Rebuilding Japan after the Great East Japan Earthquake:
The Situation Today, Issues for the Future, and Initiatives by DBJ

October 12, 2012

Development Bank of Japan

Tohoku Revival Reinforcement Office, Tohoku Branch
1 ½ Years Since March 2011
The Affected Areas Today

Figure 1: Estimated Damage to Capital Stock (DBJ figures issued April 28, 2011) in trillion yen

<table>
<thead>
<tr>
<th>Prefecture</th>
<th>Category</th>
<th>Estimated Capital Stock A</th>
<th>Estimated Capital Stock Damage B</th>
<th>Damage Rate B/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iwate Pref.</td>
<td>Inland</td>
<td>26.4</td>
<td>0.8</td>
<td>2.9%</td>
</tr>
<tr>
<td></td>
<td>Coastal</td>
<td>7.4</td>
<td>3.5</td>
<td>47.3%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>33.8</td>
<td>4.3</td>
<td>12.6%</td>
</tr>
<tr>
<td>Miyagi Pref.</td>
<td>Inland</td>
<td>31.4</td>
<td>1.6</td>
<td>5.1%</td>
</tr>
<tr>
<td></td>
<td>Coastal</td>
<td>23.2</td>
<td>4.9</td>
<td>21.1%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>54.6</td>
<td>6.5</td>
<td>11.9%</td>
</tr>
<tr>
<td>Fukushima Pref.</td>
<td>Inland</td>
<td>34.3</td>
<td>1.3</td>
<td>3.7%</td>
</tr>
<tr>
<td></td>
<td>Coastal</td>
<td>15.9</td>
<td>1.9</td>
<td>11.7%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>50.3</td>
<td>3.1</td>
<td>6.2%</td>
</tr>
<tr>
<td>Ibaraki Pref.</td>
<td>Inland</td>
<td>47.8</td>
<td>1.0</td>
<td>2.1%</td>
</tr>
<tr>
<td></td>
<td>Coastal</td>
<td>21.7</td>
<td>1.5</td>
<td>6.8%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>69.6</td>
<td>2.5</td>
<td>3.6%</td>
</tr>
<tr>
<td>Total 4 prefectures</td>
<td>Inland</td>
<td>140.0</td>
<td>4.6</td>
<td>3.3%</td>
</tr>
<tr>
<td></td>
<td>Coastal</td>
<td>68.3</td>
<td>11.8</td>
<td>17.2%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>208.3</td>
<td>16.4</td>
<td>7.9%</td>
</tr>
</tbody>
</table>

Notes:
1. "Coastal" indicates cities, towns and villages having a shoreline; "inland" indicates other cities, towns and villages.
2. Estimates of stock and damage are calculated on a replacement-cost basis.
3. Damage resulting from the Fukushima No. 1 power plant accident is not included in these estimates.
The Affected Areas Today

**Figure 2** Status of Disaster Waste Disposal
(37 coastal communities in Iwate, Miyagi and Fukushima prefectures. July 31, 2012)

<table>
<thead>
<tr>
<th></th>
<th>As of July 31</th>
<th>Amount removed</th>
<th>Removal rate</th>
<th>Amount processed/disposed</th>
<th>Process/disposal ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disaster waste</td>
<td>18,110,000 t</td>
<td>14,920,000 t</td>
<td>82%</td>
<td>4,070,000 t</td>
<td>22%</td>
</tr>
<tr>
<td>Tsunami sediment</td>
<td>9,540,000 t</td>
<td>4,980,000 t</td>
<td>52%</td>
<td>420,000 t</td>
<td>4%</td>
</tr>
</tbody>
</table>

Source: Reconstruction Agency Website

**Figure 3** Mining and Industrial Production Indexes (pre-disaster = 100)

Source: Status of General Employment Placement (MHLW)

**Figure 4** Mining and Industrial Production Indexes, by Sector (top six sectors)


**Figure 5** Jobs-to-Applicants Ratio

The Affected Areas Today ③

**Figure 6** Population Trends in Four Affected Prefectures

<table>
<thead>
<tr>
<th></th>
<th>11/3</th>
<th>11/4</th>
<th>11/5</th>
<th>11/6</th>
<th>11/7</th>
<th>11/8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iwate</td>
<td>1,327</td>
<td>1,322</td>
<td>1,320</td>
<td>1,319</td>
<td>1,319</td>
<td>1,316</td>
</tr>
<tr>
<td>Miyagi</td>
<td>2,347</td>
<td>2,334</td>
<td>2,325</td>
<td>2,324</td>
<td>2,322</td>
<td>2,322</td>
</tr>
<tr>
<td>Fukushima</td>
<td>2,024</td>
<td>2,015</td>
<td>2,006</td>
<td>2,001</td>
<td>1,997</td>
<td>1,994</td>
</tr>
<tr>
<td>Ibaraki</td>
<td>2,967</td>
<td>2,961</td>
<td>2,958</td>
<td>2,957</td>
<td>2,957</td>
<td>2,957</td>
</tr>
</tbody>
</table>

**Source:** Population Trends, Basic Resident Register (Ministry of Internal Affairs and Communications)

**Figure 7** Estimated Excess Inward and Outward Migration in Four Affected Prefectures

<table>
<thead>
<tr>
<th></th>
<th>12/3</th>
<th>12/4</th>
<th>12/5</th>
<th>12/6</th>
<th>12/7</th>
<th>11/7→12/7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iwate</td>
<td>1,310</td>
<td>1,305</td>
<td>1,305</td>
<td>1,305</td>
<td>1,304</td>
<td>-1.1%</td>
</tr>
<tr>
<td>Miyagi</td>
<td>2,324</td>
<td>2,316</td>
<td>2,323</td>
<td>2,324</td>
<td>2,324</td>
<td>0.1%</td>
</tr>
<tr>
<td>Fukushima</td>
<td>1,979</td>
<td>1,970</td>
<td>1,968</td>
<td>1,967</td>
<td>1,965</td>
<td>-1.6%</td>
</tr>
<tr>
<td>Ibaraki</td>
<td>2,951</td>
<td>2,946</td>
<td>2,946</td>
<td>2,946</td>
<td>2,946</td>
<td>-0.4%</td>
</tr>
</tbody>
</table>

**Source:** Population Trends, Basic Resident Register (Ministry of Internal Affairs and Communications)
Tasks and Problems for the Affected Areas

Inland areas

- Region includes clusters of industry (electrical machinery, automobiles, etc.)
- Regain orders lost by core industries
- Restart damaged facilities, public and private; earthquake-proof existing ones
- Prevent rumors through quick provision of accurate information
- Establish support centers for coastal affected areas; pursue cooperation on a broad scale.

Coastal Ibaraki Prefecture

- Publicize accurate information so as to minimize rumors in the fishing industry

Tourism

- Take prompt action to dispel rumors
- Offer hands-on events unique to the affected areas
- Attract tourists from outside the region as well as from within

Health and welfare

- Establish or review task-sharing systems so as to ease burdens on hospitals providing urgent care in place of those damaged by disaster
- Obtain government support for elder-care facilities
- Address shortage of doctors, nurses and public health workers
- Rebuild healthcare systems of severely damaged clinics

NPOs and volunteer groups

- Establish support acceptance framework
- Determine needs of affected areas and match them with suitable support givers

Coastal Iwate Prefecture

- Secure stable living conditions for evacuees
- Undertake drastic review of community-building measures, including relocation of housing and other social infrastructure
- Secure usable land
- Facilitate conversion of affected farmland to other use (residential, commercial, etc.)
- Restore fishery facilities (fishing, marine product processing); create cooperatives, corporations, other management systems
- Work to redress population drain caused by job loss
- Ensure access to urban planning engineers

Ishinomaki City and northward:

- Same measures as for coastal Iwate

Higashi-matsushima City and southward:

- Promote the rehabilitation and reconstruction of the Sendai area, home to industrial and distribution industries driving all of Tohoku
- Introduce bold community-building measures in areas where tsunami damage forced relocation
- Help convert affected farmland to commercial or other use

Coastal Miyagi Prefecture

- Secure stable living conditions for evacuees; provide services
- Address loss of healthcare facilities and healthcare workers
- Carry out decontamination and dispel rumors affecting agriculture and tourism

Coastal Fukushima Prefecture

- Secure stable living conditions for evacuees
- Undertake drastic review of community-building measures, including relocation of housing and other social infrastructure
- Secure usable land
- Facilitate conversion of affected farmland to other use (residential, commercial, etc.)
- Restore fishery facilities (fishing, marine product processing); create cooperatives, corporations, other management systems
- Work to redress population drain caused by job loss
- Ensure access to urban planning engineers

NPOs and volunteer groups

- Establish support acceptance framework
- Determine needs of affected areas and match them with suitable support givers

Energy

- Shift of energy control from supply side to demand side
- Suppliers: Consider mid-to-long-term energy mix
- Act quickly to restore thermal and other energy sources
- Introduce solar and other forms of alternative energy

Infrastructure and housing

- Expand East-West transport infrastructure
- Restart port facilities and neighboring areas (by raising embankments, etc.)
- Resolve problems of scale and delay in improving public housing affected by the disaster
- Resolve problems in attracting bids for public works

Sources: DBJ Inc., The Great East Japan Earthquake: Current Circumstances and Measures for Recovery; One Year Since the Great East Japan Earthquake: A Record; interviews with parties concerned.
Tasks and Problems for the Affected Areas

**Figure 8** Changes in Monthly Mining & Industrial Production Indexes Before and After Hanshin and Tohoku Earthquakes

- **Great Hanshin EQ**
- **GEJE**

Note: On horizontal axis, month of earthquake = 0. On vertical axis, 2005 = 100; figures are seasonally adjusted. Prepared by DBJ based on Mining and Industrial Production Indexes (METI).

**Figure 9** Comparison of Real GDP for All Japan and Hyogo Prefecture (1994 = 1)

- **All Japan**
- **Hyogo Prefecture**

Prepared by DBJ based on National Accounts, Prefectural Accounts (Cabinet Office).

**Figure 10** Changes in Population: Hyogo Prefecture

- **Birth - Death**
- **Move in - Transfer**
- **Total population**

Cumulative migration-caused population change, 1996-2010: 56,000 persons (43.7% of the change for 1995)

(22% of the population of Hyogo Prefecture at the time)

Note: "Migration-caused population change" includes other migrants as well as those who have made notification on a residence certificate. Since some calculations are made using estimates based on national census populations, figures for some years may not agree with the natural population even when the population change for that year is added. Prepared by DBJ based on Trends in the Population of Hyogo Prefecture (Hyogo Prefecture).
### Tasks and Problems for the Affected Areas

#### Public sector
- Shortage of local government staffers for huge rehabilitation and reconstruction efforts
- Difficulty of achieving resident consensus and land for new housing (due to lack of suitable land, etc.)
- Fiscal restraints on affected local governments; need for efficient use of national government measures and budgets
- Delayed progress of public reconstruction projects
- Limits to the applicability of existing policies to a disaster of unprecedented scale
- Need for a central body to control the promotion of broad-ranging reconstruction efforts
- Need for efficient linkage of NPOs and other private groups to reconstruction efforts

#### Private sector
- Securing primary operators for new industrial reconstruction projects and ensuring that support policies are thorough and well-utilized
- Huge hurdles to overcome in rebuilding and reopening local industries (such as fishery industries damaged by the tsunami)
- Revitalizing existing industries to promote reconstruction (e.g., by encouraging business with large firms in the auto industry)
- Securing adequate manpower in areas affected by disaster-related population drain
- Applying private-sector knowledge, technology and networks to the rebuilding of infrastructure
- Partnering with the public sector in building healthcare systems for disaster-affected residents

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**Keys to reconstruction:**
- Securing jobs in affected areas by maintaining and rebuilding industry
- Supporting the rebuilding of communities
- Restoring people’s livelihoods
Reference: DBJ Profile and Initiatives in Support of Earthquake Disaster Reconstruction
| **Establishment** | October 10, 2008 | Former Japan Development Bank est. 1951  
Former Hokkaido-Tohoku Development Finance Public Co. est. 1956  
Former Development Bank of Japan est. 1999 |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>President &amp; CEO</strong></td>
<td>Tōru Hashimoto</td>
<td></td>
</tr>
<tr>
<td><strong>Number of employees</strong></td>
<td>1,146 (as of March 31, 2012)</td>
<td></td>
</tr>
<tr>
<td><strong>Capital</strong></td>
<td>JPY1,198,316,000,000 (wholly government-funded)</td>
<td></td>
</tr>
<tr>
<td><strong>Head office</strong></td>
<td>1-9-1 Otemachi, Chiyoda-ku, Tokyo 100-0004</td>
<td></td>
</tr>
<tr>
<td><strong>URL</strong></td>
<td><a href="http://www.dbj.jp/">http://www.dbj.jp/</a></td>
<td></td>
</tr>
<tr>
<td><strong>Associated offices</strong></td>
<td>Branches (10), offices (8), overseas representative office (1), overseas subsidiaries (2)</td>
<td></td>
</tr>
<tr>
<td><strong>Total assets</strong></td>
<td>JPY15,563,200,000,000 (as of March 31, 2012)</td>
<td></td>
</tr>
<tr>
<td><strong>Loans outstanding</strong></td>
<td>JPY13,704,900,000,000 (as of March 31, 2012)</td>
<td></td>
</tr>
<tr>
<td><strong>Capital adequacy ratio</strong></td>
<td>18.30% (Uniform International Standard; as of March 31, 2012)</td>
<td></td>
</tr>
<tr>
<td><strong>Issuer rating</strong></td>
<td>Aa3 (Moody’s), A+ (S&amp;P), AA (R&amp;I), AAA (JCR)</td>
<td></td>
</tr>
</tbody>
</table>
# DBJ Initiatives in Support of Earthquake Disaster Reconstruction

## Partner

### National government
- **Proposals & research**
  - Disaster analysis, proposals
    - The Tohoku Handbook
    - Proposals regarding the Tohoku Earthquake
    - The Tohoku Earthquake: Current Status & Future Issues
    - Specific Measures and Issues for Disaster Recovery following the Tohoku Earthquake (in collaboration with the Canon Institute for Global Studies)
    - The Tohoku Earthquake: Local Recovery Strategies (Infrastructure, Housing, Health and Welfare, Manufacturing, Tourism, Primary Industry)
- **Disaster response financing**
- **Cooperation in reconstruction planning**
- **Support for special reconstruction zones**
- **Industrial projects**
- **Support for reconstruction projects**

### Local government
- **Proposals & research**
- **Disaster analysis, proposals**
- **Cooperation in reconstruction planning**
- **Disaster response financing**
- **Support for special reconstruction zones**
- **Industrial projects**

### Economic groups, universities
- **Proposals & research**
- **Disaster analysis, proposals**
- **Study Group on Regional Reconstruction (Chair: Takashi Onishi, Tokyo University)**
- **Cooperation in reconstruction planning**
- **Disaster response financing**
- **Support for special reconstruction zones**
- **Industrial research**

### Private business
- **Proposals & research**
- **Industrial research**
- **Disaster response financing**
- **Emergency response financing**
- **New loan program based on disaster-preparedness ratings**
- **Tohoku earthquake reconstruction funds (Bank of Iwate, 77 Bank, Toho Bank, Toyo Bank)**

### Local financial institutions
- **Proposals & research**
- **Industrial research**
- **Disaster response financing**
- **Support for special reconstruction zones**
- **Industrial projects**

## Proposals & research

- **Disaster analysis, proposals**
  - The Tohoku Handbook
  - Proposals regarding the Tohoku Earthquake
  - The Tohoku Earthquake: Current Status & Future Issues
  - Specific Measures and Issues for Disaster Recovery following the Tohoku Earthquake (in collaboration with the Canon Institute for Global Studies)
- **Study Group on Regional Reconstruction (Chair: Takashi Onishi, Tokyo University)**
- **Special questionnaire, National Capital Investment Survey**

## Finance

- **Cooperation in reconstruction planning**
  - The Reconstruction Design Council in Response to the Great East Japan Earthquake
  - Participation in exploratory committees on reconstruction (Iwate, Miyagi, Fukushima, Sendai)
- **Disaster response financing**
  - Supply Chain Support Fund (Japan Auto Parts Industries Association)
  - Investments and loans for reconstruction projects
  - Emergency response financing
  - New loan program based on disaster-preparedness ratings
  - Tohoku earthquake reconstruction funds (Bank of Iwate, 77 Bank, Toho Bank, Toyo Bank)

## Commercialization support

- **Support for special reconstruction zones**
  - Support for special reconstruction zones
  - Counseling center
- **Industrial projects**
  - Public-private projects (reconstruction PFI, etc.)
  - Industrial projects (advice on industrial schemes, matching of local governments and private companies, etc.)
- **Support for reconstruction projects**
  - Support also extended to special reconstruction zones (advice for local councils; interest support program)
- **Other departments**
  - Industrial projects
  - Support for special reconstruction zones
Tohoku Revival Reinforcement Office (est. April 2011)

- To aid in the reconstruction of earthquake-damaged areas in Tohoku, DBJ established this office at its Tohoku Branch. The office gathers the knowledge and financing skills needed for effective recovery from every part of the DBJ Group and makes these available to the affected areas.
- Working with local governments and financial institutions, as well as national government agencies and economic organizations, the Tohoku Revival Reinforcement Office contributes to the reconstruction effort by issuing information and carrying out research and planning.

**Tohoku Revival Reinforcement Office**

- Carries out research and analysis based on local economic data on economic and industrial structure, extent of disaster damage, and other relevant matters.
- Furnishes methods and skills for the framing and implementation of public-private projects and other initiatives based on reconstruction plans.
- Utilizes reconstruction funds, recovery policies and other programs to facilitate private investment in reconstruction efforts.

**Head Office**
- Regional Planning Department
- Financial Institution Department
- Other relevant departments
- Think tanks

**Tohoku Branch**

**Provides information, conducts research and planning for reconstruction efforts.**

Knowledge and skills of the entire DBJ Group
Drawing on its unique attributes and long experience, DBJ works to facilitate the smooth and swift recovery of affected areas. DBJ participates in local councils as stipulated in the Act on Special Reconstruction Zones, and gives primarily financial support to local governments and operators considering special reconstruction zone plans and projects.
Coordination Framework with Relevant Organizations

- Coordination with local government
  DBJ supports local governments in framing reconstruction plans and in designing and implementing projects based on those plans.

- Coordination with local financial institutions
  DBJ creates systems facilitating the flow of funds to companies and other entities affected by the disaster.

- Coordination with national agencies and economic groups
  DBJ coordinates with special reconstruction zones and other regions undergoing restoration, providing useful information to government agencies, industries and others involved.
## Support for Reconstruction Planning

<table>
<thead>
<tr>
<th>National government</th>
<th>Reconstruction Design Council in Response to the Great East Japan Earthquake</th>
<th>Kōsuke Motani (Senior Vice President, Regional Development Group)</th>
<th>Member of the Study Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miyagi Prefecture</td>
<td>Miyagi Prefecture Earthquake Reconstruction Conference</td>
<td>Kōsuke Motani (Senior Vice President, Regional Development Group)</td>
<td>Member</td>
</tr>
<tr>
<td>Fukushima Prefecture</td>
<td>Exploratory Committee for Reconstruction Planning in Fukushima Prefecture</td>
<td>Ryō Ishimori (Managing Executive Officer)</td>
<td>Member</td>
</tr>
<tr>
<td>Iwate Prefecture</td>
<td>Iwate Prefecture Committee for Reconstruction after the Great East Japan Earthquake and Tsunami</td>
<td>Kōsuke Motani (Senior Vice President, Regional Development Group)</td>
<td>Expert Adviser</td>
</tr>
<tr>
<td>Sendai City</td>
<td>Sendai City Council for Earthquake Reconstruction</td>
<td>Kōsuke Motani (Senior Vice President, Regional Development Group)</td>
<td>Adviser</td>
</tr>
<tr>
<td></td>
<td>Sendai City Reconstruction Council (Regional Council)</td>
<td>Katsumi Fukai (Director, Tohoku Revival Reinforcement Office, Tohoku Branch)</td>
<td>Member</td>
</tr>
<tr>
<td>Yamagata Prefecture</td>
<td>Yamagata Prefecture Great East Japan Earthquake Reconstruction Conference</td>
<td>Takahiro Suzuki (Head of Tohoku Branch)</td>
<td>Member</td>
</tr>
</tbody>
</table>

Source: Reconstruction Agency Website

Titles are as of time of appointment.
Inquiries

Please contact us with any questions or comments.

Tadao Hasue, Kumi Onuma
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Development Bank of Japan Inc.
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Fax: 022-227-6709
E-mail: tohoku@dbj.jp
URL: http://www.dbj.jp/