

**Scoping Workshop on  
Science and Technology for Disaster Resilience 2017  
Science Council of JAPAN/UNISDR**

**Priority 2: Governance**

**23 May 2017 at CANCUN, MEXICO**

# 1. Present Status

2015 January

Tokyo Conference on International Study for Disaster Risk Reduction and Resilience  
SCJ/UNISDR/IRDR

## Tokyo Action Agenda (draft)

- (1) How to support national platforms to practice evidence-based disaster risk reduction?
  - 1) Collect and archive disaster damage data and potential impact on populations (health, social) and to identify the nature of vulnerable groups ahead of a disaster through in-situ and satellite observations and model integration : **Monitoring**
  - 2) Maintain national disaster damage statistics : **Monitoring**
  - 3) Monitor disaster risk changes through in-situ, satellite and model integration : **Monitoring**
  - 4) Assess current and future risks on economic growth, public health and social equality and demonstrate effects of investment in collaboration with donors: **Assessment**
  - 5) Conduct capacity building activities and enhance education on disaster damage data collection, statistics maintenance, risk monitoring, risk assessment and information sharing, synthesis, and forensic approach beyond disciplines, : **Capacity building**

2016 January

## UNISDR Science and Technology Conference on the Implementation of SFDRR

### The Science and Technology Roadmap

Expected outcomes	Actions
2.1 Support a stronger involvement and use of science to inform policy- and decision-making within and across all sectors at all levels	<ul style="list-style-type: none"><li data-bbox="761 529 1926 644">• Promote dialogue and networking on disaster risk reduction between scientists and policy-makers.</li><li data-bbox="761 644 1926 815">• Raise scientific awareness and improve understanding of the impact of disaster risks on societies.</li><li data-bbox="761 815 1926 1100">• Promote disaster risk assessments in planning and development especially in land-use mapping (coastal areas, river basins, cities), rural development, and ecosystem management.</li><li data-bbox="761 1100 1926 1388">• Strengthen the engagement of science in national coordination mechanisms or platforms for disaster risk reduction.</li></ul>

## 2. Sharing Practices, Example;

- Strengthen the engagement of science in national coordination mechanisms or platforms for disaster risk reduction.

### 中央防災会議

Central Disaster Management Council

会長  
Chair

内閣総理大臣

Prime Minister

防災担当大臣を含む全閣僚

Minister of State for Disaster Management  
and all members of the Cabinet

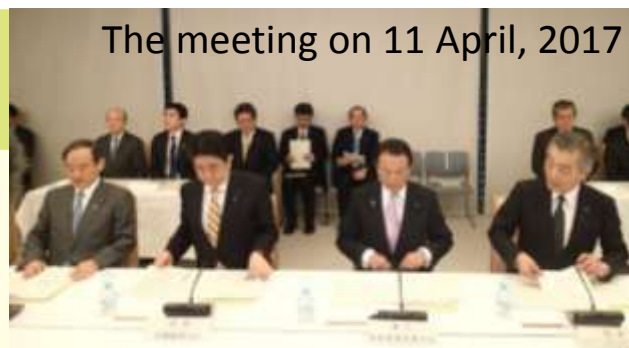
委員  
Members

指定公共機関の代表者 (4名)

Heads of Designated Public Corporations

学識経験者 (4名)

Experts



- Approve important policy frameworks on disaster management, including:
  - ✓ Revision of the Basic Plan on Disaster Management

### 専門調査会

Committees for technical investigation

Working Group on mass and cross-regional evacuation in case of floods and high tides (Chair: an expert on disaster information)

Working Group on forecast and assessment of the Nankai Trough Earthquake (Chair: and expert on earthquake)

etc...

Not only S&T community engages in Government sector and Policy making, Government sector works with S&T community.



A part of the Government of Japan



## G-Science Academies Statement 2016:

Strengthening Disaster Resilience is Essential to Sustainable Development

Many government officers and practitioners participate in several committees involved in DRR.

## 2. Sharing Practices , Example;

- Promote dialogue and networking on disaster risk reduction between scientists and policy-makers.

Country Name	Project Name	Implementation Period	Concerned Organization
Indonesia	The Study on Natural Disaster Management Plan	2007-09	The National Coordinating Board for Disaster Management
	The Project for Enhancement of the Disaster Management Capacity of BNPB and BPBD	2011-15	National Board for Disaster Management
Philippines	Disaster Risk Reduction and Management (DRRM) Capacity Enhancement Project	2012-15	Office of Civil Defense
Thailand	Project on Capacity Development in Disaster Management (Phase 1)	2006-08	Ministry of Interior, Department of Disaster Prevention and Mitigation
	Project on Capacity Development in Disaster Management (Phase 2)	2010-14	
Sri Lanka	The Disaster Management Capacity Enhancement Project	2006-09	Disaster Management Center
	The Disaster Management Capacity Enhancement Project Adaptable to Climate Change	2010-13	
Turkey	Capacity Development toward Effective Disaster Risk Management	2013-17	Prime Ministry, Disaster and Emergency Management Presidency

The above JICA's projects, focusing on capacity development of national platform on DRR, would contribute the dialogue and networking.



## 2. Sharing Practices, Example;

- Raise scientific awareness and improve understanding of the impact of disaster risks on societies.

### **Collaboration with a research institute - Science and Technology Research Partnership for Sustainable Development - (SATREPS)**

Source: JICA

Implementing appropriate DRR initiatives smoothly requires research institutes' technologies and knowledge, disaster data collection based on scientific data, their monitoring and analysis to grasp disaster risks.

JICA, in collaboration with Japan Science and Technology Agency (JST), conducts "Science and Technology Research Partnership for Sustainable Development (SATREPS) program". SATREPS is not a unilateral technology transfer from Japan to developing countries, but is a program in which researchers in both Japan and developing countries work together to create

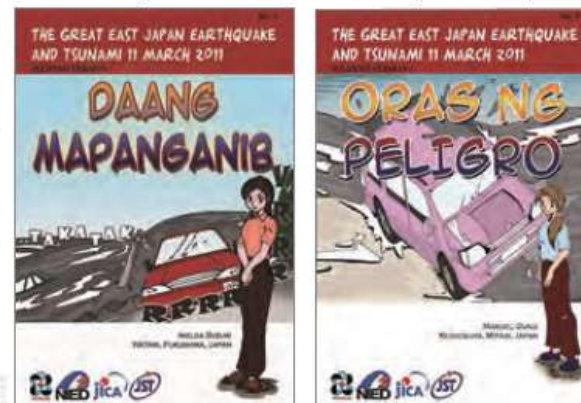
new technologies adapted to specific natural environment, and to address issues by applying the technologies and knowledge to local and global society. SATREPS projects regarding DRR include: research to enhance technology for monitoring of earthquakes and tsunami, research on technology for monitoring volcanoes and reducing volcano-related risks, and efforts towards preparing comprehensive DRR plans and providing DRR education. Research institutes in Japan and developing countries are working together in these projects to tackle with global issues.

### **"Enhancement of Earthquake and Volcano Monitoring and Effective Utilization of Disaster Mitigation Information in the Philippines"**

Like Japan, the Philippines is subject to earthquakes and volcano eruptions. National Research Institute for Earth Science and Disaster Prevention (NIED), Japanese research institutes and The Philippine Institute of Volcanology and Seismology (PHIVOLCS) conducted a joint research on ① estimation of ground shaking and damage in the Philippines by installing real-time networks of broadband seismometers, strong motion accelerometers, and seismic intensity meters; ② evaluation of the potential of large earthquakes by measuring crustal deformations (in and around Mindanao) and ③ detecting and predicting the activity of underground magma through real-time monitoring of earthquakes, crustal deformations and electromagnetism at volcanoes.

The joint research progressed smoothly, and earthquake and volcano disaster information collected in the above activities is published on the internet website. In addition, during training in Japan, based on the findings from inter-

views with the Filipinos affected by the 2011 Great East Japan Earthquake, educational materials were prepared in form of cartoon to communicate their experience to younger generations. Efforts are being made to enhance awareness of DRR among the residents and children in the locality.



Cartoon prepared to disseminate their tsunami experience



## 2. Sharing Practices , Example;

- Promote disaster risk assessments in planning and development especially in land-use mapping (coastal areas, river basins, cities), rural development, and ecosystem management

### Disaster impact assessment for infrastructure development

While Democratic Socialist Republic of Sri Lanka (Sri Lanka) has been developing the infrastructure such as roads and harbors/ports in recent years, many cases of disasters caused by these development activities are reported. Therefore, it is required to assess disaster risks that may occur in a development project beforehand and take appropriate actions to reduce the risks, if any. JICA supported the establishment of a Disaster Impact Assessment (DIA) system in a DRR project for the country's road sector. A DIA checklist was introduced to assess appropriateness of natural disaster

control measures, designs and construction methods (disaster management, design and inspection) in infrastructure development projects. In addition, JICA helped the sector keep records of disasters to become prepared for future. The government of Sri Lanka has been working to institutionalize the DIA system, which was first introduced in bureau of public road, in all development projects.

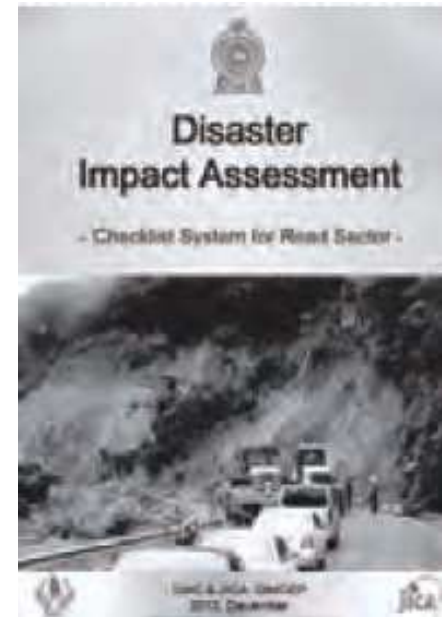
DIA checklist ▶

### Ecosystem-based DRR (Eco-DRR)

【Enhancement of Disaster Prevention along coast through Mangrove Rehabilitation in Republic of the Union of Myanmar (Myanmar)】 Given the increasing frequency of meteorological disasters, such as sea level rise and unusual typhoons due to climate change, and coast erosion, land slide, soil runoff and tsunami due to earthquakes, JICA has been working to strengthen the role of forests in reducing disaster risks in developing countries. The cyclone that hit the country in May 2008 left significant damages to the residents in the affected area, although mangroves planted along the coast helped mitigate the damages to a certain extent. Following the disaster, JICA conducted a survey on damages from the cyclone and prepared a hazard map to reinforce the positive role of mangroves in decreasing disaster risks. In 2012, JICA started planting mangroves (1,154ha) and constructing a cyclone evacuation facility with a tower to monitor the forest.



Mangrove rehabilitation



Source: JICA



### 3. Discussion Framework

- 1) Promote dialogue and networking on disaster risk reduction between scientists and policy-makers.
- 2) Raise scientific awareness and improve understanding of the impact of disaster risks on societies.
- 3) Promote disaster risk assessments in planning and development.
- 4) Strengthen the engagement of science in national coordination mechanisms for disaster risk reduction.

For each item,

- a) Assess current situation,
- b) Present good practices, especially at local level,
- c) Propose what S&T community can do for realizing good practices and find partners.

### 3. Discussion Framework

Panel for Priority 2:

1) Introduction

2) Presentations

(from S&T sector, International organization, Government sector)

3) Panel discussion by speakers, inputs to synthesis and guidelines

▪ Working Group Breakout Session for Priority 2 (1):

Focusing on networking between S&T sector and government sector

▪ Working Group Breakout Session for Priority 2 (2):

Focusing on disaster risk assessment and development planning

▪ Working Group Breakout Session for Priority 2 (3):

Inputs to synthesis and guidelines

## 4. Expected Inputs to National Platform Guideline and Synthesis Report

1. Examples of good practice, and ways to realize space creation for dialogue between scientists and policy makers.
2. Examples of disaster risk assessment in planning and development, and how S&T community provides necessary information and methodology to conduct and Institutionalize disaster risk assessment.
3. Examples of utilization of science based knowledge in national DRR policy , and how to realize science based national DRR policy.