

Background Note 5 for
UN Workshop on building capacity and scaling up adoption of STI4SDGs
Roadmaps in Africa
Oct. 12-13, 2023, in Addis Ababa, Ethiopia; co-organized by DESA, ECA, and
EC/JRC.

DEVELOPMENT RESEARCH SUPPORT BY JAPAN SCIENCE AND
TECHNOLOGY AGENCY

Prepared by Dr. Takehito Higuchi, Deputy Director of Paris Office, Japan Science and
Technology Agency (JST), takehito.higuchi@jstparis.net

1. Overview of JST

JST (Japan Science and Technology Agency [1]) is a national research and development Agency that plays a central role in the Science, Technology and Innovation Basic Plan and aims to promote science and technology.

In order to promote science and technology and provide solutions to social issues, JST comprehensively implements diverse projects in collaboration with universities, research institutions, and industries in Japan and overseas, and makes contributions to the sustainable development of society and the creation of science, technology, and innovation.

2. JST activities contributing to STI for SDGs

JST is collaborating with the Global South to carry out various activities that contribute to STI for SDGs, and there are three main programs.

- SATREPS [2] aims to solve global issues and implement research outputs in society, in cooperation with JICA(*) (2008-, 174 projects, 55 countries).
- e-ASIA joint research program aims to strengthen regional research and development capabilities and resolve common challenges in the Southeast Asian region (2012-, 43 projects, 10 countries).
- AJ-CORE [3] aims to tackle challenges facing Africa through research cooperation with sub-Saharan African countries, through a multilateral framework including South Africa (2019-, 8 projects, 6 countries).

(*) JST will provide financial support to the Japanese research institutions for the project

activities in Japan and JICA will provide financial support to the research institutions in the ODA recipient countries within the framework of technical cooperation projects.

3. Africa related programs

SATREPS and AJ-CORE are programs related to Africa.

3-1. SATREPS

Science and Technology Research Partnership for Sustainable Development (SATREPS) supports joint research by researchers from Japan and developing countries through ODA and science and technology cooperation.

It aims to solve global issues such as the environment and energy, bioresources, disaster prevention and mitigation, and infectious diseases (*), and to implement research outputs in society.

In SATREPS, researchers from Japan and developing countries set research topics based on four designated research areas, reflecting local needs.

While using ODA to introduce equipment necessary to solve issues and dispatch/accept of researchers, it is contributing to the acquisition of new knowledge and technology through joint research and the development of research personnel.

Since its inception in 2008, SATREPS has received high praise from public funders around the world as a pioneer in the collaboration between science and technology and ODA.

174 projects have received support, of which 41 are collaborative projects with African countries.

(*) SATREPS projects in the field of Infectious Diseases Control have been transferred to AMED - the Japan Agency for Medical Research and Development.

3-2. AJ-CORE

AJ-CORE was officially announced at TICAD7 in 2019. This program is led by JST and NRF (Republic of South Africa), which leads science, technology, and innovation in Africa. This is encouraging collaboration among funders in the Sub-Saharan region.

Through joint research with researchers from Japan, South Africa, and countries in the Sub-Saharan region, the aim is to obtain research outputs that will contribute to the resolution of common issues in Sub-Saharan Africa, policy decisions, and social reforms. One of its characteristics is that AJ-CORE effectively utilizes the existing global cooperation framework called the Science Granting Councils Initiative (SGCI) [4] to efficiently promote multilateral collaboration. SGCI is a framework that operates with

support from European countries, with the aim of developing organizational capacity and strengthening collaboration among funders in the Sub-Saharan region.

Since 2019, JST has supported 8 projects.

4. Projects that contribute to local needs and social impact

JST supports various projects in Africa that can contribute to local needs and social impact. I will introduce one project for each program below.

4-1. Specific example in SATREPS

In SATREPS, JST has supported the joint research project " Breakthrough in Nutrient Use Efficiency for Rice by Genetic Improvement and Fertility Sensing Techniques in Africa [5] " between researchers from Japan and Madagascar.

The aim of this project is rice production with limited soil nutrients and increasing yield under harsh conditions.

4-2. Specific example in AJ-CORE

In AJ-CORE, JST supports the joint research project " Food and Livelihood Resilience from Neglected and Underutilized Plant Species in Western Africa (FORENS) [6] " between researchers from Japan, South Africa, Burkina Faso, and Senegal.

This project explores the potential of neglected and underutilized plant species to meet multiple human needs in Western Africa in a manner that is climate-resilient and supports agrobiodiversity conservation.

5. Research projects that led to practical application

I will introduce the following two SATREPS projects that have led to practical application in society.

5-1. Joint research by researchers from Japan and Madagascar

In the joint research by researchers from Japan and Madagascar [5] introduced in 4-1., researchers have developed and registered a rice variety that achieves high yields even in nutrient-poor environments.

It was provided to private seed company, etc., and the cultivation area is expected to reach up to 1,000 ha by 2024.

This project collaborated with international agricultural research organization and contributed to improving food supply capacity in tropical low-fertility soil areas.

5-2. Joint research by researchers from Japan and Zambia

In the joint research by researchers from Japan and Zambia [7] , researchers worked to elucidate the mechanism of lead contamination in Zambia and develop risk assessment methods and prevention and recovery technologies. They measured blood lead levels in 1,190 people living in lead-contaminated areas and identified those in need of urgent treatment.

The outputs were shared with the Ministry of Health in Zambia and the World Bank project, leading to early priority treatment for 10,000 local children suffering from lead poisoning.

In AJ-CORE, we opened the first call for proposals in 2019. We have now closed the third call. We hope that the selected research projects will also produce results ready for practical application in society.

6. The pilot call in STAND framework

In addition to JST, various development research support initiatives are being implemented by major public funders around the world.

However, these initiatives can sometimes overlap, and should be optimized based on mutual understanding between public funders and researchers, so that they can collaborate as necessary for their research activities. More efficient measures are necessary. Major public funders around the world are becoming increasingly aware of this issue, and it was discussed at the Global Forum of Funders held in Washington in July 2019.

Therefore, JST, UKRI, and DOST of the Philippines held a pilot call in 2020 in marine science, water related issues or urban environment etc. under the new Science, Technology and Action' Nexus for Development (STAND) framework [8] .

STAND attempts to harmonize development research efforts which were previously carried out separately by different funders.

The intention of this pilot call was to encourage projects to come together to create synergies, develop new collaborations and increase the impact of outputs from previous funding.

In this call, proposals should include at least one project funded by UKRI and one project funded by JST and include partners in South East Asia. Proposals may also include a project leader based in the Philippines. Proposals should connect currently or recently (within the last 3 years) active projects focused on South East Asia funded under the programs of JST and UKRI. Proposals should focus on networking and partnership,

building outreach and dissemination, and demonstration and pilot activities (See A-1 for details).

7. Conclusion

In this way, responsible funders around the world are engaged in active dialogue on various occasions to promote development research through the effective, efficient, and collective use of research resources.

These funders are engaged in various types of cooperation with Africa, and it is necessary to accelerate the efforts and develop synergies. JST will actively promote such activities and work together with European and African counterparts and cooperate on the roadmap.

Annex A Reference

A-1. 'Science, Technology and Action' Nexus for Development (STAND) Information on Japan (JST) - United Kingdom (UKRI) - Philippines (DOST) Joint Research 2021

Sustainable development in South East Asia - marine science, water related issues or urban environment etc.- under STAND framework [8]

Call Outline

1) Application Requirements Proposals should include at least one project funded by UKRI and one project funded by JST and include partners in South East Asia.

- Proposals should be led by at least one project leader based in a UK Research Organisation (RO) eligible to receive funding from UKRI and one project leader based in a Japanese RO eligible to receive funding from JST.

- Proposals should also include partners from countries in South East Asia. Where relevant, proposals may also include a project leader based in the Philippines and eligible to receive funding from DOST.

- Proposals should connect currently or recently (within the last 3 years) active projects focused on South East Asia funded under the following schemes:

- Newton Fund (UKRI)
- Global Challenges Research Fund: GCRF (UKRI)

- Science and Technology Research Partnership for Sustainable Development: SATREPS (JST)
- e-ASIA Joint Research Program: e-ASIA JRP (JST)
- Accelerating Social Implementation for SDGs achievement: aXis (JST)
- For the Philippines, projects currently funded in any of the funding schemes of DOST, UKRI and/or JST.

- UK-based project leaders should be a Principle or Co-Investigator for the participating GCRF or Newton Fund projects.

- Japan-based project leaders should be a Principle or Co-Investigator for the participating SATREPS, e-ASIA or aXis

2) Funders

JST: Japan Science and Technology Agency / Japan

UKRI: UK Research and Innovation / United Kingdom

DOST: Department of Science and Technology / Republic of the Philippines

3) Deadline

10th February 2021

4) Research Period The research period is expected to last from October 2021 until September 2022 (Actually until March 2023)

5) Selected Projects: 2 projects

6) Amount of Funding (JST) 5 million yen per project (JST-funded side), inclusive of overhead costs (30 percent of direct costs)

Annex B

Websites

B-1.

[1] Japan Science and Technology Agency (JST)

<https://www.jst.go.jp/EN/>

[2] Science and Technology Research Partnership for Sustainable Development

(SATREPS)

<https://www.jst.go.jp/global/english/index.html>

[3] Africa-Japan Collaborative Research (AJ-CORE)

https://www.jst.go.jp/inter/english/program_e/multilateral_e/aj-core.html

[4] Science Granting Councils Initiative (SGCI)

<https://sgciafrica.org/about-us/>

[5] (SATREPS project) Breakthrough in Nutrient Use Efficiency for Rice by Genetic Improvement and Fertility Sensing Techniques in Africa

https://www.jst.go.jp/global/english/kadai/h2808_madagascar.html

[6] (AJ-CORE project) Food and Livelihood Resilience from Neglected and Underutilized Plant Species in Western Africa (FORENS)

https://www.jst.go.jp/pr/info/info1487/pdf/info1487_en.pdf

[7] (SATREPS project) Visualization of Impact of Chronic/Latent Chemical Hazard and Geo-Ecological Remediation

https://www.jst.go.jp/global/english/kadai/h2701_zambia.html

[8] 'Science, Technology and Action' Nexus for Development (STAND) Information on Japan (JST) - United Kingdom (UKRI) - Philippines (DOST) Joint Research 2021

https://www.jst.go.jp/inter/english/program_e/multilateral_e/stand.html

https://www.jst.go.jp/inter/english/program_e/announce_e/announce_stand.html

Annex C

Institution/Program Abbreviations (in alphabetical order)

C-1.

AJ-CORE: Africa-Japan Collaborative Research

aXis: Accelerating Social Implementation for SDGs Achievement

DOST: Department of Science and Technology (Republic of the Philippines)

e-ASIA JRP: e-ASIA Joint Research Program

GCRF: Global Challenges Research Fund

JST: Japan Science and Technology Agency

NRF: National Research Foundation (Republic of South Africa)

SATREPS: Science and Technology Research Partnership for Sustainable Development

SGCI: Science Granting Councils Initiative

STAND: Science, Technology and Action' Nexus for Development

TICAD: Tokyo International Conference on African Development

UKRI: UK Research and Innovation