

Japan Science and Technology Agency (JST)

Sri Lanka, June 2011

What's JST?

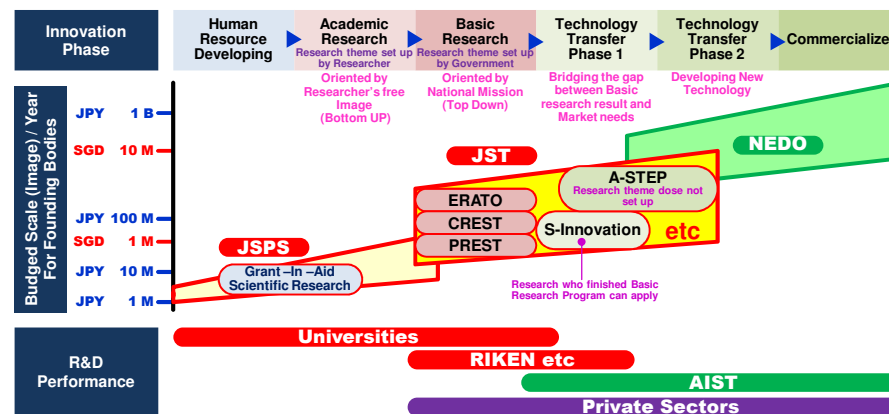
Please visit <http://www.jst.go.jp/en/index.html> (JST English HP)

...one of Japanese governmental funding agency for developing science and technology

Japanese governmental Science and Technology System

| Ministries | Founding Bodies | R&D Performance |
|---|--|---|
| MEXT Budget USD 23,413 M / Y Min. of Education, Culture, Sports, Science & Technology | JSPS Budget USD 1,564 M / Y Japan Society for the Promotion of Science JST Budget USD 1,067 M / Y Japan Science and Technology Agency | Universities etc Budget USD 12,183 M / Y National Institute Budget USD 6,716 M / Y RIKEN NIMS JAXA JAEA etc |
| METI Budget USD 5,315 M / Y Min. of Economy Trade & Industry | NEDO Budget USD 1,415 M / Y New Energy & Industrial Technology Developing Organization | National Institute Budget USD 664 M / Y AIST Advanced Industrial Science and Technology |

Japanese Innovation Scheme



Mission, Vision and Activities of JST

Long term Mission

We promote science and technology for the future in order to advance national welfare and prosperity.

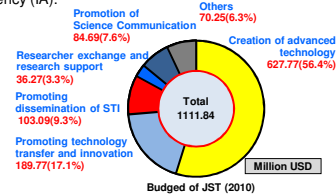
Vision

To promote innovation based on science and technology.
 To support the development of an environment for all people who advance and utilize science and technology.
 To promote science and technology for sustainable development, and contribute Japanese leadership in international collaborations.

Activities

JST has the dual function: role of a funding agency (FA) and that of an implementing agency (IA).

- Creation of advanced technology (FA)
- Promotion of dissemination of scientific and technological information (FA)
- Promotion of international research cooperation (FA+IA)
- Promotion of science communication (FA)



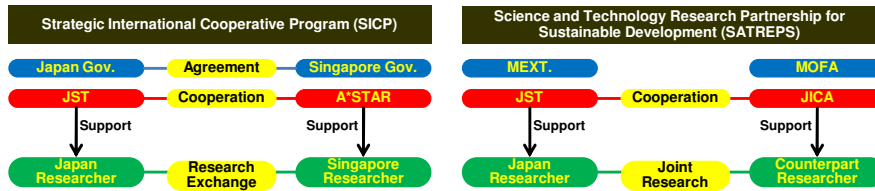
International research cooperation

Overseas Office Washington (USA), Paris (France), Beijing (China), and Singapore

Mission of Singapore Office

- Collect the information of science and technology in South-East Asia
- Regional Office of JST international research cooperation program
- Make a strong partnership between South-East Asia (specially Singapore) and Japan
- A think tank of science and technology advice

International research program of JST



Strategic International Cooperative Program (SICP)

<http://www.jst.go.jp/inter/english/index.html>



Overview

- Based on bilateral agreements at the government level
 - MEXT decides which country and field to cooperate
- MEXT: Ministry of Education, Culture, Sports, Science and Technology

Research Exchange Type

JST and the counterpart agency fund research projects (small scale, mainly exchange of researchers, holding of symposiums and seminars) in the designated field.
 Budget for Japanese side: 5-10 million JPY (50,000 USD - 100,000 USD) / project / year (for 3 years)

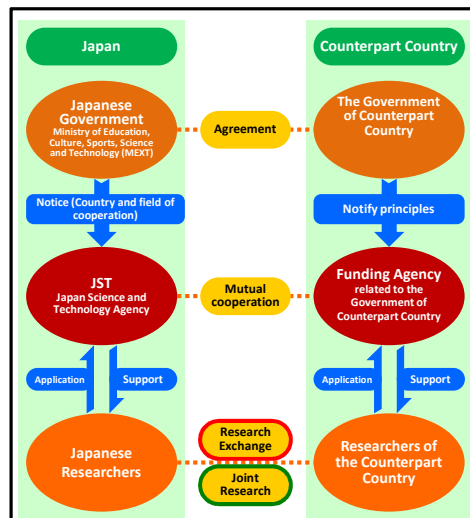
Joint Research Type

JST and the counterpart agency fund JOINT RESEARCH projects (medium to large scale) in the designated field.
 Budget for Japanese side: up to 100 million JPY (~1 million USD) / project / year (for 3 - 5 years)

1 USD = 100 JPY

Strategic International Cooperative Projects (as of June 1, 2010)

- Counterpart Countries: 22
- Supporting (Finished) Projects: 190 (79) (Research Exchange Type), 7 (0) (Joint Research Type)



戦略的国際科学技術協力推進事業

Strategic International Cooperative Program (SICP)



(1) Research Exchange Type

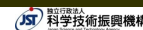
190 on-going projects and 79 completed projects in 21 countries and 1 region

(as of June 11, 2010)

| Country | Research Field | Ongoing Projects (Finished Projects) | Counterpart Agency |
|-------------|---|---|---|
| Brazil | Biomass / Biotechnology | to be started | National Council for Scientific and Technological Development (CNPq) |
| Mexico | Life Sciences | to be started | National Council on Science and Technology (CONACYT) |
| USA | S&T for a Secure and Safe Society | 12 (12) | National Science Foundation (NSF) |
| Croatia | Materials Science | under review | Ministry of Science, Education and Sports (MSES) |
| Denmark | Clinical Research | 8 | Danish Agency for Science, Technology and Innovation (DASTI) |
| England | Systems Biology (Finished projects in Bionanotechnology, Structural Genomics and Proteomics) | 8 (19) | Biotechnology and Biological Sciences Research Council (BBSRC) |
| | Advanced Materials | 9 | Engineering and Physical Sciences Research Council (EPSRC) |
| EU | Environment | under call | European Commission, Directorate-General of Research (EC-DGR) |
| Finland | Functional Materials | 12 | Academy of Finland (AF) Finnish Funding Agency for Technology and Innovation (TEKES) |
| France | Life Science (Marine Genome & Marine Biotechnology) | 9 | Le Centre National de la Recherche Scientifique (CNRS) |
| | ICT including Computer Science | 5 (10) | |
| | | 3 | Agence Nationale Recherche (ANR) |
| Germany | Nanoelectronics | 23 | Deutsche Forschungsgemeinschaft (German Research Foundation) (DFG) |
| Spain | Materials Science | 8 | Ministry of Science and Innovation (MICINN) |
| Sweden | Multidisciplinary Bio | 6 (15) | Verket for Innovationssystem, SSF: Stiftelsen for Strategisk Forskning (VINNOVA) |
| Switzerland | Life Sciences | 8 | Swiss Federal Institute of Technology Zurich (ETHZ) |

戦略的国際科学技術協力推進事業

Strategic International Cooperative Program (SICP)



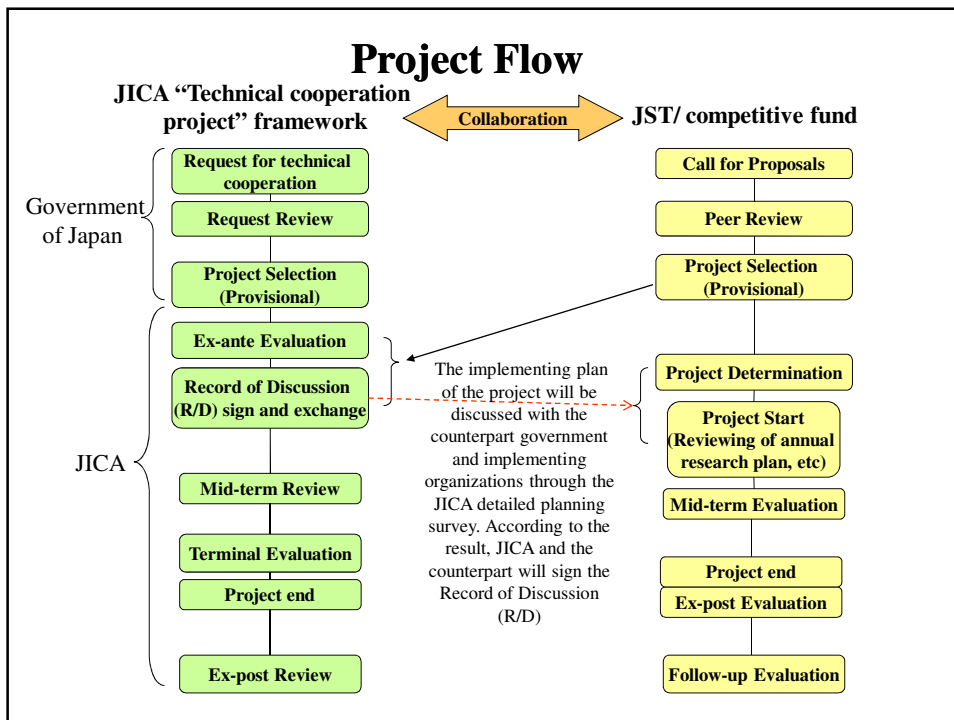
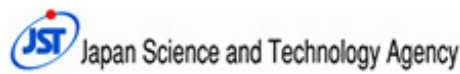
(as of June 11, 2010)

| Country | Research Field | Ongoing Projects (Finished Projects) | Counterpart Agency |
|--------------|---|---|--|
| China | S&T for Environmental Conservation and Construction of a Society with Less Environmental Burden | 18 (18) | National Natural Science Foundation of China (NSFC) |
| | | 10 | Ministry of Science and Technology (MOST) |
| | Climate Change | 6 | |
| Korea | Biosciences | 5 | National Research Foundation (NRF) |
| China-Korea | Materials Science | 3 | Korean Research Institute of Standards and Science, NIM: National Institute of Metrology (KRISS) |
| | Global issues and important issues in Northeast Asian region | 3 | Ministry of Science and Technology (MOST, China) National Research Foundation (NRF, Korea) |
| India | Multidisciplinary ICT | 18 | Department of Science and Technology, Ministry of S&T (DST) |
| Singapore | Functional Applications in Physical Sciences | 3 | Agency For Science, Technology And Research (A*STAR) |
| Thailand | Biotechnology | under review | National Science and Technology Development Agency (NSTDA) |
| Australia | Marine Science | 3 | Department of Innovation, Industry, Science and Research (DIISR) |
| New Zealand | Bioscience and Biotechnology | 2 | Foundation for Research, Science and Technology (FRST) |
| South Africa | Life Sciences | 4 | National Research Foundation (NRF) |
| Israel | Life Sciences | 4 | Israel Ministry of Science Culture & Sport (MOST) |

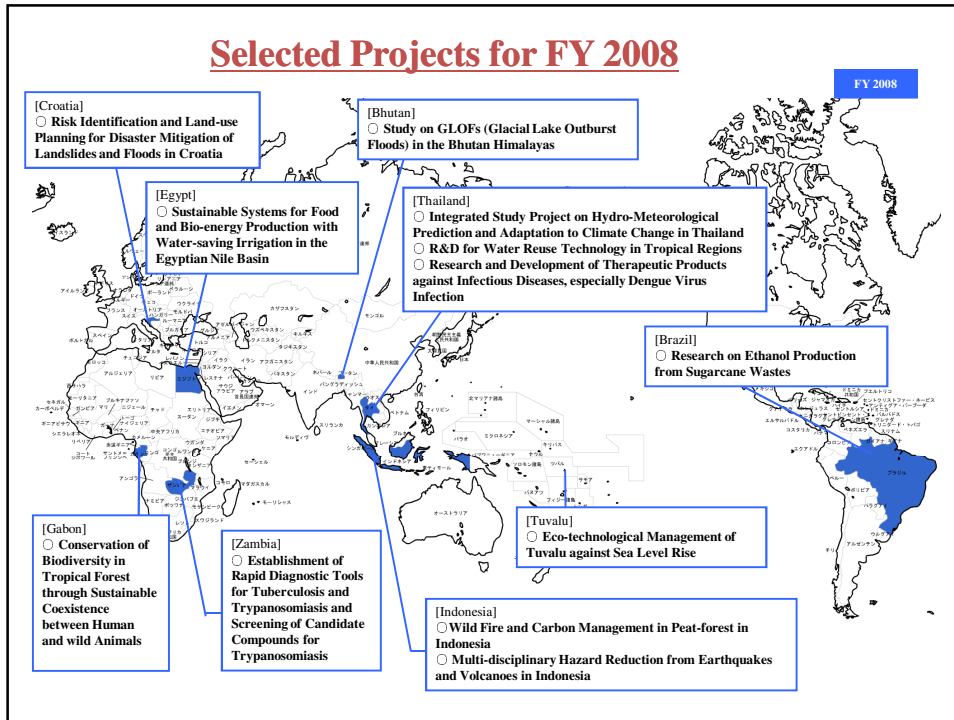
■ Other Finished Projects:
4 projects w/ China-Korea-Japan framework
1 project w/ South Africa

戦略的国際科学技術協力推進事業

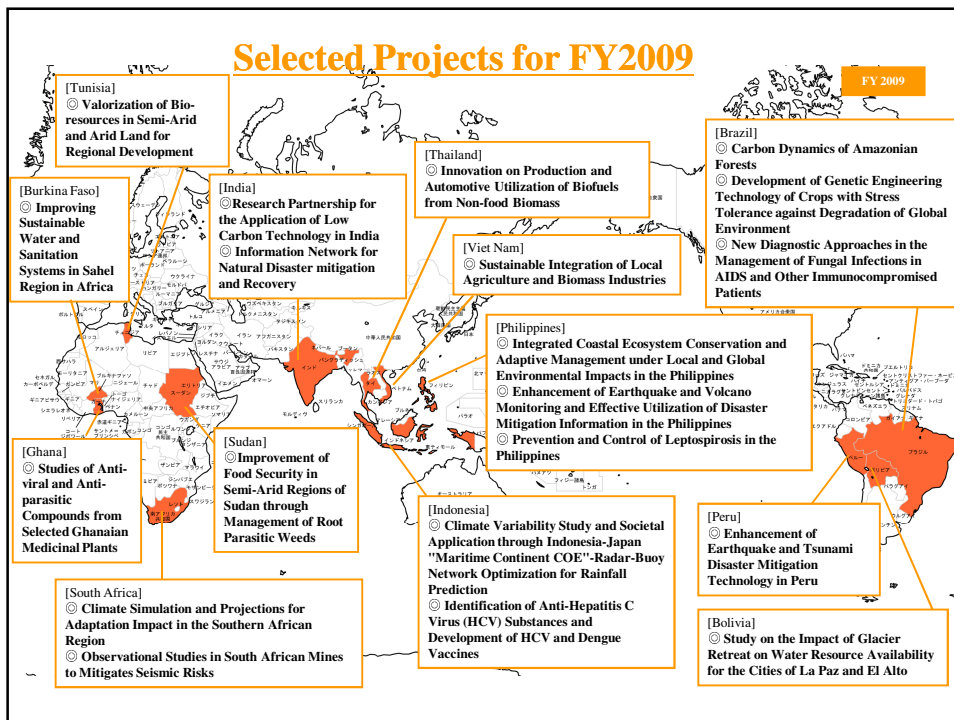
Science and Technology Research Partnership for Sustainable Development (SATREPS)

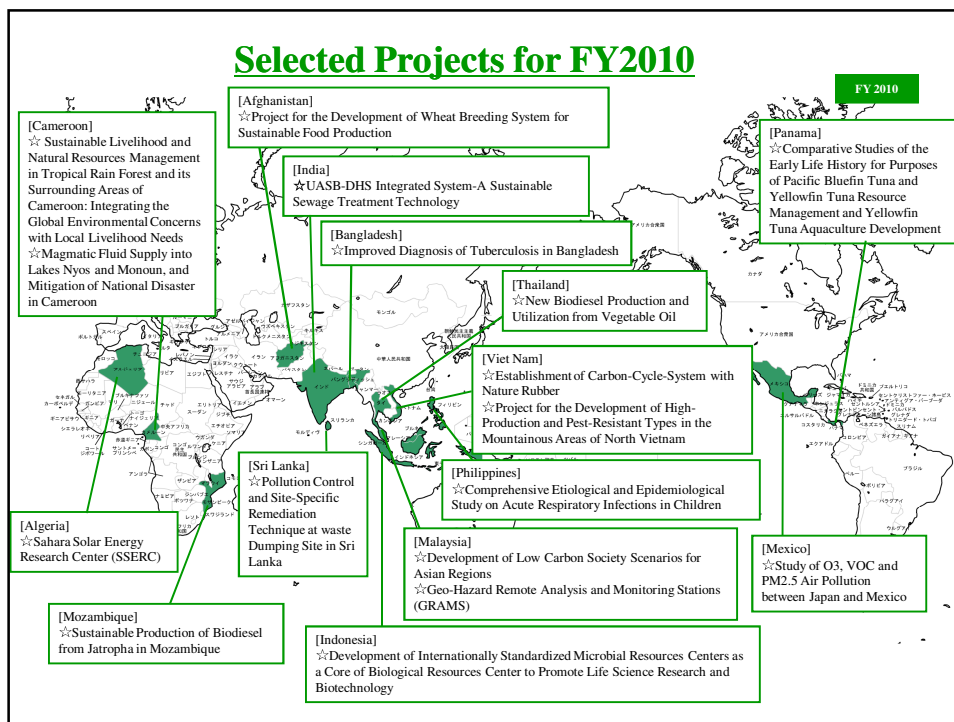


Selected Projects for FY 2008



Selected Projects for FY2009







Projects for Natural Disaster Mitigation



| Year | Project Title | Primary Investigator | Affiliation | Country |
|------|---|---|---|---------|
| 2010 | Magmatic Fluid Supply into Lakes Nyos and Monoun, and Mitigation of Natural Disasters in Cameroon | Prof. OHBA Takeshi | School of Science, Tokai University | |
| | Research and Development for Reducing Geo-Hazard Damage in Malaysia caused by Landslide & Flood: Geo-Hazard Remote Analysis and Monitoring Stations (GRAMS) | Prof. NISHIO Fumihiko | The Center for Environmental Remote Sensing, Chiba University | |
| 2009 | Enhancement of Earthquake and Volcano Monitoring and Effective Utilization of Disaster Mitigation Information in the Philippines | Principal Senior Researcher INOUE Hiroshi | Earthquake Research Department, National Research Institute for Earth Science and Disaster Prevention | |
| | Observational Studies in South African Mines to Mitigate Seismic Risks | Prof. OGASAWARA Hiroshi | College of Science and Engineering, Ritsumeikan University | |
| | Information Network for Natural Disaster Mitigation and Recovery | Prof. MURAI Jun | Faculty of Environment and Information Studies, Keio University | |
| 2008 | Enhancement of Earthquake and Tsunami Disaster Mitigation Technology in Peru | Prof. YAMAZAKI Fumio | Graduate School of Engineering, Chiba University | |
| | Multi-disciplinary Hazard Reduction from Earthquakes and Volcanoes in Indonesia | Prof. SATAKE Kenji | Earthquake Research Institute, The University of Tokyo | |
| | Study on GLOFs (Glacial Lake Outburst Floods) in the Bhutan Himalayas | Prof. NISHIMURA Kouichi | Graduate School of Environmental Studies, Nagoya University | |
| | Risk identification and land-use planning for disaster mitigation of landslides and floods in Croatia | Prof. MARUI Hideaki | Research Center for Natural Hazards & Disaster Recovery, Niigata University | |

Natural Disaster Prevention
“Research on natural disaster prevention measures attuned to the needs of developing countries”



| | | | |
|--|---|---|---------------------|
| Project Title | Risk identification and land-use planning for disaster mitigation of landslides and floods in Croatia | Research Period | 5 Years |
| Principal Investigator (Affiliation) | Prof. MARUI Hideaki / Research Center for Natural Hazards & Disaster Recovery, Niigata University |  | |
| Collaborators | International Consortium on Landslides, Kyoto University | | |
| ODA Recipient Country | Republic of Croatia  | Counterpart Research Institutions | University of Split |
| 研究課題の概要 General Description of the Research Project | | | |
| <p>Croatia locates in the active tectonic zone along which is similar to Japanese archipelago, so, its geology and geomorphology are complex and suffers from many earthquakes. Landslide and flush flood disasters occur frequently in those areas of limestone, flysch and marl deposits. In this project, the master plan of land-use to mitigate natural disasters will be established, for the areas under development and the districts with important infrastructure, by applying reliable risk identification methodology, obtained through the analysis of complex ground structure and hydrologic characteristics.</p> | | | |

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Natural Disaster Prevention
“Research on natural disaster prevention measures attuned to the needs of developing countries”

| | | | |
|---|---|---|---|
| Project Title | Enhancement of Monitoring Capabilities and Source Process Studies of Earthquakes and Volcanoes in the Philippines | Research Period | 5 Years |
| Principal Investigator (Affiliation) | Principal Senior Researcher INOUE Hiroshi / Earthquake Research Department, National Research Institute for Earth Science and Disaster Prevention |  | |
| Collaborators | Nagoya University, Tokai University | | |
| ODA Recipient Country | Republic of the Philippines  | Counterpart Research Institutions | Philippine Institute of Volcanology and Seismology (PHIVOLCS) |
| General Description of the Research Project | | | |
| <p>In this project, we install the real-time networks of broadband seismometers, strong motion accelerometers, and seismic intensity meters to automatically estimate ground shaking and damage when an earthquake occurs in the Philippines. We also measure crustal deformations to evaluate the potential of large earthquakes in and around Mindanao. A real-time volcano monitoring systems will be installed at Taal and Mayon volcanoes. We provide earthquake and volcano disaster information through an Internet portal site, and promote its utilization in order to contribute to disaster preparedness of the national, local governments, and communities of the Philippines.</p> | | | |



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| Natural Disaster Prevention “Research on natural disaster prevention measures attuned to the needs of developing countries” | | | |
|--|--|-----------------------------------|---|
| Project Title | Studies of Seismic Hazard Mitigation in Deep Level South African Mines | Research Period | 5 Years |
| Principal Investigator (Affiliation) | Prof. OGASAWARA Hiroshi / College of Science and Engineering, Ritsumeikan University | |  |
| Collaborators | Tohoku University, The University of Tokyo | | |
| ODA Recipient Country | Republic of South Africa  | Counterpart Research Institutions | Council for Science and Industrial Research (CSIR) |
| General Description of the Research Project | | | |
| <p>Mining-induced seismicity is a serious safety hazard to mine workers as natural earthquakes are to those who live on surface. In order to control and mitigate the seismic risks, this project aims to upgrade the schemes of seismic monitoring and risk assessment for deep mines. A highly sensitive microfracture monitoring system will be implemented in the area of high seismic potential to identify the source fault of impending earthquakes. Mining-induced stress field will be tracked using numerical modeling and sensitive strain observations. In addition, near-fault dynamic stress will be monitored during the mainshock rupture to improve the assessment of strong shake.</p> | | | |

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| Natural Disaster Prevention “Research on natural disaster prevention measures attuned to the needs of developing countries” | | | |
|--|---|-----------------------------------|---|
| Project Title | Information Network for Natural Disaster Mitigation and Recovery | Research Period | 5 Years |
| Principal Investigator (Affiliation) | Prof. MURAI Jun / Faculty of Environment and Information Studies, Keio University | |  |
| Collaborators | The University of Tokyo | | |
| ODA Recipient Country | India  | Counterpart Research Institutions | Indian Institute of Technology Hyderabad |
| General Description of the Research Project | | | |
| <p>For a number of years, researchers have investigated the use of information technology to mitigate damage and suffering during natural disasters via early detection, rapid and optimal resource distribution, and information utilization. However, the infrastructure to realize these benefits has not yet been established. This pilot collaboration between India and Japan aims to deploy infrastructure for continuous data collection, using earthquakes and weather as test cases, and to develop the technical basis for rescue and recovery.</p> | | | |

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| Natural Disaster Prevention “Research on natural disaster prevention measures attuned to the needs of developing countries” | | | |
|---|---|-----------------------------------|---|
| Project Title | Evaluation of Seismic Risk and Proposal of Prevention and Mitigation of Disasters in Lima Metropolitan City and Intermediate Cities in Peru | Research Period | 5 Years |
| Principal Investigator (Affiliation) | Prof. YAMAZAKI Fumio / Graduate School of Engineering, Chiba University | |  |
| Collaborators | Tohoku University, Building Research Institute, Tokyo Institute of Technology | | |
| ODA Recipient Country | Republic of Peru  | Counterpart Research Institutions | Japan-Peru Center for Earthquake Engineering and Disaster Mitigation (CISMID), National University of Engineering |
| General Description of the Research Project <p>This project aims to conduct a comprehensive research towards earthquake and tsunami disaster mitigation in Peru considering regional characteristics, under strong collaboration among researchers of Peru and Japan. Five main research activities are the followings: 1) Strong motion prediction and development of seismic microzonation; 2) Development of tsunami countermeasures based on numerical simulations; 3) Enhancement of seismic resistance of buildings based on structural experiments and field investigation; 4) Development of spatial information database using remote sensing technology and earthquake damage assessment for scenario earthquakes; 5) Development of earthquake and tsunami disaster mitigation plan and its implementation to the society.</p> | | | |

| Natural Disaster Prevention “Research on natural disaster prevention measures attuned to the needs of developing countries” | | | |
|--|---|-----------------------------------|---|
| Project Title | Research and Development for Reducing Geo-Hazard Damage in Malaysia caused by Landslide & Flood: Geo-Hazard Remote Analysis and Monitoring Stations (GRAMS) | Research Period | 5 Years |
| Principal Investigator (Affiliation) | Prof. OHBA Takeshi / School of Science, Tokai University | |  |
| Collaborators | The University of Tokyo, National Research Institute of Earth Science and Disaster Prevention(NIED), VisionTech Inc.(VTI) | | |
| ODA Recipient Country | Republic of Cameroon  | Counterpart Research Institutions | Institute for Geological and Mining Research(IRGM) |
| General Description of the Research Project <p>It has been pointed out that recurrence of the CO2 gas burst (limnic eruption) at Lakes Nyos and Monoun (Cameroon) as happened in mid-1980s is highly likely, since there is a permanent supply of magmatic CO2 to the lakes. Although the artificial controlled degassing of the lakes started in early 2000s as a preventive measure, a huge amount of dissolved CO2 still remains in the deep water of the lakes. It is essential to know the rate of natural CO2 recharge and the rate of gas removal in order to assess the safety of the lakes. Lake monitoring is indispensable for this purpose. Moreover, no research has been made on the detailed mechanisms of the limnic eruption. This project aims mainly at the capacity building of Cameroonian researchers who should be responsible for a sustainable monitoring and studies of the recharge mechanisms for Lakes Nyos and Monoun.</p> | | | |

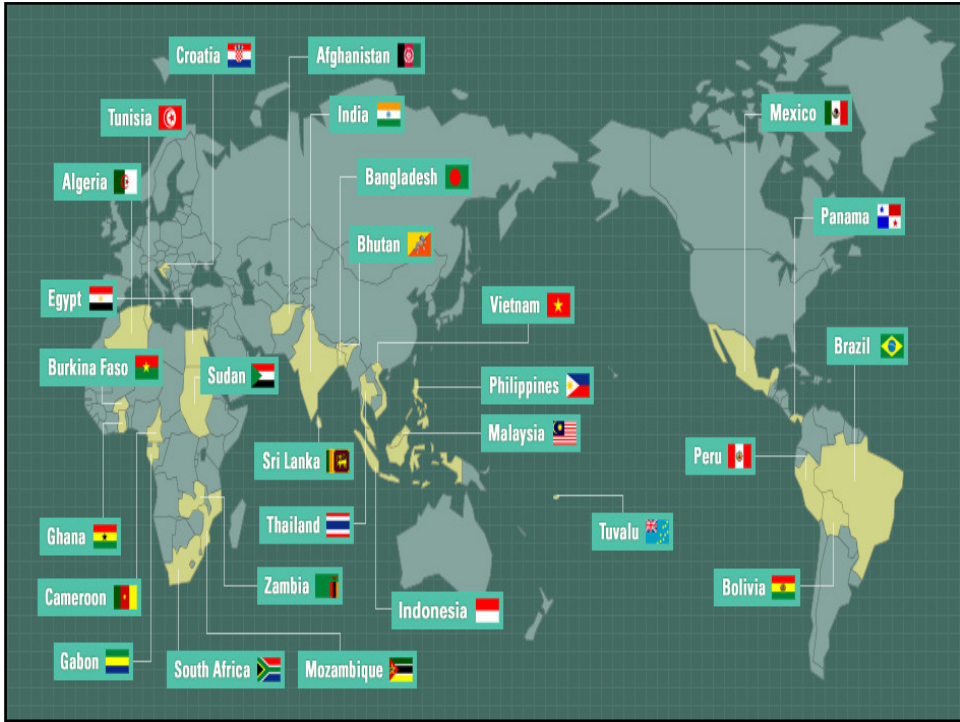
Natural Disaster Prevention
“Research on natural disaster prevention measures attuned to the needs of developing countries”

| | | | |
|--|---|-----------------------------------|-----------------------------|
| Project Title | Research and Development for Reducing Geo-Hazard Damage in Malaysia caused by Landslide & Flood: Geo-Hazard Remote Analysis and Monitoring Stations (GRAMS) | Research Period | 5 Years |
| Principal Investigator (Affiliation) | Prof. NISHIO Fumihiko / The Center for Environmental Remote Sensing, Chiba University  | | |
| Collaborators | The University of Tokyo, National Research Institute of Earth Science and Disaster Prevention(NIED), VisionTech Inc.(VTI) | | |
| ODA Recipient Country | Malaysia  | Counterpart Research Institutions | Multimedia University (MMU) |
| General Description of the Research Project | | | |
| <p>In Malaysia, social and economic loss due to landslide is a big and serious problem and it is important to reduce the risk. To reduce the risk, landslide hazard, risk assignment and its mapping can be good measures for mitigation of the risk and is an important tool for effective management and planning. In this project, we develop a new methodology for mapping by using space satellite remote sensing technology focusing on Malay Peninsula. Index and weight will be given to each factor of the risk, such as vegetation, topographic information, watershed, land slope, etc., which are extracted from satellite data. A landslide hazard map will be generated with three different scales by using those parameters obtained in this way, and it will be verified by the field survey and the ground observation data. The result of this project will be used for the GRAMS which was being planned by the association of Universities in Malaysia.</p> | | | |

www.jst.go.jp/global/english

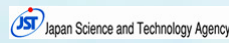
A project for earthquake and tsunami mitigation

Video clips of projects at youtube site



Friends of SATREPS

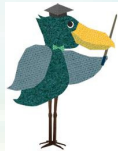
The community for the future



Friends of SATREPS

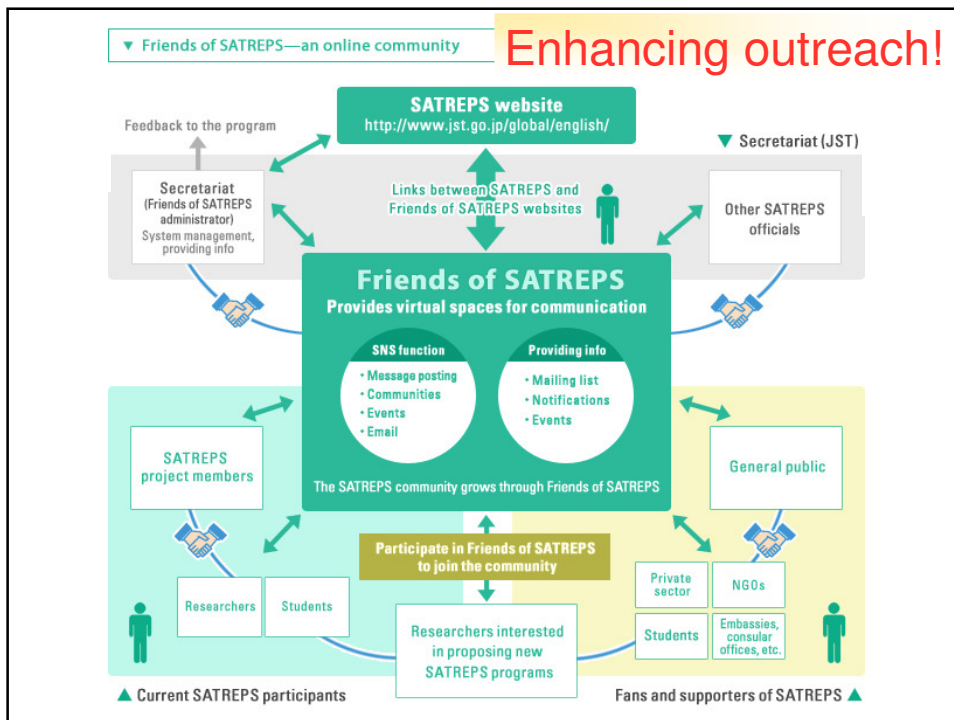
✓ *Friends of SATREPS* is an **online community** for people involved in SATREPS projects or with an interest in SATREPS.

✓ SATREPS participants, supporters, friends, and fans can register as members of *Friends of SATREPS* to **join the conversation** and **take part in the SATREPS community**.



Open in June 2011!

URL <http://fos.jst.go.jp/>





Friends of SATREPS

Through Friends of SATREPS, you can:

1. **Receive news** about the SATREPS program, current projects, and information about related **events**. (Mailing list)
2. Take part in SATREPS by **cooperating with one of the current projects**. For instance, this area is ideal for students with an interest in the environment or for companies/NGOs involved in related initiatives. (SNS)
3. **Meet and communicate with people not involved in current projects**. For instance, this area is ideal for putting together a project team for a new SATREPS project proposal, finding potential teammates, or brainstorming on research topics. (SNS)
4. **Communicate with other participants** in existing projects. (SNS)

Natural Disaster Prevention

“Research on natural disaster prevention measures attuned to the needs of developing countries”

| | | | |
|--|---|-----------------------------------|---|
| Project Title | Study on GLOFs (Glacial Lake Outburst Floods) in the Bhutan Himalayas | Research Period | 3 Years |
| Principal Investigator (Affiliation) | Prof. NISHIMURA Kouichi / Graduate School of Environmental Studies, Nagoya University | |  |
| Collaborators | Japan Aerospace Exploration Agency, Earth System Science Co., LTD | | |
| ODA Recipient Country | Kingdom of Bhutan  | Counterpart Research Institutions | Department of Geology and Mines, Ministry of Economic Affairs |
| General Description of the Research Project | | | |
| <p>Outburst Flood (GLOF) is a major hazard concern faced by mountain communities in the . The purpose of this research is to evaluate GLOFs' hazard level in for mitigation. Its primary focus is on , for which the GLOF hazard level is believed to be high but yet information for mitigation is lacking. On the basis of satellite data analysis and field survey, we will complete a flood hazard map for the region and provide information necessary for the construction of an early warning system. Throughout the project it is strongly emphasized that technology on GLOF hazard mitigation is transferred to local organizations.</p> | | | |

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Take part in the SATREPS Community
Friends of SATREPS

Community Top Topics Events Join Community Add Confirm to favorite community Introduces to My Friend Leave Community

Community Name: Study on GLOFs in the Bhutan Himalayas
Date Created: June 2, 2011
Administrator: Toshiki SHIMANO 島野 敏行
Count of Members: 12
Authority to Read Topic: Everyone can read
Authority to Create Topic: Community's members can create
Register policy: Everyone can join
Community Description: This is a community for "Study on GLOFs (Glacial Lake Outburst Floods) in the Bhutan Himalayas" (Glacial Disaster Prevention P72080)
Community Events: June 10 大学主力の国際会議開催 (Photo/写真) 加
June 10 Media coverage/報道 (Photo/写真) 加
June 02 Research Results / 研究結果 (Video/動画) 加
June 02 Create a new topic

Community Members

Favorite Members List

Configuration of Community topic notification: Want to receive Don't want to receive

Configuration of Community topic notification: Want to receive Don't want to receive

Search Community Topics: Leave this Community

SATREPS
Science for Reaching Sustainable Tomorrow for Sustainable Development Program

JICA
Japan International Cooperation Agency

SATREPS 2010 Pamphlet Download

Asia Space and Technology Portal

Community Top Page

Community Members

Add Video, Pics, Blogs Under community pages

What you can get

- Disseminate your academic research and interest to the world
- Find opportunities to extend your research project (Post-SATREPS project phase)
- Expand your research work in collaboration with other similar research projects
- Empower young researchers to interact with new researchers/stakeholders and formulate new ideas.
- Disseminate your academic success to the world
- Brainstorm the ideas of new projects
- Make more people understand the importance of your dedication to the society through your research



Multi-disciplinary Hazard Reduction from Earthquakes and Volcanoes in Indonesia

| | | | |
|---|---|-----------------------|--|
| Principal Investigator (Affiliation) | Prof. SATAKE Kenji / Earthquake Research Institute, The University of Tokyo | | |
| Collaborators | Tohoku University, Nagoya University, Kyoto University, FujiTokoha University | | |
| Adoption fiscal year | FY2008 | | |
| Research Period* | 3 Years  | | |
| ODA Recipient Country | Republic of Indonesia  | Expansion of outcomes | |
| Counterpart Research Institutions | Indonesian Institute of Sciences (LIPI) | | |
| General Description of the Research Project | <p>Five research theme are proposed as follows:</p> <p>(1) geological surveys and geophysical monitoring will be conducted to forecast earthquakes, tsunamis and strong motion,</p> <p>(2) Short-term and long-term forecasts of volcanic eruptions will be made by strengthened activity monitoring, and we try to propose the evaluation method for volcanic eruption,</p> <p>(3) Engineering studies will be conducted to strengthen social infrastructure based on engineering technologies,</p> <p>(4) Social studies will be made to overcome vulnerability of local communities, and</p> <p>(5) Practical studies on education and outreach for community and also for restoration of community. Finally, a trial will be made to establish a researchers' community, possibly including governmental officers, to autonomously and permanently discuss and develop disaster mitigation plan in Indonesia.</p> | | |
| Photo gallery |  | | |

Local Government
Educator
Local Communities
NPOs
Technology Companies

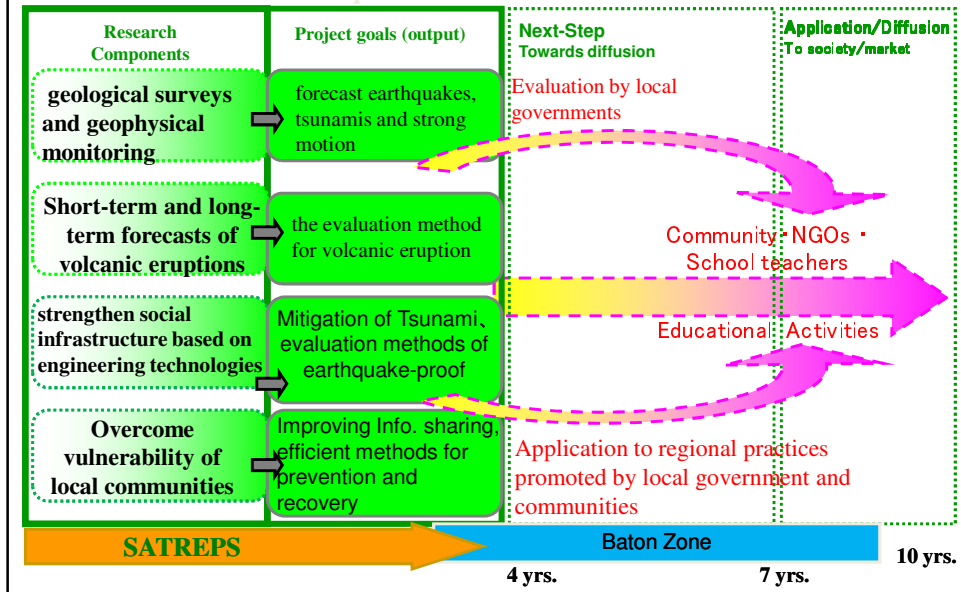
Natural Disaster Prevention

“Research on natural disaster prevention measures attuned to the needs of developing countries”

| | | | |
|---|---|-----------------------------------|---|
| Project Title | Multi-disciplinary Hazard Reduction from Earthquakes and Volcanoes in Indonesia | Research Period | 4 Years |
| Principal Investigator (Affiliation) | Prof. SATAKE Kenji / Earthquake Research Institute, The University of Tokyo | |  |
| Collaborators | Tohoku University, Nagoya University, Kyoto University, FujiTokoha University | | |
| ODA Recipient Country | Republic of Indonesia  | Counterpart Research Institutions | Indonesian Institute of Sciences (LIPI) |
| General Description of the Research Project | | | |
| <p>Five research theme are proposed as follows: (1) geological surveys and geophysical monitoring will be conducted to forecast earthquakes, tsunamis and strong motion, (2) Short-term and long-term forecasts of volcanic eruptions will be made by strengthened activity monitoring, and we try to propose the evaluation method for volcanic eruption, (3) Engineering studies will be conducted to strengthen social infrastructure based on engineering technologies, (4) Social studies will be made to overcome vulnerability of local communities, and (5) Practical studies on education and outreach for community and also for restoration of community. Finally, a trial will be made to establish a researchers' community, possibly including governmental officers, to autonomously and permanently discuss and develop disaster mitigation plan in .</p> | | | |

Diffusion of SATREPS Projects outcomes

In the case of: Natural Disaster Prevention: "Multi-disciplinary Hazard Reduction from Earthquakes and Volcanoes in Indonesia"



Register Now!
<http://fos.jst.go.jp/>

Thank you.

