

Possible Social Impacts due to  
Devastating Earthquake  
Disasters in Japan expected  
in the first half of 21 century.

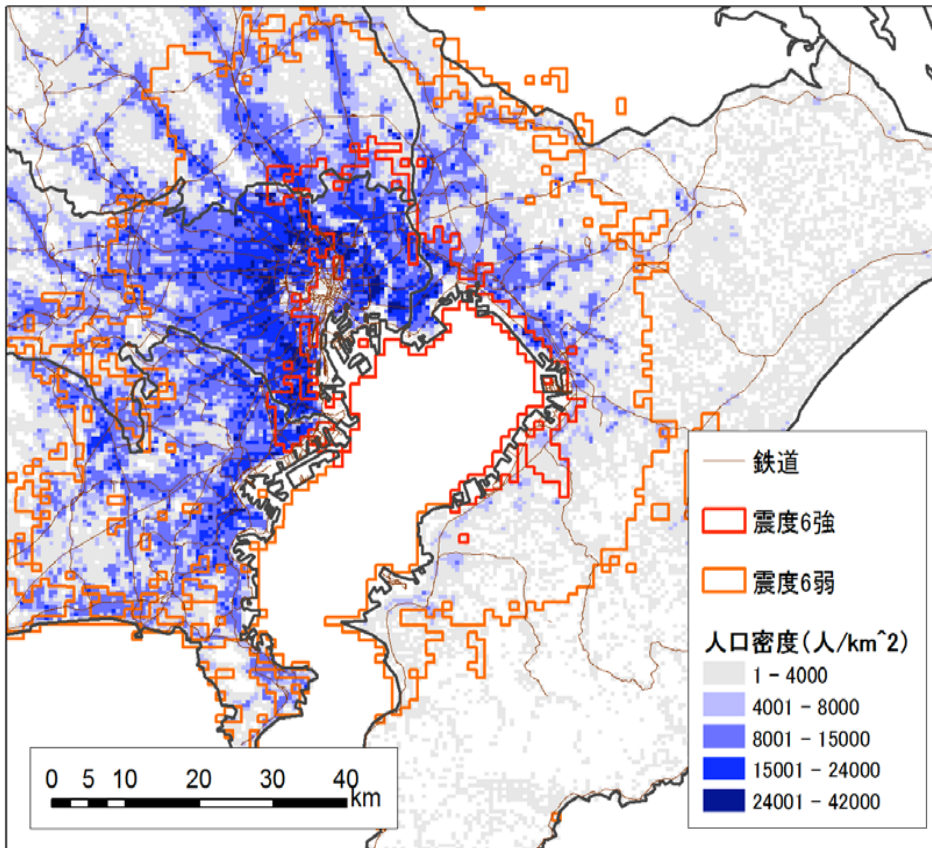
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SUZUKI

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# Two big events and Depopulation

- Two Big Events
  - Tokyo Metropolitan Earthquake (70% within 30 years)
  - Nankai Trough Earthquake (50-60% within 30 years)
- Rapid Depopulation with Aging Society
  - 127.77million (2005)
  - 115.22million (2030)
  - 89.93million (2055)

# Tokyo Metropolitan Earthquake

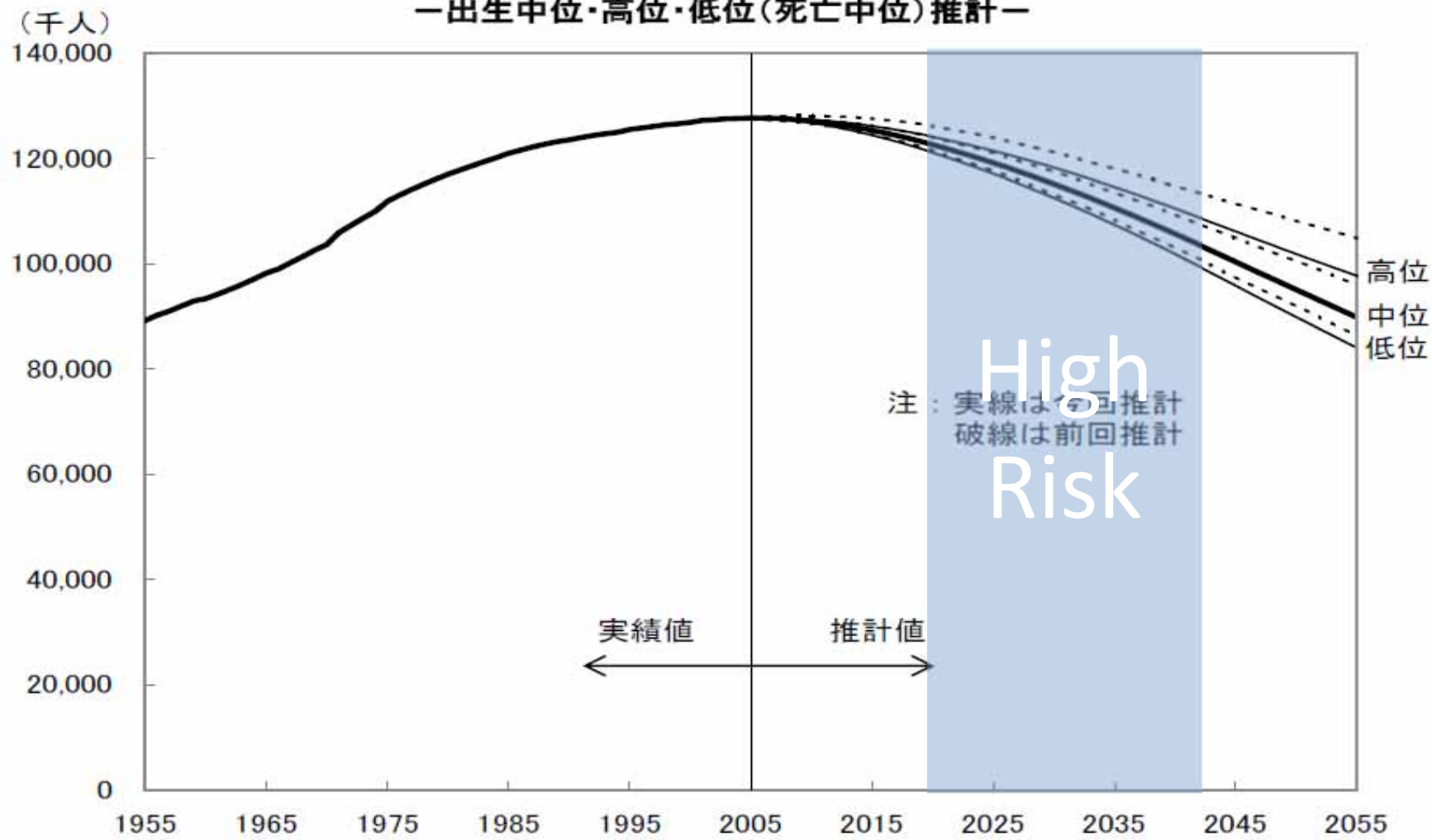


	Over 6+	Over 6-	Total
Tokyo	3,470,677 (69.1%)	7,164,775 (35.1%)	10,635,452 (85.7%)
Saitama	443,544 (8.8%)	3,111,543 (15.3%)	<b>3,555,087</b> (49.7%)
Chiba	791,360 (15.8%)	3,614,500 (17.7%)	4,405,860 (73.8%)
Kanagawa	311,963 (6.6%)	6,481,734 (31.8%)	6,793,697 (78.4%)
Total	5,017,544	20,372,552	<b>25,390,096</b> (74.2%)

Calculated by Shingo SUZUKI

# Depopulation in Japan

図1 総人口の推移  
—出生中位・高位・低位(死亡中位)推計—

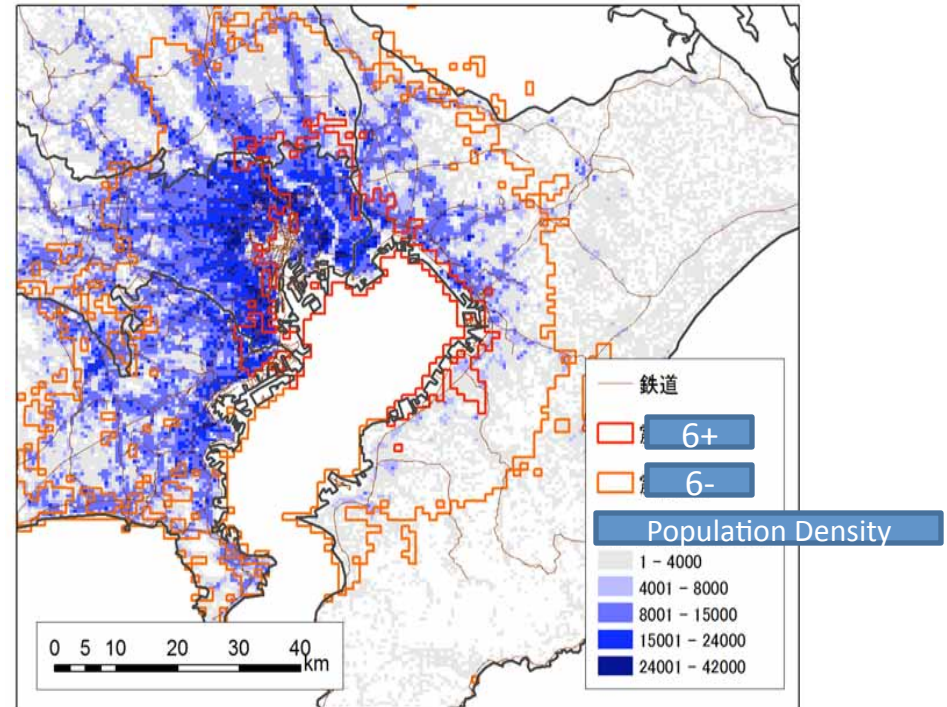


We should consider the impact of depopulation to establish disaster reduction strategies for those disasters.

# Real Impact in 2030s??

Mega Scale Disaster and  
Depopulation

# Tokyo Metropolitan Earthquake



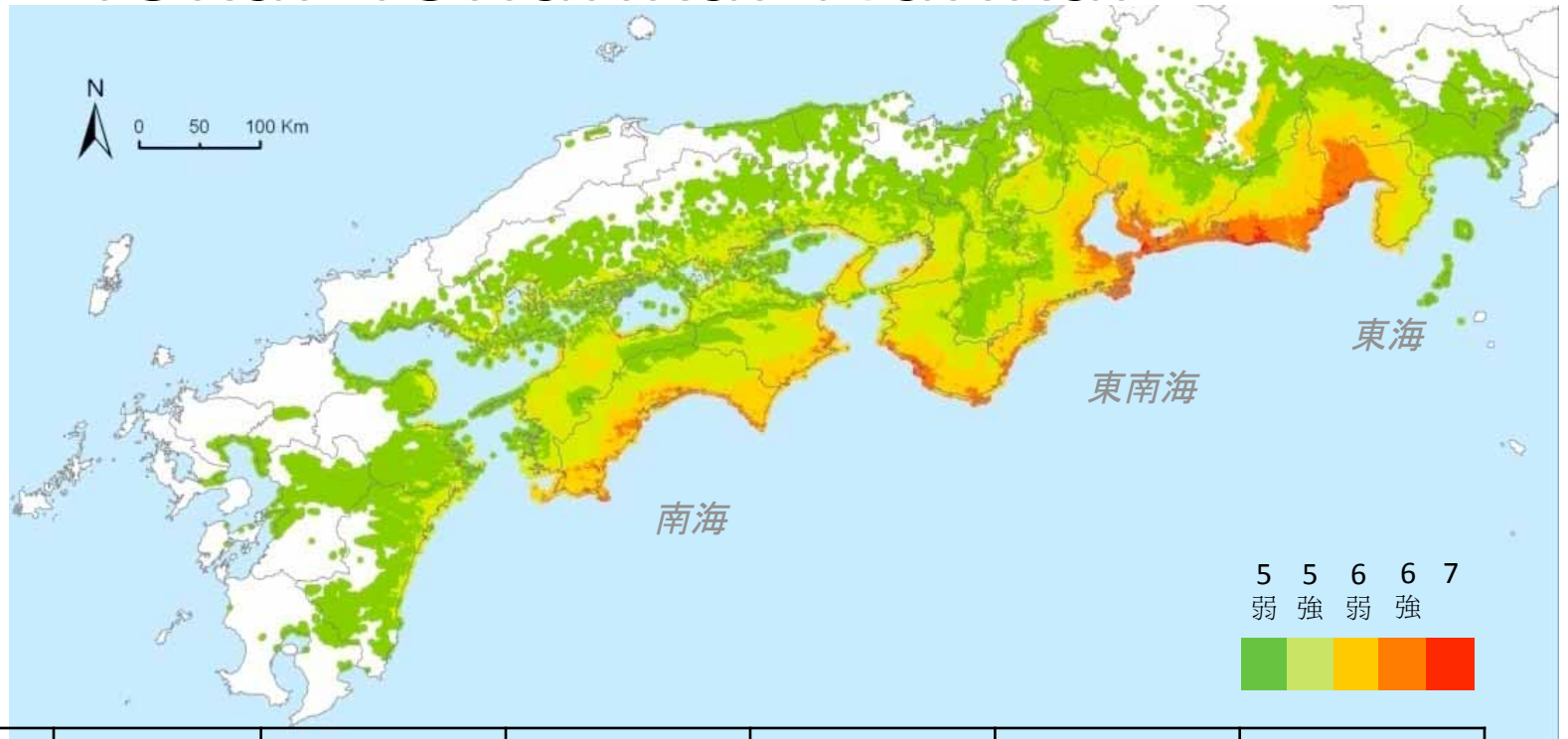
JMA Exposure	5-	5+	6-	6+ and 7	total
2005	11.4m	75.2.7m	19.8m	48m	57.6m
2030	9.7m	66.9m	17.9m	41.4m	33.8m

25million

22 million

Calculated by Haili CHEN

# Tokai-Tonankai-Nankai



JMA Exposure						total
	5-	5+	6-	6+	7	
				15million		
2005	17.1m	25.7m	9.9m	4.3m	0.5m	37.9m
2030	15.1m	23.0m	8.9m	3.8m	0.4m	51.3m

13million

Calculated by Haili CHEN



# Depopulation of 2030



# Percentage of Over 65 people



# How about critical infrastructures?

We don't expect further  
developments in depopulation  
society.

# Exposure of Critical Infrastructures in 2005 Tokyo Metropolitan Earthquake

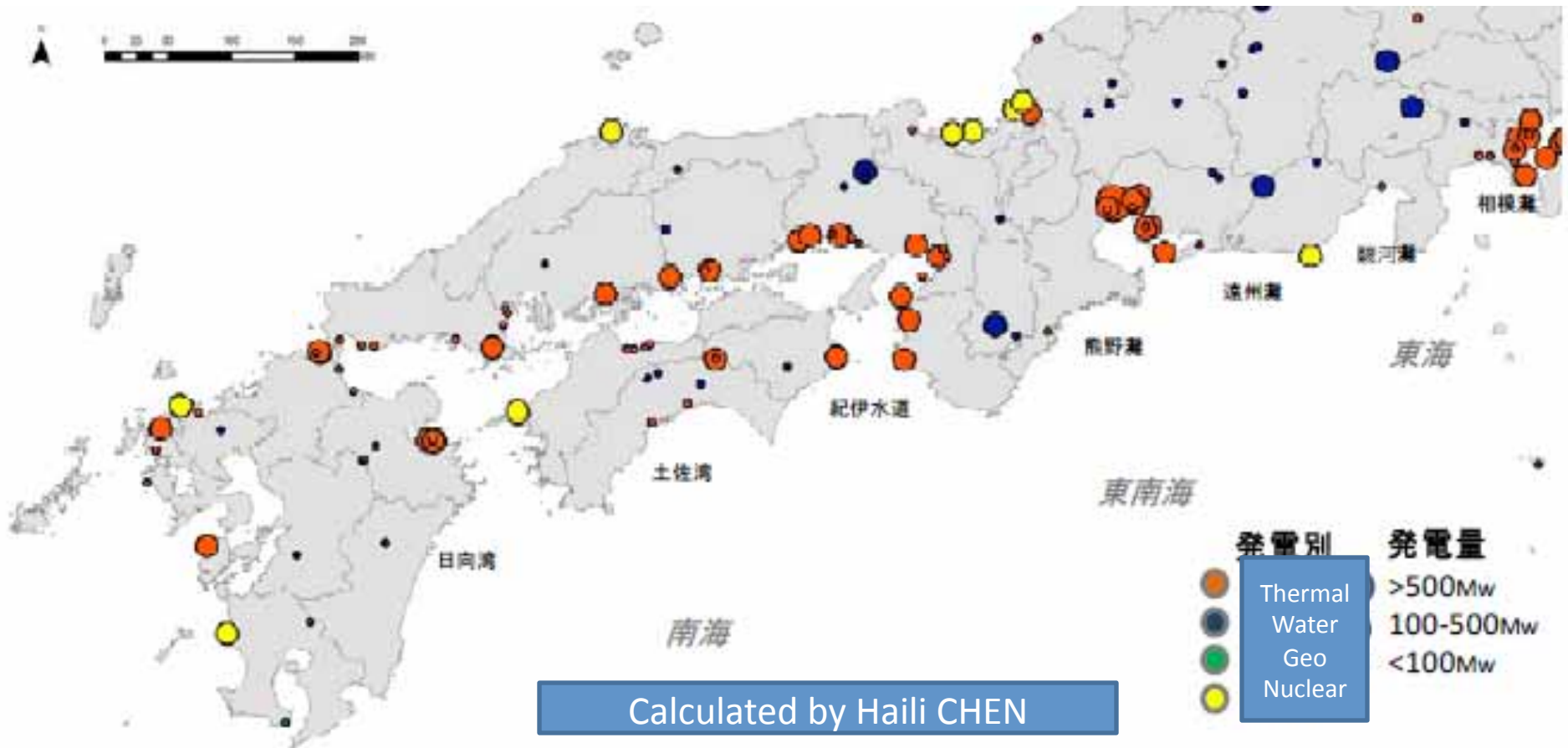
CIs	6+	6-	total
<b>Power / Energy</b>			
Power plant	34	32	66
<b>Transportation</b>			
Rail way (km)	638	1,852	2,490
Road (km)	8,255	44,395	52,650
Airport	1	1	2
Train Station	305	800	1,105
Port	3	5	8
<b>Postal and Shipping</b>			
Post office	647	1,920	2,567

CIs	6+	6-	total
<b>Emergency Services</b>			
LG	67	246	313
NG	275	481	756
Police	498	1,474	1,972
Fire	150	538	688
<b>Public Health</b>			
Hospital	638	935	1,537
Health Facilities	42	101	143
<b>Key Assets</b>			
Dam	0	12	12
Unclear PP	0	0	0

Calculated by Shingo SUZUKI

# Exposure of Power Plant

38.8 % of total generated electric power in Japan would suffer from over 6- earthquake shaking  
< 8843.4/ 22793.5MW >

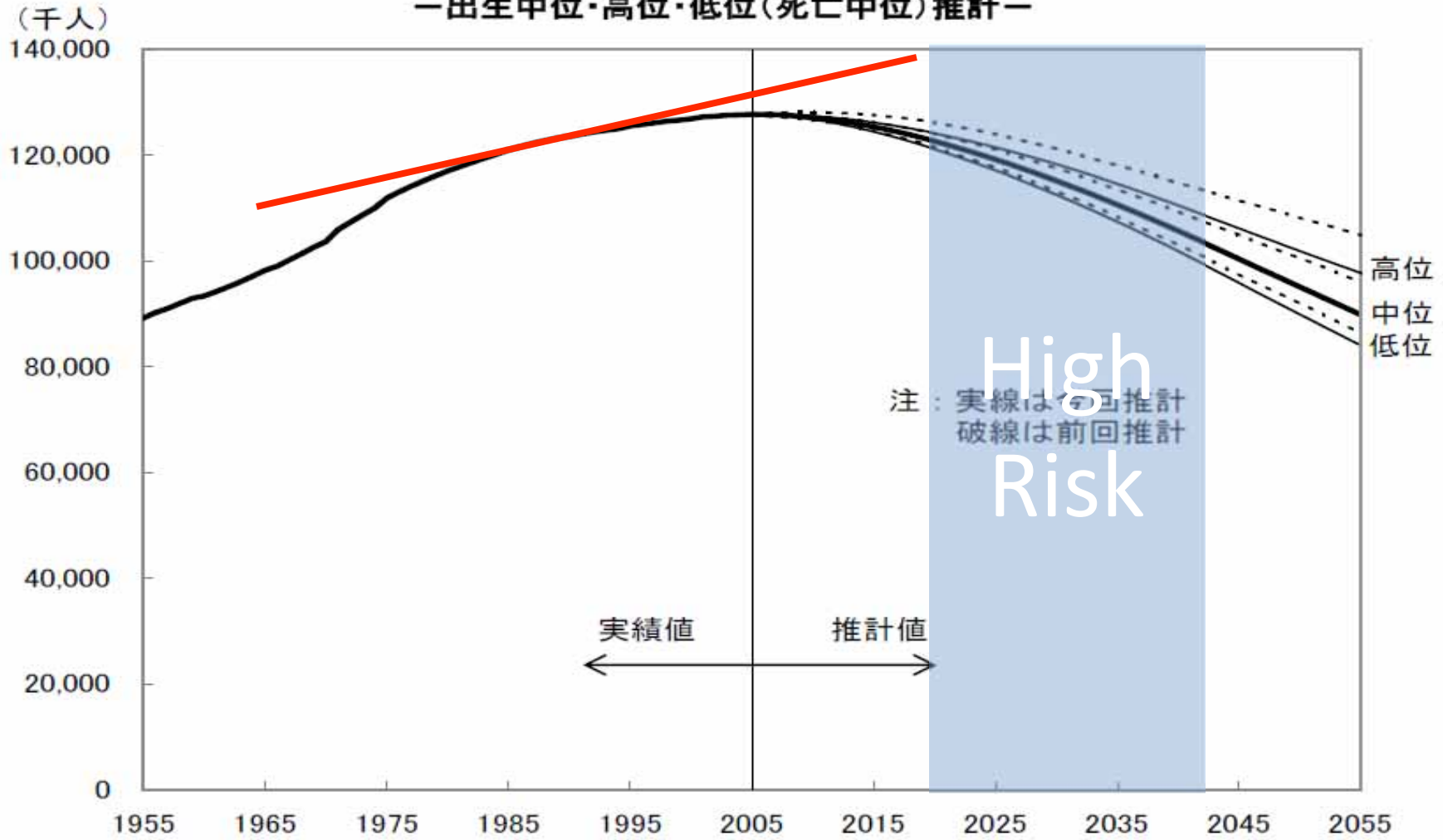


We should establish disaster  
reduction strategies for each  
**COMMUNITY** reflecting  
**DEPOPULATION**

Communities Classification in  
Depopulation Age

# Beyond inflection point

図1 総人口の推移  
—出生中位・高位・低位(死亡中位)推計—



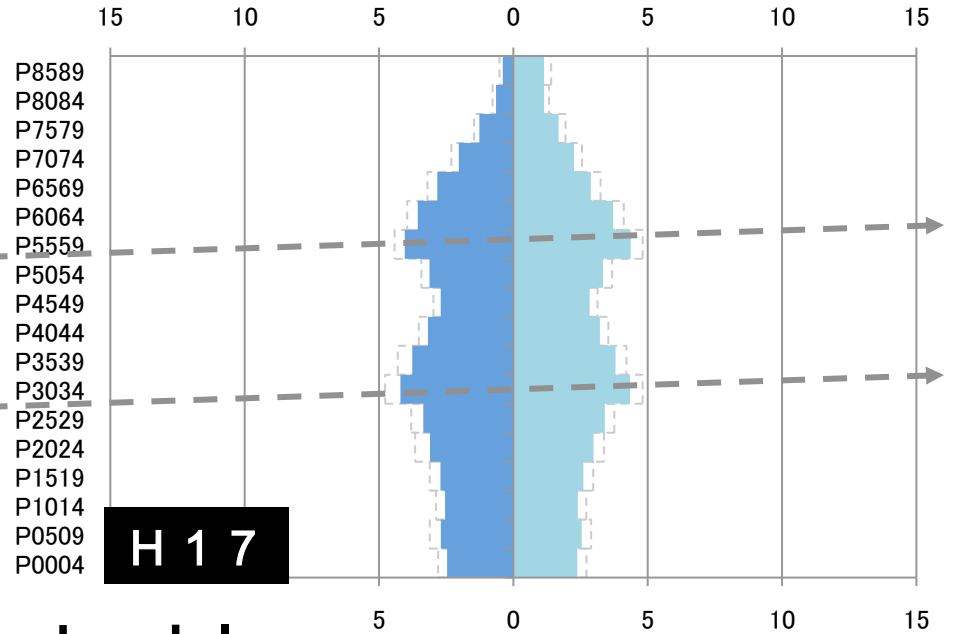
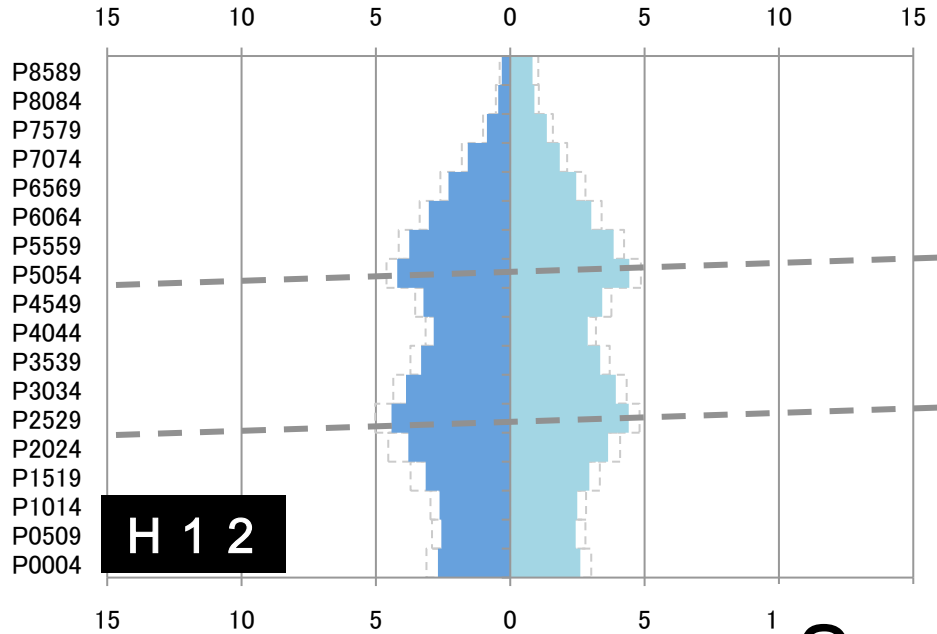
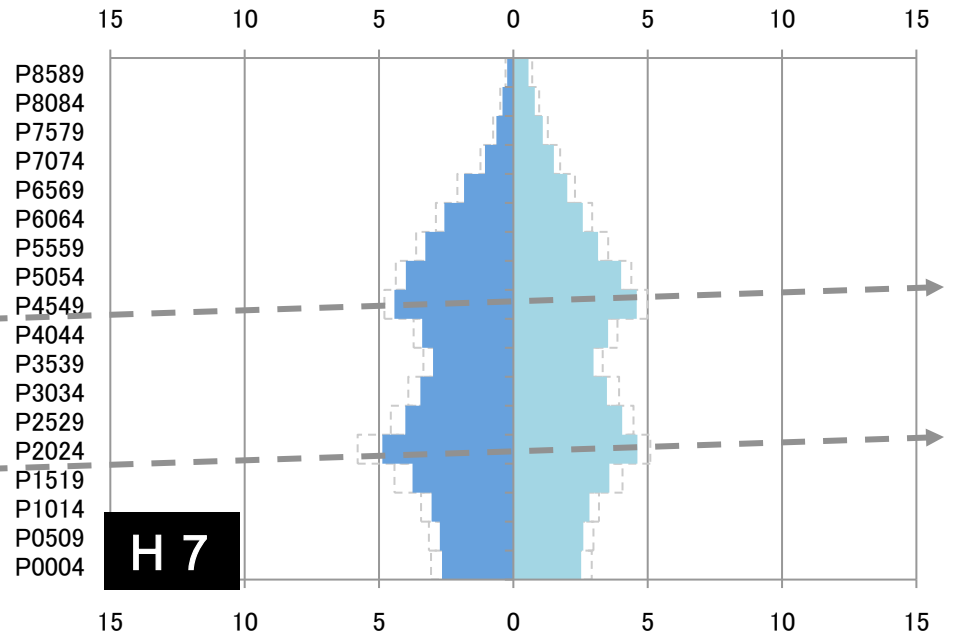
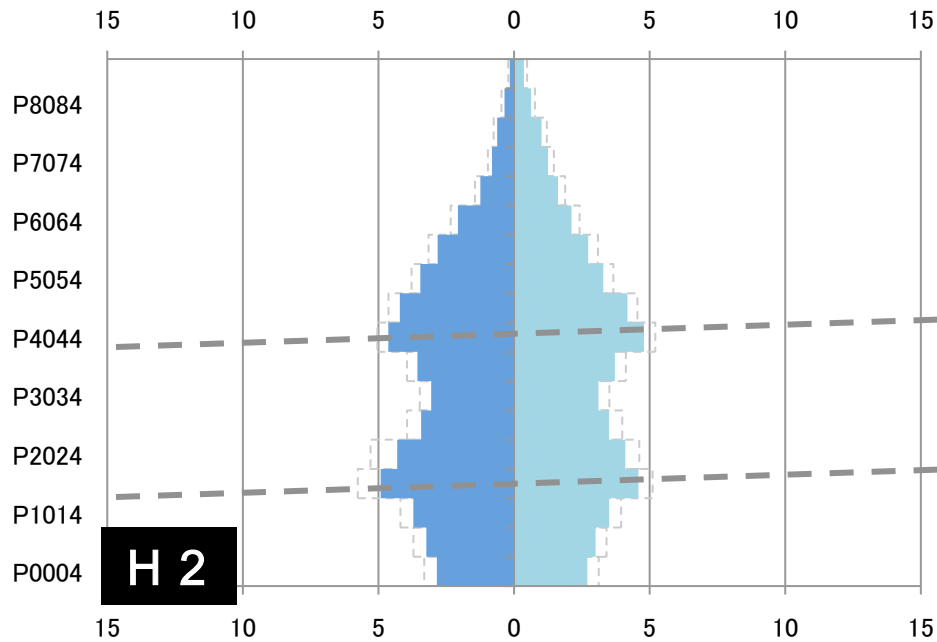
Three categories was found out  
from cluster analysis of population  
distribution

Sustainable

Depending

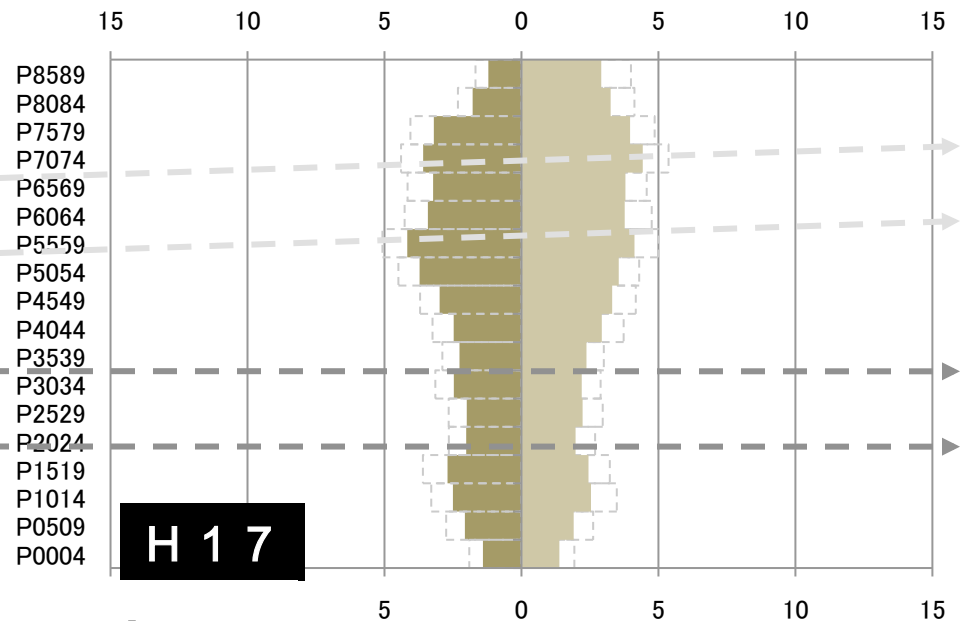
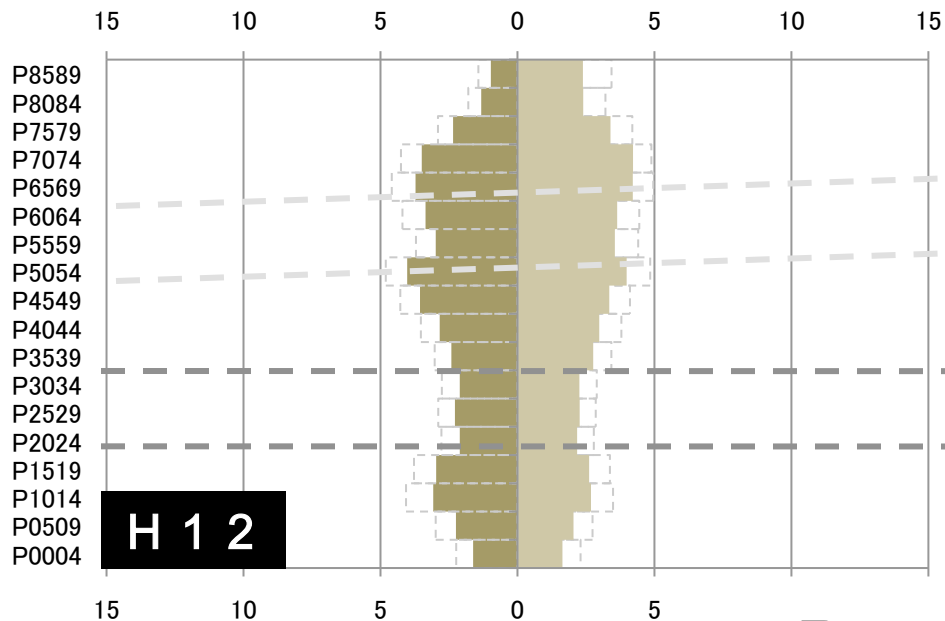
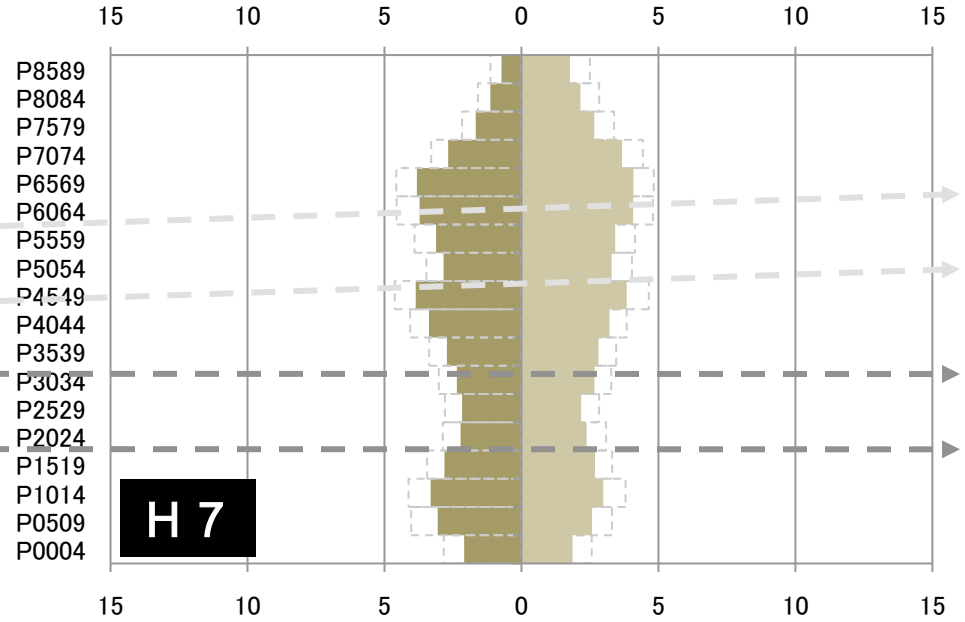
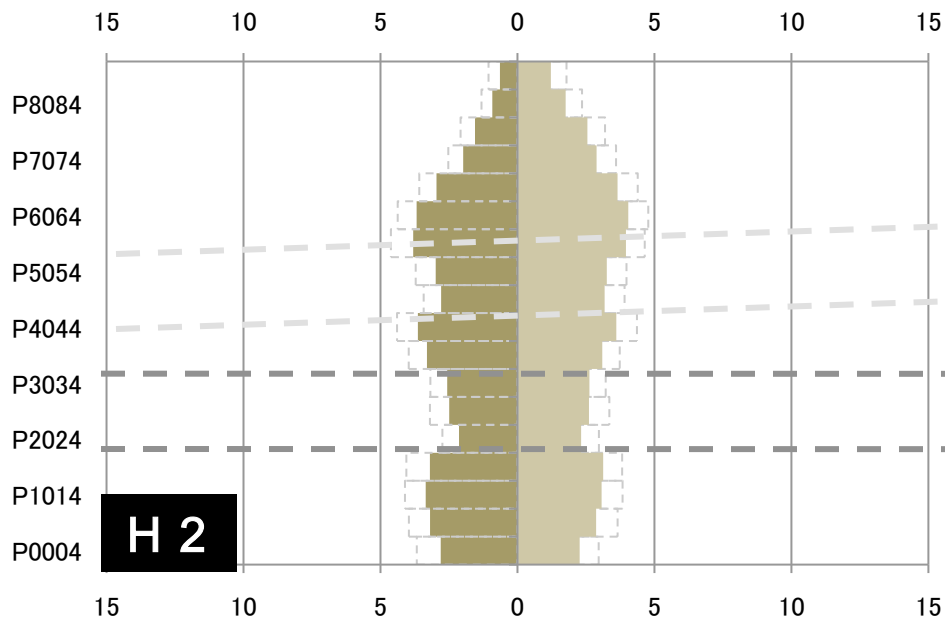
Marginal

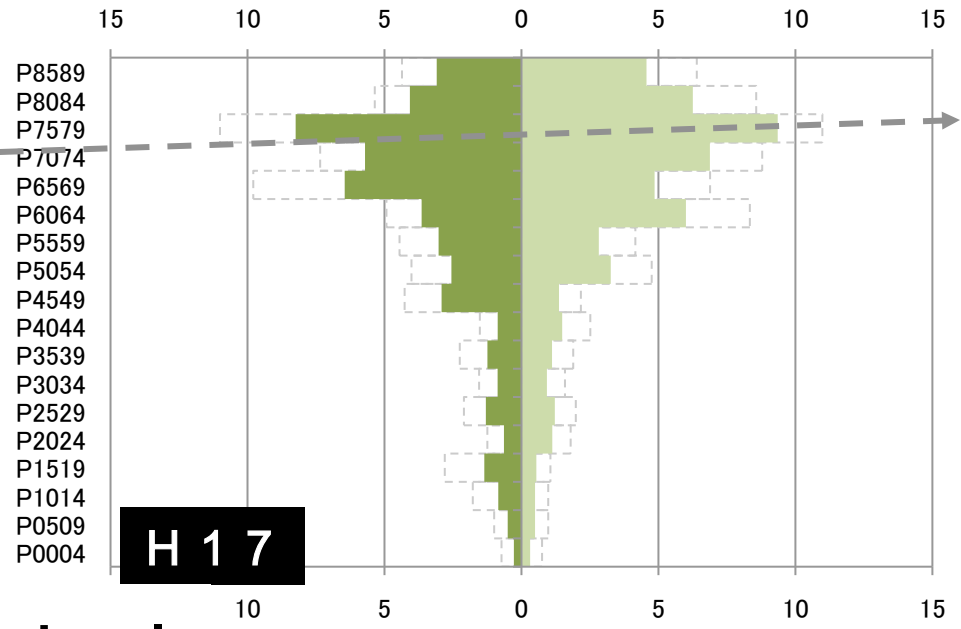
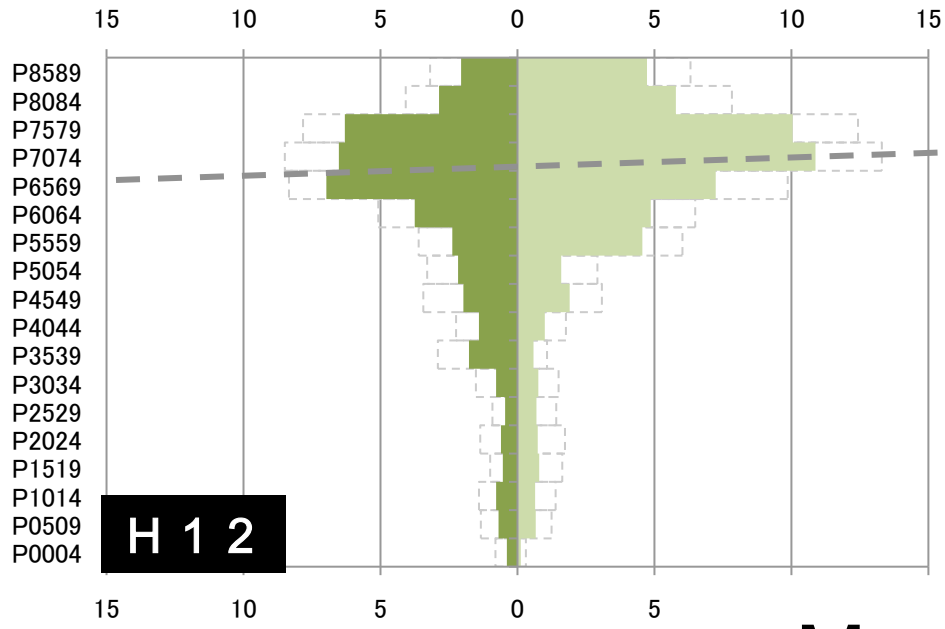
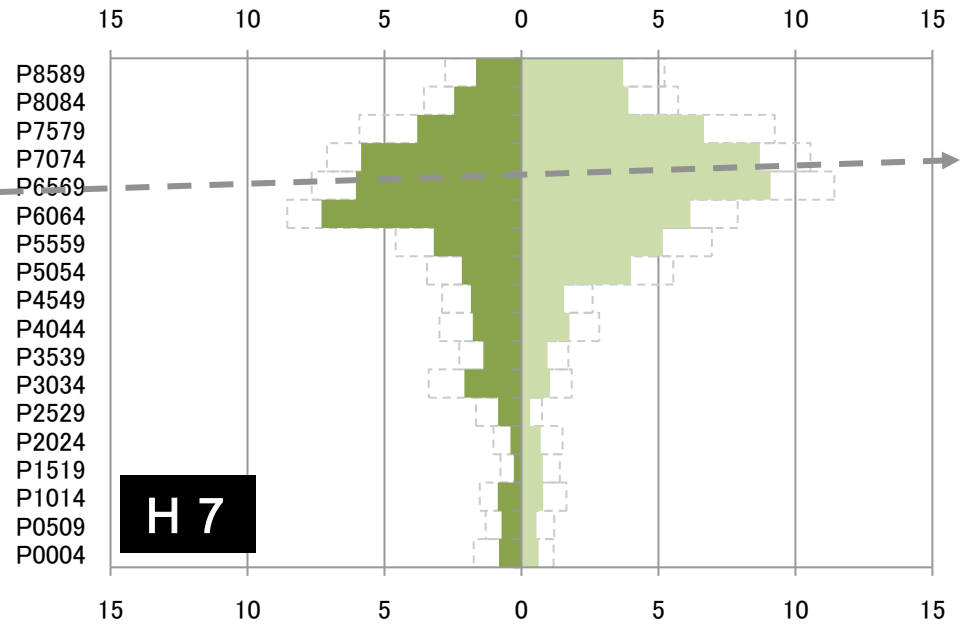
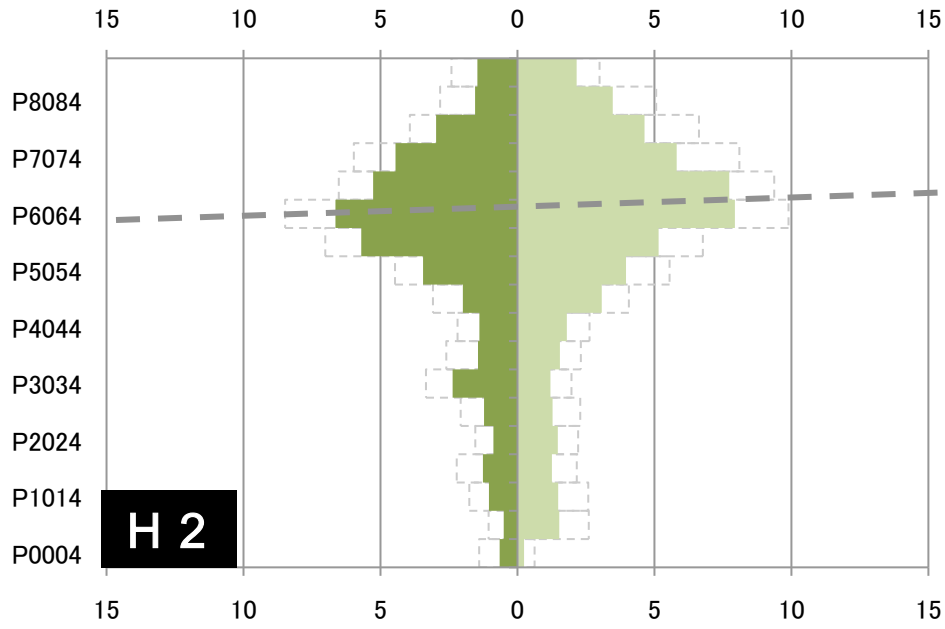




Calculated by Haili CHEN

Sustainable





Calculated by Haili CHEN

Marginal

# 2000



- Sustainable
- Depending
- Marginal

Calculated by Haili CHEN

# 2030



- Sustainable
- Depending
- Marginal

Calculated by Haili CHEN

Based on those analysis, we will set  
strategies for disaster reduction

Preparedness, Mitigation, Response

And

Long term recovery

# CHANGE

2030s earthquake disaster would be  
the opportunity to change Japan