Response
to the Great East Japan Earthquake
by General Insurance Industry

Montego Bay, Jamaica on October 25-26, 2011

Japan Earthquake Reinsurance Co., Ltd.
History of Earthquake Insurance

1. Difficulties of Making Seismic Risk Insurable

Japan is a country that experiences a large number of natural disasters due to high exposure to hazards such as typhoon, earthquakes and volcanic eruptions. In particular, massive earthquake disasters have occurred very frequently.

Traditionally, it was difficult for an insurance company to provide coverage for damage caused by earthquakes.

The first reason being difficulty in predicting when an earthquake will strike. The second is that a major earthquake can cause tremendous amount of damage. The last is a fear of adverse selection.

Earthquake insurance was the subject of a great deal of research and discussion for many years, to little avail. Despite this, there was considerable public demand for a system of earthquake insurance on dwelling risks* to enable victims of an earthquake who have lost their homes or property to resume their lives.

* Non-life insurance is divided into two groups: insurance in the household risks field taken out by individuals to cover various risks in the home, and insurance in the corporate risks field taken out by companies to cover various company’s risks. The same distinction applies to earthquake insurance. Insurance taken out by individuals is called earthquake insurance on dwelling risks, and the other insurance is called as earthquake insurance for companies. The Law concerning Earthquake Insurance targets at earthquake insurance on dwelling risks.
History of Earthquake Insurance

2. Before 1964

- The non-life insurance system in Japan commenced in the latter half of the 19th century. However, though the necessity for earthquake insurance was proclaimed and considered every time an earthquake disaster occurred, there was great difficulty in establishing such insurance as mentioned in the previous page.

- However, the following specific suggestions were made. Ultimately, none of them were realized due to financial problems etc.
  1. Dr. Paul Myett’s Government-operated insurance in 1878
  2. The Commerce and Industry Agency’s outline draft of an earthquake insurance system in 1934
  3. Earthquake insurance by the Wartime Specific Non-life Insurance Law (implemented from April, 1944 to December, 1945)
  4. The Earthquake Insurance Bill after the Fukui Earthquake in 1949
  5. Earthquake Insurance System study by the Insurance industry in 1952
History of Earthquake Insurance

3. After 1964

The Niigata Earthquake (M7.5) occurred on June 16, 1964, with a hypocenter off the shore of Niigata Prefecture. This earthquake disaster forced the deliberation on the Diet and a resolution was passed that the establishment of an earthquake insurance system should be swiftly investigated. In such a situation, Kakuei Tanaka, the Ministry of Finance at the time, convened a general meeting of the Insurance Council and consulted with them about the concrete measures in order to contribute to the stabilization of the livelihood of the nation at the time of earthquake disasters without notice.

As result of the deliberations at the Insurance Council in 1965, the Earthquake Insurance System for residential buildings and household properties were finally established in 1966. In order to attempt the smooth operation and the stable management of the System, the Government has shared the insurance responsibility for its financial support.

Upon the implementation of the Earthquake Insurance System, the Government announced officially the Law concerning Earthquake Insurance, Enforcement Orders, and Regulations for Enforcing thereof and came into force in 1966. At the same time, Japan Earthquake Reinsurance was established by the said Law as a go-between for the Government and non-life insurance companies under the System. (See Attachment 1)
### Earthquake Insurance System (updated)

<table>
<thead>
<tr>
<th>Interest</th>
<th>Residential Buildings and/or Household property</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scope of Cover</strong></td>
<td>Fire, Destruction, Burial or Flood resulting from Earthquake, Volcanic eruption and Tsunami</td>
</tr>
</tbody>
</table>
| **Underwriting** | • Can be purchased in addition to fire policy.  
• Non-compulsory for homeowners/Compulsory for insurers. |
| **Amount Insured** | • 30%~50% of the insured amount of the main fire insurance policy.  
• Limited to a maximum of JPY 50mil. (US$ 0.53mil.) for a building and JPY 10mil. (US$ 0.1mil.) for household property.  

(*USD1=JPY95) |
| **Payment of Insurance claims** | **Degree of loss** | Amount of insurance claim paid |
| | Total loss | 100% of amount insured |
| | Half loss | 50% of amount insured |
| | Partial loss | 5% of amount insured |
| **Aggregate limit of Indemnity** | • JPY 5.5 trillion (US$ 58 billion) per any one occurrence.  
• Determined on the assumption of the recurrence of the Great Kanto Earthquake (1923).  
• If exceeded, claims payable shall be reduced pro rata by the proportion of JPY 5.5 trillion to the total amount of claims. |
Earthquake Insurance System (updated)

**Ex. Premium in Tokyo**

(*USD1 = JPY95)

<table>
<thead>
<tr>
<th>Non-wooden</th>
<th>Wooden</th>
</tr>
</thead>
<tbody>
<tr>
<td>JPY 16,900 (USD 178)</td>
<td>JPY 31,300 (USD 329)</td>
</tr>
</tbody>
</table>

Amount insured: 10 million yen (USD 100 thousand)

Source: The Headquarters for Earthquake Research Promotion, Japan
http://www.jishin.go.jp/main/index-e.html

Probabilistic Seismic Hazard Map (Reference)
Summary of The Great East Japan Earthquake and tsunami

A massive earthquake of magnitude of 9.0 occurred at 14:46 JST on Friday 11 March, off the Pacific coast of the northeastern part of the Japanese main land (Tohoku Region), causing devastating damages.

Observed Tsunami was 9.3m or higher at Soma (Fukushima Pref.), 8.5m or higher at Miyako (Iwate Pref.), etc

The Japan Meteorological Agency officially named this earthquake "The 2011 off the Pacific coast of Tohoku Earthquake (called as the Great East Japan Earthquake )."

Data:

Hypocenter
- Sanriku-oki N38.1, E142.9 (130km ESE off Oshika Peninsula)

Depth
- 24km (interim value)

Main shock
- Magnitude : 9.0

Aftershocks (As of Aug. 31st)
- Magnitude 7 or greater : 6 times
- Magnitude 6 or greater : 93 times
- Magnitude 5 or greater : 559 times

Casualties (As of August 24th)
- Dead : over 15,700
- Missing : over 4,500
- Injured : over 5,700

Evacuees
- Over 124,000

Macro economic damage (As of June 24th)
- 16～25 trillion JPY
Activities to The Great East Japan Earthquake

The General Insurance Association of Japan (GIA) and member companies

1. Measurements for prompt payments of insurance claims

The GIAJ works as an organization responsible for industry wide dealing with earthquake insurance claims by concerted action and is exempted from the Antimonopoly Act on the basis of Insurance Business Law and governmental approval.

(1) Preparation at ordinary times
   - Development of an industry wide master plan to deal with earthquake insurance claims
   - Industry wide exercise and training under the master plan

(2) Response since the disasters occurred
   - Under the master plan, the GIAJ established Earthquake Insurance Central Command, which is directed by the GIAJ chairman, and Earthquake Insurance Local Headquarters in Sendai.
   - Insurers have dealt with insurance claims in an appropriate and smooth manner under the direction of the Central Command.

(Source: GIA)
Activities to The Great East Japan Earthquake

The General Insurance Association of Japan (GIA) and member companies

(3) Specific measures
- Producing and sharing lists of all the companies' contracts by region
- Simplifying claim procedures
- Clarifying “total loss areas” by aerial and satellite photography

2. Thorough payment to all beneficiaries

Assists in establishing communication between the policyholders and insurers responding to the situation of the affected people

(1) The GIAJ invites and responds to inquiries about which insurer policyholders have a contract with, for example, in cases where the insurance policy was lost, or inquiries are made by others than policyholders including their relatives.

(2) Visits evacuation centers to deliver information and consulting services

(3) Encourages affected beneficiaries to make insurance claims, by actively providing information on the policy and advice to policyholders

(Source: GIA)
Activities to The Great East Japan Earthquake

The General Insurance Association of Japan (GIA) and member companies

3. Assistance to consumers (policyholders)

(1) Responds to inquiries about insurance contracts other than earthquake insurance (providing information on return of premiums in case of loss of interest, identifies which company policyholders have a contract with, etc.)

(2) Provides a grace period for policy renewal and premium payment

(3) Requests emergency treatment by the government in order to promote prompt payment

4. Other assistance

(1) Donated 1 billion yen to the Japanese Red Cross Society

(2) Provides relief supplies through NPOs

(Source: GIA)
Activities to The Great East Japan Earthquake

: Japan Earthquake Reinsurance (JER)

JER established emergency headquarters immediately after the earthquake and had been making comprehensive efforts to respond to the situation.

(1) The liquidity of assets
- Our most important role is to pay a reinsurance claim to insurer promptly and adequately in the event of a major earthquake.
- Thus, we always carefully manage and operate our assets, with a focus on liquidity and safety.
- The risk management division is engaged in monitoring and controlling risks of all kinds, independently of transactions execution division.
- Based on our emergency response manual, we started to liquidate the necessary assets for the estimated payments to enable the early payment of reinsurance claim from the following working day.
- Regarding our liquidation, everything went as arranged.
Activities to The Great East Japan Earthquake
: Japan Earthquake Reinsurance (JER)

(2) Payment on estimation basis

- Insurance claims by the Great Hanshin-Awaji earthquake (M 7.3) in 1995 amounted to JPY 78.3 billion (See Attachment 2)
- Although the Great Hanshin-Awaji earthquake was the most devastating and the largest earthquake in Japanese recorded history, it took about 2 months to pay over 90% of the said amount
- However, JER and the Government originated the new scheme about the payment on estimate basis in 2001 against more bigger earthquake hereafter
- For the Great East Japan Earthquake, a total of four series of payment based on estimations were eventually made starting on April 20 to the sum of JPY 970 billion, the last one made on May 25
- The above is the first attempt where insurance claims were paid under this scheme
- By comparison, we already paid over JPY 1.1 trillion as of September 28, 2011 (See Attachment 3)
Future Challenges

1. Revision of the limit of total payment

(1) The current limit of total payment due to a single earthquake, volcanic eruption or tsunami is 5.5 trillion JPY.

(2) The above limit is determined so that there should be no obstacle to payment of insurance claim even in case a huge earthquake of the Great Kanto Earthquake (1923) class should occur.

(3) According to the studies and researches available, it is a highly probable that a massive earthquake or consecutive earthquakes could occur.

(4) In 2005, the Headquarters for Earthquake Research Promotion of the Government released “A Probabilistic Seismic Hazard Map”, which is annually reviewed. According to the latest version of the Map, a earthquake with a magnitude of about 7 in the South Kanto, the Tokai Earthquake, the Tonankai Earthquake and the Nankai Earthquake could occur within the next 30 years (See Attachment 4).

(5) Under this circumstances, the limit of total payment needs the review.
Future Challenges

2. Revision of the liability sharing between the Government and non-life insurance companies

(1) Insurance claims amounted to over JPY 1.1 trillion as of September 14, 2011 paid to cover the Great East Japan Earthquake

(2) Accordingly, a rough estimate of risk reserves by insurance companies was reduced to approximately JPY 7 billion.

(3) In reply to the request from insurance companies, the Government agreed to revise the liability sharing of reinsurance scheme for 2011 with effect from May 2, 2011 (See attachment 5)

(4) However, the gap between risk reserve and liability in insurance company sector still remains approximately JPY 3 billion

(5) In order to reduce the financial burden of insurance company sector, the liability sharing needs the review
Future Challenges

3. Revision of the coverage

The coverage of Earthquake Insurance System established in 1966 was narrow and limited due to the uniqueness of the seismic risk. However, owing to changes in the social and economic circumstances afterwards, along with the experiences from several great earthquake disasters, the earthquake insurance systems have been revised many times. Consequently, amount insured, the limit of amount to be paid, premium rate and the limit of total payment etc have been broadly improved.

However, various needs are revealed through the miserable experience of this Great East Japan Earthquake. Examples are:
- an increase of the limit of amount insured
- an increase of the amount of insurance claim paid in case of Partial Loss
- a revision of the premium rate structure : the location or the construction ( wooden / non-wooden )
- an introduction of more attractive discount for earthquake-resistant construction
Thank you for your attention.

Thank you for your support extended to Japan.
Attachment 1: Structure of Earthquake Reinsurance

**Policyholder**

Conclusion of earthquake insurance contract

**Non-life insurance company**

**Treaty A**  
Reinsurance by JER for non-life insurance companies  
JER has entered into a reinsurance contract with non-life insurance companies operated in Japan. According to the contract, the non-life insurance companies conclude a reinsurance contract with JER on the earthquake insurance contracts in full underwritten by them in accordance with the Law concerning Earthquake Insurance. JER takes up the full liability for this earthquake insurance without fail.

**Japan Earthquake Reinsurance Company, Limited**

**Treaty B**  
Retrocession by JER to non-life insurance companies  
JER has entered into a reinsurance contract individually with the non-life insurance companies, and retrocedes to each company part of the insurance liability taken up by JER to the limit as determined according to the balance of earthquake insurance risk reserves and other factors.

**Treaty C**  
Retrocession by JER to the government (Excess of loss reinsurance)  
JER has entered into an excess of loss reinsurance with the government on earthquake insurance for a loss exceeding the amount payable by JER, according to which JER retrocedes to the government part of insurance liability taken up according to Treaty A to the indemnity limit as approved by the Diet.
### Top 20 Earthquakes as to Reinsurance Claims Paid (as of March 31, 2011)

<table>
<thead>
<tr>
<th>Earthquake</th>
<th>Date of occurrence</th>
<th>Magnitude</th>
<th>No. of policies</th>
<th>Reinsurance claims paid (million yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyogo-ken Nanbu</td>
<td>January 17, 1995</td>
<td>7.3</td>
<td>65.427</td>
<td>78,346</td>
</tr>
<tr>
<td>Geiyo</td>
<td>March 24, 2001</td>
<td>6.7</td>
<td>24,840</td>
<td>16,940</td>
</tr>
<tr>
<td>Fukuokaken Seho-oki</td>
<td>March 20, 2005</td>
<td>7.0</td>
<td>21,998</td>
<td>16,921</td>
</tr>
<tr>
<td>Niigata-ken Chuetsu</td>
<td>October 23, 2004</td>
<td>6.8</td>
<td>12,602</td>
<td>14,895</td>
</tr>
<tr>
<td>Niigata-ken Chuetsu-oki</td>
<td>July 16, 2007</td>
<td>6.8</td>
<td>7,846</td>
<td>8,238</td>
</tr>
<tr>
<td>Fukuokaken Seho-oki</td>
<td>April 20, 2005</td>
<td>5.8</td>
<td>11,130</td>
<td>6,423</td>
</tr>
<tr>
<td>Tokachi-oki</td>
<td>September 26, 2003</td>
<td>8.0</td>
<td>10,548</td>
<td>5,968</td>
</tr>
<tr>
<td>Iwate-Miyagi Nairiku</td>
<td>June 14, 2008</td>
<td>7.2</td>
<td>8,151</td>
<td>5,494</td>
</tr>
<tr>
<td>Suruga-kan</td>
<td>August 11, 2009</td>
<td>6.5</td>
<td>8,934</td>
<td>4,868</td>
</tr>
<tr>
<td>Iwate Engan Hokubu</td>
<td>July 24, 2008</td>
<td>6.8</td>
<td>7,138</td>
<td>3,963</td>
</tr>
<tr>
<td>Tottori-ken Seibu</td>
<td>October 6, 2000</td>
<td>7.3</td>
<td>4,078</td>
<td>2,868</td>
</tr>
<tr>
<td>Noto Hanto</td>
<td>March 25, 2007</td>
<td>6.9</td>
<td>3,302</td>
<td>2,728</td>
</tr>
<tr>
<td>Miyagi-ken Hokubu</td>
<td>July 26, 2003</td>
<td>6.4</td>
<td>2,543</td>
<td>2,172</td>
</tr>
<tr>
<td>Miyagi-ken-oki</td>
<td>May 26, 2003</td>
<td>7.1</td>
<td>2,870</td>
<td>1,918</td>
</tr>
<tr>
<td>Miyagi-ken-oki</td>
<td>August 16, 2005</td>
<td>7.2</td>
<td>2,793</td>
<td>1,551</td>
</tr>
<tr>
<td>Hokkaido Toho-oki</td>
<td>October 4, 1994</td>
<td>8.2</td>
<td>4,103</td>
<td>1,333</td>
</tr>
<tr>
<td>Sanriku Haruka-oki</td>
<td>December 28, 1994</td>
<td>7.6</td>
<td>4,172</td>
<td>1,237</td>
</tr>
<tr>
<td>Unzen Fugendake Eruption</td>
<td>April 28, 1993</td>
<td>-</td>
<td>216</td>
<td>1,134</td>
</tr>
<tr>
<td>Kushiro-oki</td>
<td>January 15, 1993</td>
<td>7.5</td>
<td>3,627</td>
<td>989</td>
</tr>
<tr>
<td>Mie-ken Chubu</td>
<td>April 15, 2007</td>
<td>5.4</td>
<td>1,563</td>
<td>914</td>
</tr>
</tbody>
</table>
Attachment 3:
Key figures related to insurance claims due to the great East Japan Earthquake (as of September 28, 2011)

<table>
<thead>
<tr>
<th>Region</th>
<th>Number of inquiries</th>
<th>Number of settled cases</th>
<th>Number of claim payments</th>
<th>Total amount of claims paid (in thousands of yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hokkaido</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aomori</td>
<td>7,951</td>
<td>7,757</td>
<td>6,683</td>
<td>4,498,592</td>
</tr>
<tr>
<td>Iwate</td>
<td>29,284</td>
<td>28,784</td>
<td>25,501</td>
<td>56,327,240</td>
</tr>
<tr>
<td>Miyagi</td>
<td>270,608</td>
<td>266,646</td>
<td>248,891</td>
<td>539,047,747</td>
</tr>
<tr>
<td>Akita</td>
<td>1,623</td>
<td>1,499</td>
<td>1,236</td>
<td>734,107</td>
</tr>
<tr>
<td>Yamagata</td>
<td>2,971</td>
<td>2,841</td>
<td>2,347</td>
<td>1,968,500</td>
</tr>
<tr>
<td>Fukushima</td>
<td>80,287</td>
<td>78,622</td>
<td>72,965</td>
<td>148,707,356</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>392,724</strong></td>
<td><strong>386,149</strong></td>
<td><strong>357,623</strong></td>
<td><strong>751,283,543</strong></td>
</tr>
<tr>
<td>Ibaraki</td>
<td>111,027</td>
<td>109,480</td>
<td>99,447</td>
<td>146,220,097</td>
</tr>
<tr>
<td>Tochigi</td>
<td>41,203</td>
<td>40,395</td>
<td>34,382</td>
<td>39,978,462</td>
</tr>
<tr>
<td>Gunma</td>
<td>9,252</td>
<td>9,086</td>
<td>7,651</td>
<td>6,517,722</td>
</tr>
<tr>
<td>Saitama</td>
<td>39,277</td>
<td>38,166</td>
<td>29,394</td>
<td>23,386,059</td>
</tr>
<tr>
<td>Chiba</td>
<td>86,861</td>
<td>84,571</td>
<td>71,652</td>
<td>96,394,107</td>
</tr>
<tr>
<td>Tokyo</td>
<td>97,971</td>
<td>94,262</td>
<td>72,603</td>
<td>71,552,724</td>
</tr>
<tr>
<td>Kanagawa</td>
<td>21,343</td>
<td>20,559</td>
<td>14,979</td>
<td>13,018,468</td>
</tr>
<tr>
<td>Niigata</td>
<td>1,689</td>
<td>1,629</td>
<td>1,212</td>
<td>918,800</td>
</tr>
<tr>
<td>Yamanashi</td>
<td>1,995</td>
<td>1,895</td>
<td>1,538</td>
<td>1,127,063</td>
</tr>
<tr>
<td>Nagano</td>
<td>314</td>
<td>301</td>
<td>210</td>
<td>253,134</td>
</tr>
<tr>
<td>Shizuoka</td>
<td>2,784</td>
<td>2,653</td>
<td>2,105</td>
<td>1,552,524</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>413,716</strong></td>
<td><strong>402,997</strong></td>
<td><strong>335,173</strong></td>
<td><strong>400,919,161</strong></td>
</tr>
<tr>
<td>Other prefectures</td>
<td>679</td>
<td>628</td>
<td>268</td>
<td>270,266</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>808,282</strong></td>
<td><strong>790,872</strong></td>
<td><strong>693,707</strong></td>
<td><strong>1,153,168,774</strong></td>
</tr>
</tbody>
</table>
Attachment 4:
The past top 20 earthquakes and 4 massive earthquakes anticipated by the Headquarters for Earthquake Research Promotion of the Government
Attachment 5:
Revision of Reinsurance Scheme with effect from May 2, 2011

**Liability Limit**

<table>
<thead>
<tr>
<th></th>
<th>JER</th>
<th>Non-life insurance companies</th>
<th>The government</th>
</tr>
</thead>
<tbody>
<tr>
<td>115 billion</td>
<td>378 billion</td>
<td>72.3 billion</td>
<td>50%</td>
</tr>
<tr>
<td>50%</td>
<td>4 trillion</td>
<td>397.55 billion</td>
<td>95%</td>
</tr>
<tr>
<td>50%</td>
<td>115.7 billion</td>
<td>115.75 billion</td>
<td>5%</td>
</tr>
<tr>
<td>Total</td>
<td>536.45 billion yen</td>
<td>188.00 billion yen</td>
<td>4,775.55 billion yen</td>
</tr>
<tr>
<td>(limit amount of payable insurance claims)</td>
<td>5.50 trillion yen</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The previous reinsurance scheme that was effective from April 1, 2009 until May 1, 2011. This scheme has been applied to the payment of reinsurance claims for losses or damages caused by the Great East Japan Earthquake.