

# Science and Technology Research Partnership for Sustainable Development (SATREPS)

Japan Science and Technology Agency (JST) Program Officer : Energy Systems for Low Carbon Society

Prof. Dr. Kenji Yamaji (Director-General, Research Institute of Innovative Technology for the Earth (RITE))

# Science and Technology Research Partnership for Sustainable Development

- JST supports international joint research cooperation between Japan and developing countries for resolving global issues such as: environment/energy, natural disaster prevention and infectious diseases control.
- Such research cooperation is conducted in collaboration with JICA, an organization that implements ODA technical cooperation.



MEXT: Ministry of Education, Culture, Sports, Science and Technology MOFA: Ministry of Foreign Affairs JST: Japan Science and Technology Agency JICA: Japan International Cooperation Agency



## **Objectives of the Program**

- To strengthen the international science and technology (S&T) cooperation between Japan and developing countries
- To advance scientific knowledge and technology for resolving the global issues we face
- To develop the sustained research activities at research institutes in developing countries.

Research projects should meet the specific needs of the recipient developing country and be accompanied with a realistic plan for resolving the target issue.



### **Project System**







# **Program Description**

#### (1)Research Areas :5 areas Environment and Energy Climate change mitigation & adaptation, Global-scale Environmental Issues Safe water supply, Biodiversity conservation... Low-carbon Society Biomass energy, Energy efficiency, Renewable energy. Breeding and cultivation technology, Bio resource Utilization Bio resource management.. Natural disaster mechanisms (Earthquakes, Volcanic..), **Natural Disaster Prevention** Natural disaster mitigation.. Diagnostic tool, Vaccines, Therapeutic products Infectious Diseases Control development (Avian influenza, HIV/AIDS, Dengue fever..) (2) Research Period : 3-5 years

(3)Amount of Research Expenses : About \$ 1M/ year

60 projects in 33 countries since 2008.



#### Science and Technology Research Partnership for Sustainable Development (SATREPS)

- JST supports international joint research cooperation between Japan and developing countries for resolving global issues such as: environment/energy, bioresources, natural disaster prevention and infectious diseases control.
  Such research cooperation is conducted in collaboration with JICA, an organization that implements ODA technical cooperation.
- Objectives of the program are:
  - to strengthen the international S&T cooperation between Japan and developing countries, to advance scientific knowledge and technology for resolving the global issues we face, and to build capacities of counterpart researchers and research institutes.



## Research contributing to Energy Systems for Low Carbon Society

- Population levels are growing, cities are becoming increasingly overcrowded, and production and consumption levels are increasing. There is a growing global need to pursue research into technology that can resolve environment and energy problems, and to deploy the outcomes of such research. In this context, SATREPS supports joint research for the purpose of reducing the negative impact of climate change on the natural environment.
- Particular significance is attached to research contributing to energy systems for a low carbon economy, so this is given the status of a specific research area.
- Potential collaboration topics (examples)
  - Research on the utilization of renewable energy or new energies including biomass
  - Research on basic technologies and systems for advanced utilization of energy, energy saving, carbon separation/capture/storage, etc.
  - Research contributing to optimization and efficiency improvement of energy systems for industry, transportation, and residential/commercial use in the developing country.



### **Selected Projects:**

### **Energy Systems for Low Carbon Society**

Selected Year	Project Title	Principal Investigator	Affiliation	ODA Recipient Country
2010	Development of Low Carbon Society Scenarios for Asian Regions	Prof. MATSUOKA Yuzuru	Graduate School of Engineering, Kyoto University	Malaysia
	Development of New Biodiesel Synthesis in Thailand	Prof. ASAMI Kenji	Faculty of Environmental Engineering, The University of Kitakyushu	Thailand
	Sustainable Production of Biodiesel from Jatropha in Mozambique	Prof. IMOU Kenji	Graduate School of Agricultural and Life Sciences, The University of Tokyo	Mozambique
	Sahara Solar Energy Research Center (SSERC)	Visiting Prof. KOINUMA Hideomi	Graduate School of Frontier Sciences, The University of Tokyo	Algeria
2011	Multi-beneficial measure for mitigation of climate change in Vietnam and Indochina Countries by cultivation-production-utilization of biomass energy	Research Prof. MAEDA Yasuaki	Organization for Industry, University and Government Cooperation, Osaka Prefecture University	Vietnam
	Pilot study for carbon sequestration and monitoring in Gundih area - East Java Province, Indonesia	Prof. MATSUOKA Toshifumi	Graduate School of Engineering, Kyoto University	Indonesia
	Information-based optimization of Jatropha biomass energy production in the frost- and drought-prone regions around Kalahari Desert in Botswana	Assistant Prof. AKASHI Kinya	Graduate School of Biological Sciences, Nara Institute of Science and Technology	Botswana

Research contributing to energy systems for low carbon society



**Development of Low Carbon Society Scenarios for Asian Regions** 



P.I. : Prof. MATSUOKA Yuzuru / Graduate School of Engineering, Kyoto University

Counterpart Country : Malaysia

C/P Research Institutions: Universiti Teknologi Malaysia(UTM) etc

Research Period: 5 Years



It is essential to design policy roadmaps and take actions to make emerging economic powers including Asian countries into low carbon societies, in order to achieve a 50% reduction of global greenhouse gas emissions Iskandar, a southern part of the state of Johor, Malaysia, is a region where dynamic development of infrastructure and industrial capital is expected in the next two decades. This project aims at realizing a low-carbon society in Iskandar, so that it will be symbolic of "Dynamic Asia". We will design policy roadmaps to achieve a low-carbon city based on integrated scenario approach methods. In the process of carrying this policy out, we will improve the practicality and effectiveness of these methods. The dissemination of this "Iskandar approach" to the other Asian regions will stimulate the development of a low carbon Asia.

