



**Asia-Pacific
Economic Cooperation**

2012/SOM2/EPWG/015

Agenda Item: 9.3.1

Recovery from the Great East Japan Earthquake and Tsunami

Purpose: Information

Submitted by: Japan



**3rd Emergency Preparedness Working
Group Meeting
Kazan, Russia
29-30 May 2012**

Recovery from the Great East Japan Earthquake and Tsunami

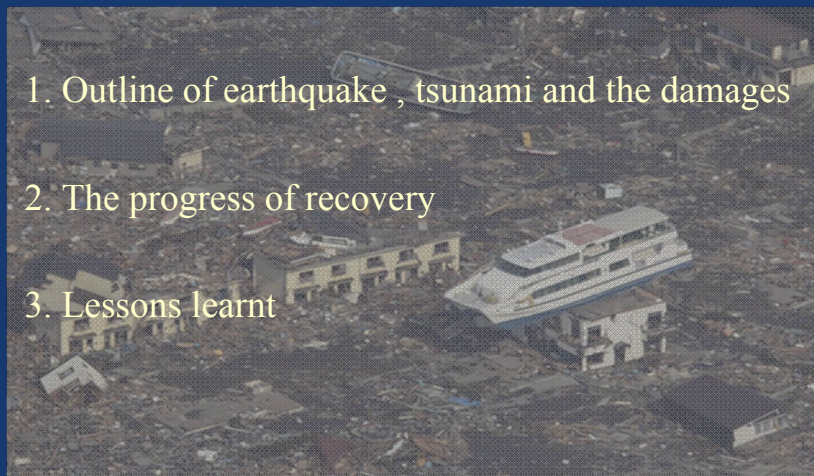
JAPAN

May 29-30 , 2012

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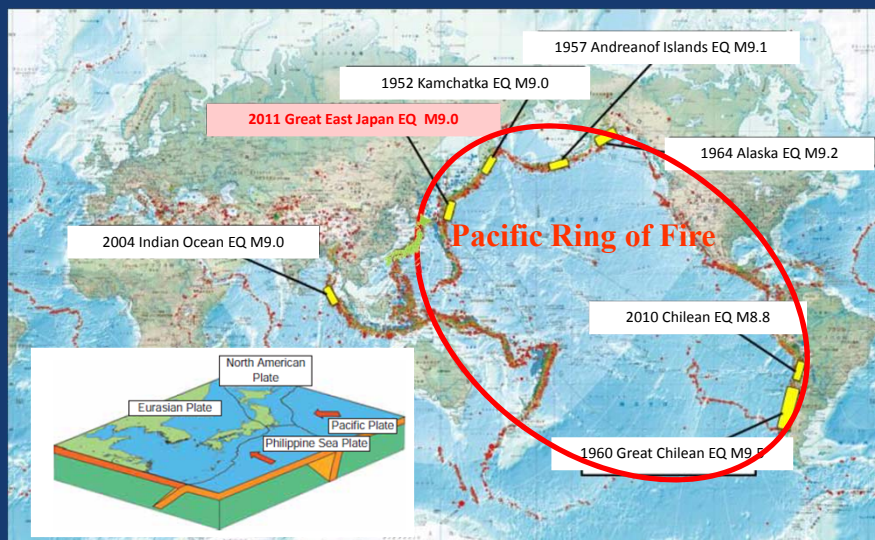
Contents

1. Outline of earthquake , tsunami and the damages
2. The progress of recovery
3. Lessons learnt



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Global History of Mega Earthquakes



Earthquake Research Institute, University of Tokyo

Great East Japan Earthquake and Tsunami

Date and Time:

11 March 2011 at 14:46 JST (5:46 GMT)

Type of earthquake:

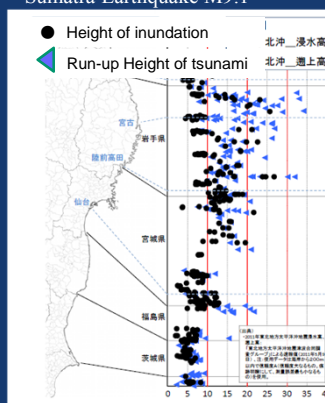
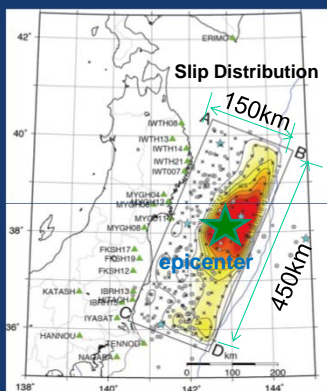
Plate-boundary thrust-faulting earthquake on or near the Japan Trench subduction zone

Hypocenter:

130km off the Pacific coast of Tohoku region (38° N, 142° E), 24km depth

Magnitude:

9.0 (interim value, the largest in Japan and the 4th largest in the world) c.f. 2004 Sumatra Earthquake M9.1

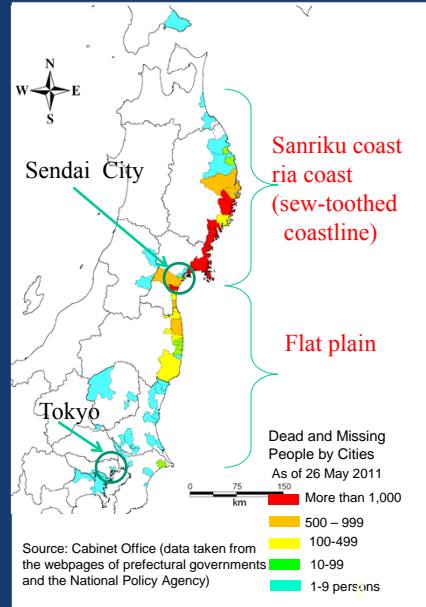


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Casualties and Damages

As of 21 February 2012

- ◆ 15,852 people confirmed dead
 - ◆ 3,287 people missing
 - ◆ 342,509 evacuees
 - ◆ 128k buildings completely destroyed,
245k buildings half destroyed
 - ◆ 561 sq. km inundated
 - ◆ Damages to economic loss estimated:
17t JPY (210b US\$)
- c.f. Hurricane Katrina 125 b US\$(2005)
Kobe earthquake 100 b US\$(1995)



Catastrophic Building Damage Otsuchi Town, Iwate Prefecture 2011.3.14





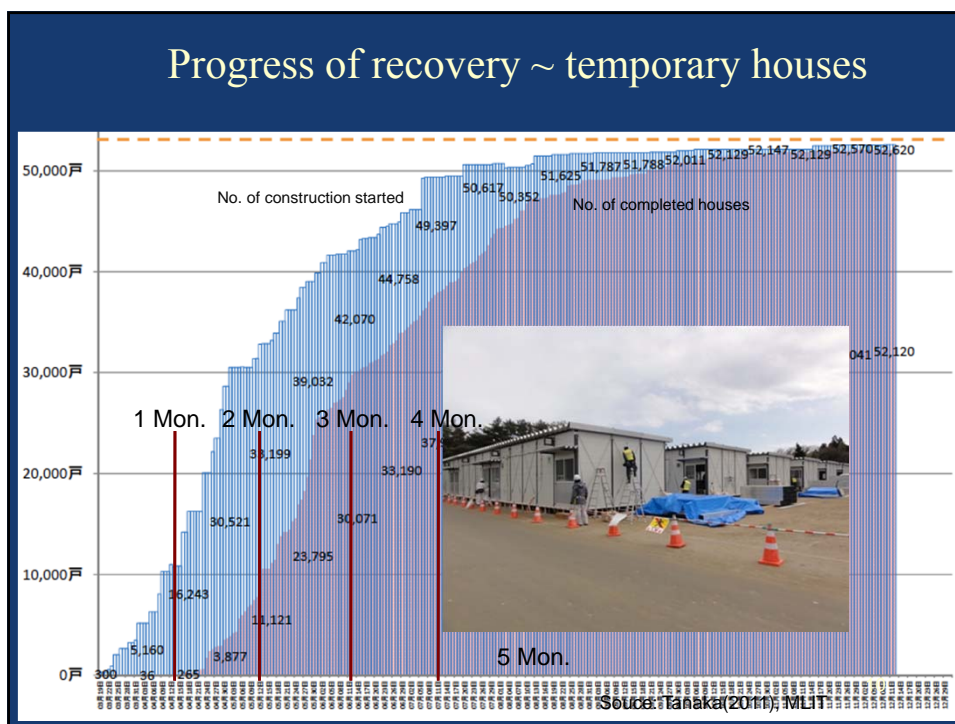
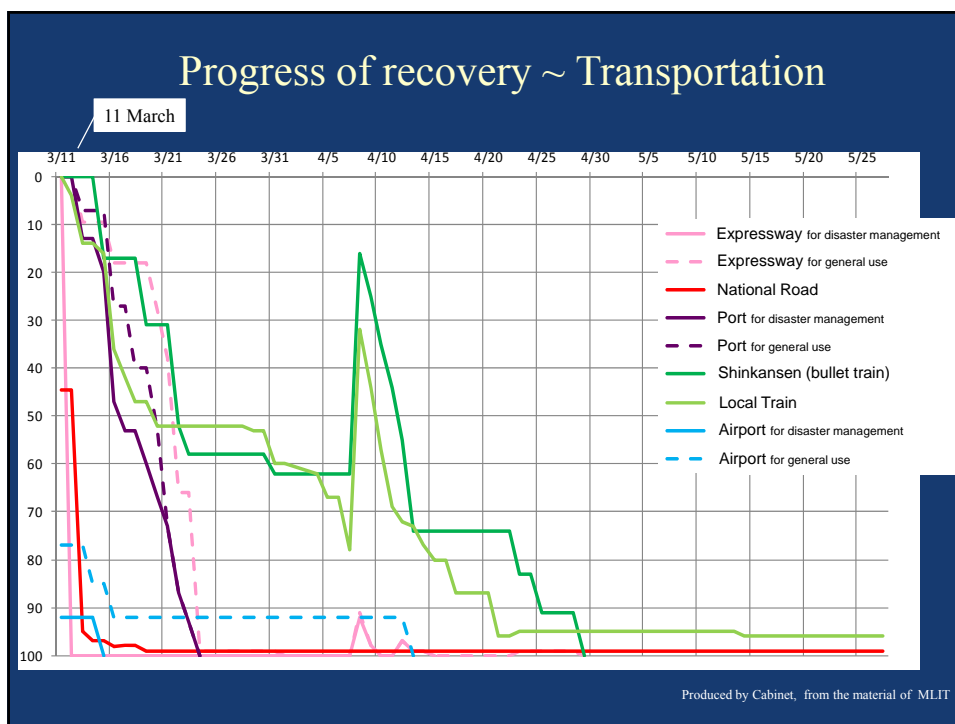
Progress of recovery ~ Expressway

- Emergency recovery operation of Tohoku Expressway (the longest expressway in Japan) had done on 22 March, just 11 days later of the occurrence of the disaster.
- It contributed not only to the transportation of the emergency relief supplies, but also recovery of the economy in Japan.



Six days
later





Progress of recovery ~ Debris Management

Temporary storage site



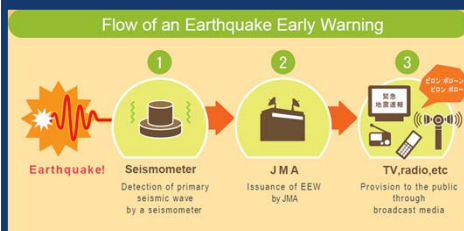
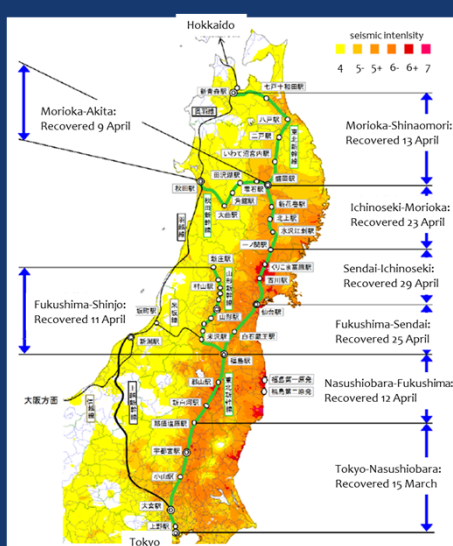
Mixture of debris in Ishinomaki City Concrete dust in Rikuzentakata City Fire broke out in Iwate Pref.

The debris management pilot project in Kamaishi City, Iwate Pref.



A facility to check radio active contamination A facility to crush debris into small pieces Wooden debris categorized by size

Lesson learnt: Urgent Earthquake Detection and Alarm System



Lesson learnt: Accumulate our Knowledge

- Taking countermeasures followed by lessons learned from the past disasters

* The mortality rate is decreasing.

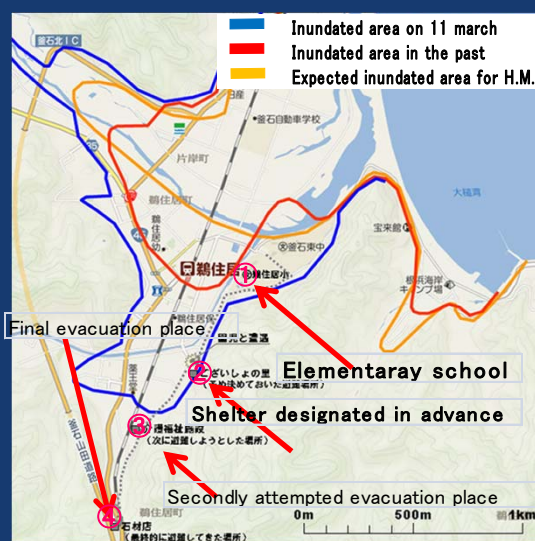
	Meiji-Sanriku Earthquake Tsunami 1896	Showa Sanriku Earthquake Tsunami 1933	Great East Japan Earthquake 2011
Number of the casualties in Taro district	1,867 = 83% of all of the population	972 = 20% of all of the population	230 = 6% of all of the population



Lesson learnt: Drills / Education

Miracle of KAMAISHI

Students started evacuation promptly and voluntarily, following their experiences of evacuation drills.

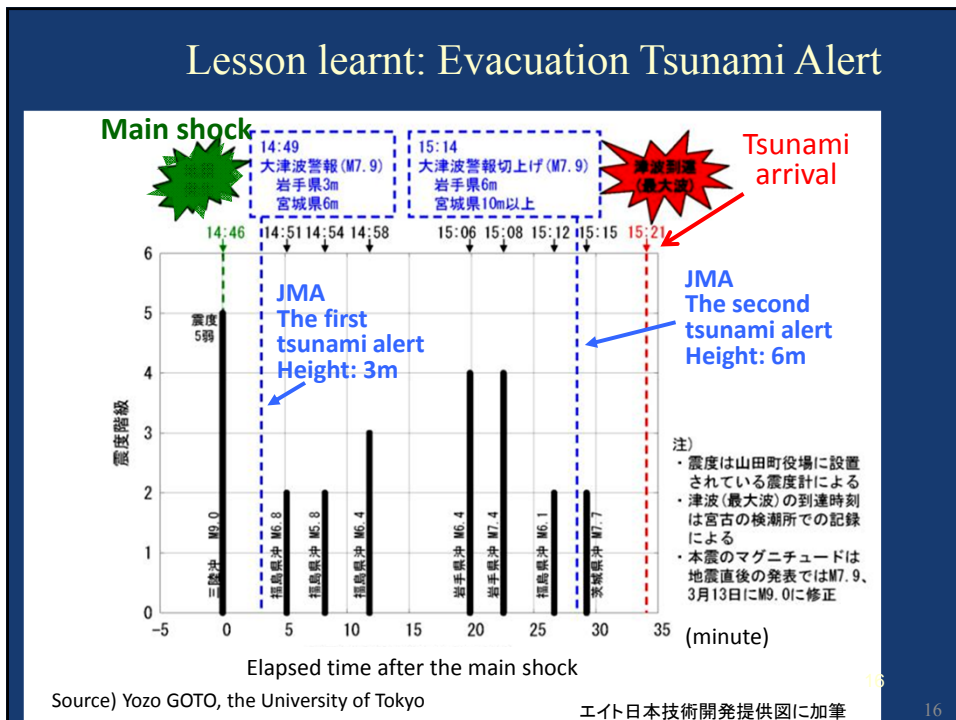


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Lesson learnt: Evacuation (Hazard map)

Tsunami overloads far beyond preparedness

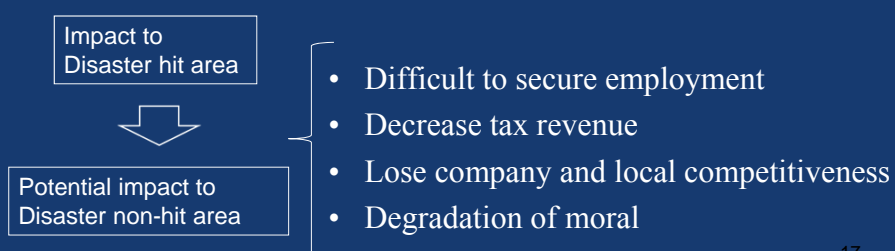
Source: Central Disaster Management Council



Lesson learnt: Supply chain disruption

- ◆ 337 companies bankrupt in six months.
(123 cases in Kobe Earthquake in 1995)
- ◆ Only 46 companies located at tsunami affected area and most of the companies located in other part of Japan.
- ◆ Main reason for bankrupt is “ Indirect loss or damage” due to supply chain disruption.

<http://www.tdb.co.jp/report/watching/press/p110906.html>



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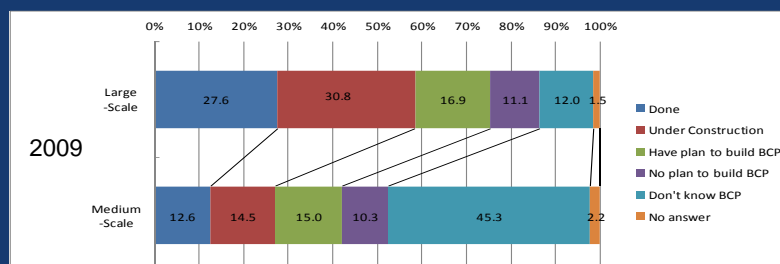
Lesson learnt: Private Sector Preparedness

- ◆ Importance of the private sector's role for regional resiliency
- ◆ Gov. of Japan set strategy to reduce economical damage by raising Business Continuity Planning adoption ratio on private sector.

- ◆ Large scale 18.9%(2007) → 27.6%(2009) → nearly 100%(2015)
- ◆ Medium scale 12.4%(2007) → 12.6%(2009) → 50%(2015)



Cabinet Office published several guidelines



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Points raised from the lessons learnt

1. Inappropriate scenarios
2. Reliable hazard maps
3. Importance of BCPs
4. Tsunami warning
5. Drills and education

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Thank you for your attention

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