United Nations Educational, Scientific and Cultural Organization

From the People of Japan

資料８-１

GUIDELINES ON SUSTAINABILITY SCIENCE IN RESEARCH AND EDUCATION for implementing the SDGs

The international UNESCO project **"Broadening the Application of the Sustainability Science Approach"** was initiated in October 2015 with the support of the Japanese Ministry of Education, Culture, Sports, Science and Technology **(Japan/MEXT)** to identify good practices and develop policy guidelines to help Member States harness the potential of sustainability science in their sustainable development strategies.

This project aims to help UNESCO Member States and other stakeholders introduce or reinforce a sustainability science approach into transdisciplinary research and education, to enable them to better respond to global challenges. The main output of the project is a set of **policy guidelines on sustainability science**, through **three symposia** to foster dialogue and collaboration among experts and policy-makers.

Based on the **joint efforts** of UNESCO's Natural Sciences Sector, Social and Human Sciences Sector, Education Sector and Regional Science Bureau for Asia and the Pacific in Jakarta, the project benefits from the guidance of a **multidisciplinary steering committee and a drafting sub-committee**.

SUSTAINABILITY SCIENCE IS ANY FORM OF RESEARCH AND EDUCATION THAT RESULTS IN KNOWLEDGE, TECHNOLOGY, INNOVATION AND HOLISTIC UNDERSTANDING WHICH WILL ALLOW SOCIETIES TO BETTER ADDRESS GLOBAL AND LOCAL SUSTAINABILITY CHALLENGES

Sustainable Development Goals

SUSTAINABILITY SCIENCE IS CROSSCUTTING SCIENCE BY NATURE, HAVING AS A MAJOR GOAL TO SEEK COMPLEMENTARY COOPERATION BETWEEN NATURAL AND SOCIAL SCIENCES, THE HUMANITIES, THE ARTS AND, IN PARTICULAR, TO ENSURE THE PARTICIPATION OF DIVERSE NON-ACADEMIC STAKEHOLDERS, THROUGH A COLLABORATIVE PROCESS OF CO-DESIGN, CO-PRODUCTION AND CO-MANAGEMENT.

SUSTAINABILITY SCIENCE PRINCIPALS

- sustainability science responds to the interdependent, complex and mutually reinforcing character of natural, social and cultural ongoing, global and local challenges
- sustainability science focuses on solving problems, understanding dilemmas and conflicts of goals and interests
- sustainability science is based on both academic freedom and academic responsibility towards societal needs
- sustainability science requires important new capacities of individual scientists for integrated critical analysis and foresight

NORTH-SOUTH-SOUTH COOPERATION

- broadening support to the sustainability science approach
- support for capacity building: capacity and infrastructure in sustainability science research and education, in most countries in the south, need to be strengthened
- diversification of funding sources: development agencies, development banks, private foundations are potential allies for sustainability science, enabling innovative dynamics for new ideas
- establishment of international systems to promote north-south-south collaboration

Mainstreaming Sustainability Science in Research

Foresee multi-stakeholder evaluation panels that will be able to both contribute to the scoping of a project and to assess the scientific value and relevance of the sustainability challenge tackled, and the qualifications of the academic and non-academic participants, and the proposed process for engaging them;

Use established and new types of indicators to assess and monitor the value, progress and outcome of Sustainability Science projects. They may differ from those used for standard academic research, for instance in terms of both processes and timeframes; also, different forms of publication of results might be included in the evaluation;

Assess different types of trade-offs associated with the implementation of a given approach to solve a particular problem, and how such implementation may affect different groups of stakeholders, including future generations.

Mainstreaming Sustainability Science in Higher Education

Sustainability Science also requires new approaches within higher education and, possibly, even a fundamental reconceptualization of teaching and learning. The trust of such a reconceptualization is very much in line with the aims of the “Third Mission” of higher education, which calls for an active partnership between institutions of higher education with society and the economy.

Strategic Funding for Sustainability Science

Sources of funding should be diversified to include international organizations, government departments, academies, other science-based bodies as well as other sectoral ministries, public and private foundations, and industries. For international cooperation, a stronger involvement of development agencies and development banks, both national and multilateral, could be promising, since Sustainability Science is focusing on problems in practical contexts. In addition, crowdfunding should be explored as a potential option for specific types of projects.

For further information on Sustainability Science Guidelines, please visit:
https://en.unesco.org/sustainability-science