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STI as a Bridging Force to provide Solutions for SDGs

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The Sustainable Development Goals (SDGs) show shared agendas by all nations. In consideration of socially vulnerable people, the SDGs require to solve global issues with “inclusiveness” for all, through initiatives to address a broad range of stakeholders.

Japan decided the SDGs Implementation Guiding Principles in December 2016 under the initiative of Prime Minister Shinzo Abe. The Guiding Principles advocate science, technology and innovation (STI) as one of the priority areas and policies.

Japan has determined STI as a main asset to overcome diverse issues, such as environment and disaster management, aiming not to lose social cohesion. This principle is also applied for our international cooperation. The Science and Technology Research Partnership for Sustainable Development (SATREPS), a pioneering international STI cooperation program co-founded by science grant and ODA, has delivered social implementation of its results and, in some cases, cooperation with Asian Development Bank has been taken place.

Based on such achievements, Japan can share its experience to the profit of SDGs implementation at a global scale.

1) What lessons can be learnt from national STI plans and policies and, in particular, STI roadmaps? What are current gaps and high priority actions? What role can scientific and engineering communities play in this regard?

We recognize many gaps to achieve SDGs in each level. Stakeholders

from different sectors need to change their mindset to co-design, co-production, and co-delivery manner. In particular, we need definitive four actions.

First, we need to work together to project a vision of a future society, in which advanced technologies are applied for the betterment of mankind. Second, various data of global scale should be utilized to deal with a variety of issues raised by the SDGs. Third, there is a need to link and unite, both at the national and international level, different sectors of society such as the research community, corporate enterprises, local and national governments, and the civil society for the mobilization of STI with the specific needs of local communities in mind. Fourth, there is a need for human resource development so that technologies and systems take root in each community including those of developing and newly emerging countries.

2) What are the best ways to design STI policies and instruments for the SDGs that translate the SDG's universality principle into action, while respecting national STI priorities and existing differences in national situations? Which approaches and tools are available to support national STI plans and policies? How to better align international responses, including from scientific and engineering communities, to the national needs?

Japan has set forth as “Society 5.0” in the government 5th Science and Technology Basic Plan. It aims to simultaneously achieve economic development and resolve social challenges via human-oriented IT integration to the real society. “Society 5.0” can contribute to achieve the SDGs by providing new vision based on STI policy.

Japan has also played a significant role in the field of earth observation through active participation in international frameworks such as the Group on Earth Observations (GEO). SATREPS program has already been implemented big data observation and processing to the development according to the local needs in South Africa and Thailand. Japanese data infrastructure DIAS has also contributed to the water resource plans.

In Japan, a number of private enterprises gets interested in SDGs in

the context of corporate philosophy, industrial structure, regulation/standardization and financing. Business leaders, as Keidanren declares, begin to consider the SDGs as a key vision, which leads to the sustainable growth of the world by “Creating Shared Value (CSV)”. The academic sectors like the University of Toyo are also taking the initiatives to integrate disciplines, policies and sectors for transforming the relationship between science and society. The researchers in compartmentalized basic research field should awake and engage to boundary-free collaborations, which can provide unexpected solutions to the SDGs.

3) What are your top three recommendations for action by the United Nations system, governments, businesses, scientists, civil society, and others?

SDGs present both challenges and opportunities for all stakeholders in Japan and world. For implementing SDGs, it is particularly important to establish solid linkage between academia/research institutes and business sectors including private corporations, investment banks, consultation firms and NPOs for “co-design and co-delivery” in resolving various challenges. Such multi-stakeholders cooperation could formulate innovative public private partnership (PPP) through STI, leading to “creating shared value(CSV)” and new business financing mechanisms. Japan will strive to link merits of STI and market principle to implement the national policy: contributing to solve mankind issues and achieve SDGs as universal goals. The first recommendation is thus to enhance such innovative PPP to fill the gaps between stakeholders under the banner of implementing the SDGs. International framework like the UN and diplomatic actions are expected to play active role in this subject.

The second recommendation is to create global cooperation to adopt IT platforms to the profit of SDGs. IT advancements, which characterize “Society 5.0”, enable to establish whole globe observation technology and massive data processing that contribute to “inclusive” STI cooperation.

The third recommendation is to foster human resources under global

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collaboration. In order to resolve challenges under the SDGs through STI, it is necessary to ensure that technologies and systems take root in individual countries as their respective social and economic situations. Japan is keen to share its experiences of successful international cooperation of human resources development in sustainable and inclusive manner.