

Society 5.0 and Japan's Policy Package for STI for SDGs

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Urgent Need to Accelerate Action for STI for SDG

◆ Political Declaration, SDG Summit 2019 (September, 2019)

We commit to: (h) **Harnessing science, technology and innovation with a greater focus on digital transformation for sustainable development: we will promote research, capacity-building initiatives, innovation and technologies towards advancing the Sustainable Development Goals ...**

◆ G20 Osaka Leaders' Declaration (June, 2019)

28. Recognizing the importance of science, technology and innovation (STI) for SDGs, we endorse the Guiding Principles for the Development of STI for SDGs Roadmaps.

◆ TICAD7 Yokohama Declaration 2019 (August, 2019)

4.2.1 We acknowledge the important role of connectivity in terms of people, institutions and countries, as well as entrepreneurship, science, technology and innovation (STI) for SDGs in building sustainable and resilient societies.

Examples of Japan's Measures against Infectious Diseases

Support for prevention of the infection spread and infection control in developing countries in Asia, Oceania, Middle East, Africa, Latin America, and other regions [JPY84 billion, FY2020]

- Capacity building in the field of health and medicine, support to provide supplies, and other measures to prevent the infection spread in Asia, Oceania, Middle East, Africa, Latin America, and other regions (as grand-in-aid and via international organizations [such as UNICEF, UNDP, UNOPS, UNWomen, Gavi, IAEA, PAHO, APO, WCO, FAO])
- Support to improve healthcare system and stockpile of antiviral medicine and personal protective equipments with a focus on Southeast Asian countries (Asia-Europe Foundation, etc.)
- Training by experts and other measures in Asia and Africa; Strengthening of health system, human resource development, and other measures in order to enhance a response capacity in mid- and long term (JICA, UNV).

Three Main Pillars of “Japan’s SDGs Model”

SDGs Action Plan

- The **SDGs Promotion Headquarters** of Japan, chaired by the Prime Minister, decides **SDGs Action Plan**.
- Japan contributes to nation building and human resources development around the world to realize a prosperous and vibrant society while “no one left behind.”

“Japan’s SDGs Model” identified in the SDGs Action Plan

**I. Promotion of Society 5.0
that corresponds to SDGs**

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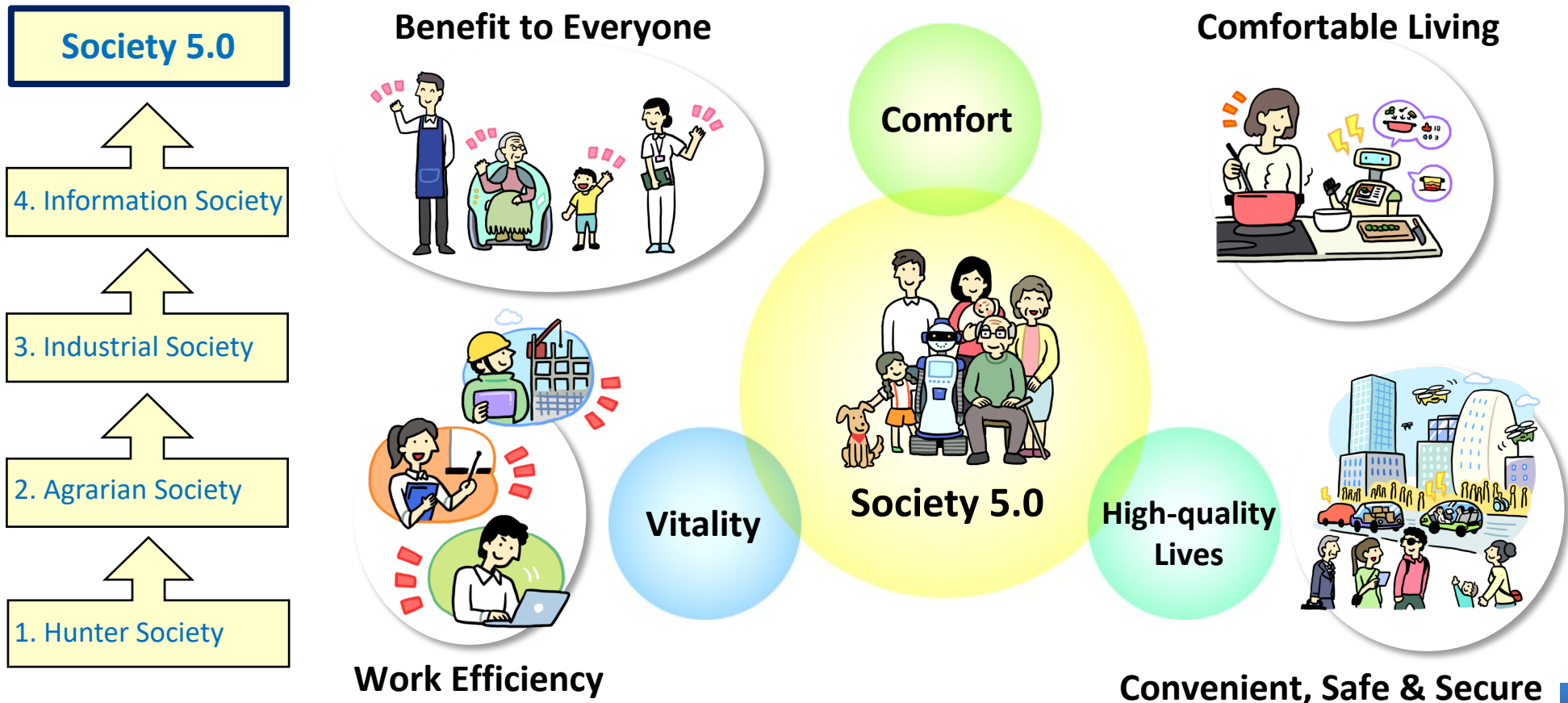
**STI (Science, Technology
and Innovation) for SDGs**

**II. Regional vitalization
driven by SDGs**

**III. Empower next
generations and women**

Society 5.0

- **Society 5.0** is a new society coming up after Information Society, which
 - is produced by **sophisticated integration of cyberspace and physical space**,
 - **upholds both economic growth and resolution of social issues**, and
 - realizes **a human-centered and inclusive society**.
- **Promotion of Society 5.0** is one of the main pillars of **“Japan’s SDGs Model.”**



➤ **Global Pilot Programme on STI for SDGs Roadmaps**

- To support the pilot countries (India/Kenya) and other developing countries in formulating STI for SDGs roadmaps in cooperation with the UN agencies

➤ **STI for SDGs Platform (SDGs Solution Hub)**

- To match STI seeds and SDG needs

➤ **Strengthen the cooperation with UN agencies**













- To support developing countries in policy making and implementation of “STI for SDGs,” by collaborating with international organizations, such as [UNDP and the World Bank](#).

➤ **Strengthen International collaborative research for SDGs**

- To strengthen [SATRERPS \(Science and Technology Research Partnership for Sustainable Development\)](#) - international collaborative research in cooperation with the ODA
- To conduct [demonstration experiments](#) (aXis) towards the social applications of research outcomes in developing countries

Japan's STI for SDGs Roadmaps

Development of Roadmap according to Approaches


Approach	Strategies and Plans	Roadmaps	Associated SDGs
<p>Approach 1 Address challenges in various service areas with specific technologies</p>	<p>“AI Strategy 2019” (June 2019)</p>	<p>Roadmap Ex.1 Social Implementation of AI in Health, Medical Care and Long-term Care fields</p> <p>Roadmap Ex.2 Establish next-generation AI-incorporated transportation, in order to develop a smart city which can be deployed globally</p>	 
<p>Approach 2 Address specific challenges by utilizing various technologies</p>	<p>“Environment Innovation Strategy” (January 2020)</p>	<p>Roadmap Ex.3 Flexible, lightweight, and highly efficient PV systems</p> <p>Roadmap Ex.4 “Zero-carbon steel” through innovative technologies</p>	     
<p>Approach 3 Address challenges by back casting from the desired future outcome</p>	<p>“Moonshot Goal 5” (2020)</p>	<p>Roadmap Ex.5 By making fully utilizing biological functions of nature, create sustainable food supply industry with no food wastage on a global scale</p>	   

*This document summarizes existing strategies, plans, etc. and illustrates them as a roadmap, and does not show the priority areas and priorities that Japan is working on.

Japan's STI for SDGs Roadmaps

Roadmap
Ex.1

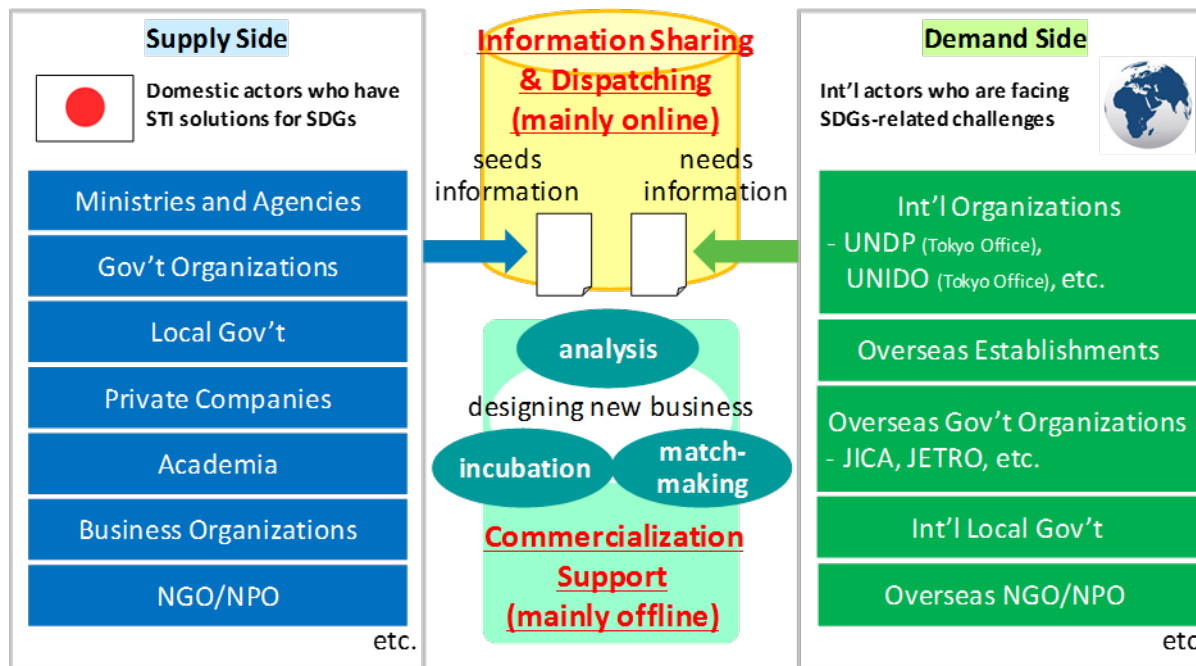
Social Implementation of AI in Health, Medical Care and Long-term Care fields

Specific Objectives	Action			Main Objective
	2020	2025	2030	
AI 1 Provision of a data infrastructure for utilization of AI in the health, medical care and long-term care fields 2 Promotion of AI technology development and reducing the burden on healthcare workers through AI utilization for medical treatment 3 Promotion of the introduction of AI / IoT technology to the field of prevention and long-term care, and reducing the burden on care workers by using AI / IoT for long-term care	<ul style="list-style-type: none"> Trend survey of AI development and utilization in foreign countries Operation of a system for the smooth and fair use of anonymously processed medical information Cross-disciplinary information infrastructure design, accumulation of various data and establishment of an AI data infrastructure Creation of a system for collecting data linked to region, in data obtained from daily life Building a framework to provide data and annotation and other infrastructure to partners 	<ul style="list-style-type: none"> Exploring data infrastructure for sustainable AI development to support image diagnosis 		Maintaining an environment in which people feel assured that they can receive the most advanced and effective treatments as well as high quality long-term care regardless of location, reducing the burden on medical care and long-term care providers Related SDGs 
	<ul style="list-style-type: none"> Investigation into an AI application to drug discovery, toxicity evaluation, etc. Investigation into utilization of AI in drug development other than mentioned above and medical practice 	<ul style="list-style-type: none"> Utilizing AI in construction of a framework for drug discovery target Utilizing AI in development and evaluation of image diagnosis support equipment, and infrastructure development for social implementation Utilizing AI for development of medical devices and telemedicine services and evaluation of them, and development of infrastructure for social implementation Utilizing AI for Development of early detection and diagnosis technology for diseases 		
	<ul style="list-style-type: none"> Starting examination of the provision of health maintenance/promotion services by the private sector Development and introduction of a consultation system that introduces AI/IoT to long-term care facilities Implementation of prevention and long-term care field verification projects, and building a support system for AI start-up businesses 	<ul style="list-style-type: none"> Realization and national expansion of an AI system that supports high-quality long-term care services Review of the system side and operation side for the utilization of technology established Promotion of AI/IoT data utilization on personal information controllability 		

- UN Inter Agency Task Team (UN-IATT) launched the “**Global Pilot Programme on Science, Technology and Innovation (STI) for SDGs Roadmaps**” and selected the following countries for the Pilot Programme.
 - **Pilot Countries :** Ethiopia, Ghana, **India, Kenya**, and Serbia
 - **Partner Countries :** **Japan** and the European Union
- Partner countries are expected to support the pilot countries and other developing countries in formulating STI for SDGs roadmaps in cooperation with the UN agencies and/or the World Bank .
- ➔ **Japan and Kenya / India, together with the WB exchange views on collaboration in the Pilot Programme.**
- ➔ **Japan-India online Workshop will be held on June 23 and 29.**

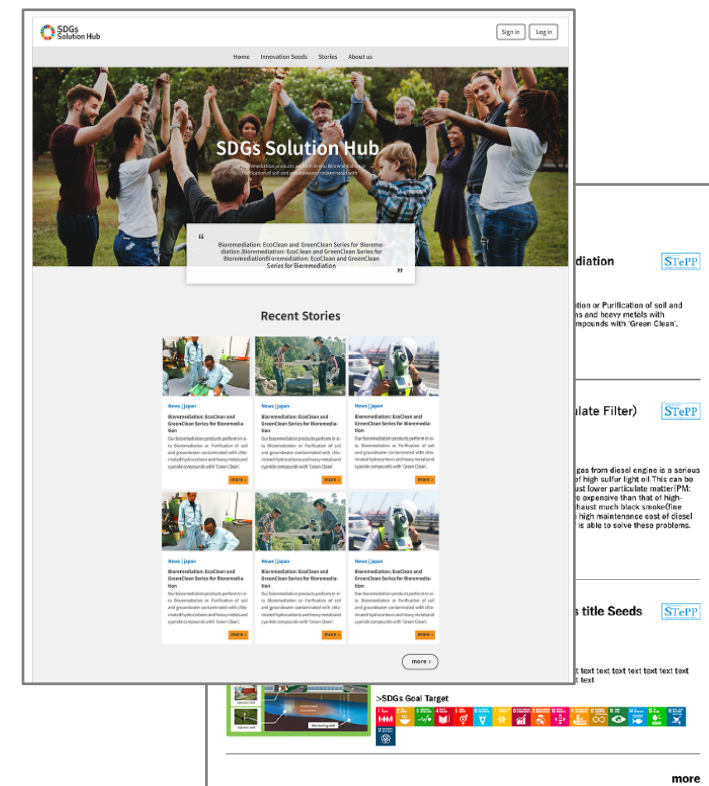
STI for SDGs Platform

- **STI for SDGs Platform** aims to match STI seeds and SDG needs. It consists of online system - “**SDGs Solution Hub**” and offline support for business creation.
- **STI for SDGs Platform** will be a engine to accelerate innovation, while encouraging collaborations among various stakeholders in the world.
- Japan will share the knowledge and outcomes of STI for SDGs Platform with the international community, **expand users, and enrich contents** of the platform.



Framework of STI for SDGs Platform

URL: <https://sdgs-solution-hub.go.jp/>



Tentative images of “SDGs Solution Hub”

Strengthen the Cooperation with UN Agencies

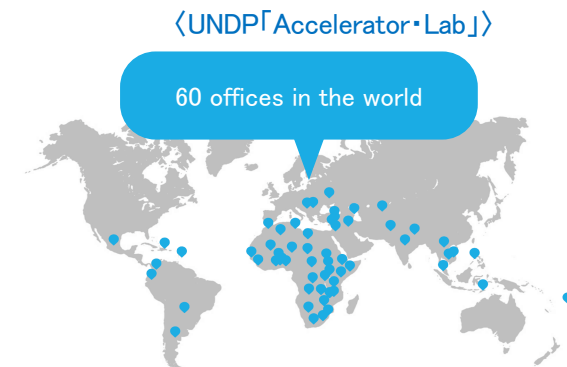
Objective

- to promote STI for SDGs in developing countries in cooperation with UN agencies, in view of contribution of Japan's science, technology and innovation

Overview

1. Collecting needs to achieve SDGs from around the world

- to collaborate with Accelerator Labs established by UNDP (UN Development Plan) to collect local social needs for SDGs, and to survey and analyze the technologies which is necessary to solve the issues concerning the achievement of SDGs
- The results of the survey and analysis will be able to utilize for matching with the solution (STI seeds) of Japan.



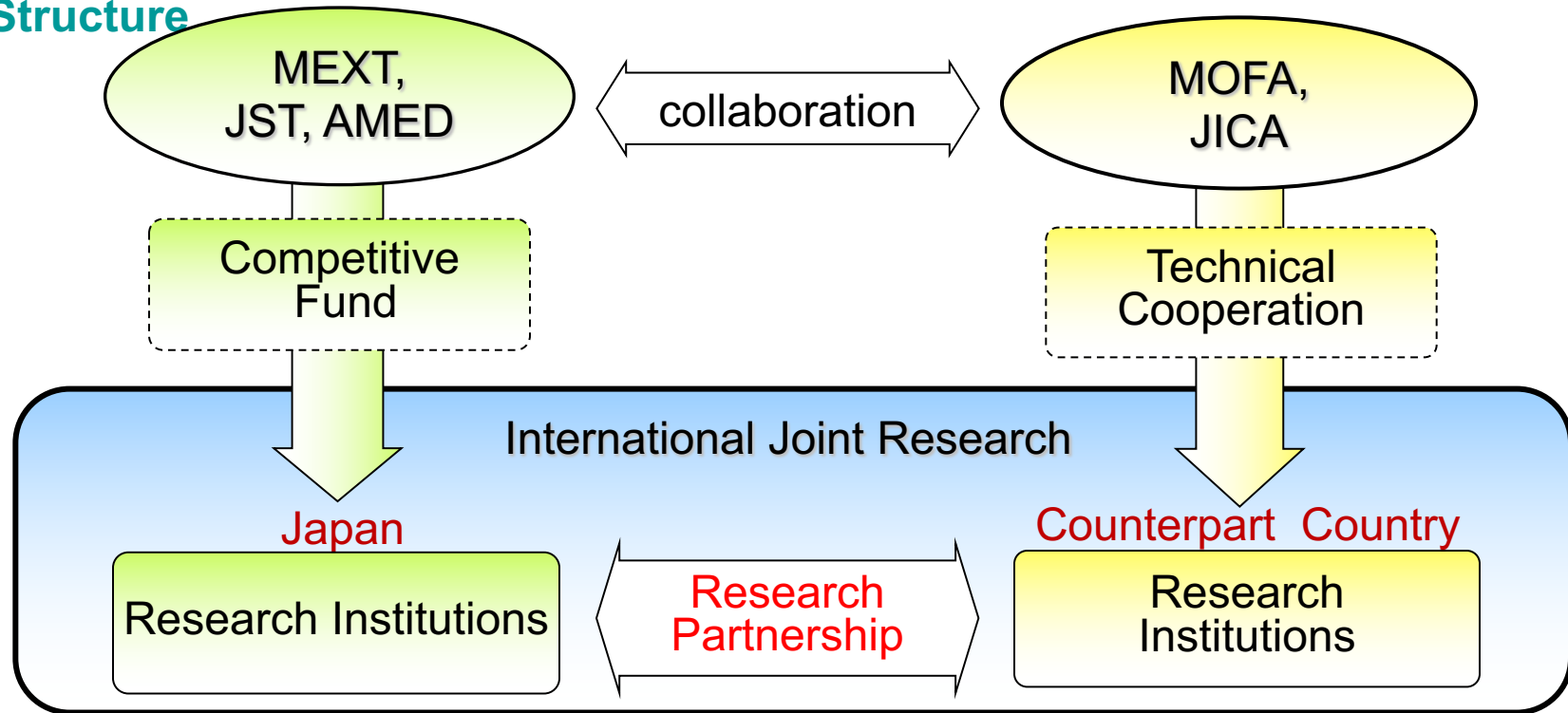
2. Supporting formulation and implementation of STI for SDGs Roadmap in developing countries (UN-IATT Global Pilot Programme on STI for SDGs Roadmaps)

- to collaborate with the World Bank in policy analysis and surveys to formulate a STI for SDGs roadmaps or relevant plans of Kenya and India

Science and Technology Research Partnership for Sustainable Development (SATREPS)

- SATREPS promotes international joint research, to find solutions for issues of a global scale.
- These issues might be resolved through STI such as in the Environment, Energy, Bioresource Utilization, Disaster Prevention and Mitigation, Infectious Diseases Control.

Program Structure



Research Period : 3-5 years
Research Funding : Approx. USD 857K / project / year
Funding split : JST Approx. USD 321K JICA: Max. USD 536K



In total (since 2008) : 145 projects with 51 countries:

Area	Number of eligible countries	Number of projects
Asia	14 countries	77 projects
Africa	21 countries	39 projects
Latin America/Caribbean	9 countries	21 projects
Other regions	7 countries	8 projects

Accelerating Social Implementation for SDGs Achievement (aXis)

(Demonstration Experiments to Break “Societal Walls” that prevent Implementation)

Objective

- to contribute to the achievement of SDGs in developing countries
- to promote implementation of Japan’s research results in foreign countries

Overview

- to conduct **demonstration experiments to break “Societal Walls”** that prevent Japanese technology from implementing in developing countries
- **coordinators** should be nominated, who arrange the projects with the government and stakeholders (20projects from 111proposals were selected in fiscal 2019.)

possible examples of societal challenges

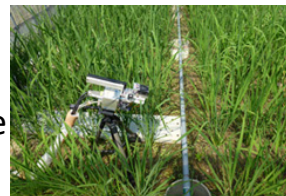
Enhancing rice productivity in sub-Saharan Africa

Kenya



Rice consumption has been on a rapid increase and improving rice productivity is a key food security challenge. The aim of this project is to demonstrate that improved rice varieties introgressed with genes for useful agronomic traits by crossbreeding and marker selection coupled with cultivation techniques that maximize their potential can significantly increase rice production.

Ref: https://www.jst.go.jp/global/english/kadai/h2406_kenya.html



Cultivation experiments to examine the effects of environmental factors on the expression of characters of individual rice varieties.

Provide a Reliable Supply of Safe, Secure Water

Nepal



With the aim of constructing a small-scale, energy-saving, and highly efficient water treatment system suited to the local conditions, the project also aims to improve on the speed and functionality of traditional water treatment technologies, which use biofilm, constructed wetlands, and soil/sand filtration. However, this system has not spread on mountainous regions.

Ref: https://www.jst.go.jp/global/english/kadai/h2502_nepal.html



People gathering at a communal water fountain.