Miyagi Prefecture Earthquake Disaster Recovery Plan
~ The bond between Miyagi, Tohoku and Japan - from Recovery to Prosperity ~

<Summary>

October 2011
Miyagi Prefectural Government
Purpose of plan development
The prefectural government decided to develop the Miyagi Prefecture Earthquake Disaster Recovery Plan as a result of the March 11, 2011 Great East Japan Earthquake that struck and caused catastrophic damage to Miyagi Prefecture. The Miyagi Prefecture Earthquake Disaster Plan is one of proposals because it is necessary to bring in new methods and design different from the past in order to achieve the recovery efforts.

Basic principles
1. Developing a disaster-resistant and secure community
2. Not only restoration, but also reconstruction
3. Progressive community development that will solve issues in modern society
4. Building a model outlining steps from catastrophic damage to recovery

Basic concept
1. Period of plan
The period to achieve full recovery of the region is set for 10 years, with a goal to complete recovery by 2020. The recovery period is broken down into three stages – Restoration, Reconstruction and Development stages. The seeds for recovery will be planted in the restoration stage to yield results in the rebuilding and development stages and to achieve full recovery of our hometown, Miyagi Prefecture.

2. Key players in the recovery efforts
Each prefectural citizen will be the key players in the recovery efforts. It is necessary for the various players to carry out recovery efforts, through the bond that connects together each person who is at the core of the recovery efforts.

3. Targeted regions
The entire prefecture will be the targeted subjects of the plan. In particular, the focus of the plan will be on the damaged coastal regions.

4. Progress management
Through the management method of the PDCA cycle, evaluations will be made on project achievements and the results of the evaluation will be reflected in the specific recovery efforts. In order to respond to changes in various factors including the social situation, the plan may be re-examined as necessary.

Urgent priority items
The prefectural government has set forth the following items as urgent items that must be dealt with immediately on a prefectural level in order to prioritize efforts to support the lifestyle of the victims and recovery of the disaster areas.
1. Lifestyle support for victims
Maintaining temporary housing, providing public housing, housing reconstruction support, improving mental health care and health of victims, etc.
2. Restoration of public works facilities and public utilities
Restoration of roads, ports, airport, railway, waterworks and sewage, electricity, gas and communication, urgent restoration and countermeasures for flooding of coastal and river facilities
3. Maintaining public facilities
Maintaining public facilities, securing personnel, recovering public documents, restoring work foundation, support to community development
4. Disposal of disaster waste
Removing disaster waste to primary temporary scrap yard, transferring waste to secondary temporary scrap yard and disposing of it

Recovery Points
As it is necessary to carry out radical reconstruction in addition to restoration and carry out innovative community development, the following 10 items have been adopted as the recovery points, and in order to realize these points the prefectural government will carry out joint efforts with the citizens and local municipalities as well as make proposals and requests to the national government.
1. Constructing a Miyagi disaster-resistant community development model
The prefectural government plans to promote a disaster-resistant urban plan designed to incorporate ideas for tsunami countermeasures such as high ground relocation, extending the area of inhabited land and establishing a multiple tsunami barrier, and promote an urban plan that maximizes the lessons learned from this disaster.

2. Rebuilding Miyagi's marine products industry
For the purpose of rebuilding and developing the prefecture's fishing industry, the prefectural government will re-examine areas, including the legal system, structure of operations and the state of the fishing port and will promote the creation of a new fishing industry and the reconstruction of the fishing cities.

3. Building progressive agricultural and forestry industries
While coordinating land usage, the prefectural government will make plans to improve agricultural output through agricultural land integration, large scale of operations and transitions of crops planted. In addition, the agri-business for the "sixth industry" will be proactively developed for the revitalization and reconstruction of a competitive agricultural industry. There will also be plans to move along the rapid reconstruction of the lumber industry and revitalize a proactive forestry industry.

4. Rebuilding the manufacturing industry promptly to achieve a prosperous Miyagi
The prefectural government will move ahead to support prompt reconstruction of the manufacturing industry and to further attract automobile-related industries. Plans will also be carried out to integrate and promote new industries that will lead the next generation, reconstruct the grand design for the manufacturing industry that will maximize the region's unique features and create an industrial structure that will balance primary to tertiary industries.

5. Revitalizing Miyagi's attractive tourism industry
The prefectural government plans to transmit tourism information, restore and enhance the transportation infrastructure, implement tourism campaigns such as Destination Campaign, strengthen the response to inbound tourism (attracting overseas tourism) and construct a new tourism route. The prefectural government will also carry out efforts for tourism recovery by maximizing the experience of the disaster and revitalizing the attractive Miyagi tourism industry.

6. Constructing the health, medical and welfare fields together with community development plan for entire region
The prefectural government will promote the rapid restoration of medical and welfare institutions and the reconstruction of the health, medical and welfare distribution system throughout the entire region along with the community development plan. Furthermore, the development of a regional community where people of all ages can live comfortably will be promoted based on the lessons learned from the location of affected facilities, the importance of an extensive medical system and the importance of the collaboration among regional communities.

7. Developing "eco towns" that utilize renewable energy
The prefectural government will proactively promote urban planning that utilizes clean energy in the new urban foundation when rebuilding the disaster areas.

8. Promoting disaster-resistant prefecture and nation
In conjunction with the promotion of a disaster-resistant, multiple transportation network and the coordination of a shift towards high certainty disaster information collection and evacuation information collection and transition systems, the prefectural government will propose to the national government the establishment of a central, extensive disaster prevention hub and the maintenance of a national alternative crisis management function.

9. Developing human resources of the future
The prefectural government will promote the maintenance of the educational environment in the affected areas and improve mental care for children and disaster prevention education. While utilizing the lessons learned from this earthquake disaster, which also allowed the children to recognize again their relation with others and the society, the prefectural government will further carry out efforts in the prefecture's "education of the will" and promote the development of human resources that will support the development of this country and region.

10. Building financial resources, systems and cooperative framework to support recovery efforts
The prefectural government will propose to the national government the new financial resource measures and the establishment of a "Special East Japan Recovery Zone" based on the events of the earthquake disaster. Because the affected areas cross over many prefectures with unprecedented widespread damage, the prefectural government will also establish a collaborative system that goes beyond the borders of the devastated prefectures and local municipalities.

Security of medical treatment and welfare
Securing of the victims, maintaining a medical treatment and medical supply provision system, and supporting the elderly and children who lost a parent

Supporting employment maintenance for stricken companies, securing employment and living expenses for victims
Early recovery of the agricultural, forestry and marine products industries
Restoring the production base of agricultural, forestry and marine products industries by removing debris and salt, supporting the resumption and reconstruction of businesses and constructing a stable supply system

Reconstruction of the commerce and industry
Supporting the resumption of businesses with temporary stores, factories and other facilities, supporting the restoration and maintenance of stores, factories, etc. and supporting general finance and operations

Rebuilding a safe and comfortable regional society
Restoring fire safety and disaster prevention functions, restoring disaster prevention facilities, re-examining disaster prevention system, restore and strengthening functions of police facilities and rebuild a safe and comfortable regional society

Responding to nuclear power disaster
Measuring radioactivity at schools and other locations in each municipality, maintaining radioactivity testing system for agricultural, forest and marine products, carrying out efforts to dispel harmful rumors, rebuilding a prefectural response system to nuclear power disasters, requesting to the national government the realization of complete compensation for damage and establishing radical reduction measures for radioactive materials and maintaining the surveillance of radioactivity throughout entire prefecture.
Recovery Point 1. Building a disaster-resistant community

Specific efforts
- Relocation to high ground, separation of business and residence
- Ensuring safe evacuation areas and routes
- Supporting urban development
- Promoting road maintenance

Issues to consider
- Creating new system and easing regulations in relation to urban development
- Carrying out smooth transfers of land ownership for new land use, managing vacant lots
- Building consensus among local residents

Recovery Point 2. Rebuilding Miyagi’s marine products industry

Specific efforts
- Creating a marine products industry district, collectively reorganizing the fishing port centers
- Introducing new structures for operation
- Forming a competitive and attractive marine products industry

Issues to consider
- Creating a system where the national government will directly subsidize the infrastructure of fishing vessels, aqua cultivation facilities, processing facilities during a fixed period of time
- Discussing and coordinating with fishermen and examining the special fishery reconstruction zone to switch over to new fishing rights that will contribute to the introduction of private investment based on the national government’s “From the Great East Japan Earthquake Towards Reconstruction Basic Policy”

Recovery Point 3. Creating a progressive agricultural and forestry industries

Specific efforts
- Building an agricultural industry and community model for the new era
- Supporting the promotion of an agri-business that puts private investment into practical use
- Establishing green space, parks and other buffer zones
- Swift reconstruction of the lumber industry and revitalization of a vibrant forestry industry

Issues to consider
- Deciding the system for the purpose of effectively/rationally utilizing the land
- Creating a system and easing regulations in order to efficiently implement zoning, employing tax break
- Expanding private investment in order to revitalize the agricultural industry

Recovery Point 4. “Realizing a prosperous Miyagi” by promptly rebuilding the manufacturing industry

Specific efforts
- Creating an environment to quickly restart businesses
- Improving the logistics infrastructure that support the continuation of businesses
- Further promote automobile-related industries and develop business attraction
- Accumulation and promotion of new industries that will support the next generation
- Creating a global industrial area and developing global business
- Creating employment opportunities through promotion of new industries

Issues to consider
- Creating a method for a special zone system in order to promote investment in new industrial fields and company expansion

Recovery Point 5. Revitalizing Miyagi’s attractive tourism industry

Specific efforts
- Transmitting accurate tourism information
- Building an extensive transportation network that will assure convenience and safety for tourists
- Developing the Sendai-Miyagi Destination Campaign through collaboration with the administrative and private sector
- Attracting MICE (Meetings, incentive travel, convention, event/exhibition)
- Rebuilding an extensive tourism route
- Attracting travel with the aim to study and research the earthquake disaster

Issues to consider
- Restoring damaged tourism facilities, revitalizing tourist resources and creating new tourist resources
Recovery Point 6. Rebuilding health, medical care and welfare together with community development plans

【Building medical collaboration using ICT】

- Coastal municipalities
- City medical center
- 「病診連携」
- 「病病連携」
- 「連携」
- 「情報のネットワーク化」
- 「病診連携」「病病連携」
- 「沿岸部の市町医療拠点都市」
- 「高齢者施設」
- 「耐災性の高いライフラインの整備」
- 「多重型のライフライン」
- 「被災時もつながる通信回線」
- 「首都の危機管理」
- 替代機能整備

Specific efforts
- 易理事業の在り方
- 病病連携
- 病診連携

Issues to consider
- 近い医療機関連携
- 家庭と診療所の連携
- 下水処理施設等の連携
- 災害時における情報のネットワーク化

Recovery Point 7. Forming eco towns that utilize renewable energy

【「eco town」】

- 太陽光発電
- 風力発電
- 小水力発電
- 地熱・廃熱発電
- バイオマス発電
- 再生可能エネルギー
- エネルギー管理システム

Specific efforts
- Promote environmentally-friendly urban development
- Upgrade all “post-disaster reconstruction homes” to have solar power
- Progressive urban development through smart grid and cogeneration

Issues to consider
- Public awareness of clean energy and smart grid
- Easing regulations related to the introduction of renewable energy
- National support measures for equipment installation, relieving burden on installation personnel
- Cooperation between energy-related companies and electric power companies, research and development of energy conservation-related companies

Recovery Point 8. Promoting the creation of a disaster-resistant prefecture

【Extensive disaster prevention system】

- 构築一体的災害管理機能
- 建設災害管理機能
- 替代機能整備
- 災害時における情報のネットワーク化

Specific efforts
- 构築一体的災害管理機能
- 建設災害管理機能
- 替代機能整備

Issues to consider
- 建設災害管理機能
- 替代機能整備

Recovery Point 9. Developing human resources of the future

【Developing human resources of the future】

- Enhancing mental health care and disaster prevention education
- Developing human resources in industries that will play a role in the recovery efforts
- Promoting the “education of the will”

Specific efforts
- Enhancing mental health care and disaster prevention education
- Developing human resources in industries that will play a role in the recovery efforts
- Promoting the “education of the will”

Issues to consider
- Maintaining the conditions to enhance mental health care
- Creating collaboration system with the region and companies in order to promote the “education of the will”

Recovery Point 10. Constructing financial resources, systems and collaborative framework to support recovery efforts

【Diagram of collaboration】

Specific efforts
- Secure necessary financial resources
- Establish a “special East Japan recovery zone”
- Integrate vitality of private sector
- Collaboration beyond the boundaries of affected prefectures, municipalities
- Collaboration among academics, research institutions, think tanks, etc. who will lead the recovery and regional revitalization efforts

Issues to consider
- Establishing a system in the national government and forming consent among the people of Japan in regards to various measures to secure financial resources
- Creating an effective special zone system
Direction of recovery efforts by category

The basic direction of recovery efforts by category is adopted and there are plans to develop effective measures based on the restoration, rebuilding and development stages for the entire prefecture. Recovery efforts for the entire region are being carried out by creating plans to develop transversal measures while integrating measures in welfare, urban, transportation and other fields of the community, and deepening collaboration between the inland and coastal regions in the categories of manufacturing industry, tourism and others. Ultimately, the prefectural government will continue to work on the realization of a regional society where the citizens can actually sense the development of the prefecture’s vitality based on the basic direction of the government’s advancing policies, which include “realizing a prosperous Miyagi,” “creating a safe and vital regional society,” and “creating an attractive, safe prefecture where people and nature can live in harmony.” These policies have been adopted in the “Miyagi’s Future Vision” - the government’s long-term, general plan for the prefecture.

Direction of recovery efforts by category: policy system

1. Environment, lifestyle, sanitation, waste
   - Securing life environment for the victims
   - Lifestyle support for victims
   - Securing housing for victims
   - Ensuring safe living environment
   - Rebuilding the regional community
2. Properly disposing waste
   - Properly disposing disaster waste
3. Achieving a sustainable society and preserving the environment
   - Promoting the installation of renewable energy
   - Preserving the natural environment and lifestyle environment

(3) Economy, commerce, tourism, employment

1. Rebuilding the manufacturing industry
   - Support the restoration and maintenance of factories and equipment
   - Support the resume business
   - Enhance loan system to allow for business stability
   - Support the resumption and improvement of production activities
   - Support market entry and transaction expansion
2. Revitalizing commerce and tourism
   - Promote development of further company attraction and new industry agglomeration
3. Tourism
   - Attracting domestic and overseas tourists
   - Maintain tourism resources and routes, promote intraregional flow
   - Maintain preparation to realize "Tourism Kingdom Miyagi"
4. Preserving and securing employment
   - Preserve and secure urgent employment opportunities and support daily lives
   - Support employment for victims and recent graduates
   - Create new employment opportunities
   - Develop human resources in the industry for the recovery efforts

(4) Agricultural, forestry, marine products industries

1. Reconstructing an attractive agricultural industry and community
   - Prompt restoration of the production base
   - Support to promptly resume farming
   - Support for the development of an agricultural industry and community recovery plan and the maintenance of the production system
   - Rebuild a profitable agricultural business
2. Revitalizing a vibrant forestry industry
   - Preserve industry and secure wood supply for recovery efforts
   - Support to restore damaged homes and central facilities
   - Promote prompt restoration of coastal disaster prevention forests and effective use of woody biomass
3. Building new marine products industry
   - Efforts to promptly resume marine products industry
   - Support to rebuild fishing operation and production bases
   - Rebuild the collective marine products industry center and collectively recognize coastal fishing centers
   - Strengthen operation system, secure successors, general industrialization of the fishing industry by implementing new operational methods
4. Promoting food industry that pulls the primary industry
   - Support to promptly restore food production-related facilities and resume business
   - Expand market by strengthening information transmission
   - Rebuild "Food Kingdom Miyagi"

(5) Public works facilities

1. Secure and promote the maintenance of roads, ports, airports and other transportation infrastructure
   - Roads
     - Maintain high-grade expressways
     - Support the maintenance of national and prefectural roads and roads maintained by local authorities
   - Measures to earthquake proof bridges, etc. and measures for long lasting
   - Ports, airports
     - Maintain Port of Sendai-Shiogama, Port of hirnnomaki and other ports
     - Rebuild Sendai Airport
   - Safe coasts and rivers in the prefecture
     - Maintain coasts
     - Maintain rivers
   - Restore utilities including water and sewage
     - Maintain sewage
     - Maintain water and water for industrial use
   - Rebuild communities in the coastal cities and towns
     - Collaborate on various policies for community development

(6) Education

1. Securing and comfortable school education
   - Support studies of affected students
   - Mental health care for students
   - Enhance disaster prevention education
   - Promote "education of the will"
2. Rebuild educational skills at home and in the region
   - Maintain system to develop children throughout entire region
   - Secure school safety through regional cooperation
3. Enhance lifelong learning, cultural and sports activities
   - Restore facilities for social education, social sports and promote lifelong learning activities
4. Repair and restored damaged cultural assets, promote the regional culture

Summary of projects listed in Miyagi Prefecture Disaster Recovery Plan (proposals)

Direction of recovery efforts by category

1. Environment, lifestyle, sanitation, waste
   - Securing life environment for the victims 29 (21) 0 (0)
   - Lifestyle support for victims 5 (5) 0 (0)
   - Securing housing for victims 15 (13) 1 (1)
   - Ensuring safe living environment 10 (0) 0 (0)

2. Health, medical care, welfare
   - Securing safe regional medical care 31 (23) 8 (12)
   - Supporting health for the victims 19 (13) 0 (0)
   - Maintaining a medical-distribution system in the aspects of equipment / infrastructure and service 10 (10) 0 (0)
   - Promoting collaboration in health, medical care and welfare 15 (10) 5 (5)
   - Supporting the children of the future 19 (13) 0 (0)
   - Supporting children and parents who are victims 21 (13) 0 (0)
   - Maintaining child welfare facilities 9 (9) 0 (0)
   - Supporting children and child rearing throughout entire region 15 (10) 5 (5)
   - Building a comfortable regional society 10 (10) 0 (0)
   - Mental health care for the prefectural citizens 0 (0) 0 (0)
   - Maintaining social welfare facilities 25 (21) 0 (0)
   - Constructing mutual supporting regional communities 0 (0) 0 (0)

3. Economy, commerce, tourism, employment

4. Agricultural, forestry, marine products industries

5. Public works facilities

6. Education

7. Disaster prevention, safety, comfort

Numbers in parentheses are the number of projects listed in Miyagi Prefecture Disaster Recovery Plan (proposals)

*Numbers in parentheses are the number of projects listed in Miyagi Prefecture Disaster Recovery Plan (proposals)*
Data: As of Oct. 20, 2011

1 Earthquake-related
- Date & Time: March 11, 2011, 14:46
- Epicenter: Off the Sanriku coast (38.1°N 142.7°E, approx. 130km east of the Oshika Peninsula)
- Depth: Approx. 24 km
- Size: Magnitude 9.0
- Greatest seismic intensity: Seismic intensity 7 (Kurikara City)
- Tsunami: 7.2 m (Port of Sendai) — Recorded by JMA on Apr. 5, 2011
- More than 8.6 m (Aomori, Ishinomaki City) — Recorded by JMA on Apr. 13, 2011
* Tsunami pushed at most 5 km inland *327 km² of the region was flooded (4.5% of pref.)

2 Damage situation
- Human toll (continuing investigation)
  - Deaths: 9,446
  - Missing: 2,026
  - Seriously injured: 429
  - Slightly injured: 3,579
  - Damage to homes, nonresidential housing
    - Completely destroyed: 76,078
    - Half destroyed: 92,234
    - Partially destroyed: 175,294
    - Above ground flooding: 7,061
    - Below ground flooding: 11,194
    - Damage to nonresidential housing: 27,627
- Water: Water supply problems occurred in 35 municipalities
- Gas: Gas supply problem in 13 municipalities
- Power: Power outage in 101 municipalities
- Evacuation shelters: 1,183 (Evacuees: 320,885)
- Damage to utilities (at peak time)
  - Electricity: No. of homes without power: 1,645,494
- Water: Water supply problems occurred in 35 municipalities
- Sewage: 124 places damaged at facilities
- Total damage costs (continued investigation) 7,578,100,000 JPY

The prefectural government will view the future lifestyle of the prefectural citizens and fundamentally rebuild the role of the industries in the prefecture and the way of maintaining and establishing public facilities. While aiming to realize the future of the entire prefecture created in the "Miyagi's future vision" plan, a recovery model will be created to respond to the expectations of the national and international communities.

Prefereduce's basic administrative and fiscal management policy

More detailed information on the Miyagi Prefecture Earthquake Disaster Recovery Plan is available on the Miyagi Prefectural Government website (in Japanese).