

Natural and Man-Made Disasters in ICT-Based Society with Particular Reference to Earthquake and Cyber Terrorism

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Crisis and Disaster

➤ Crisis

A Big Destabilizing Impact on Human
Livelihood, Organization or Society

➤ Disaster

A Reduction in Capital Value beyond the
Society's Tolerance Limit

Lessons from the Hanshin-Awaji Earthquake of 1995

- Vulnerability of Urban Agglomeration
 - From Efficiency to Redundancy
- A New Value in the 21st Century
 - Safety and Security
- How to Cope with Very Small Probability and Massive Damage
 - Culture of Damage Reduction

Economies of Agglomeration

- Efficient Use of Land Space
 - High-Rise Buildings
 - Zoning Regulation
 - Mass Transportation
- Interdependent Economic Activities
 - Industrial Relation
 - Services Industry; Retail Stores, Financial Industry, Tourism

Urban Vulnerability

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From Efficiency to Redundancy

- ✓ Architectural Design
- ✓ Modernism to Post Modernism
- ✓ Compact City
- ✓ Work and Leisure
- ✓ Quality of Life
- ✓ Meaning of Life

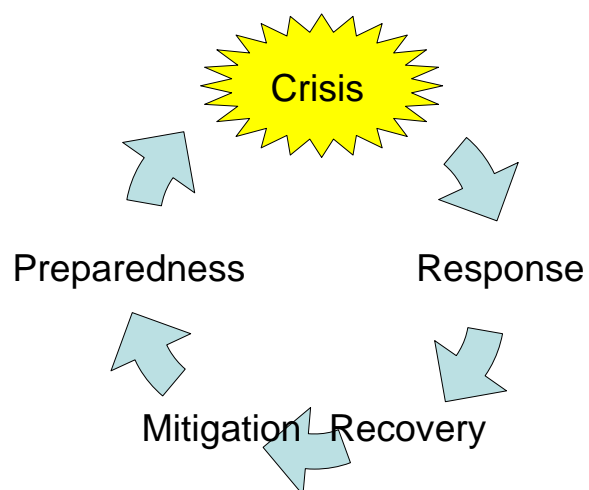
How to Cope with Earthquake Damages

➤ Very Low Probability of Occurrence and Very Big Loss of Lives and Assets

→ From Damage Prevention to Damage Reduction

→ Damage Reduction Culture

Risk Management Cycle (FEMA)



Safety and Security

- Freedom from Risks and Hazards
- Freedom from Anxiety and Unrest
- Absence of Risks and Anxiety. Is That the Whole Story?

Risks and Hazards in the Real World

- Natural Disaster
Earthquake, Tsunami, Volcano, Flood, Drought
- Global Environmental Hazard
Acid Rain, Ozone Hole, Deforestation, Global Climate Change

Risks and Hazards in the Real World

➤ Social Disaster

Air Pollution, Water Contamination, Noise,
Nonrenewable Natural Resource,

➤ Man-Made Disaster

War, Terrorism, Crime, Accident, Fire,
Pandemic Disease, Suicide

Ubiquitous Network Society

- ✓ Broadband Infrastructure
- ✓ Ultra High Speed Transmission of Massive Information
- ✓ Sensor Technology
- ✓ Everything on Internet Protocol
- ✓ Any one, Any Time, Anywhere

Risks in the Network Society

- ✓ Hacking and Illegal Access
- ✓ Virus
- ✓ Copyright Infliction
- ✓ Privacy
- ✓ System Risk
- ✓ Cyber Cascade

Compound Risks

- Real Risks and Cyber Cascade
- Real Damage from Cyber Risks
- Malevolent Simultaneous Attacks

Comprehensive Strategy for Information Security

➤ Comprehensive Strategy for Information Security (METI)

– Building a High Trust Society

- Quick Recovery and Localization of Damages
- Diversification
- Concentration of Line of Command

Backup of Risk Management Function

- Line of Command
Consolidation and Emergency Backup
- Routine Function
Multiplication and Emergency Backup

Basic Dilemma?

- Safety and Security vs Freedom of Choice
- Safety and Security vs Freedom of Speech
- Safety and Security vs Privacy

- Safety and Security vs Stagnant Society
- Safety and Security vs Societal Dynamism
- Safety and Security vs Creative Imagination

From Escape to Construction

- WHO's Definition of Health
"a state of complete physical, mental and social well being and not merely the absence of disease or infirmity."

- Safety and Security
"a state of complete physical, mental and social well being and not merely the absence of hazards or unrest."

Safe and Secure Society

- Should be Built on the Principles of
 - Human Security
 - Conviviality
 - Voluntarism
 - Trans-Nationality

- Towards a Safe, Secure and Happy Society.