innovation

While the recent progress of S&T has raised the public expectations for S&T, the GEJE, and the accident at the TEPCO Fukushima Daiichi NPS, have revealed insufficient risk management and increased anxiety and distrust of the general public in regard to S&T. When planning and conducting STI policies, it is important for the government to gain the citizens' understanding, trust and support, by carefully considering the expectations and anxieties of society and the general public in collaboration with researchers, engineers, and research institutions, and frankly explaining the possibilities, risks and costs of S&T to the general public. Thus, the government is making efforts to promote S&T communication activities including risk communication, and public participation in the policy process in order to deepen the relationship between society and STI.

When promoting measures based on the 4th Science and Technology Basic Plan in Council for the Science and Technology (CST) Basic Plan Promotion Committee, MEXT reviews issues to be considered from the viewpoint of "deepening the relationship between society and STI."

1 Promotion of STI Policies from the Public Viewpoint

(1) Further involvement of the public with policy planning and promotion

To make economically and socially valuable STI policies, when planning and promoting policies, the government needs to accurately understand the issues and the social needs that are to be addressed, and to appropriately reflect them in policy. It is also important for the government to disseminate these policies to all levels of the general public and to make efforts to strengthen accountability. Accordingly, the government promotes the implementation of public comment procedures and wide involvement of the public in policy planning and promotion.

(2) Response to ethical, legal and social issues

As S&T progress and become more complex and diversified, the relationship between S&T and the general public has continuously deepened-- in ethical, legal and social terms-- due to misconduct such as fabrication, falsification, or the plagiarism (FFP) of data in research activities and issues of advanced science, technology and bioethics. In this regard, the government promotes the following measures:

1) Establishment of ethics among researchers and engineers

Based on the "Countermeasures against Misconduct in Research Activities by the Competitive Research Fund (September 2005 Agreement in the Liaison Committee of Ministries and Agencies Concerned with Competitive Funding) which stipulates measures when misconduct such as fabrication or plagiarism in research is revealed, MEXT, METI, and other relevant ministries made a request that all organizations concerned take appropriate measures, and simultaneously established a reception desk to process all

accusations of misconduct.

2) Efforts in relation to bioethics and safety in life sciences

To adequately deal with problems on bioethics that could occur as a result of the rapid growth in life sciences in recent years, CSTP is implementing surveys and studies on important issues, and MEXT and MHLW review necessary acts, regulations, and guidelines (refer to Part 2, Chapter 2, Section 3, 2).

(3) Fostering and securing human resources connecting society with STI policies

Human resources who bridge society and STI play an important role in the government's efforts to implement effective STI policies. The government promotes fostering and securing human resources who play these roles and an increase in opportunities for their activities.

1) Science and technology communicators

To develop S&T with the general public, it is necessary to promote fostering and securing of "S&T communicators" to bridge the gap between the general public and policy makers and researchers, and promote communication between them. The National Museum of Emerging Science and Innovation run by the Japan Science and Technology Agency makes efforts to foster and produce S&T communicators, who work in and out of the museum through S&T communication activities such as dialogues with visitors, and planning and producing exhibitions and events (refer to Part 2, Chapter 5, Section 1, 2). The National Science Museum also engages in activities to train S&T communicators (refer to Part 2, Chapter 5, Section 1, 2).

2) Establishment of systems to foster and secure University Research Administrator

Universities and research institutions in Japan have insufficient human resources who conduct research management, while understanding the contents of research and development at the specified level. This imposes excessive burdens on researchers because of the tasks they need to do in addition to research activities. To improve this situation, MEXT supports fostering and securing human resources who conduct research management (University Research Administrator) at universities, with the aim of establishing an environment to activate and enhance research activities and research and development management at universities.

2 Promotion of S&T Communication Activities

In order to create a society where the general public is familiar with and has a strong interest in S&T, it is necessary for the government to provide various opportunities for the general public to touch, experience, and learn S&T by promoting interactive communication between researchers, engineers and the citizens.

(Science and technology week)

MEXT, in cooperation with relevant organizations, including experimental research institutions and local authorities, held the 52nd "Science and Technology Week" from April 18 to 24, 2011. During this week, various events, including opening of research facilities to the general public, experiments in classrooms and lectures, took place at relevant organizations across the country. At the same time, a "Science Café," where researchers and citizens could casually talk over a cup of tea was held in the

“Joho-Hiroba (Information Plaza) of MEXT.”

(Enhancement of activities in science museums)

The Japan Science and Technology Agency supports experimental classes, events and establishment of networks by science museums, universities, local authorities and volunteer groups, to promote S&T communication activities nationwide. The National Museum of Emerging Science and Innovation, in addition to planning and conducting seminars and events, fosters an exchange between researchers and the general public through creation and lectures of exhibitions to introduce advanced S&T in an easy-to-understand manner. It also encourages collaboration among science museums and schools across the country as a center of Japan’s S&T communication activities.

The National Science Museum Exhibition holds exhibitions that provide opportunities to share joy of nature and science across generations and allows them to think together. It also conducts learning support that corresponds to the characteristics of users, by utilizing intellectual, material and human resources, such as research results and sample materials accumulated by the national center of the natural history/S&T history. The Museum engages in fostering human resources who conduct activities to promote the public understanding of S&T, such as the “Science Communicators Practical Training Program.” The Museum also encourages scientific experimental study programs in collaboration with schools through events such as the “Museum Open House for Teachers” and through programs to improve science literacy for all generations.

(Efforts of research agencies)

The Japan Aerospace Exploration Agency (JAXA) provides various educational activities such as “Cosmic Collage” with the aim of getting young people and children, who will lead the next generation, more interested in overall S&T, including space science. RIKEN conducts various outreach activities, such as “Riken Navi,” consisting of video libraries and other contents. MAFF provides producers and consumers with information and opportunities to exchange opinions on the research and development of advanced technology in the fields of agriculture, forestry and fisheries. The independent, administrative experimental research institutions open facilities to the public and provide lectures throughout the year and work on dissemination and raising awareness, by introducing research activities and exhibiting research results.

The National Institute of Advanced Industrial Science and Technology (AIST) has the Science Square Tsukuba/Waterfront and Geological Museum as a permanent exhibition facility. In 2011, the facilities were opened to the public in nine places nationwide, and approximately 15,000 people visited. In addition, with the aim of establishing interactive communication with the public, AIST actively promotes S&T communication programs focusing on dialogue. It does so through events such as the Science Café, experimental classrooms, lectures or “AIST Open Laboratory.”

Universities and public research institutions make efforts to widely disseminate information on research results to the general public. To promote the development of S&T communication, the cabinet office held the “Science and Technology FESTA in Kyoto” at the Kyoto International Conference Center in December 2011 and provided opportunities for dialogue with prominent scientists and science classes. The Council for Science and Technology Policy (CSTP) summarized “Promotion of the 'Dialog on Science and Technology

with Citizens' (A Basic Course of Action)" in June 2010, a policy in which CSTP encourages researchers who receive public research funds to allocate 30 million yen or more per year per research project, to actively engage in dialogue with the public regarding contents and the results of their research activities.

(Efforts of the Science Council of Japan and academic societies)

The Science Council of Japan (SCJ) holds a Science Café as an opportunity for scientists and general citizens, acting as equals, to engage in a dialogue on research results and trends in various academic fields, including the role of scientists in society. In 2011, Science Café was held 15 times. SCJ also holds the academic forum as a way to share academic results with the general public. In 2011, the forum's first year, it was held ten times under a wide range of themes, such as human sciences and life sciences. It also focused on themes related to the GEJE, including such topics as, "Toward recovery from the GEJE" and "The GEJE and the Media."

The academic society is a voluntary association organized mainly by researchers in universities and other research institutions and plays an important role as a place for research evaluation, information exchange, and communication beyond individual research organizations. It largely contributes to development of academic research through academic research meetings, seminars and symposiums that disseminate the latest excellent research results and publications by academic journals. Through programs such as the "Grant in Aid of Publication of Scientific Research Results," MEXT subsidizes international conferences held by academic societies by inviting researchers from overseas, and symposiums in order to raise awareness of the latest research results and disseminate those results among the general public, as well as periodical academic publications.

(Promotion of risk communication)

The Japan Science and Technology Agency held the "Science Agora 2011" from November 18 to 20, 2011 and focused on symposiums and talks on risk issues under the main theme, "Sowing the seeds of science—Resurrection from the Great Disaster."

The Consumer Affairs Agency (CAA), the Food Safety Commission, MHLW, and MAFF conduct risk communication activities for food safety. These activities start with the revisions to the Food Sanitation Act carried out in tandem with the enactment of the Food Safety Basic Act in 2003, which began after the first case of BSE found in 2001. In response to the accident at the TEPCO Fukushima Daiichi NPS, the Ministries and other agencies concerned, held opinion exchange meetings to study food risk, mainly under the theme of "food and radioactive substances." Other themes included the safety of imported food products and pesticide residue, the safety of food additives, the prevention of food poisoning, and the safety of functional food.

Further, the National Institute of Radiological Sciences and the Japan Atomic Energy Agency (JAEA) conduct risk communication activities related to radioactivity (refer to Part 2, Chapter 2, Section 1, 1 (3)).

As for risk communication activities related to chemical substances, the Ministry of the Environment, in collaboration with ministries and other agencies concerned, produces and provides easy-to-understand information on chemical substances that can adversely affect people and the ecosystem. They also have human resources who can answer questions on chemical substances common in our lives (chemical substances advisors).