

(Provisional translation)

## **Guidelines for Assessment of Vulnerability to Large-scale Natural Disasters**

December 17, 2013

Decision by the National Resilience Promotion Headquarters

### **1. Purport**

Assessment of vulnerability to large-scale natural disasters (hereinafter referred to as “vulnerability assessment”) is like a health checkup of nation, examining and assessing vulnerability for the purpose of building national resilience to large-scale natural disasters, etc. This will be a basis for efficiently and effectively implementing required measures and is an indispensable process in promoting initiatives for building national resilience.

The Basic Act for National Resilience Contributing to Preventing and Mitigating Disasters for Developing Resilience in the Lives of the Citizenry (hereinafter referred to as the “Act”) specifies the basic principles as follows in Article 2. “When promoting measures concerning National Resilience, (omitted) relevant measures must be established appropriately under clear goals through such means as assessing the current status in terms of ensuring the safety and health and protecting the property of the citizens against Large-scale Natural Disasters and of minimizing the influence of Large-scale Natural Disasters on the lives of the citizenry and the national economy, and such measures must be incorporated into the national plan, etc.” The Act also provides that “In order to clarify the matters necessary to promote initiatives for building National Resilience, the Headquarters must establish guidelines for Vulnerability Assessment, conduct Vulnerability Assessment in line with said guidelines and prepare a draft of the Fundamental Plan for National Resilience based on the assessment results” (Article 17, paragraph (1) of the Act).

Based on Article 17, paragraph (1) of the Act, the Guidelines hereby specify matters necessary for properly conducting vulnerability assessment upon preparing a draft of the Fundamental Plan for National Resilience.

### **2. Basic Matters**

#### **(1) Assessment Method and Time**

##### **(i) Assessment method**

In taking actions for building national resilience, it is important not only to consider measures for emergencies, such as for large-scale natural disasters, but also review measures that are being ordinarily taken by respective ministries and agencies, while envisaging emergencies. Therefore, Vulnerability Assessment shall be conducted for each sector of measures concerning national resilience (Article 17, paragraph (4) of the Act).

Furthermore, goals for building national resilience should be established, and “the worst events that should never happen” (Article 17, paragraph (3) of the Act) should be envisaged as events that would hinder progress toward such goals and would cause fatal damage to the nation. These represent a type of risk scenario. The current status regarding responses to those events is to be first assessed comprehensively and then vulnerability assessment is to be conducted for each sector of measures.

The assessment shall include an evaluation on the required resources, including human resources to be input, that are indispensable for promoting initiatives for building national resilience.

Vulnerability Assessment shall be conducted in a comprehensive and objective manner based on scientific knowledge (Article 17, paragraph (3) of the Act), and in a quantitative manner, to the extent possible, in order to ascertain progress of measures.

#### **(ii) Assessment time**

By around the end of March 2014

### **(2) Premises for Assessment**

#### **(i) Envisaged risks**

Envisaged risks that may affect the lives of the citizenry and the national economy include large-scale accidents and terror attacks, in addition to natural disasters. However, a capital inland earthquake and a Nankai Trough earthquake are predicted to occur in the near future and once such large-scale natural disasters happen, a wide area of the national land will be damaged significantly. Therefore, for the time being, assessment shall be conducted, envisaging large-scale natural disasters.

#### **(ii) Sectors of measures**

Targeted individual sectors of measures (12 sectors) and cross-cutting sectors (3 sectors) are as follows.

(Individual sectors of measures)

- 1) Administrative functions/Police and fire services
- 2) Housing and cities
- 3) Healthcare and welfare
- 4) Energy
- 5) Finance
- 6) Information and communications
- 7) Industrial structures

- 8) Transportation and logistics
- 9) Agriculture, forestry and fisheries
- 10) National land conservation
- 11) Environment
- 12) Land use (national land use)

(Cross-cutting sectors)

- 1) Risk communication
- 2) Countermeasures for aging infrastructure
- 3) Research and development

### **(iii) Goals and the worst events that should never happen**

The Act specifies the following basic policies for disaster prevention measures for ensuring proper response in the event of a large-scale natural disaster:

- Prevent human loss by any means.
- Avoid fatal damage to important functions for maintaining administration as well as social and economic systems.
- Mitigate damage to property and facilities and prevent expansion of damage.
- Achieve swift recovery and reconstruction.

These are the fundamental goals for promoting initiatives for building national resilience.

The Guidelines further flesh out these fundamental goals by envisaging large-scale natural disasters and establish the following eight goals that Japan's social and economic systems should achieve in advance.

1. Protect human lives to the utmost extent even in the event of a large-scale natural disaster.
2. Ensure prompt rescue and first-aid activities and provision of medical care from immediately after a large-scale natural disaster (including responses required in the absence of such activities).
3. Secure indispensable administrative functions from immediately after a large-scale natural disaster.
4. Secure indispensable information communication functions from immediately after a large-scale natural disaster.
5. Prevent functional disturbance in economic activities (including supply chains) even after the occurrence of a large-scale natural disaster.
6. Secure minimum networks for electricity, gas, water and sewerage, fuel and transport required for people's lives and economic activities even after the occurrence of a large-scale natural disaster, and seek early recovery of these networks.

7. Prevent any uncontrollable secondary disaster.
8. Develop conditions that enable swift recovery and reconstruction of local society and economy even after the occurrence of a large-scale natural disaster.

Next, as events that hinder progress toward these eight goals to be achieved in advance, the 45 worst events that should never happen were established, as shown in the Attachment.

### **3. Vulnerability Assessment Procedures**

Vulnerability assessment shall be conducted as follows.

#### **(1) Measures for avoiding the worst events that should never happen and setting of indicators to show the progress thereof**

Ministries and agencies should identify measures that they are currently implementing in order to avoid the worst events that should never happen (including measures scheduled to be commenced in FY2014 and other known measures being implemented by entities other than the national government, such as local governments or the private sector) and should set indicators to show performance levels and progress of those measures to the extent possible. If there are any conventional indicators, they should use such indicators, and if there is no appropriate indicator, they should establish new indicators as necessary. It should be noted that quantitative progress management would be difficult for measures without any indicators.

#### **(2) Analysis of vulnerability**

Ministries and agencies and the Cabinet Secretariat should analyze the measures identified as explained in (1) above, based on their progress and by simulating the situation where the goals for respective measures are achieved, and judge whether the worst events that should never happen can be really avoided or otherwise what is missing. They should ascertain the problems in improving the current status for avoiding those events (or partially reducing the risks) and compile what measures should be introduced in the future. In that process, they should also consider, as necessary, issues concerning collaboration with other entities (other ministries and agencies, local governments, the private sector, etc.) and initiatives by other entities, as well as issues concerning human resources and other resources to be input for promoting initiatives for building national resilience.

#### **(3) Comprehensive assessment of vulnerability and publication of the results**

Based on the analysis conducted for each of the individual measures as explained in (2) above, a group of measures for avoiding each of the worst events that should never happen (or partially reducing the risks) (hereinafter such group of measures shall be referred to as a “program”) is to be compiled. Then, vulnerability of the current status is to be analyzed and assessed

comprehensively for each program and for each sector of measures, while taking into account the performance levels and progress of each program. The results of the analysis and assessment are publicized on the website.

#### **4. Future Challenges**

This time, vulnerability assessment covers only measures implemented or ascertained by the national government. In the future, the coverage should be expanded to include efforts being made independently by local governments and the private sector, etc., and vulnerability assessment needs to be improved to a method based on risk scenarios, considering frequencies of disasters and scales of damage in respective regions.