

ONEA –GETI supported by:



Centre for Continuing Education

## FINAL SUMMARY REPORT

### Workshop on Implementation of the Sendai Framework: Integration of Disaster Risk Reduction and Climate Change Adaptation into National Plans

*Singapore, 26 – 29 September 2016*



*SINGAPORE-UNISDR Joint Training Programme  
Disaster Risk Reduction  
26 to 29 September 2016*

**SOP** SINGAPORE  
COOPERATION  
PROGRAMME



**UNISDR**  
The United Nations Office for Disaster Risk Reduction

## I. Background and Rationale

Over the past 20 years disasters have affected 4.4 billion people, caused USD 2 trillion of damage and killed 1.3 million people. Natural disasters affected people living in developing countries and the most vulnerable communities within those countries. Over 95 percent of people killed by disasters are from developing countries.<sup>1</sup>

Current and future challenges of mainstreaming Climate Change Adaptation (CCA) and Disaster Risk Reduction (DRR) in development planning demand new approaches, mechanisms, sets of skills and competencies that need to be identified and strengthened in order to form the basis of increasing public demand and political commitment to local actions and budget allocations. Lack of appropriate knowledge on the subject, lack of government commitment and the absence of mainstreaming in current organizational and government strategy are key existing challenges.

Disaster and climate risk is continually increasing. In this regard, building resilience and adapting to climate change is crucial countries. Efforts to build resilience can benefit from integrating disaster risk reduction and climate change adaptation with existing efforts in disaster risk reduction and other similar planning processes.

This training workshop, while promoting the importance of effective climate change adaptation and disaster risk reduction, will provide:

- i) an opportunity for governments to enhance capacities in climate change adaptation and disaster risk reduction with a focus on aligning national plans and policies with the Sendai Framework for disaster risk reduction.
- ii) a platform to exchange in-depth learning from experts in the related area and to share good practices among participants
- iii) a venue for country-to-country cooperation in building resilience by integrating disaster risk principles into local DRR and CCA plans, programmes and initiatives

### Singapore Cooperation Programme

Singapore has provided technical assistance to other developing countries since the 1960s. As a country whose only resource is its people, Singapore believes that human resource development is vital for economic and social progress. Singapore itself has benefited from training provided by other countries and international organisations.

In 1992, the Singapore Cooperation Programme (SCP) was established to bring together under one framework the various technical assistance programmes offered by Singapore. Through the SCP, the range and number of training programmes were increased to share Singapore's development experience with other developing countries. To date, Singapore has sponsored training courses and study visits for over 90,000 officials from more than 170 countries. The SCP is managed by the Technical Cooperation Directorate of the Singapore Ministry of Foreign Affairs.

### United Nations Office for Disaster Risk Reduction

The UN General Assembly adopted the International Strategy for Disaster Reduction in December 1999 and established UNISDR. UNISDR is the focal point in the UN system for the coordination of disaster risk reduction and the implementation of the international frameworks for disaster risk. Its core areas of work includes ensuring disaster risk reduction (DRR) is applied to climate change adaptation, increasing investments for DRR, building disaster-resilient cities, schools and hospitals, and strengthening the international system for DRR.

The UNISDR's Global Education and Training Institute (GETI), which was established in 2010, has a mandate to develop a new cadre of professionals in DRR and climate change adaptation for disaster resilient societies. To deliver on this mandate, it has focused primarily on national and city leaders and municipal disaster risk managers. Over the years UNISDR has trained over 1,800 government officials on various aspects of disaster risk reduction, from 73 countries.

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<sup>1</sup> Eventos Climáticos Extremos e Desastres Naturais, 2012. *Extreme Weather and Natural Disasters, 2012*

## **Centre for Continuing Education - Nanyang Technological University**

Young and research-intensive, Nanyang Technological University (NTU) is the fastest-rising university from Singapore in the world's Top 50 and ranked 39th globally. NTU is also placed 1st amongst the world's best young universities.

NTU provides a high-quality global education to about 33,500 undergraduate and postgraduate students. Hailing from 80 countries, the university's 4,300-strong faculty and research staff bring dynamic international perspectives and years of solid industry experience.

The Centre for Continuing Education (CCE) of NTU was set up in July 1991. It acts as a link between NTU and the community by providing continuing education for professionals who are keen to advance their knowledge and learn practical skills.

CCE has trained tens of thousands of leaders and professionals and continues to strengthen its position as a leading professional development training provider in Singapore and the region.

### **Course Objectives**

This course shares Singapore's experiences in disaster risk reduction and the government approach in formulating adaptation measures and building resilience in the community. The focus would not be just on theory but also on institutional development and capacity building to implement plans. The course would also cover Singapore's policies and implementation systems in sustainable urban planning and development. It will also discuss the principles, strategies and policies in the latest masterplan 2014 and the government's commitment, plans, targets and projects in the newly-released "Sustainable Singapore Blueprint 2015" and the government efforts in strengthening governance and building capacity.

Participants will also learn about the Sendai Framework for Disaster Risk Reduction 2015-2030, the 2030 Agenda for Sustainable Development and possible applications to their State's existing plans. UNISDR will provide globally accepted tools and help the participants become familiar with the tools, use them and develop draft action plans for integrating DRR and CCA into development policies. UNISDR will bring global best practices and encourage sharing of experiences amongst the participants as well.

### **Synopsis and Methodology**

The topics covered include:

- Vulnerability assessment through economic risk analysis, catastrophe assessment and finance management.
- Setting up early warning systems

to avoid or reduce risks.

- Building public health resilience through pandemic preparedness
- Formulating emergency management plans, evacuation planning & training and implementation.
- Essential and emergency operations.
- Working with public and private stakeholders and strengthening policy and decision-making processes.
- Climate change adaptation and mitigation measures.
- Sustainable urban planning and development.
- Strengthening governance and building capacity.
- Integration of DRR and climate change adaptation to development policy. Key sectors covered included infrastructure, housing, land use planning, environmental protection, health, livelihoods, to name a few.

### **Duration**

The course was held from 26-29 September 2016.

**Participants:** See list in annex

### **Country Report**

As part of the course, participants were asked to prepare a country report related to disaster risk reduction plans in their respective country and possible application of the UNISDR Post-2015 Framework to their State's existing plans. In addition, participants brought with them a risk and hazard profile / assessment of their country or city. They also brought with them any other documents that may help inform the development of DRR action plans.

**Venue:** NTU@one-north, SR502, Level 5, NTU Campus Singapore

### **Organizers**

- **UNISDR ONEA-GETI**
- **Nanyang Technological University Singapore**
- **Ministry of Foreign Affairs Singapore**

**Targeted Audience:** The workshop was attended by mid to senior level government officials who are involved in disaster risk reduction policy making and/or national emergency planning and management, and include officials from planning and finance/budget office, nominated by their respective Governments.

**Workshop Language:** English

A summary of the key training topics presented at the training workshop, and points raised during group exercises and plenary discussions is provided below.



## Expected Outcomes

- Trained cadres of national officials
- Draft National DRR Assessment Report
- Draft National DRR Action Plans
- Understanding of secrets of Singapore growth model – “From Third World to First World”



## II. Methodology and Description of the Workshop Sessions and Modules

The workshop covered a number of topics, including Singapore experiences with insurance, urban planning (Urban Redevelopment Authority URA), health emergency management (Singapore General Hospital) and critical infrastructure focused on sustainable development (Marina Barrage). UNISDR contributed material to help the governments represented in implementation of the Sendai Framework for disaster risk reduction. Some of the topics covered by UNISDR included:-

### **1: Finding a common language and Introduction of trends in risk and risk reduction**

Achieved Outcomes: During this session participants had a chance to

- Improve comprehension of current trends in disaster and climate risk and links with the SDGs

Summary of the Module Content:

*The presentation discusses main trends at global level.*

**What do we need to look for when reviewing trends in disaster risk and risk reduction?**

- **The facts:** what do the data and information available can tell us about the global trends on risk. Where can we find reliable data and information on disaster risk trends?
- **The factors:** how can these observed trends be explained? What are the factors driving the observed trends?



## **2: Applying Tools for Assessment and Diagnosis. Using draft Sendai Monitor tool**

Working Group Discussion/Exercise: *“Using tools to assess disaster risk”*.

Plenary Discussion: *“Presenting Group Work Outcomes “*

Achieved Outcomes: During this Session participants had a chance to

- Learn and practice as part of the group exercise the main steps for undertaken a diagnosis and assessment process
- Understand how the tool can contribute to the identification of gaps in existing plans and strategies, to align better with the Sendai Framework

Summary of the Content and Group Discussions: In this session participants had a chance to discuss:

- Why it is important to prepare a diagnosis and assessment of gaps, challenges and opportunities
- The suggested steps to undertake the diagnosis and assessment of the disaster risk reduction situation at the national and local levels
- The development of the diagnosis and assessment report



## **3: Integrating Climate Change Adaptation and Disaster Reduction into Development: Case Studies on Following Sectors: Climate Change Adaptation (CCA), Housing and Land Use, Critical Infrastructure, Governance, Livelihood Protection, Health, Rehabilitating Ecosystems, and Financing DRR**

Plenary Discussion: *“Sharing participants experience on integrating DRR and CCA into development plans and investment decisions “*

Achieved Outcomes: During this Module Sessions participants had a chance to

- Learn more and better understand the process of integrating adaptation and Disaster Reduction into Development

### Summary of the Content and Group Discussions:

- The case studies of this module provided practical information.
- Each case study highlighted a unique practice, designed to encourage participants to reflect and analyse how such practice is applicable to their context.

### **5: Developing DRR Action Plans**

Working Group Discussion: - **Working Group Discussion to develop Draft version of DRR Action Plan**

Plenary Discussion: **“Presenting Group Work Outcomes “**

Achieved Outcomes: During this Session participants had a chance to

- Understand how disaster risk reduction and CCA can be integrated into development planning
- Define and describe main elements to be considered in the plan’s implementation strategy



### **6: Action Plan Monitoring, Evaluation and Follow Up.**

Working Group Discussion: **“Developing Draft Action Plan”.**

Plenary Discussion: **“Presenting Group Work Outcomes “**

Achieved Outcomes: During this Module Sessions participants had a chance to

- Understand different types of indicators
- Describe the steps suggested for the development of a monitoring and evaluation strategy
- Identify and add indicators to the Action Plan



### III. Evaluation and Impact of the Workshop

The training was evaluated by a questionnaire.

Impact: The second joint specialised training course in Singapore provided practical support for the implementation of the Sendai Framework for Disaster Risk Reduction in several countries and territories, including Bahrain, Bhutan, Botswana, Brunei Darussalam, Djibouti, Ecuador, Fiji, India, Jordan, Mauritius, Nauru, Philippines, Seychelles, Solomon Islands, Sri Lanka, Sudan, Timor Leste and Togo.

Representatives from Singapore and UNISDR shared their expertise on early warning systems, hazard and vulnerability assessment, emergency preparedness plans, insurance, resilient public health systems, climate change adaptation and mitigation measures, and sustainable urban planning.

The course focused on mainstreaming disaster risk reduction and climate change adaptation and mitigation into national sectoral strategies and programmes as well as the development of actions plans to support this.

Participants, including those from countries that experienced major natural disasters in recent times, found the course useful and relevant.

Mr Meleti Raimuria Bainimarama, Permanent Secretary of the Ministry of Rural and Maritime Development and National Disaster Management from Fiji said,

“A very informative programme which clearly brings to light the importance of disaster risk reduction to sustainable development, how good disaster risk reduction practices contribute to minimising disaster impact and how strong leadership and good planning leads to good disaster risk reduction practices.”

Mr Walter Koelau Lilo from the National Disaster Management Office Division and Climate Change Office Division, Ministry of Environment, Climate Change Disaster Management and Meteorology of the Solomon Islands found the course to be particularly useful for developing countries.

“Singapore’s approach to resilience development is one of the best models that can help countries in approaching and integrating development at all levels. ....The programme is best suited for developing countries who have yet to achieve resilient development”, he said.

“UNISDR continues to support the member states in the implementation of the Sendai Framework. This collaboration is a perfect blend of linking up global best practices on disaster risk reduction, as provided by UNISDR, with the real life examples of risk resilient sustainable development as demonstrated by Singapore.” Said Sanjaya Bhatia from UNISDR’s Global Education and Training Institute.

## Agenda



**NANYANG  
TECHNOLOGICAL  
UNIVERSITY**

College of Professional and Continuing Education



**UNISDR**

The United Nations Office for Disaster Risk Reduction

ONEA –GETI supported by:



국민안전처  
Ministry of Public Safety and Security



Incheon  
Metropolitan City

### Programme Schedule

#### Workshop on Disaster Risk Reduction (26 – 29 September 2016)

|  | AM   | PM  |
|--|--|---|
| <b>Day 1</b><br><b>26 Sept,</b><br><b>Monday</b> | <p><b>9.00am – 9.15am</b><br/> <b>Programme Briefing</b><br/> <i>By: Assoc Prof Robert Tiong, NTU</i><br/> <i>(Venue: NTU@one-north,SR501, Level 5)</i></p> <p><b>9.15am – 9.50am</b><br/> <b>Overview of Singapore’s Experiences in Disaster Risk Management</b><br/> <i>By: Assoc Prof Robert Tiong, NTU</i><br/> <i>(Venue: NTU@one-north,SR501, Level 5)</i></p> <p><b>10.00am – 10.30am</b><br/> <b>Opening Ceremony</b><br/> <i>By: MFA, UNISDR, PaCE College &amp; Assoc Prof Tiong, NTU</i><br/> <i>(Venue: NTU@one-north,SR501, Level 5)</i></p> <p><b>10.45am – 11.15am</b><br/> <b>Overview of Vulnerability and Risk assessment in the face of CC &amp; SLR for Singapore</b><br/> <i>By: Assoc Prof Robert Tiong, NTU</i><br/> <i>(Venue: NTU@one-north,SR501, Level 5)</i></p> <p><b>11.15am – 12.30pm</b><br/> <b>Introduction to Sendai Framework on Disaster Risk Reduction (DRR) and steps for developing an action plan for DRR and Climate Change Adaptation</b><br/>                     - Understanding how disaster risk reduction links with the Sustainable Development Goals and the Paris Agreement, linking the Sendai Framework with the other two major agreements of 2015 (UNISDR)<br/> <i>By: Mr Sanjaya Bhatia</i><br/> <i>Head, UNISDR Office for Northeast Asia and Global Education and Training Institute (GETI)</i><br/> <i>Republic of Korea</i><br/> <i>(Venue: NTU@one-north,SR501, Level 5).</i></p> | <p><b>2.00pm – 3.15pm</b><br/> <b>Lecture on Sustainable urban planning and development , governance and building capacity – The Singapore Experience</b><br/> <i>By: Assoc Prof Robert Tiong, NTU</i><br/> <i>(Venue: NTU@one-north,SR501, Level 5)</i></p> <p><b>3.30pm – 5.00pm</b><br/> <b>Applying Tool for Review, and analysis of existing national DRR Strategies and longer term Action Plans</b><br/>                     (Report Presentations by participants within groups &amp; group work facilitated by Sanjaya, (UNISDR)<br/> <i>(Venue: NTU@one-north,SR501, Level 5)</i></p> |

|   | AM  | PM   |
|---|---|--|
| <b>Day 2</b><br><b>27 Sept,</b><br><b>Tuesday</b>   | <p><b>9.00am – 11.30am</b><br/> <b>Applying Tool for Review, and analysis of existing national DRR Strategies and longer term Action Plans</b><br/>           (Report Presentations by participants within groups &amp; group work facilitated by Sanjaya, UNISDR)<br/> <i>(Venue: NTU@one-north,SR501, Level 5)</i></p> <p><b>11.30am – 12.30pm</b><br/> <b>- Mainstreaming DRR into National Sectoral Programmes for Socio-Economic Development with Case Studies on SFDRR Priority for Action</b><br/> <b># 1: Understanding Disaster Risk, and SFDRR Priority for Action</b><br/> <b># 2: Strengthening Disaster Risk Governance to Manage Disaster Risk (Part 1) (Finance, Governance)</b><br/>           (UNISDR)<br/> <i>(Venue: NTU@one-north,SR501, Level 5)</i></p> | <p><b>2.00pm – 3.30pm</b><br/> <b>i) Building public health resilience through pandemic preparedness with visit to Singapore General Hospital (SGH)</b><br/> <b>ii) Acute Phase of Disaster management: Healthcare sector preparation on standard disasters, natural and technological, chemical and infectious disease outbreaks</b><br/> <i>By: Prof V Anantharaman, Senior Consultant Department of Emergency Medicine and Advisor (Education &amp; International Medicine), SingHealth, Singapore</i><br/> <i>(Venue: Singapore General Hospital Medical Students Centre, Block 1, Level 3 Outram Road, Singapore 169608)</i></p> <p><b>3.30pm – 5.00pm</b><br/> <b>- Mainstreaming DRR into National Sectoral Programmes for Socio-Economic Development with Case Studies on Health sector, followed by 60 minutes group work to draft action plan (UNISDR)</b><br/> <i>(Venue: Singapore General Hospital Medical Students Centre, Block 1, Level 3 Outram Road, Singapore 169608)</i></p> |
| <b>Day 3</b><br><b>28 Sept,</b><br><b>Wednesday</b> | <p><b>9.00am – 10.00am</b><br/> <b>Disaster risk financing and insurance</b><br/> <i>By: Mr Thomas Kessler, Head South East &amp; East Asia Global Partnerships Swiss Reinsurance, Singapore</i><br/> <i>(Venue: NTU@one-north,SR501, Level 5)</i></p> <p><b>10.30am – 12.00pm</b><br/> <b>Catastrophe Risk Management</b><br/> <i>By: Mr Sunil Frank, Associate Director Aon Benfield Asia Pte Ltd, Singapore</i><br/> <i>(Venue: NTU@one-north,SR501, Level 5)</i></p> <p><b>12.00pm – 12.30pm</b><br/> <b>Disaster Management and Vulnerability/Economic Assessment</b><br/> <i>By: Assoc Prof Tiong, NTU</i><br/> <i>(Venue: NTU@one-north,SR501, Level 5)</i></p>  | <p><b>2.00pm – 3.30pm</b><br/> <b>Visit to and tour of URA (Urban Redevelopment Authority)'s Singapore City Gallery to understand the urban management and planning, Familiarising with new downtown Singapore, Marina Bay new financial centre and residential developments &amp; discussion on policy and decision making processes in urban planning</b><br/> <i>By: Assoc Prof Robert Tiong, NTU &amp; Mr Sreenath, Director, ZAP</i><br/> <i>(Venue: The URA Centre, Singapore City Gallery 45 Maxwell Road, Singapore 069118)</i></p> <p><b>4.00pm – 5.00pm</b><br/> <b>Visit to Marina Barrage with tour on Singapore's resilience in climate change adaptation, water supply management, flood control</b><br/> <i>By: Assoc Prof Robert Tiong, NTU &amp; Mr Sreenath, Director, ZAP</i><br/> <i>(Venue: 8 Marina Gardens Drive Singapore 018951)</i></p>  |

|  | AM   | PM   |
|--|--|--|
| <b>Day 4</b><br><b>29 Sept,</b><br><b>Thursday</b> | <p><b>9.00am – 11.00am</b><br/> - Mainstreaming DRR into National Sectoral Programmes for Socio-Economic Development with Case Studies on SFDRR Priority for Action<br/> # 3: Investing in Disaster Risk Reduction and Resilience, and SFDRR Priority for Action<br/> # 4: Enhancing Disaster Preparedness for Effective Response, and to “Build Back Better” in Recovery, Rehabilitation and Reconstruction (Part 2) (Environment, Climate Change Adaptation) (UNISDR)<br/> <i>(Venue: NTU@one-north,SR501, Level 5)</i></p> <p><b>11.00am – 12.30pm</b><br/> <b>Cases on Infrastructure, Housing</b> followed by 60 minutes group work to draft action plan (UNISDR)<br/> <i>(Venue: NTU@one-north,SR501, Level 5)</i></p> | <p><b>1.30pm – 3.30pm</b><br/> i) Discussion with delegates on Sendai Framework for Disaster Risk Reduction, 2030 Agenda for Sustainable Development Goals and possible applications to their State’s existing and future plans<br/> ii) Working Group Discussion to develop Indicators for Monitoring, Evaluation and Follow Up for Draft version National DRR Action Plan<br/> <i>Facilitated by: UNISDR &amp; Assoc Prof Tiong, NTU (Venue: NTU@one-north,SR501, Level 5)</i></p> <p><b>Group work followed by presentations (by groups to the plenary)</b><br/> <i>Facilitated by: UNISDR &amp; Assoc Prof Tiong, NTU (Venue: NTU@one-north,SR501, Level 5)</i></p> <p><b>3.30pm – 3.45pm</b><br/> <b>Programme Evaluation by Delegates</b><br/> <i>(Venue: NTU@one-north,SR501, Level 5)</i></p> <p><b>3.45pm – 4.15pm</b><br/> <b>Closing Ceremony</b><br/> <i>By: MFA, UNISDR, PaCE College &amp; Assoc Prof Tiong, NTU (Venue: NTU@one-north,SR501, Level 5)</i></p> |

### Participants List

| S/N | Name                           | Country           | Organisation  |
|-----|--------------------------------|-------------------|---|
| 1   | Mr Ahmed Husain                | Bahrain           | Ministry of the Interior  |
| 2   | Mr Husain Aljasim              | Bahrain           | Ministry of the Interior  |
| 3   | Mr Norbu Tenzin                | Bhutan            | Dzongkhag Administration<br>Pemagatshel   |
| 4   | Mr Farnwell Bojase             | Botswana          | Ministry of Health, Public Health   |
| 5   | Mr Yong Chee Fa                | Brunei Darussalam | Ministry of Development   |
| 6   | Mr Haji Ariffin Haji Sulaiman  | Brunei Darussalam | Ministry of Home Affairs  |
| 7   | Mr Abayazid Moussa Abdoukader  | Djibouti          | Interior Ministry   |
| 8   | Mr Jaime Davalos               | Ecuador           | Secretariat of Risk Management  |
| 9   | Mr Meleti Raimuria Bainimarama | Fiji              | Ministry of Rural and Maritime<br>Development and National Disaster<br>Management     |
| 10  | Mr Rakesh Kashyap              | India             | Central Water Commission  |
| 11  | Mr Yousef El Manaseer          | Jordan            | Jordanian Civil Defence   |
|     |                                |                   |   |
| S/N | Name                           | Country           | Organisation  |
| 12  | Mrs Geetawantee Ramnauth       | Mauritius         | Ministry of Environment, Sustainable<br>Development, Disaster and Beach<br>Management |

|    |   |                 |   |
|----|---|-----------------|---|
| 13 | Mr Quaski Itaia                                 | Nauru           | Nauru Government  |
| 14 | Mr Luther B. Castuera                           | Philippines     | Metropolitan Manila Development Authority                                   |
| 15 | Mr Daniel Cetoupe                               | Seychelles      | Ministry of Environment, Energy and Climate Change                          |
| 16 | Mr Walter Koelau Lilo                           | Solomon Islands | Ministry of Environment, Climate Change Disaster Management and Meteorology |
| 17 | Mr Nissanka Mudiyansele Janaka Duminda Nissanka | Sri Lanka       | Ministry of Defence   |
| 18 | Mr Hiran Tillekaratne                           | Sri Lanka       | Disaster Management Centre  |
| 19 | Mr Elmahi Yasser Osman Eltayeb                  | Sudan           | Civil Defence   |
| 20 | Mr Nelson Abilio Soares Nunes                   | Timor Leste     | Ministry of Social Solidarity   |
| 21 | Mr Kpatchim Wake                                | Togo            | Ministry of Environment and Forestry Resources                              |

**NATIONAL BI-/ANNUAL DRR and CCA ACTION PLAN**  
For Calendar Year/s (CY)-

|                                     |         |
|-------------------------------------|---------|
| Country Name                        | Group 3 |
| SFDRR Country Focal Point (FP) Name |         |
| FP Position                         |         |
| FP Contact Details                  |         |

**Breakdown of Objectives, Activities and Indicators for Each of SFDRR Priority Areas**

**SFDRR Priority Area 1: Understanding Disaster Risk:**

*Policies and practices for disaster risk management should be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment*

| # | OBJECTIVE/ WORK AREA  | ACTION  | INDICATORS   | TIMEFRAME | RESPONSIBILITY |
|---|---|---|--|-----------|----------------|
| 1 | <b><u>Loss Assessment: Not as per International standards</u></b>   | <ul style="list-style-type: none"> <li>Existing procedures to be reviewed</li> <li>Setting up the committees for drafting the standards in different sectors</li> <li>Finalisation of standards and ratification</li> </ul> | Identifying sectoral experts<br>Compilation of procedures<br><br>Sector wise setting up the committees and finalisation of TOR<br><br>Submission of reports by committees , brainstorming and finalisation | 3 months  |                |
| 2 | <b><u>Post-disaster impact assessments: Does the country have nationally authorized guideline/methodology for measuring impacts from disasters? (Y/N)</u></b> | <ul style="list-style-type: none"> <li>Review of existing practices</li> <li>Standardising</li> <li>Sharing with stakeholders</li> </ul>  | Identifying sectoral experts<br>Compilation of procedures<br><br>Setting up committees and finalisation of reports<br><br>Development of interactive web   |           |                |

|    |  |   |  |  |  |
|----|--|---|--|--|--|
|    |  | and decision makers   | portal and uploading of information  |  |  |
| 3  | <b>Post-disaster review:</b> Does the country have a policy or strategy to carry out post-disaster evaluations using an agreed methodology/ guideline to review disaster causality, occurrence and response/recovery based on evidence | <ul style="list-style-type: none"> <li>Review of existing practices and Standardising</li> <li>Policy level decision</li> </ul>   | <p>Setting up of committee to review the existing practices and finalisation of standards</p> <p>Every 2 year review of DRR policy</p>   |  |  |
| 4  | <b>Hazard monitoring: Not at micro level and not in public domain.</b>   | <ul style="list-style-type: none"> <li>Micro level monitoring</li> <li>Sharing of information</li> <li>Follow up action</li> </ul>  | <p>Once in a year at district/block level</p> <p>Sharing of information with stakeholder</p> <p>Based upon monitoring action to be taken by district authorities</p>           |  |  |
| 5  | <b>Multi Hazard risk profile</b>   | <ul style="list-style-type: none"> <li>Preparation of hazard risk profile at micro level.</li> <li>Putting in public domain</li> </ul>  | <p>Preparation of hazard risk profile at district level</p> <p>Development of web portal at district level and uploading the hazard risk profile , updation every 2 years</p>  |  |  |
| 6  | <b>Cost-benefit analysis:</b> Does a standardised approach or methodology exist for calculating the costs and benefits of DRR when determining public investments? (Y/N)   | <ul style="list-style-type: none"> <li>Identification of infrastructural development activities having social fabric for keeping out of cost benefit analysis.</li> <li>Finalisation of guidelines based upon opportunity cost and standardisation of procedure.</li> </ul> | <p>Setting up of high level committee for identification of key areas of DRR, drafting of guidelines</p> <p>Finalisation of guidelines and approval by competent authority</p> |  |  |
| 7. | <b>Baseline environmental data development through System of</b>   |   |  |  |  |

|    | <b>Environmental Economic Accounting (SEEA)</b>   |   |   |  |  |
|----|---|---|---|--|--|
| 8  | <b>A16: Media involvement:</b> Does the country have legislation or an official mechanism that requires national and local media accurately and responsibly represent/ analyze DRR information in public domain?  | <ul style="list-style-type: none"> <li>• Setting of the committee</li> <li>• Formulation of guidelines</li> <li>• Approval</li> </ul>                         | <p>Formulation of TOR for Expert Committee</p> <p>Submission of report by the committee</p> <p>Approval by competent authority</p>  |  |  |
| 9  | <b>Crowd data sourcing mechanism: Does the country have a policy to utilize the information produced by the public (e.g. social media utilization)?</b>   | <ul style="list-style-type: none"> <li>• Setting of the committees</li> <li>• Formulation of guidelines</li> <li>• Approval</li> </ul>                        | <p>Formulation of TOR for Expert Committee</p> <p>Submission of report by the committee</p> <p>Approval by competent authority</p>  |  |  |
| 10 | <b>A18: Research agenda:</b> Does the <u>national science and technology agenda include research fields to strengthen technical and scientific capacity to capitalize on and consolidate existing knowledge and to develop and apply methodologies and models to assess disaster risks, vulnerabilities and exposure to all hazards that the country face</u> | <ul style="list-style-type: none"> <li>• Identification of key areas for research</li> <li>• Strengthening of research agenda</li> </ul>                      | <p>Key areas identification by multidisciplinary expert committee</p> <p>Tying up with existing research institutes for pursuing identified research agenda</p> <p>Setting up of Centres for Excellence with global partnerships.</p> |  |  |
| 11 | <b>Capacity building for civil and private sector:</b> Are there dedicated plan or <u>policy to strengthen the DRR capacity of civil and private sector?</u>  | <ul style="list-style-type: none"> <li>• Existing procedures to be reviewed and submission of report</li> <li>• Strengthening of capacity building</li> </ul> | <p>Setting up committees at state/district level and submission of recommendations</p> <p>Approval of recommendations and Implementation at District level</p>  |  |  |

## Priority Area 2: Strengthening disaster risk governance to manage disaster risk:

Disaster risk governance at the national, regional and global levels is of great importance for an effective and efficient management of disaster risk.

| # | OBJECTIVE/ WORK AREA   | ACTION  | INDICATORS  | TIMEFRAME | RESPONSIBILITY |
|---|--|---|---|-----------|----------------|
| 1 | <b>Enforcement and quality standards</b>   | <ul style="list-style-type: none"> <li>Key areas to be identified</li> <li>Quality standards to be drafted</li> <li>Finalisation and enforcement</li> </ul>   | <p><b>Setting up of expert committee to identify areas requiring improvement</b></p> <p><b>Drafting of standards by National committees in various sectors</b></p> <p><b>Approval of standards</b></p> <p><b>Promulgation of laws for enforcement</b></p>                             |           |                |
| 2 | <b>Regional platform cooperation and peer reviews</b>  | <ul style="list-style-type: none"> <li>Policy to be devised</li> <li>Implementation</li> </ul>  | <p><b>Formulation of policy</b></p> <p><b>Ratification by cabinet and implementation</b></p>  |           |                |
| 3 | <b><u>Disaster risk reduction and economic development planning: Is disaster and climate risk included and accounted for in development plans?</u></b> | <ul style="list-style-type: none"> <li>Brain storming to be done to fix the threshold of climate risk</li> <li>Sector wise formation of Expert groups</li> <li>Approval of recommendations and formulation of policy</li> </ul> | <p>Statewise brainstorming sessions and compilation of proceedings</p> <p>Sector wise formation of Expert groups and formulation of reports</p> <p>Putting up recommendations in public domain, discussions, preparation of common minimum plan based upon consensus, approval by</p> |           |                |

|   |  |  |  |  |  |
|---|--|--|--|--|--|
|   |  |  | competent authority  |  |  |
| 4 | <u><b>Disaster risk reduction and climate change adaptation:</b> Are the policy frameworks for managing disaster risks and climate change adaptation integrated?</u> | <ul style="list-style-type: none"> <li>• Sector wise formation of Expert groups</li> <li>• Approval of recommendations and formulation of policy</li> <li>• Enforcement</li> </ul> | <p>Taking into account above recommendations preparation of draft CCA plan</p> <p>Conducting brain storming sessions in research institutes and arriving at consensus. Putting up recommendations to competent authority and approval od plan</p> <p>Drafting the law and approval by cabinet,</p> |  |  |

### Priority Area 3: Investing in disaster risk reduction for resilience:

Public and private investment in disaster risk prevention and reduction through structural and non-structural measures are essential to enhance the economic, social, health and cultural resilience of persons, communities, countries and their assets, as well as the environment.

| # | OBJECTIVE/ WORK AREA   | ACTION  | INDICATORS   | TIMEFRAME | RESPONSIBILITY |
|---|--|---|--|-----------|----------------|
| 1 | <b>Public Investment criteria:</b> Does the national government institutionalise by policy or law the evaluation of benefit of disaster risk reduction/prevention as criteria of decision making of all or large scale public investment projects? (Y/N) | <ul style="list-style-type: none"> <li>Guidelines for fixing the threshold of DRR in simple terms</li> <li>Setting up Expert Groups for finalising evaluation criteria and methodology for implementation</li> <li>Sensitizing the proponents of the projects</li> <li>Enforcement</li> </ul> | <p>Identifying sectoral experts<br/>Compilation of procedures</p> <p>Setting up the committee at National level and finalisation of TOR and concept report</p> <p>Reports to be shared with project proponents and comments to be sought</p> <p>Finalisation of reports by committee and approval by competent authority</p> |           |                |
| 2 | <b>Recovery and reconstruction policy</b>  | <ul style="list-style-type: none"> <li>Review of existing practices</li> <li>Formulation of Common minimum standards synchronous with region</li> </ul>   | <p>Setting up National Committee</p> <p>Acceptance of recommendations</p>  |           |                |
| 3 | <b>Insurance for infrastructure:</b>   | <ul style="list-style-type: none"> <li>Identification of sectoral needs</li> <li>Formulation of guidelines for minimum insurance cover</li> </ul>   | <p>Committee to be set up at National level with sub committees at State level</p> <p>Submission of recommendations by sub committees, compilation and finalising the guidelines in consultation with states</p> <p>Law making process</p>   |           |                |
| 4 | <b>Telecom and energy sector infrastructure</b>  | <ul style="list-style-type: none"> <li>Review of existing mechanism and study of various alternatives</li> </ul>  | Setting up of expert committee   |           |                |

|   |  |  |  |  |  |
|---|--|--|--|--|--|
|   |  | <ul style="list-style-type: none"> <li>Contingency planning</li> <li>Formulation of guidelines for foolproof alternative arrangements</li> <li>Legal framework for backup of communication system and energy infrastructure</li> </ul> | <p>Recommendations by the committee on contingency planning</p> <p>Acceptance of guidelines by competent authorities</p> <p>Law making process</p>   |  |  |
| 5 | <u>Financial infrastructure: Does the national government have a comprehensive policy in place to protect its financial infrastructure (e.g. central bank, stock exchange) from disasters? (Y/N)</u> | <ul style="list-style-type: none"> <li>Mapping of hazards pertaining to vital financial institutions</li> <li>Formulation of guidelines to protect such key financial institutions from disasters.</li> <li>Enforcement</li> </ul>     | <p>Identification of such infrastructure at district level , compilation at state level compilation and submission to National Bank</p> <p>Setting up of committee to recommend preventive and mitigation measures .</p> <p>Circulating the recommendations to the Head of Departments for implementation</p> <p>Submission of action taken report by financial institutions</p> <p>Monitoring at yearly frequency</p> |  |  |
| 6 | <b>National Bond issuance</b>  | Hazards to be declared at the time of floating of bonds  | Policy formation at National level   |  |  |
| 7 | <b>Disclosure of Natural Resource Rights Holdings</b>  |  |  |  |  |

**Priority Area 4: Enhancing disaster preparedness For effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction:**

*Strengthened disaster preparedness for response, recovery, rehabilitation and reconstruction are critical to build back better.*

| # | OBJECTIVE/ WORK AREA  | ACTION   | INDICATORS  | TIMEFRAME | RESPONSIBILITY |
|---|---|--|---|-----------|----------------|
| 1 | <b>Business continuity planning</b>   | <ul style="list-style-type: none"> <li>Sectors to be identified</li> <li>Macro/Micro level planning</li> </ul>   | <p>Setting up the committee for identifying key sectors</p> <p>Examining the report by high level committee and finalisation of guidelines</p> <p>Implementation of guidelines</p>  |           |                |
| 2 | <b>Employment guarantee schemes:</b>  | Not Required   |   |           |                |
| 3 | <b>Tourism preparedness:</b> Does the country have formal protocol to mobilize cooperation from tourism association to reduce disaster risk and prepare for emergency | <ul style="list-style-type: none"> <li>Tourist spots to identified</li> <li>Motivating Tourist operators, Hotlists &amp; other businessmen for participation in DRR</li> <li>Guidelines for participation of Tourist operators, Airlines, Hotlists &amp; other businessmen</li> <li>Enforcement</li> </ul> | <p>Tourist spots to identified by tourism ministry</p> <p>Roping in NGO and tour operators, local businessmen for participation in DRR</p> <p>Finalisation of guidelines based upon response of NGO and Tour operators, local businessmen and formulation of plan</p> <p>Enforcement of plan with legal backing</p> |           |                |

