



Preface

On March 11, 2011, the massive earthquake with a magnitude of 9.0 that occurred at the hypocenter off the Sanriku coast caused seismic motions and a giant tsunami. This brought about a major loss of lives and serious physical damage mainly in the Tohoku area and all the way to the Kanto area. Furthermore, the accident at the TEPCO (Tokyo Electric Power Company, Incorporated)'s Fukushima Daiichi and Daini Nuclear Power Plants led to a situation whereby residents in the surrounding area were instructed to evacuate. It has been confirmed that radioactive materials were released into the environment, and this has caused significant unease in the lives of the Japanese public. With these events, it became apparent that S&T (science and technology; the same shall apply hereinafter) can have an enormous impact on the everyday lives of Japanese public. People all around the world witnessed this reality to get the new understanding of both the “lights” and “shadows” of S&T. Now is the time that S&T related parties in Japan, together with the Japanese public, should deepen discussions on the state of S&T and the society, reevaluate the role of S&T in the modern society and translate ideas into fresh action.

In 2010, there were two events that raised awareness of S&T among the Japanese public. One was the asteroid explorer “Hayabusa” which has done its seven-year round trip from the Earth to the asteroid “Itokawa” and brought back samples it had collected. The other event was the award of the Nobel Prize in Chemistry to Akira Suzuki, Professor Emeritus at Hokkaido University and Eiichi Negishi, Distinguished Professor at Purdue University.

The return of the “Hayabusa”, which has been widely reported in various media, attracted extensive interest from all levels of the society. While award to Prof. Suzuki and Prof. Negishi received acclaim from the Japanese public, it also posed various issues such as the importance of basic research promotion and the significance of young researchers accumulating experience overseas.

Furthermore, in the trend of ensuring transparency in the policy-making process and further promoting dialogue with the Japanese public, the implementation of the “review and prioritization of government programmes,” the appeal for opinions on the priority determinations by the Council for S&T Policy, the evaluation (the so-called “Policy Contest”) with respect to the “Special Funding to Bring Vigor Back to Japan” and others were opportunities to once again recognize the importance of obtaining the understanding and support of the Japanese public for policies in relation to the promotion of S&T, and the importance of striving for communication with the society and the public during promotion of those policies.

It has been more than ten years since the “Declaration on Science and the Use of Scientific Knowledge” (Budapest Declaration) was issued. Thus far, relevant parties, such as the government, researchers and technicians, have been promoting efforts based on the new directions in the 2nd Science and Technology Basic Plan (hereinafter, the Science and Technology Basic Plan shall be referred to as the “Basic Plan”), “Science and Technology for and in Society” and the 3rd Basic Plan “Science and Technology Supported by Society and the Public.” Furthermore, the discussions so far toward the formation of the 4th Basic



Plan,¹ have pointed out a direction as follows: that science, technology and innovation² policies will be strongly promoted as “one of the major policies for society and the public,” as will the creation of innovation³ through S&T and together with this, in order to accurately understand the demands of society and to obtain the Japanese public's understanding, confidence and support for S&T, the relationship of society with S&T will be further deepened, and the “development of policies to be created and promoted together with society” shall be realized.

In this White Paper, there is an overview of the reality of Japan in the international society along with the important challenges we face. Through the furtherance of R&D that contributes to the achievement of these serious issues, and moreover, the steady promotion of basic research and forwarding of S&T human resource development as two halves of the whole, this White Paper illustrates the current efforts and future challenges for the realization of a desirable picture of various activities related to “science and technology to be created and promoted together with society”.

The “Science and Technology to be Created and Promoted together with Society” that is illustrated in this White Paper is not an abstract idea but it is clarified as the real issue for each citizen. There is a need for each citizen to view S&T as his or her own, assess various issues concerned with S&T accurately, act as a party concerned and participate in the policy making process. The relevant parties (such as the government, researchers and technicians) are supposed to disclose information adequately so that it can be properly understood by the society. At present, we are seeking sincere efforts of the relevant parties in S&T toward S&T communication activities with the public so that it will lead to “mutual understanding” based on “dialogs”, further “participation” and the construction of a new relationship between society and S&T.

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- 1 The 4th Basic Plan was scheduled to commence from FY 2010, but in light of the Great East Japan Earthquake, a review will be held by August 2011. [“Immediate Science and Technology Policy Management” (May 2, 2011, Minister of State for Science, Technology and Innovation Policies and executive members of the Council for Science and Technology Policy)]
 - 2 In the examination toward the formulation of the 4th Basic Plan, Science, technology and innovation (STI) is defined as the “creation of intellectual / cultural values based on new knowledge obtained from scientific discovery, invention, etc., and the innovation to develop such knowledge into economic, social, or public value.”
 - 3 “Creation of innovation” is defined “Act to Strengthen R&D Capacity by Advancing R&D System Reform and Promote R&D Efficiency (Act No.63 of 2008)” as “the creation of new values through the development or production of new products, the development or supply of new services, the introduction of a new system for production or marketing, the introduction of a new system to supply services, and the introduction of a new system for business management in order to effect significant change in economic society.