Introduction

- **Climate change** is:
  - A growing concern to businesses
  - Considered a major cause of increasing frequency and severity of natural disasters

- **Natural disasters** are considered an emerging business risk, particularly in Asia because of its impact on:
  - Dense populations and vulnerable societies under rapid economic growth
  - Integrated supply chains (especially for electronic components)

- **Business Continuity Plan (BCP*) and Management (BCM*)**: "Documented procedures that guide organizations to respond, recover, resume, and restore to a pre-defined level of operation following disruption (per ISO 22301) and BCM is its management system."

- A vital business issue is to mitigate disaster risks and seek resilience and sustainability of business and society

- Presentation will share how BCP/BCM activities to mitigate natural disaster risks are incorporated into CSR management
  - Need to expand the management scope to supply chains
  - A resilient society is also vital for business continuity, needs shared responsibilities and collaborations among stakeholders
NEC Profile

One of the leading providers of innovative IT, network and communications products and solutions with:

- More than 100 years of experience in industry;
- More than $30 billion in revenues;
- 102,000 employees in 270 subsidiaries, globally

Typical Example of Products and Services that help to resolve social and environmental issues

- National Security System using Finger Print Identification Technology
- Space Systems and Sensors for Earth Observation
- Submarine Cable for Telecommunications, and Earthquake/Tsunami Observation
- Compact Microwave Communication Systems for Mobile Base stations
- Lithium-ion Batteries for Electric Cars
- High Speed Computing System for Earth Simulator Project
- E-government and E-education Systems

Natural Disasters Increasing Worldwide (1980 to 2012)

The number of natural disasters globally have doubled over the past 30 years

(Source: Munich RE)

**Number of Events**

<table>
<thead>
<tr>
<th>Year</th>
<th>Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>417</td>
</tr>
<tr>
<td>1981</td>
<td>580</td>
</tr>
<tr>
<td>1982</td>
<td>680</td>
</tr>
<tr>
<td>1983</td>
<td>805</td>
</tr>
<tr>
<td>Avg.</td>
<td>605</td>
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</tbody>
</table>

- Geophysical events (Earthquakes, tsunami, volcanic eruptions)
- Meteorological events (Storms)
- Hydrological events (Flood, mass movement)
- Climatological events (Extreme temperature, drought, forest fire)
Asia/Pacific suffering from Natural Disasters the most (1982 to 2011) 
(Source: Cabinet Office, Japan)

### Number of Events

- **Europe**: 1315, 14%
- **Africa**: 2319, 24%
- **Asia Pacific**: 3638, 38%
- **America**: 413, 4%

### People killed by natural disasters (in thousand)

- **Europe**: 175, 7%
- **Africa**: 620, 26%
- **Asia Pacific**: 388, 17%
- **America**: 1167, 20%

### Economic damages caused by natural disasters (in billion dollar)

- **Europe**: 273, 13%
- **Africa**: 388, 34%
- **Asia Pacific**: 1070, 50%
- **America**: 738, 34%

### People affected by natural disasters (in million)

- **Europe**: 273, 13%
- **Africa**: 388, 34%
- **Asia Pacific**: 1070, 50%
- **America**: 738, 34%

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Major Cities in Asia are vulnerable to Natural Disasters

- Dhaka, Manila, Bangkok, Yangon, Jakarta, Ho Chi Minh City and Kolkata, out of a list of 50, face highest climate change risks (Maplecroft Risk Atlas Nov. 15, 2012)
  - Economic development is rapid but social infrastructure including disaster prevention/mitigation not developed yet
  - Population density is high
  - Vulnerability is high (poverty, governance, education etc.)

- Impact on global economy is great after a disaster occurs
Global Electronic Industry heavily relies on Asia

Supply chains for electronic industry accumulated in Asia

Regional share of major electronics production

- Europe
- South America
- North America
- ASEAN+Korea, Taiwan
- China
- Japan

(Source: JEITA)

How Japanese Companies handle Business Continuity Management (BCM)

- Approx. 60% of Japanese companies (3,209 in total) consider BCM as an element for their Corporate Social Responsibility (CSR*)
  (Source: Report 2013 by InterRisk Research Institute & Consulting, Inc.)

CSR defined by ISO26000 as: The responsibility of an organization for the impacts of its decision and activities on society and the environment, through transparency and ethical behavior that:

- Contribute to sustainable development, including health and welfare of society
- Takes into account the expectation of stakeholders
- Is in compliance with applicable law and consistent with international norms of behavior
- Is integrated throughout the organization and practices in its relationship
**50% of Large Japanese Companies introduced BCPs**

Next steps needed: expand to group companies and supply chains

(Figure 4.1: The state of being prepared or unprepared BCP)

(Figure 4.2: The state of coverage on BCP application)

Source: Toward a more Resilient Society: Further actions of the business sector and government—March 5, 2012—KEIDANREN (Japan Business Federation)

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**Great East Japan Earthquake accelerated BCP introduction, but SMEs still need improvement in Japan**

Percentage of Corporations which have established their BCPs (Comparison between current and March 2011)


Source: "Survey on corporate attitudes for business continuity after the Great East Japan Earthquake" (Follow-up survey) Survey conducted by NTT Data Institute of Management Consulting, Inc.

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By Number of Employee:

- **Total (N=586)**
  - Current (When the Great East Japan Earthquake occurred)
  - As of March 2011

<table>
<thead>
<tr>
<th>Number of Employees</th>
<th>BCP already established</th>
<th>Drafting BCP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 100 (N=194)</td>
<td>16.5% 26.3%</td>
<td>10.1% 25%</td>
</tr>
<tr>
<td>100 – 499 (N=148)</td>
<td>29.7% 50%</td>
<td>14.9% 25%</td>
</tr>
<tr>
<td>500 – 999 (N=44)</td>
<td>29.5% 52.5%</td>
<td>31.6% 28.7%</td>
</tr>
<tr>
<td>1000 – 4999 (N=101)</td>
<td>36.8% 68.7%</td>
<td>23.8% 24.2%</td>
</tr>
<tr>
<td>5000 or more (N=99)</td>
<td>50.5% 17.2%</td>
<td>12.8% 17.2%</td>
</tr>
</tbody>
</table>
NEC’s Business Continuity Management (BCM)
as an essential element for Corporate Social
Responsibility

CSR-Driven Management at NEC

Sustainable Development of Society and the NEC Group

NEC Group Vision 2017
To be a leading global company leveraging the power of innovation
to realize an information society friendly to humans and the earth

Solving social issues
Compliance responsibilities
Legal and corporate ethics
Economic responsibilities

Building trust through communication
Customers
Shareholders/investors
Business partners
Communities
Employees

The environment
Stakeholders
CSR Promotion Policies

1. Strengthen risk management and enforce compliance
   • Business Continuity Plans (BCP)/Management (BCM) and Disaster Recovery, as an important element for CSR

2. Contribute to solving social issues (such as climate change, digital inclusion, safe and secure society, disaster prevention etc.)
   • through ICT business
   • through community involvement

3. Deepen communications with multiple stakeholders
   • Transparency and timely/adequate disclosure
   • Stakeholder engagement (dialogues and partnerships etc.) as an effective leverage to seek sustainable society and business

NEC Group BCP Formulation Policies

- Protect the lives and safety of employees and other people (including onsite contract workers and visitors)

- Fulfill the social responsibility expected of NEC: Maintain and rebuild mission-critical systems in areas such as communications, public infrastructure, traffic, defense and finance

- Minimize any economic damage caused by business disruptions
Expanding BCMS to NEC Group

400 NEC Group businesses (Japan) introduced BCPs by 3/31/2009

Expanded BCP/BCM to NEC Group outside Japan based on “NEC Group Management Policy”
- 59 operation subsidiaries (such as manufacturing plants and service providers, 90% in Asia/Pacific) prioritized in 2009
- 80% already established their own BCPs

BCMs established for NEC Group (Japan) per BSI standard BS25999-2, granted to the Group on 2/16/2010

Our Experiences

Keys for successful operations
- "BCP Promoters" as champions for each organization
- "PDCA management cycle" for continued improvement
  - "Information escalation rule"
  - "Regular Group Training drills" for continued improvement and for awareness among employees
  - "Internal audit" to verify proper operations

The BCP functioned in the event of the 3.11.2011 Great East Japan Earthquake
- 5 manufacturing plants in the affected region returned to normal operation within 2 weeks without any casualties
  - Early restoration of internal networks/computer systems
  - Collaborations and support of multi-stakeholders:
    - Employees
    - Disaster recovery efforts by local governments, communities and business partners etc.
2011 Thailand Floods Affected NEC Operations

Sales impact estimated over USD 200 million
Two manufacturing plants in Nava Nakorn Industrial Estate suspended operations for several months
- “NEC Infrontier Thailand” manufacturing telecomm. systems
  → part of manufacturing temporarily relocated to Japan
- “NEC Tokin Thailand” manufacturing capacitors
  → finally relocated to a newly built plant in Well Grow Industrial Estate

Our manufacturing plants in Japan were also affected by damaged supply chains (especially hard disk drives)

Lessons learned
- Reestablish BCP based on disaster beyond “risk scenarios”
  • Each subsidiary closely reexamines disaster scenarios, measures to reduce damage with the view to revising and raising the effectiveness of BCPs
- Need to expand the BCP/BCM to supply chains

Reinforcing Supply Chain-BCP (material procurement)

Principle:
- Support business partners, as our stakeholders, to solidify and improve their BCPs and resilience to disasters

“Information-sharing database”
- Post and share “Information about Suppliers’ damages (i.e., operational status, difficult-to-obtain materials etc.)” with all the NEC Group members

“Supply-Chain BCP Guideline” issued to all the suppliers
- Surveys about BCP implementation using the Supply-Chain BCP Check Sheet
  • 181 suppliers were already surveyed by fiscal 2012

Optimize multi-sourcing for major components for agile recovery actions
To Seek a Resilient and Sustainable Society

Creating a resilient society: a vital CSR issue is to seek sustainable development

Resilient society is not realized without shared responsibility and collaboration among stakeholders
- Stakeholder engagement:
  - Government, businesses (employees), civil society organizations, and communities etc.
- Governments to promote:
  - Shared understanding about natural disaster risks among citizens
  - Large/multinational companies to call on their subsidiaries and business partners/supply chains to introduce BCPs in the region

Employees removed rubble in the Great East Japan Tsunami disaster-affected regions

Thank you for your attention