

Basic Policy on Promotion of
Science, Technology and Innovation
for Sustainable Development Goals (STI for SDGs)

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Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan

1. Domestic and international trends surrounding STI for SDGs

- The Sustainable Development Goals (SDGs) are stated as universal goals which should be addressed by people in the world in the “2030 Agenda for Sustainable Development” (2030 Agenda). It was adopted by the United Nations (UN) in September 2015 in order to realize a society in which “no one will be left behind” and address a wide range of issues related to the economy, society and environment. The SDGs are challenges of global issues as well as challenges including emerging social issues facing Japan.

- Science, Technology and Innovation (STI) has played a major role in facing nature, developing society and economy, and enriching lives in the history of humankind. The UN has been holding the Multi-Stakeholder Forum on Science, Technology and Innovation for the SDGs (STI Forum) annually since 2016. The G7 Science Minister’s Communiqué in September 2017 reaffirms STI’s potential in achieving the SDGs and recommends trans-disciplinary and multidisciplinary approaches as founding pillars of Next Production Revolution. As are seen internationally, there are rising expectations for STI in solving issues related to the SDGs as a “deciding factor” for making the best use of the limited resources and as an essential, cross-cutting element for the attainment of targets.

- Japan wishes to contribute to the international community as a leading solution provider, or an advanced nation in tackling issues, by sharing its successes and lessons learned at home in building a sustainable economy, society and environment, where STI has been used as much as possible to make the issues solvable. Japan

should aim to become a role model for the world in implementation of measures to achieve the SDGs based on its experience and make efforts both in Japan and in cooperation with other countries.

- The Government of Japan has established a Cabinet body, SDGs Promotion Headquarters, headed by the Prime Minister in May 2016, in order to ensure a whole-of-government approach to implementing the SDGs in a comprehensive and effective manner. At the meeting of the Headquarter in December 2016, the “SDGs Implementation Guiding Principles” was decided as Japan’s national strategy for SDGs implementation. In December 2017, the “SDGs Action Plan 2018” which indicated the direction of the "SDGs model" of Japan was decided. In June 2018, the “Extended SDGs Action Plan 2018” was decided as well. As shown in above, the government of Japan is prompting systematic efforts towards the SDGs implementation.
 - In the SDGs Implementation Guiding Principles, STI is stated as a priority area and as an essential, cross-cutting element for the attainment of targets. In addition, the Extended SDGs Action Plan 2018, from the viewpoint of “promoting Society 5.0 together with SDGs,” states that Society 5.0 and Next Productivity Revolution will be achieved through innovations to tackle with the social issues indicated by the SDGs. It also states that the “STI for SDGs Roadmap” will be developed by the middle of 2019. Thus, the importance of the role of STI for the SDGs implementation is being emphasized.
 - Various national R&D agencies and universities have started to promote organizational efforts to contribute to the SDGs. Keidanren (Japan Business Federation) revised in November 2017 the “Charter of Corporate Behavior,” where achieving the SDGs through the realization of Society 5.0 is stipulated as a main point. Thus, the momentum of non-government entities towards the SDGs is also increasing.
2. The role and action policy of MEXT on promotion of STI for SDGs
- As mentioned above, expectations for promoting science, technology and innovation for SDGs (STI for SDGs) are increasing. As Ministry of Education, Culture, Sports,

Science and Technology (MEXT) promotes R&D in all areas from natural sciences to humanities and social sciences, and is responsible for a variety of R&D institutions, funding agencies, universities, etc. and covers main efforts of Japan's science and technology budget, MEXT needs to proactively engage in and contribute to the government-wide efforts for STI for SDGs.

- As is clear from the domestic and international trends, STI for SDGs gives a good opportunity for STI itself (STI eco-system) to change, too. Based on this, in order to promote STI that contributes to the achievement of the SDGs in concert with efforts to realize Society 5.0, it is important for MEXT to drive concrete measures having such points of view as shown below;
 - It is necessary to effectively combine the promotion of creating innovative technology seeds based on new scientific knowledge, with the promotion of R&D with a viewpoint of back-casting design.
 - It becomes more important than ever to have a mechanism to facilitate creating new ideas with a variety of experts coming from across sectors and disciplines under common visions.
 - In order to enhance and develop efforts of STI for SDGs continually, it is essential to foster human resources who can connect science with politics, administrations, and various sectors in and outside Japan, with historical and international perspectives and geopolitical knowledge.

- MEXT has contributed to solving issues related to the SDGs by conducting various STI policy measures including international science and technology cooperation and its contributions to the international community (science and technology diplomacy), “Science and Technology Research Partnership for Sustainable Development Program” (SATREPS), and so on. Through the Strategic Basic Research Programs, it has also contributed to strengthening the foundation for creating diverse and outstanding knowledge which is the source of innovation, and to developing scientific knowledge toward the creation of social and/or economic values. Further, by promoting the Center of Innovation Program (COI), it has promoted vision-driven R&D by back-casting method with the aim of realizing a desirable society and way of life through full-fledged industry-academia collaboration.

Based on these achievements, it is necessary for MEXT to promptly address further enhancement of measures based on the 2030 Agenda and SDGs, the priority areas and major principles stated in the SDGs Implementation Guiding Principles, as well as the Extended SDGs Action Plan 2018.

3. Measures of MEXT for promotion of STI for SDGs

(1) Formulation of "MEXT STI for SDGs Package"

- Based on the vision of “Become a leader towards a future where economic, social and environmental improvements are attained in an integrated, sustainable and resilient manner while leaving no one left behind” and the following eight priority areas in the SDGs Implementation Guiding Principles, MEXT puts in order the ways to contribute to the SDGs through MEXT’s STI policy measures, and formulates “MEXT STI for SDGs Package” (Package) to systematically indicate the STI for SDGs policy measures necessary to materialize contributions to the SDGs.

< 8 Priority Areas >

- ① Empowerment of All People
 - ② Achievement of Good Health and Longevity
 - ③ Creating Growth Market, Revitalization of Rural Areas, and Promoting Science, Technology and Innovation
 - ④ Sustainable and Resilient Land Use, Promoting Quality Infrastructure
 - ⑤ Energy Conservation, Renewable Energy, Climate Change Countermeasures, and Sound Material-Cycle Society
 - ⑥ Conservation of Environment, including Biodiversity, Forests and the Oceans
 - ⑦ Achieving Peaceful, Safe and Secure Societies
 - ⑧ Strengthening the Means and Frameworks for the Implementation of the SDGs
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- In formulating and promoting the Package, MEXT considers expected outputs and possible future developments of both domestic STI policy measures and international STI policy measures, with possible time line, taking into account the “Integrated Innovation Strategy 2018” (June 2018) and the situation of developing and promoting the STI for SDGs Roadmap.

- Also, MEXT considers systematizing the related STI policy measures and drafting new policy measures, taking into account the measures stated in the appendix of the SDGs Implementation Guiding Principles and the SDGs-related policy efforts MEXT has implemented so far as shown below. In doing so with an integrated approach toward various issues related to the SDGs, the STI for SDGs policy measures are encouraged to collaborate each other in an organic and cross-field manner. In addition, considerations are done with a viewpoint of technology seeds derived from the variety of basic research endeavors leading to the creation of innovation, a viewpoint of planning by back-casting design, and a viewpoint of linking with the promotion of Society 5.0.

- For steady promotion of the STI for SDGs measures, it is important to foster human resources who engage in STI for SDGs. Also, it is important to encourage collaborations among humanities, social sciences and natural sciences because the achievement of the SDGs could be done with interactions of various factors including society, economy, system, way of life, and values. Further, from the viewpoint of the regional revitalization, it is important to foster autonomous and sustainable innovation ecosystem in local region for solving issues related to its sustainability such as the decrease in young population.

< SDGs-related policy efforts MEXT has exercised so far >

- Life Science field: Epidemiological research with utilizing overseas research bases that contributes to the prevention of infectious diseases, development of prevention, diagnostic, drug discovery, and treatment methods for “Neglected Tropical Diseases.”
- Environment and Energy field: Creation and provision of scientific knowledge from climate change projection, which is the basis of climate change countermeasures, to the creation of information on its impact and development of innovative energy technology.
- Space field: Research and development contributing to the solution of global issues using satellites including flood forecasting and construction of warning system, air pollution monitoring, forest monitoring, etc. by cooperating with international organizations.
- Ocean and Earth field: Appropriate development, utilization, and management of ocean including marine survey and observation, which enhance marine science and technology, and global marine survey including polar regions.

- Disaster Prevention and Disaster Reduction field: Development of a dense seismic observation network covering the whole country, development of forecasting technologies for natural disasters including earthquakes, tsunamis, volcanoes, extreme weathers, etc., and development of methods for gathering disaster information from public and private sectors.
- Fostering human resources: Training young researchers, promoting activities of female researchers and excellent researchers from overseas to foster human resources and keep diversity of those who are responsible for science, technology and innovation including training people who will be responsible for STI in next generation.

(2) Promotion of STI for SDGs based on the Package

- MEXT will strategically and steadily promote the STI for SDGs policy measures included in the Package by appropriately reflecting those measures to the budget request every year.
- MEXT will promote the Package based on the following five major principles in the SDGs Implementation Guiding Principles. Especially, based on the fact that STI is an essential, cross-cutting element for the attainment of targets, MEXT will encourage organic links among the different policy measures with an integrated perspective, bearing in mind effective collaborations with policy measures in the fields of education, sports, culture, and etc.

< Five major principles for implementation >

- ① Universality: Japan will take further steps domestically and internationally.
- ② Inclusiveness: Japan will pay due attention to the most vulnerable individuals in all of its efforts, and respect for human rights and gender equality that should be included and reflected in all measures.
- ③ Participatory approach: The government of Japan will foster a participatory approach in which all stakeholders play a role in our efforts.
- ④ Integrated approach: Measures shall be carried out in an integrated and organic manner, bearing in mind the significance of linking different priority areas.
- ⑤ Transparency and accountability: The government of Japan will ensure high transparency in the implementation of its measures and will publicly disclose assessments on the progress made

on a regular basis to promote accountability.

- In formulating and promoting the Package, MEXT, cooperating with the Japan Science and Technology Agency (JST) which has accumulated knowledge and efforts on STI for SDGs, will foster co-creation activities through collaborations with various stakeholders to materialize the SDGs and Society 5.0. Efforts include stimulating open discussions widely involving various stakeholders across fields and sectors, through open platforms where industries, universities, public research institutions, NPOs, international organizations, and etc. may participate.
- MEXT will also enhance collaborations and cooperation with related ministries and agencies working on various projects toward achieving the SDGs, bearing in mind that outputs and outcomes of the STI for SDGs measures of MEXT may lead to social implementation and effective solutions.

(3) Promotion of communication activities

- Based on the SDGs Implementation Guiding Principles, MEXT will promote communication activities and educational activities for raising public awareness, enlightenment and dissemination of the SDGs. MEXT will also contribute to international communication in cooperation with Ministry of Foreign Affairs, STI-related organizations and other stakeholders, utilizing opportunities such as international conferences. Collaborations with education-related measures are promoted to enhance learning opportunities on STI for SDGs in various situations such as school education.

(4) Promotion framework

- Based on this Basic Policy, MEXT will develop an organizational framework, for the systematical and strategical implementation of the STI for SDGs measures with a holistic and comprehensive approach, and for the facilitation of steady improvements of the measures with a following-up approach. For issues requiring prompt considerations, MEXT sets up a working group in the ministry for dealing with them.