

MEGURO LAB.



What are Disaster Management Strategies in an Environment where "Public Assistance" Must Inevitably Decrease ?

Department of Human and Social Systems

Department of Civil Engineering, Graduate School of Engineering
 Course in Socio-Information Studies, Graduate School of Interdisciplinary Information Studies

Urban Earthquake Disaster Mitigation Engineering
 International Strategy for Disaster Mitigation

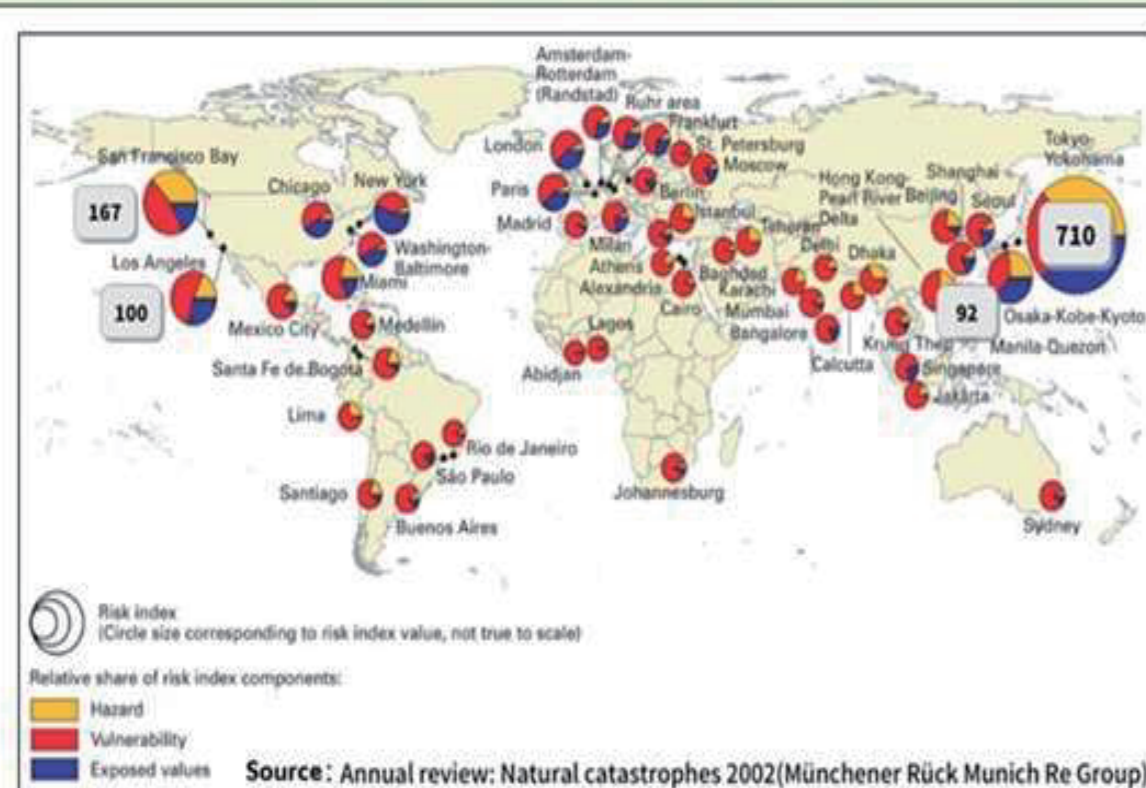
<http://risk-mg.iis.u-tokyo.ac.jp/index.html>

Future Disaster Management in Japan and the Importance of "Disaster Prevention Business"

Designing a "Phase-Free" Society: A Goal After 100 Years Since the Great Kanto Earthquake

2023 marked the 100th anniversary of the Great Kanto Earthquake. We need to re-examine this disaster not merely as a past physical disaster, but as a historical turning point that changed Japan's course. The earthquake drastically altered the free social atmosphere of the time, which aimed for democracy, creating a wave of change that led to the defeat in the war. Furthermore, the reconstruction process accelerated the concentration of power in the Tokyo metropolitan area. This extreme concentration and the process of nation-building since the Meiji era are deeply intertwined with the various challenges Japan currently faces. Without understanding this historical background, it is impossible to solve future mega-disasters and social problems. Humans cannot adequately prepare for or respond to unimaginable situations. In future mega-disaster countermeasures, a "backcasting" perspective—accurately predicting future social changes, working backward to identify challenges, and considering improvement measures—is essential. In particular, disaster countermeasures amidst a declining birthrate, an aging population, and severe fiscal constraints are likely to become an "all-out battle in the midst of poverty," requiring a fundamental shift in mindset. The key to this lies in shifting the perception of disaster preparedness from "cost" to "value," and adopting a "phase-free" approach that doesn't distinguish between peacetime and emergency situations. As government assistance reaches its limits, relying solely on the goodwill of individuals and corporations for self-help and mutual assistance lacks sustainability. Therefore, future disaster preparedness should primarily aim to improve the quality of life and corporate performance during peacetime, creating a system where these improvements are effectively utilized during disasters. Measures that generate value on a daily basis ensure the continuity of investment regardless of the presence or absence of disasters, contributing to improved corporate social credibility and brand power. Even more importantly, it's crucial to properly demonstrate Japan's high level of disaster preparedness to the world and correct the "disaster discount." Despite the excellent measures taken by both the government and corporations in Japan, these efforts are undervalued due to insufficient information disclosure and inappropriate international evaluation methods. Japanese companies are significantly undervalued compared to comparable Western companies. By proposing appropriate evaluation methods, standardizing them internationally, and establishing a system where proactive efforts are properly rewarded, we can stimulate corporate investment, correct over-concentration in one area, and contribute to the overall economic prosperity of Japan. This redesign of social systems, which at first glance may not seem like disaster countermeasures, is the essential key to minimizing future damage and building a sustainable Japan.

Munich Re Disaster Risk Assessment of Global Cities



Lloyd's Urban Risk Index Report

No.	City	Country	Annual economic losses (¥trillion yen)
1	Tokyo	Japan	2.6459
2	New York	USA	1.6140
3	Manilla	Philippines	1.4443
4	Taipei	Taiwan	1.4018
5	Istanbul	Turkey	1.3866
6	Osaka	Japan	1.3517
7	Los Angeles	USA	1.2581
8	Shanghai	China	0.9229
9	London	UK	0.9175
10	Bagdad	Iraq	0.8609

Definition and Meaning of Disaster Risk

$$\text{Risk} = \text{Hazard} \times \text{Exposed Value} \times \text{Vulnerability}$$

(Hazard = Intensity and extent of external force x Occurrence probability)
 (Exposed Value x Vulnerability = Number of vulnerable things which might be exposed to hazard)

$$\text{Risk} = \text{Intensity and extent of external force} \times \text{Number of vulnerable things which might be exposed to hazard} \times \text{Occurrence probability}$$

$$= \text{Magnitude/Scale of disaster} \times \text{Occurrence probability}$$

Japan, a country prone to various disasters, is at a disadvantage.

Decentralization of Values

= (1/Disaster Management Capacities), World highest level
 Proposal of a proper assessment method and its international standardization

Underestimation of Japanese Companies' Disaster Preparedness due to Inappropriate Assessment Methods (The above two are city-level assessments, but corporate assessments are even more so.)

Underestimation of the Value of Japanese Companies Compared to companies with comparable performance, Japanese companies are approximately 1/4 to 1/3 of US companies and 1/2 of UK companies.

By establishing appropriate assessment methods, standardizing them internationally, and proposing and implementing a system for their sustainable operation, the total value of Japanese companies can be increased from 1,000 trillion yen to 3,000 trillion yen.

The world's assessment of Japan's disaster risk and underestimated countermeasures.

Definition of disaster risk and the direction Japan should aim for

