

## R!SE Initiative Activities of the United Nations

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### Abstract

Natural disasters result in serious human and economic damage and are a serious threat to continuing global growth. To accelerate disaster prevention and disaster risk reduction and to make knowledge dissemination more widespread, the United Nations has initiated cooperative projects between the public and private sectors. NTT is also involved with this initiative. The ongoing activities of the initiative are described here.

*Keywords: R!SE initiative, disaster risk reduction, UNISDR,*

### 1. Overview of United Nations' efforts in disaster risk reduction

In recent years, large-scale natural disasters have occurred worldwide due in part to the effect of climate change and geological phenomena, and they have wrought serious human and economic damage (**Table 1**).

The United Nations International Strategy for Disaster Reduction (UNISDR) was established in 2000 to assist countries and communities to become more resilient against disasters by implementing disaster risk reduction strategies, and its efforts are continuing. UNISDR sponsored the World Conference on Disaster Risk Reduction (WCDRR) held in January 2005 in Kobe, Japan. The *Hyogo Framework for Action (HFA) 2005–2015: Building the Resilience of Nations and Communities against Disasters* was adopted there. To make HFA possible, UNISDR has been supporting the building of cooperative relationships between member countries and advising and aiding in the planning of disaster risk reduction strategies for each country.

Conventionally, disaster prevention planning and execution was largely led by the public sector of a country and local government, and the effects of their actions were limited to the respective local communities. However, globalization means that businesses are connected through many types of worldwide sup-

ply chains. As a result, a distant natural disaster can result in unexpected economic damage to businesses [1]. For example, when the Thai flood crisis occurred in 2011, many manufacturers far from Thailand suffered because of the unavailability of components manufactured in Thailand.

This article introduces the R!SE (Disaster Risk-Sensitive Investment) initiative, a strategy launched by UNISDR from a global perspective to reduce the risks of natural disasters. It is a cooperative organization between the public and private sectors. We also report on NTT's contributions to the R!SE initiative.

### 2. Background of R!SE initiative

UNISDR launched the R!SE initiative based on the two following objectives [2].

- (1) A natural disaster has the potential to economically damage many far away stakeholders because of the structure of worldwide supply chains. Therefore, such disasters are not exclusively regional problems. However, it may be possible to reduce the damage from natural disasters if we treat them as a common risk, and if the private sector in a foreign country and the public sector of a local community aggressively invest in disaster prevention.
- (2) It is important to share the large amount of

Table 1. Large-scale disasters and resulting damage.

| Date of occurrence | Countries most affected (Main area)            | Disaster name                               | Human toll   | Economic toll  |
|--------------------|--|---|--|--|
| December 2004      | Indonesia (Sumatra offshore)                   | 2004 Indian Ocean earthquake and tsunami    | Death toll: 230,000 (estimated)<br>Total victims: 2 million <sup>*1</sup>          | US\$6.8 billion <sup>*1</sup>  |
| August 2005        | United States (Southeastern area)              | Hurricane Katrina                           | Death toll: 1336 (as of Dec. 20, 2005) <sup>*2</sup>                               | US\$96 billion <sup>*2</sup>   |
| March 2011         | Japan (Tohoku area)                            | The Great East Japan Earthquake and Tsunami | Death toll: 15,890<br>Missing: 2590 (police report on Feb. 10, 2015) <sup>*3</sup> | 16.9 trillion yen <sup>*4</sup> (approx. US\$210 billion at Jun. 2011 exchange rate) |
| July 2011          | Thailand (Mekong and Chao Phraya river basins) | 2011 Thailand floods                        | Death toll: 800 (estimated) <sup>*5</sup>  | 1.44 trillion Thai baht <sup>*5</sup> (approx. US\$45.7 billion as of Dec. 2011)     |
| November 2013      | Philippines (Central region)                   | Typhoon Haiyan (Typhoon Yolanda)            | Death toll: 6201<br>Missing: 1785<br>Total victims: 16 million <sup>*6</sup>       | 39.8 billion pesos <sup>*6</sup> (approx. US\$2.86 billion at 2013 exchange rate)    |

Sources:

\*1 Cabinet Office, Government of Japan, "White Paper on Disaster 2006," Jun. 2006 (in Japanese).

[http://www.bousai.go.jp/kaigirep/hakusho/h18/BOUSAI\\_2006/html/honmon/hm01040103.htm](http://www.bousai.go.jp/kaigirep/hakusho/h18/BOUSAI_2006/html/honmon/hm01040103.htm)

\*2 A. Kato, "Physical Damage Caused by Hurricane Katrina," Disaster Prevention Research Group, National Research Institute for Earth Science and Disaster Prevention, Japan, Mar. 2006.

[http://dil-opac.bosai.go.jp/publication/nied\\_natural\\_disaster/pdf/41/41-03.pdf](http://dil-opac.bosai.go.jp/publication/nied_natural_disaster/pdf/41/41-03.pdf)

\*3 National Police Agency of Japan, Emergency Disaster Countermeasure Headquarters, "Damage Situation and Police Countermeasures associated with 2011 Tohoku District," Feb. 2015.

[http://www.npa.go.jp/archive/keibi/biki/higaijokyo\\_e.pdf](http://www.npa.go.jp/archive/keibi/biki/higaijokyo_e.pdf)

\*4 Cabinet Office, Government of Japan, "Damage Estimation of the Great East Japan Earthquake," Jun. 2011 (in Japanese).

<http://www.bousai.go.jp/2011daishinsai/pdf/110624-1kisyu.pdf>

\*5 Ministry of Foreign Affairs of Japan, "Japan's ODA White Paper 2012," Mar. 2013.

[http://www.mofa.go.jp/policy/oda/white/2012/html/honbun/b2/s2\\_2.html](http://www.mofa.go.jp/policy/oda/white/2012/html/honbun/b2/s2_2.html)

\*6 Ministry of Land, Infrastructure, Transport and Tourism, "Damage of Typhoon Haiyan in Philippines," Mar. 2014 (in Japanese).

[http://www.mlit.go.jp/river/shinngikai\\_blog/shaseishin/kasenbunkakai/shouinkai/r-jigyohyouka/dai04kai/siryou6.pdf](http://www.mlit.go.jp/river/shinngikai_blog/shaseishin/kasenbunkakai/shouinkai/r-jigyohyouka/dai04kai/siryou6.pdf)

disaster prevention knowledge gained in the private sector with many other enterprises and with countries throughout the world. As experience and knowledge of disaster prevention investment is increasingly shared, the spread of disaster prevention and disaster risk reduction worldwide may accelerate.

Therefore, the R!SE initiative was begun as a way for the public and private sectors to cooperate. Public and private sector organizations such as insurance companies, investment-related organizations, and educational institutions work together to accelerate the investment in disaster prevention measures [2] (Fig. 1).

Activities to increase the disaster resilience of the global economy are underway and are aimed at incorporating disaster prevention measures into a regional development investment strategy in order to maintain continuous global development. The activities are also aimed at turning communities into disaster-resilient communities, which will attract investment in



Fig. 1. Basic alliance of R!SE initiative.

disaster prevention and disaster risk reduction.

A launch event of the R!SE initiative was held by UNISDR in May 2014 [3]. NTT—the only Japanese company—received a request from the UN to participate in the R!SE initiative launch ceremony, and Yasuyoshi Katayama, Senior Executive Vice

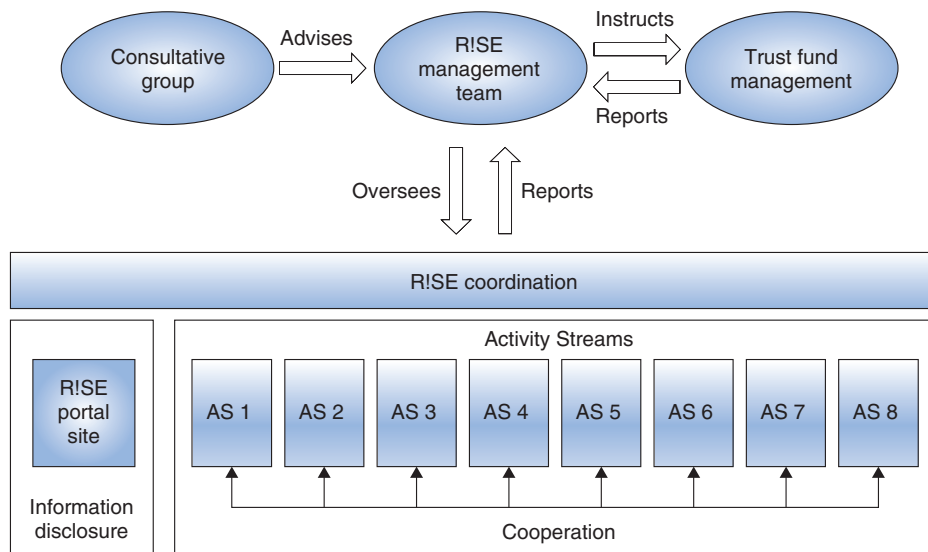


Fig. 2. Organization of R!SE initiative.

Table 2. AS structure of R!SE initiative.

| AS   | Activity               | AS leader |
|------|------------------------|-----------|
| AS 1 | DRM strategies         | PwC       |
| AS 2 | Risk metrics           | EIU       |
| AS 3 | DRM industry standards | PwC       |
| AS 4 | DRM higher education   | FIU       |
| AS 5 | Responsible investing  | PRI       |
| AS 6 | Resilient cities       | AECOM     |
| AS 7 | Insuring resilience    | Willis    |
| AS 8 |                        | UN        |

DRM: disaster risk management

President of NTT (at that time) attended the ceremony and approved the main ideas of UNISDR regarding disaster risk reduction. He also said he would like to utilize NTT’s experience in dealing with the aftermath of the Great East Japan Earthquake in future R!SE initiative activities [4].

### 3. Organization and activities of the R!SE initiative

#### 3.1 Organization

The concept of the R!SE initiative is based on disaster risk-sensitive investment [2]. This means that a safer world is possible with widespread investment activities that are intended to have a disaster prevention effect. The initiative concurrently promotes mul-

tilateral activities such as the development of a common index to evaluate business corporations and the disaster risk reduction solutions adopted by them, and a common index to estimate the current state of disaster prevention measures in a city.

UNISDR determines the entire directionality of the R!SE initiative by communicating with the R!SE management team at the UN Headquarters. Eight Activity Streams (ASs) have been created. Through development of a common index, higher educational programs and cooperation efforts between the public and private sectors have begun. The R!SE organization [2] and AS structure [2] are presented in **Fig. 2** and **Table 2**.

### 3.2 Eight Activity Streams

#### (1) AS 1: Disaster risk management (DRM) strategies

This AS is led by PricewaterhouseCoopers (PwC). Through this activity, standard tools to evaluate the DRM status of a company will be developed in order to gather knowledge on disaster prevention while considering the intellectual property and reputation of the donating company, then to share this knowledge over the portal site. Many businesses will be able to refer to good practices of disaster risk reduction and to advance their own DRM.

#### (2) AS 2: Risk metrics

This activity is aimed at developing a method for assuming the degree of risk to business in the event of a natural disaster and to predict the effect such a disaster would have on the national economy and the gross domestic product (GDP). This AS is led by The Economist Intelligence Unit (EIU) and is aimed at developing a risk model for every national disaster from their experience in developing a risk rating method for emerging companies. The developed method will make it easier to calculate what effect the occurrence of a disaster would have on business and on a country's GDP.

#### (3) AS 3: DRM industry standards

This AS is led by PwC. It will help the respective industrial sectors to increase their disaster risk resilience, and create an industrial standard to enable cooperation for quick recovery from natural disasters.

#### (4) AS 4: DRM higher education

This AS is aimed at advancing education programs that promote disaster risk reduction efforts. This AS is led by Florida International University (FIU), and is intended to improve the curricula of business risk management and the development of education programs for academic institutions, training centers, and business associations for small- and medium-sized businesses.

#### (5) AS 5: Responsible investing

This AS is aimed at assisting owners and investment managers to consider disaster risk in their investment portfolios. It is led by Principles for Responsible Investment (PRI) [5], and will help guide global investment behavior to consider disaster risk reduction.

#### (6) AS 6: Resilient cities

This AS is led by AECOM to increase the disaster resilience of cities. This AS will involve inspecting and improving the evaluation tool called Disaster Resilience Scorecard for Cities, which is designed for use by local governments to evaluate their disaster resilience situation. This tool includes many factors such as the degree of cooperation between the public sector, communities, and companies in the area. It is aimed at ensuring that the current state of disaster resilience of a city can be understood. This tool will help local governments consider a detailed strategy for disaster risk reduction investment through the results of self-evaluation.

#### (7) AS 7: Insuring resilience

This AS reconsiders disaster insurance from the viewpoint of disaster risk reduction. This AS is led by Willis and is aimed at providing insurance, especially in developing countries, in order to promote sustainable development.

#### (8) AS 8: DRM in United Nations

This AS is led by the UN and is aimed at increasing the disaster resilience of the UN against disasters and climate change, and supporting UN staff to promote education on disaster risk resilience. This AS is also aimed at providing education and training to UN staff while advancing cooperation between UN organizations and cooperation among the R!SE initiative members.

### 4. Mid- and long-term targets of the R!SE initiative and NTT's future activities

Each AS activity of the R!SE initiative has set a target for 2020, as indicated in **Table 3**. The next milestone will be to report their progress at WCDRR, which will be held in Sendai, Japan, in March 2015.

NTT is planning to contribute to the R!SE initiative through cooperation with each participating company of AS 1, 3, and 6, using its knowledge and experience in the area of disaster reduction. In AS 1 (DRM strategies), NTT is planning to share a case of disaster risk management through disaster prevention and disaster risk reduction examples that NTT has obtained. In AS 3 (DRM industry standards), NTT is planning to contribute to establish standards that should be decided and adopted by businesses to increase disaster prevention and disaster resilience in a particular area through its experience as a communication carrier and an ICT (information and communication

Table 3. Achievement target of each AS by 2020.

| AS   | Achievement targets by 2020   |
|------|---|
| AS 1 | AS 1 will have helped 100 global businesses make decisions on disaster prevention investment.   |
| AS 2 | Revised metrics will have been developed to quantify disaster risk for economic policy and corporate planning and will have been tested in at least 20 country contexts.*   |
| AS 3 | AS 3 will have helped 10 industry sectors adopt DRM standards and certification.  |
| AS 4 | In three global regions, at least 10 leading business schools will offer new and/or enhanced DRM courses or modules in their MBA-type programs, and at least 10 training or business education providers will offer cutting-edge DRM content, methodologies, and ready-to-use tools and/or software to business leaders in large, medium, and small enterprises.* |
| AS 5 | One thousand asset owners and investment managers will support principles for disaster risk-sensitive investments as part of their ongoing commitment to responsible investment.*   |
| AS 6 | AS 6 will have helped in evaluating 50 cities worldwide using the Disaster Resilience Scorecard for Cities.   |
| AS 7 | At least 50 businesses will have benefited from access to improved insurance capacity, and 200 (re-) insurers will have revised their pricing of risk based on up-to-date risk data.*   |
| AS 8 | New risk information, risk management tools, and good practices from the private sector will have been shared, on demand, with organizations of the UN system.*   |

\*Obtained from reference [2]

technology) partner. In AS 6 (Resilient cities), NTT is planning to use its knowledge in activities regarding the Disaster Resilience Score Card for Cities.

NTT will take part in disaster prevention in the R!SE initiative and standardization activities for disaster reduction in Japan and throughout the globe.

## References

[1] Global Assessment Report on Disaster Risk Reduction 2013,

- <http://www.preventionweb.net/english/hyogo/gar/2013/en/home/download.html>
- [2] The R!SE Initiative program summary, <http://www.preventionweb.net/rise/sites/default/files/R!SE%20Program%20Summary%20V2.pdf>
- [3] Official Launch Event of the R!SE Initiative, <http://www.preventionweb.net/rise/news/official-launch-event-rse-initiative>
- [4] NTT Public Relations Twitter feed on May 21, 2014 (in Japanese). <https://twitter.com/nttpr/status/469263220788985856>
- [5] Financial Services Agency, "Overview of International Corporate Governance Network and Principle for Responsible Investment," Nov. 27, 2013 (in Japanese). <http://www.fsa.go.jp/singi/stewardship/siryoku/20131127/07.pdf>



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