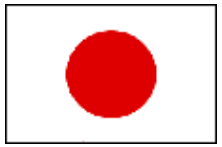
Sharing the Japanese Experience for the post-2015 Framework for Disaster Risk Reduction and the expectations for the 3rdWCDRR



Satoru NISHIKAWA Ph.D

(a member of post-HFA advisory group to SRSG)

March 2014

Ranking of Earthquakes 20-21st Century

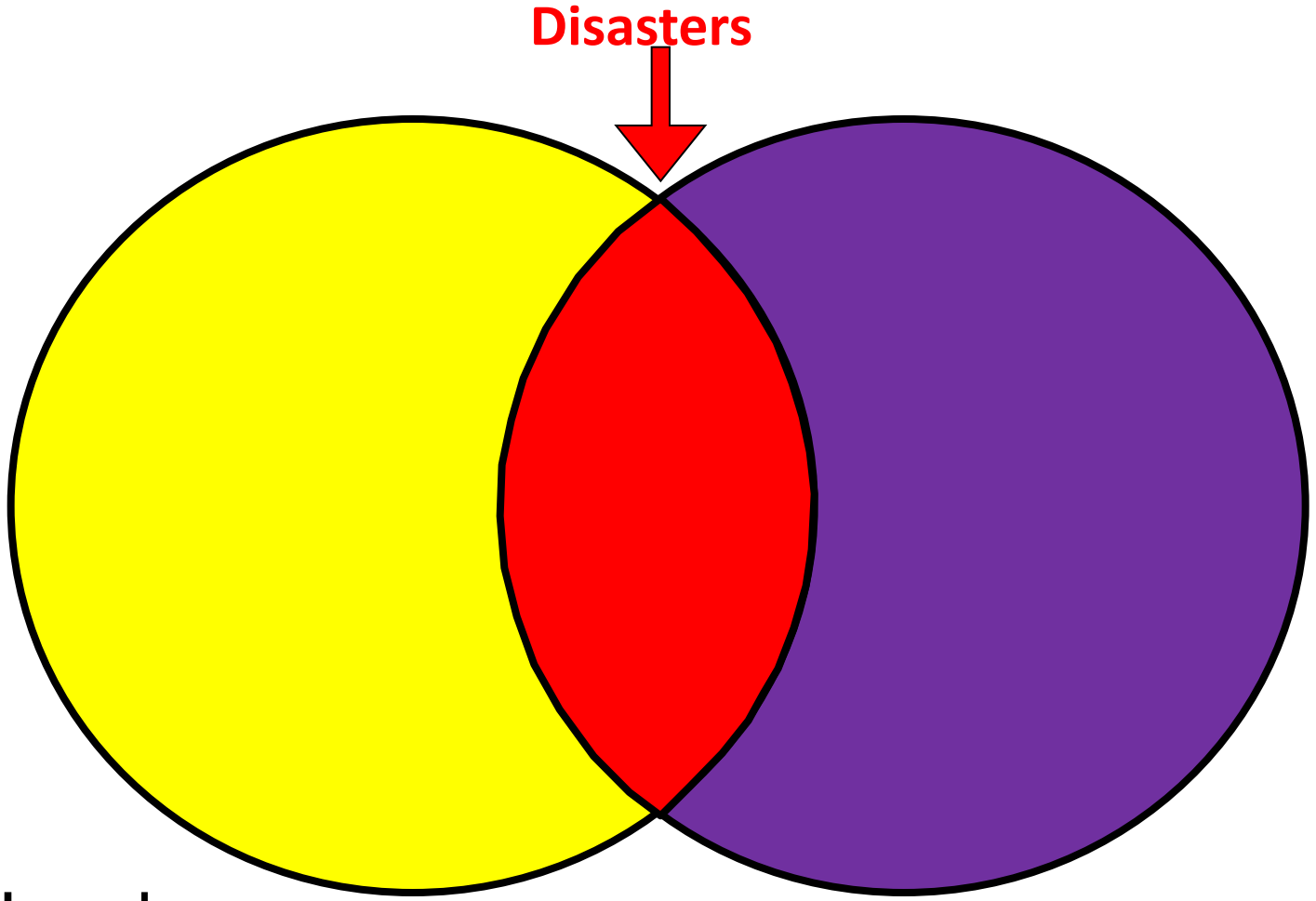
Strong Earthquakes

Year	Place	Magnitude
1960	Chili	9.5
1964	Alaska	9.2
2004	Indonesia Sumatra	9.1
2011	East Japan	9.0
1952	Kamchatka	9.0
2010	Chili	8.8
1906	Ecuador	8.8
1965	Alaska Aleutian Islands	8.7
2005	Indonesia Sumatra	8.6
1950	Tibet, Assam	8.6
1957	Alaska Aleutian Islands	8.6

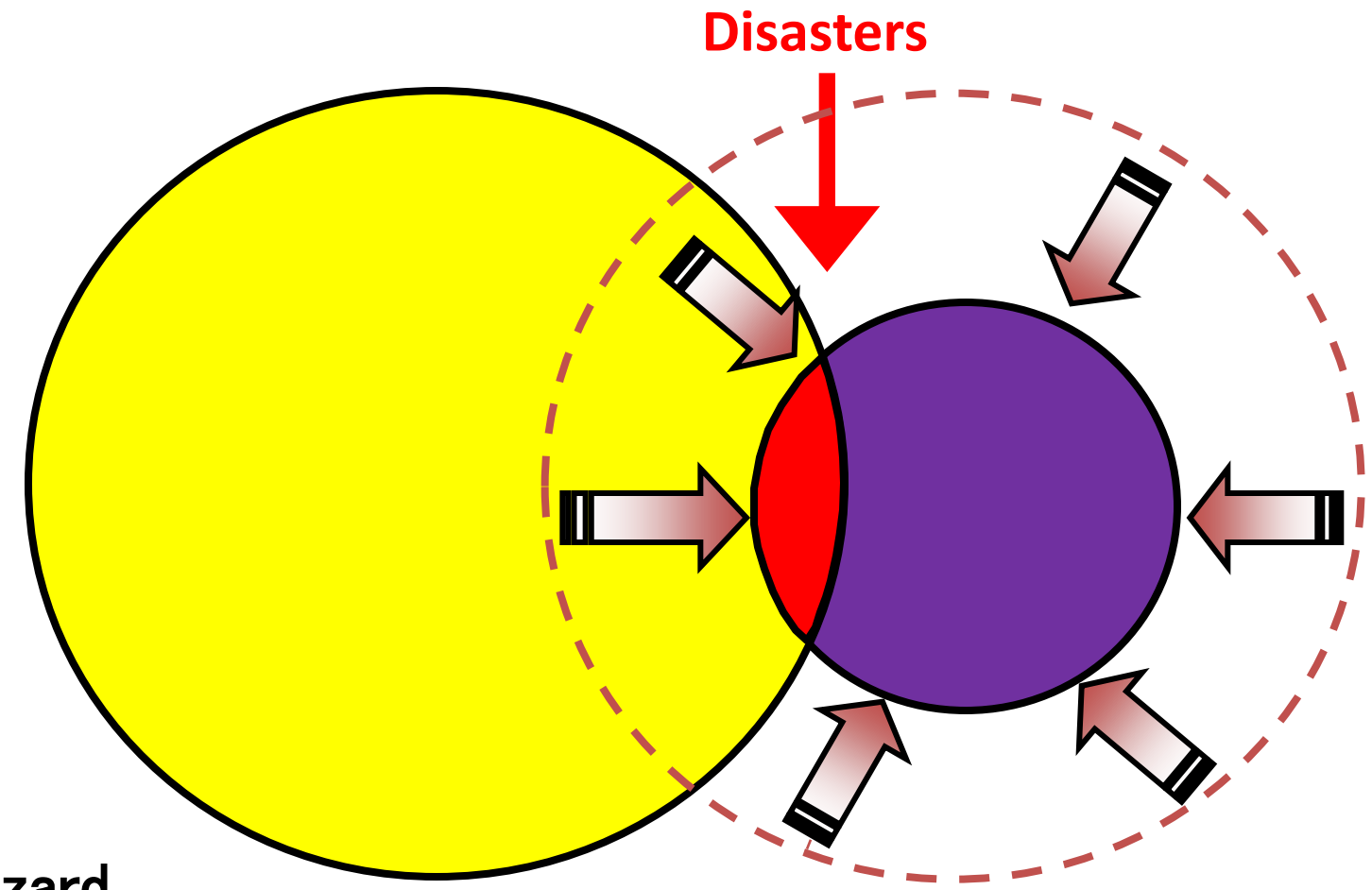
Deadly Earthquakes

Year	Place	Casualties
1976	China Tangshan	242800
1920	China Ningxia	235502
2004	Indonesia Sumatra	227898
2010	Haiti	222500
1923	Japan Kanto	105000
2008	China Sichuan	87587
2005	Pakistan, Afghanistan	86000
1908	Italy Sicily	82000
1927	China Gansu	80000
1970	Peru	66794
	▪ ▪ ▪	
2011	East Japan	18520

Hazards Confronting Vulnerable Communities Cause Disasters



Less Disasters



Hazard

(risk assessment)

Vulnerability

(societal conditions)

How?

Four Phases of Disaster Reduction

Pre-Disaster

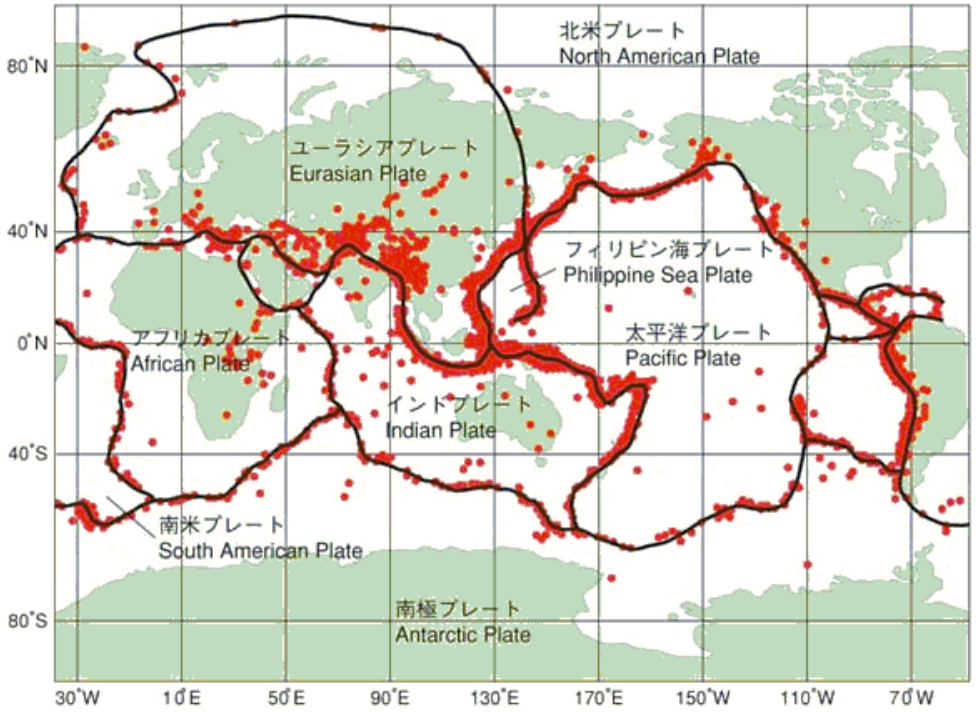
- Prevention & Mitigation
- Preparedness

Post-Disaster

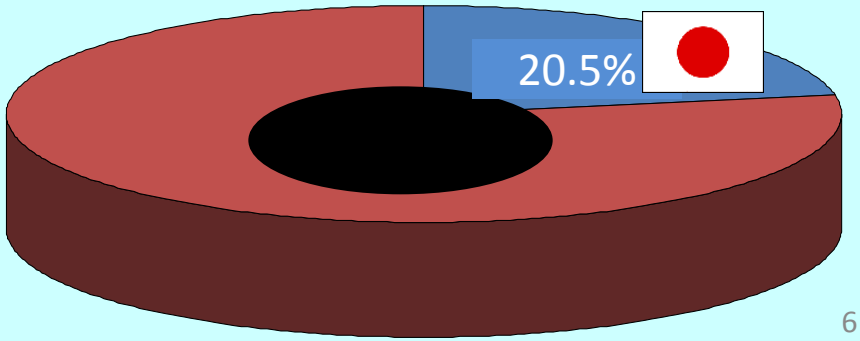
- Response
- Recovery & Reconstruction

Mother Nature is not Gentle in Japan !

- **Earthquakes**
- **Tsunamis**
- **Volcanic Eruptions**
- **Typhoons (July – October)**
- **Heavy Monsoon Rains (May – July)**
- **Floods**
- **Landslides**
- **Snow Avalanches**



Number of earthquakes with magnitude of 6.0 or larger (2000-2009) Japan's Unfair Share



Japan's long tradition of coping with natural disasters

- 416A.D. August, Yamato-Kochi Earthquake

The first written record of Earthquake in Japan within "Nihonshoki" the first official history book of Japan, edited in 8th century.

- 684A.D. November, Hakuho-Nankai Tonankai Earthquake (Estimate Magnitude: 8.2-3) & Tsunami

The first written record of Earthquake Tsunami in Japan within "Nihonshoki".

- Most dreadful things historically in Japan for children

1. Earthquakes, 2. Lightning/Thunder, 3. Fire, 4. father(typhoon)

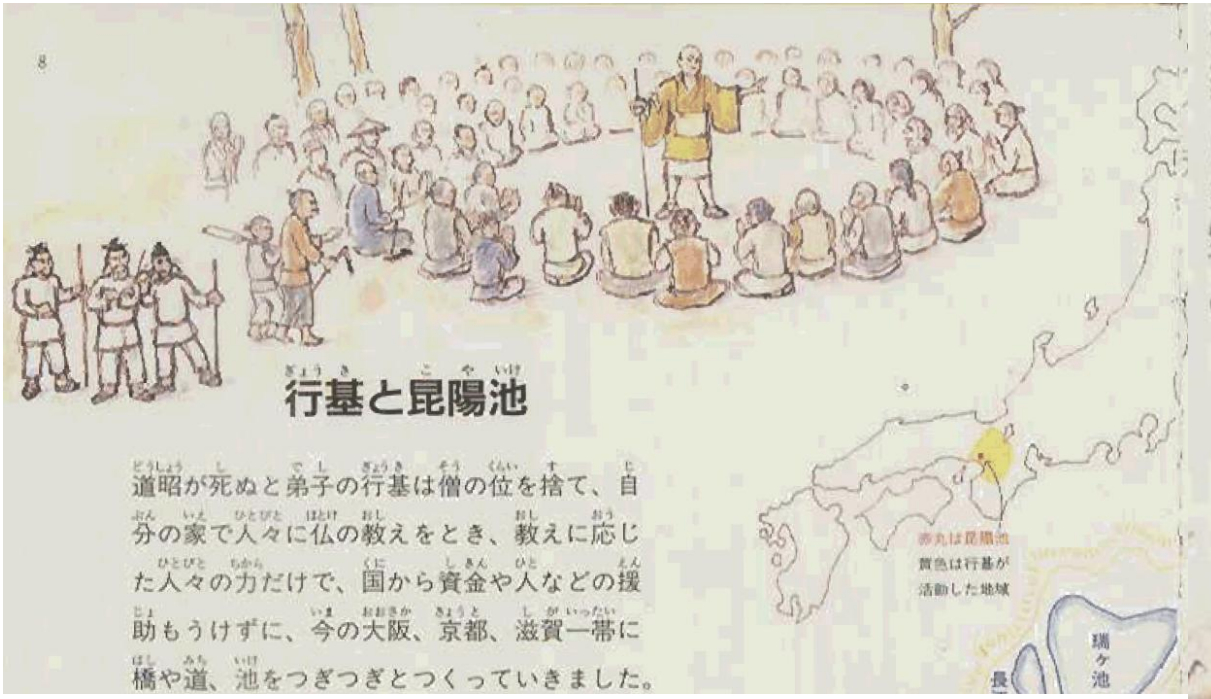
Jishin Kaminari Kaji Oyaji

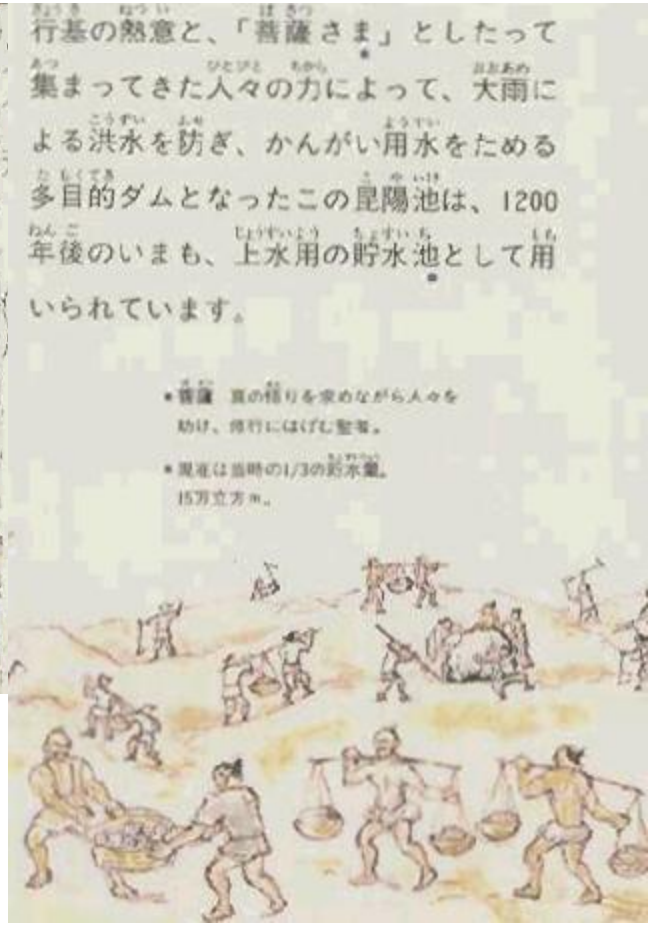
Not anymore

Japan's Flood Fighting Experience over the Centuries

7–8th century,

The Most Respected Buddhist Priest was the Best Civil Engineer



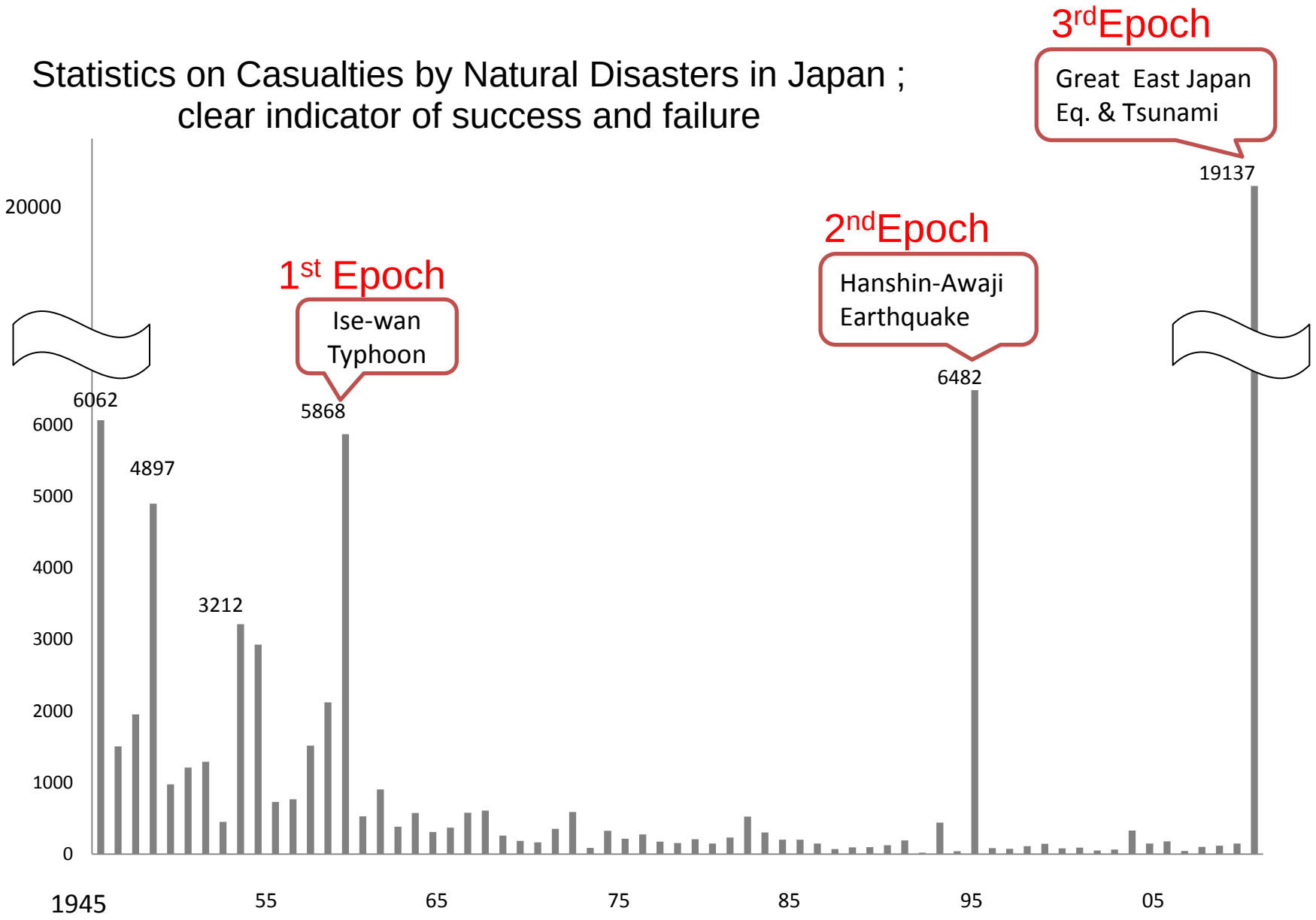


GYOKI the High Priest & his fellow monks built dams for flood control and irrigation.

Traditional “UKIYOE” drawing after 1855 October Ansei-Edo Earthquake

Edo (Old name of Tokyo) citizens beating the legendary Catfish Monster which was believed to cause earthquake

Statistics on Casualties by Natural Disasters in Japan ; clear indicator of success and failure



Severe Damage by Series of Typhoons in the 1940's & 50's

Year	Typhoon	Death Toll
1945	Makurazaki Typhoon	3,756
1947	Catherine Typhoon	1,930
1948	Ion Typhoon	838
1950	Jane Typhoon	539
1951	Ruth Typhoon	943
1954	Toyamaru Typhoon (with big ferry shipwreck)	1,761
1958	Kanogawa Typhoon	1,269
1959	**Ise-wan Typhoon**	**5,098**

1959 Ise-Wan Typhoon was the 1st Epoch-Making Turning Point

- Response oriented approach to **preventive approach**
- Individual approach to **comprehensive multi-sectoral approach**
- **Investment** for disaster reduction
- National, Prefecture and Municipal Gov’ts were given **responsibilities**

Disaster Countermeasures Basic Act 1961

Central Disaster Management Council chaired by the **Prime Minister**

National Coordinating Body with all relevant Ministers &
Japanese Red Cross, Public Broadcasting, Semi-Public Sectors
and the Academia **(The National Platform for Disaster Risk Reduction!)**

- Involvement of Semi-Public Private Sectors
  - Electricity, Gas, Telecom Companies
  - Railway and Bus Companies, Forwarders
  - Broadcasting Companies

Designated Public Organs for Disaster Management

Annual Gov't Official Report on Disaster Countermeasures

The Cabinet must officially report the disaster countermeasures to the National Diet, with
the budget of the next FY and the statements of accounts of previous FY

Formulation of "National Basic Disaster Management Plan for Disaster Prevention"

The Disaster Management Operation Plan (Sectoral)
The Prefecture and Municipal Disaster Management Plan (Regional, Local)

Disaster Countermeasures Basic Act 1961

Investment for Disaster Prevention

- **Flood Control & Land Conservation, Forest Conservation**
- **Meteorological Observation** Mt. Fuji Rader Site, Meteo-Sats
- **Emergency Telecommunication Systems**

⋮

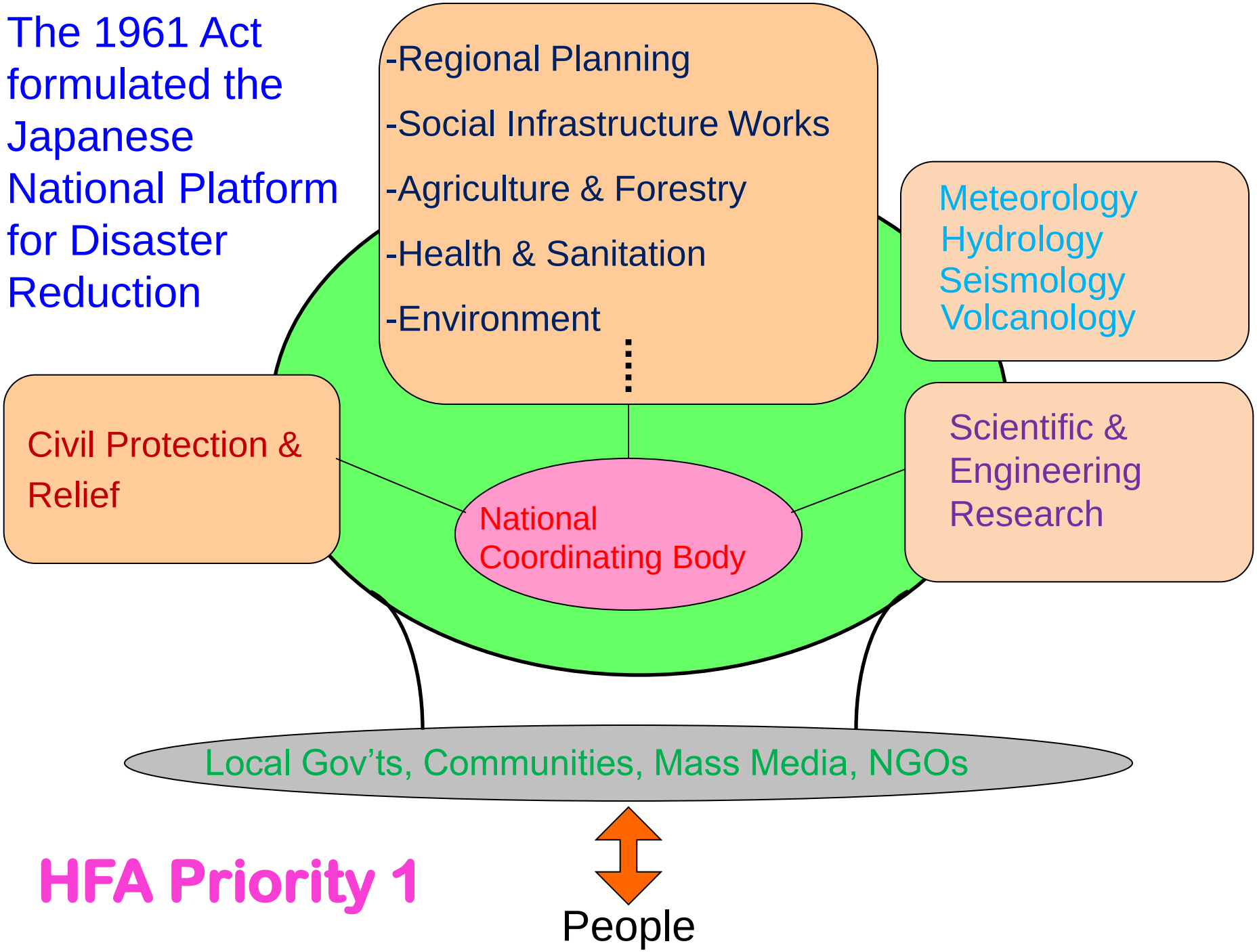
Designation of "Disaster Prevention Day"

Public Awareness Programs, Disaster Drills & Exercises

1 September (Annual Nationwide Event)

Great Success
in decreasing Typhoon & Flood Casualties

The 1961 Act formulated the Japanese National Platform for Disaster Reduction



HFA Priority 1

The Annual Official Report on Disaster Countermeasures (White Paper on Disaster Reduction) since 1963

The cover picture is the winner of the **Annual Disaster Awareness Poster Competition.**

- Descriptive **report** on individual disaster damage & response
- Disaster **statistics**
- Disaster reduction **policies**
- **Measurements** of achievements on risk reduction action
- Reports on **expenditures** of previous F.Y. and action taken **by sector** and **by four phases** of disaster reduction
- **Budget** for the coming F.Y. by sector and by four phases

◆**Must** be submitted to the regular annual session of **National Diet**

◆To be discussed in the **Special Committee on Disaster Countermeasures** in **both houses** of the National Diet

→ **a way to table disaster reduction on the national agenda**

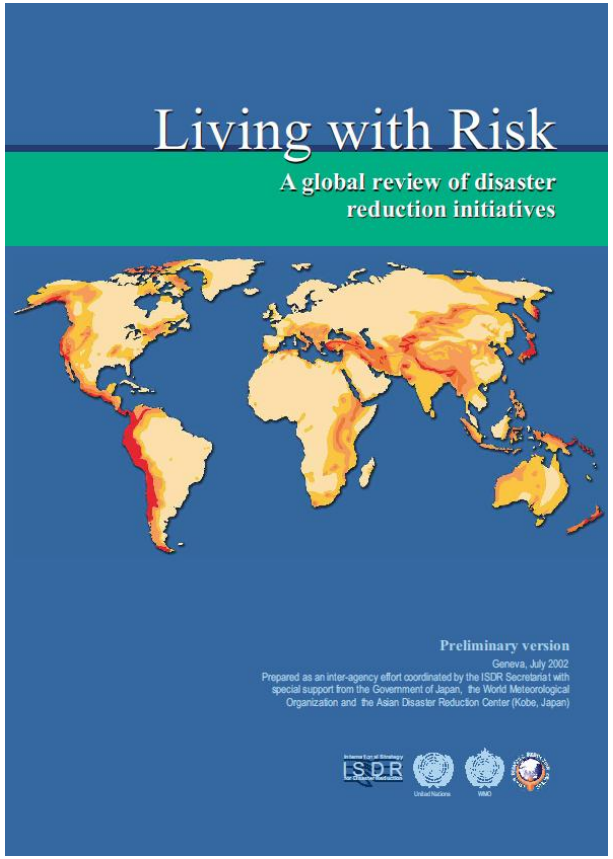
a way to draw public attention to disasters in "peaceful years"

a way to maintain institutional memories of disaster reduction policies regardless of political changes

HFA Priority 1

Japan's Proposal to apply this Official Reporting

as a tool to ensure that DRR is a priority



Supported ISDR to edit the first version of Living with Risk, July 2002

→ GAR since 2007

HFA Priority 1

JICA Assisted Thai Government to Issue their Annual Official Report on Disaster Risk Management (White Paper) 2007

The 1961 Act made provisions for building our nation and our communities resilient to disasters by addressing the four phases of disaster reduction in an organized way.

Emphasis made on Efforts for Disaster Prevention/Mitigation

HFA Priority 4

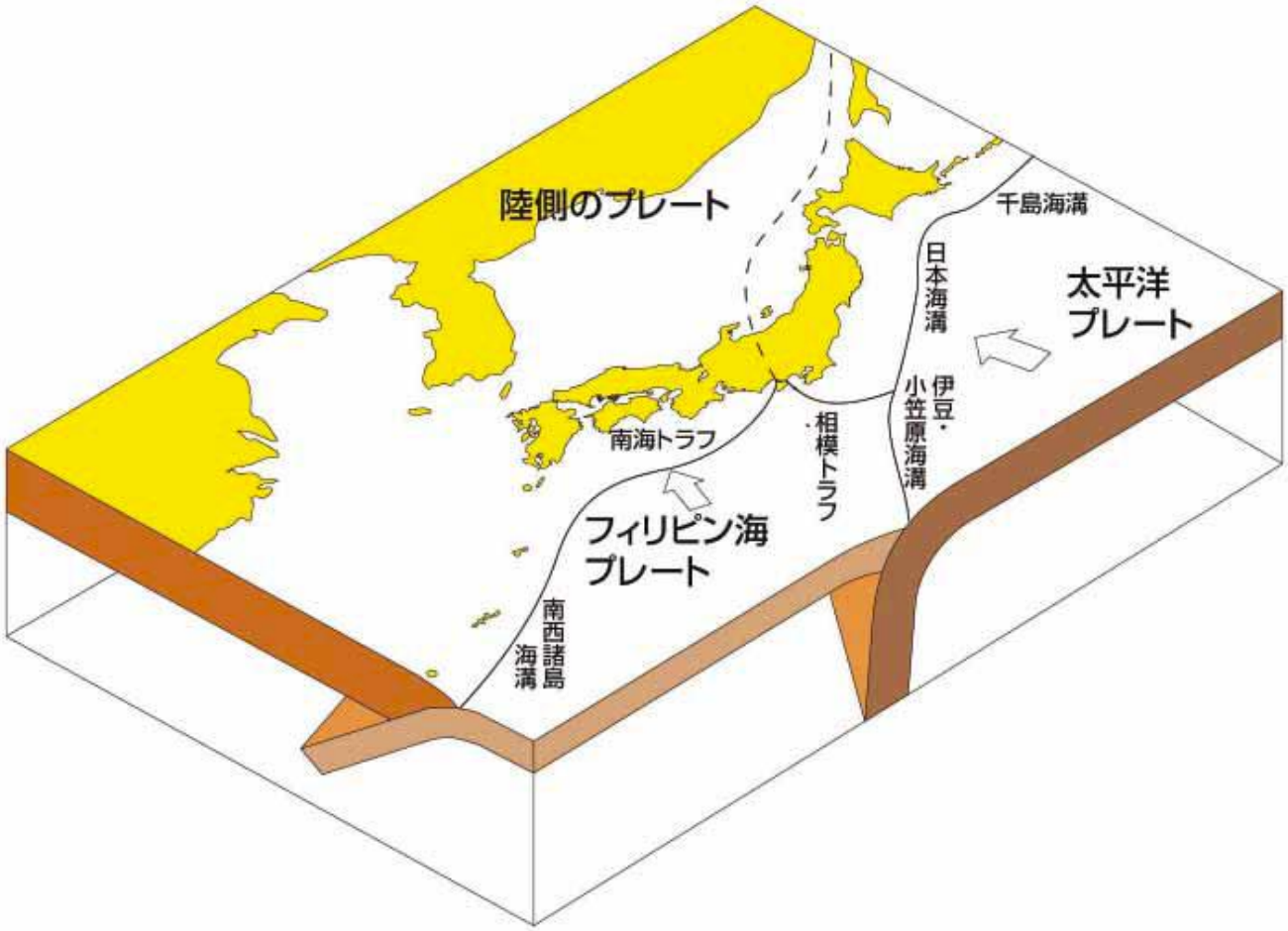
◆Improvement of Disaster Prevention Facilities
- Observation equipment such as meteorological satellites, weather observation radar and seismometers
- Systems for communicating emergency information such as telecommunications and broadcasting facilities etc.

◆National Land Conservation
- Soil conservation, River improvement, Construction of dams for flood control, Soil erosion control, Landslide prevention, Coastline conservation, Agricultural land and facilities disaster management etc.

◆Disaster Awareness & Knowledge, Disaster Management Drill

◆Local Voluntary Disaster Management Organizations and Volunteer Activities

Tectonic Plates Surrounding Japan



Severe Damage by Earthquakes

Year	Earthquake (Magnitude)	Death Toll
1945	Mikawa Earthquake (M6.8)	2,306
1946	Nankai Earthquake (M8.0)	1,330
1948	Fukui Earthquake (M7.1)	3,769
1952	Tokachi-oki Earthquake (M8.2)	33
1960	Chile Earthquake & Tsunami (M8.5)	139
1964	Niigata Earthquake (M7.5)	26
1968	Tokachi-oki Earthquake (M7.9)	52
1974	Izu-hanto-oki Earthquake (M6.9)	30
1978	Izu-Oshima Kinkai Earthquake (M7.0)	25
1978	Miyagi-ken-oki Earthquake (M7.4)	28
1983	Nihonkai Chubu Earthquake & Tsunami (M7.7)	104
1984	Nagano-ken Seibu Earthquake (M6.8)	29
1993	Hokkaido Nansei-oki Earthquake & Tsunami (M7.8)	230
1995	**Hanshin-Awaji <Kobe> Earthquake (M7.3)**	**6,436**

Evolution of Japan's Anti-Seismic Building Code

1923 The Great Kanto Earthquake (M7.9: Tokyo devastated 105,000 dead)
1924 First Seismic Building Code
1948 Fukui Earthquake (M7.1: 3,769 dead)
1950 Building Standard Law
1968 Tokachi-oki Earthquake (M7.9: 52 dead)
1978 Miyagi-ken-oki Earthquake (M7.4: 28 dead)

1981 Revision of Building Standard Law

requirements:

- No damage against medium scale (80-100 gal ground motion) earthquakes,
- To be able to continue use after these medium earthquakes.
- No collapse & safety of people inside against large scale(300-400 gal ground motion) earthquakes

HFA Priority 1

Case of Tokachi-oki Earthquake(M7.9) 1968

Collapsed buildings
52 killed

Case of Miyagi-ken-oki Earthquake(M7.4) 1978/06/12

Crashed concrete block wall

Pancake-collapsed building

28 killed by collapse and crush

Case of Miyagi-ken Earthquake(M7.2) 2005/08/16

Fallen inner ceiling of indoor swimming pool

No deaths

1995 Hanshin-Awaji (Kobe) Earthquake (M7.3) was the 2nd Epoch-Making Turning Point

- Number of Death/Missing 6,436
- The Largest Scale Disaster Since 1923
- Directly hit the Metropolitan area of Kobe

Kobe Municipal Government Headquarter

Lesson 1: Collapse of old houses built before 1981 standard was the main cause of death

5,520 direct deaths (+916 relevant deaths)

total 6,436 victims

83% immediately killed by building collapse

surgeon general's autopsy report

Prevention & Mitigation

Ensure Building Safety !

1995 new Act on Seismic Retrofitting of Existing Buildings

Public awareness campaign on housing seismic safety

Public campaign on affixing furniture and room safety

Preparedness

Public Awareness

Disaster Manager's Proper Action

HFA Priority 3

Consumer's Awareness changes Newspaper Advertisement of New Housing

HFA Priority 3

Strong, Healthy and High Quality!

強さと健康、軽量鉄骨造の家

阪神淡路大震災の時、全壊、半壊なしの実績をもつなど地震に対しても優れた耐久力を発揮する軽量鉄骨造のパナホームの建物。その強さを客観的に評価する住宅性能評価書も取得しており、末永く大切な家族と財産を守るだろう。カビの原因となる結露を抑える複層ガラスや断熱(防露)サッシ枠など健康にも配慮。

地震の揺れ、台風の横からの力に対する強さをもつパナホーム建物構造図

"This construction method showed its strength in case of Kobe Earthquake 1995. None of this type suffered total or half collapse"

Building back better & making cities resilient to disasters based on the lessons of 1995 Hanshin-Awaji Earthquake

- Urban re-development with resilience to disasters **HFA Priority 4**
  - Urban re-development in a well-planned manner
    (Act on Special Measures concerning Reconstruction of Urban Districts Damaged by Disaster)
  - Promotion of earthquake-proofing buildings especially in primary and junior high schools
    (Act on Special Measures for Earthquake Disaster Countermeasures)
  - Renovation of high dense-area with wooden old buildings
    (Act on Promotion of Disaster Resilience Improvement in Densely Inhabited Areas)
- Improvement of the support for livelihood recovery of disaster victims
  (Act on Support for Livelihood Recovery of Disaster Victims)

HYOGO Prefectural Government Headquarter (1995/01/17)

Lesson 2:Delay of First Response due to lack of information at the direct hit Kobe city

- Damaged Local Government Headquarter
- Local Government Command initially paralyzed
- Destroyed almost all traffic system
- Telecommunication, even satellite telecommunication system were cut off due to power failure

⇒ It took three days to grasp the entire picture of damage

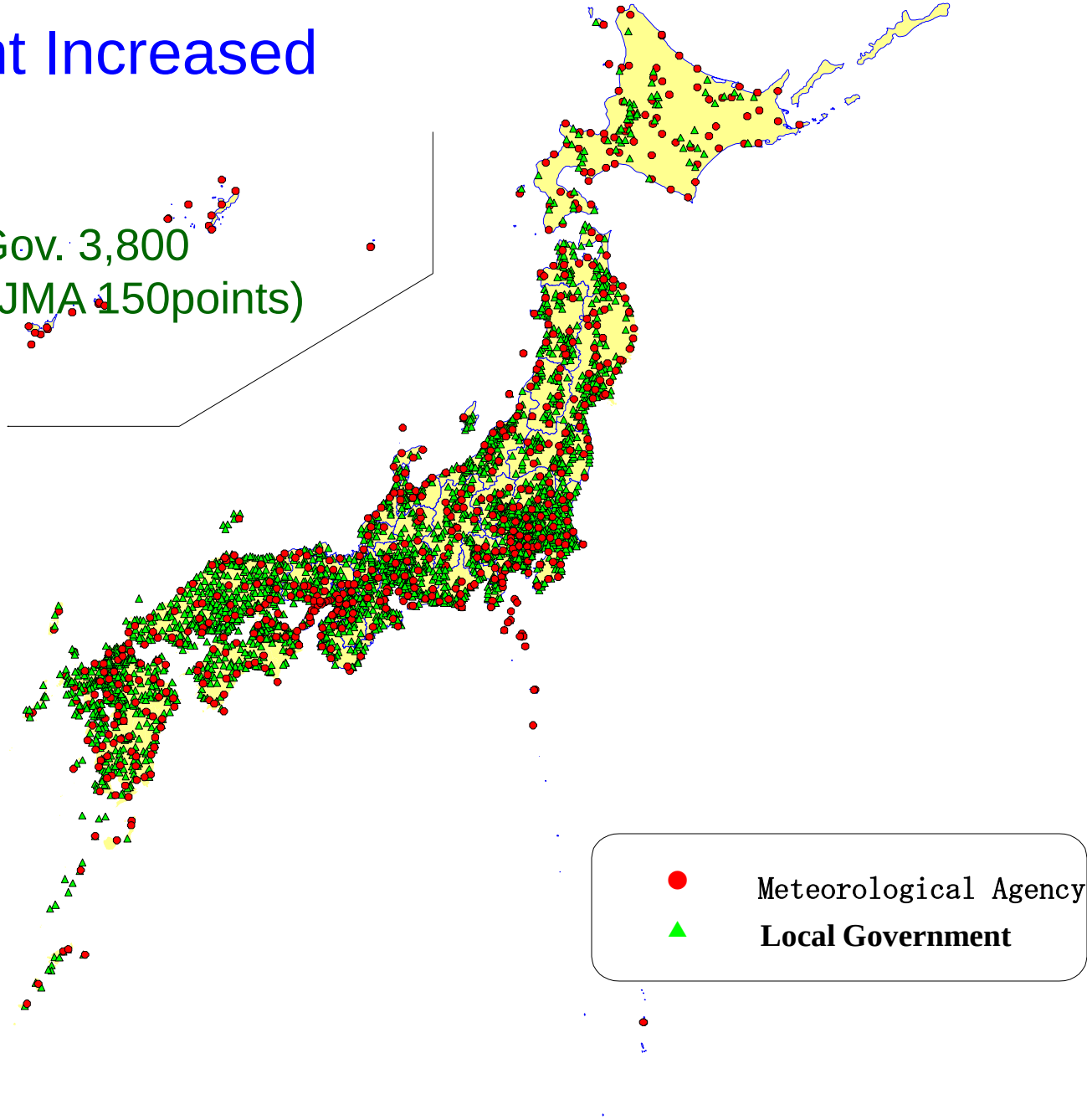
⇒ The bottom-up reporting system could not function

- Nationwide support system for local & regional emergency
- Appointment of Minister of State for Disaster Management
- High density seismometer network &
- Development of disaster damage estimation system (DIS)

Seismic Intensity Observation Point Increased

July, 2002

JMA: 600points, Local Gov. 3,800
(Before the Earthquake JMA 150points)



HFA Priority 2

Paradigm shift after 1995 Hanshin-Awaji (Kobe) Earthquake

Most of the initial search & rescue done by family members and neighbors.

→ How can we encourage disaster preparedness at community level?

Importance of building safety re-recognized.

→ Who owns the houses and buildings?
Who can take care of safety inside the house or in the office?

Business Continuity Planning is important for reducing economic loss.

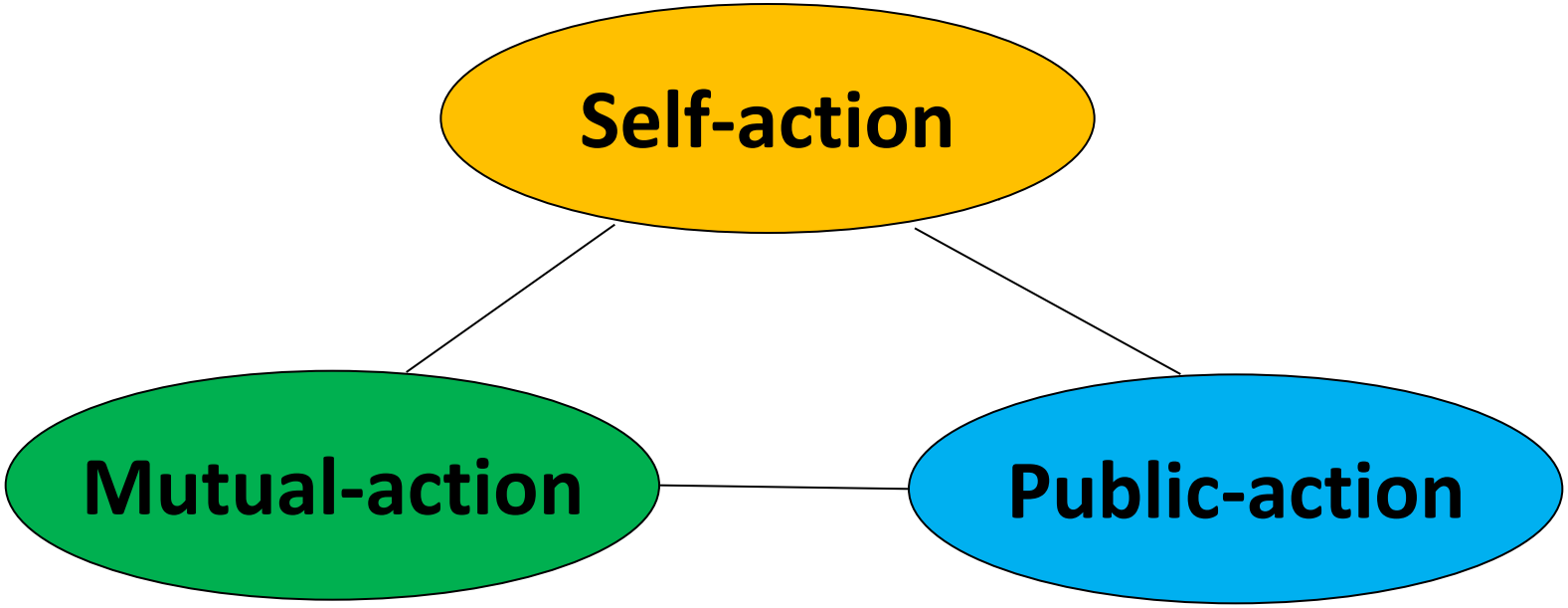
→ Who decides on BCP of companies?

Importance of Pre-disaster measures re-recognized.

→ Pre-assessment for each possible large scale earthquakes & floods.
Disaster reduction strategy based on pre-assessments.

Government centered disaster reduction → Multi-stakeholder approach to disaster risk reduction

Call for a Nation-Wide Movement for Disaster Reduction Actions



Self-help action by individuals, families and companies
Mutual-help action at neighborhoods and local communities
Public-action by governments

How can we promote this Nation-Wide Movement for DR?

- Involve various local groups in disaster reduction
  - ➢Community Groups & Community Center Managers
  - ➢Junior Chamber of Commerce Chapters
  - ➢Parent & Teachers Associations
  - ➢Local Shop Unions
  - ➢Consumer Cooperative Unions, etc.

HFA Priority 3

- Provide various opportunities for disaster education
  - ➢In Elementary & Secondary Schools
  - ➢At Social Education Facilities & Public Libraries
- Develop various methodologies to attract different people
  - ➢Open a new portal website for sharing methodologies & knowledge
  - ➢Start “Ichi-Nichi-Mae (the day before the disaster) project” for personal disaster experience sharing for awareness
- Involve the Corporate (Business) Sector

Portal Website for Nation-Wide Movement for Disaster Reduction Actions

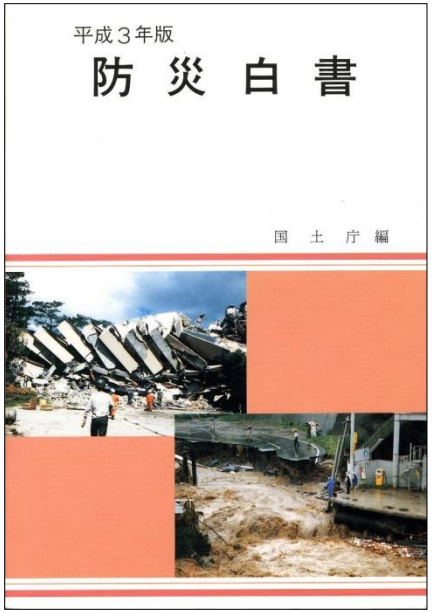
http://www.bousai.go.jp/km/

Long efforts to involve the corporate(business) sector

Disaster Reduction Activities by the Corporate Sector. Why are they necessary？ 1991 Edition

① Interruption of smooth provision of goods/services will cause economic loss.
② Corporate Citizenship: as a member of community
③ Who should be responsible for the safety of employees and customers in offices, shops and factories ?

(as stated in the Annual Official Report on Disaster Countermeasures 1991 edition)

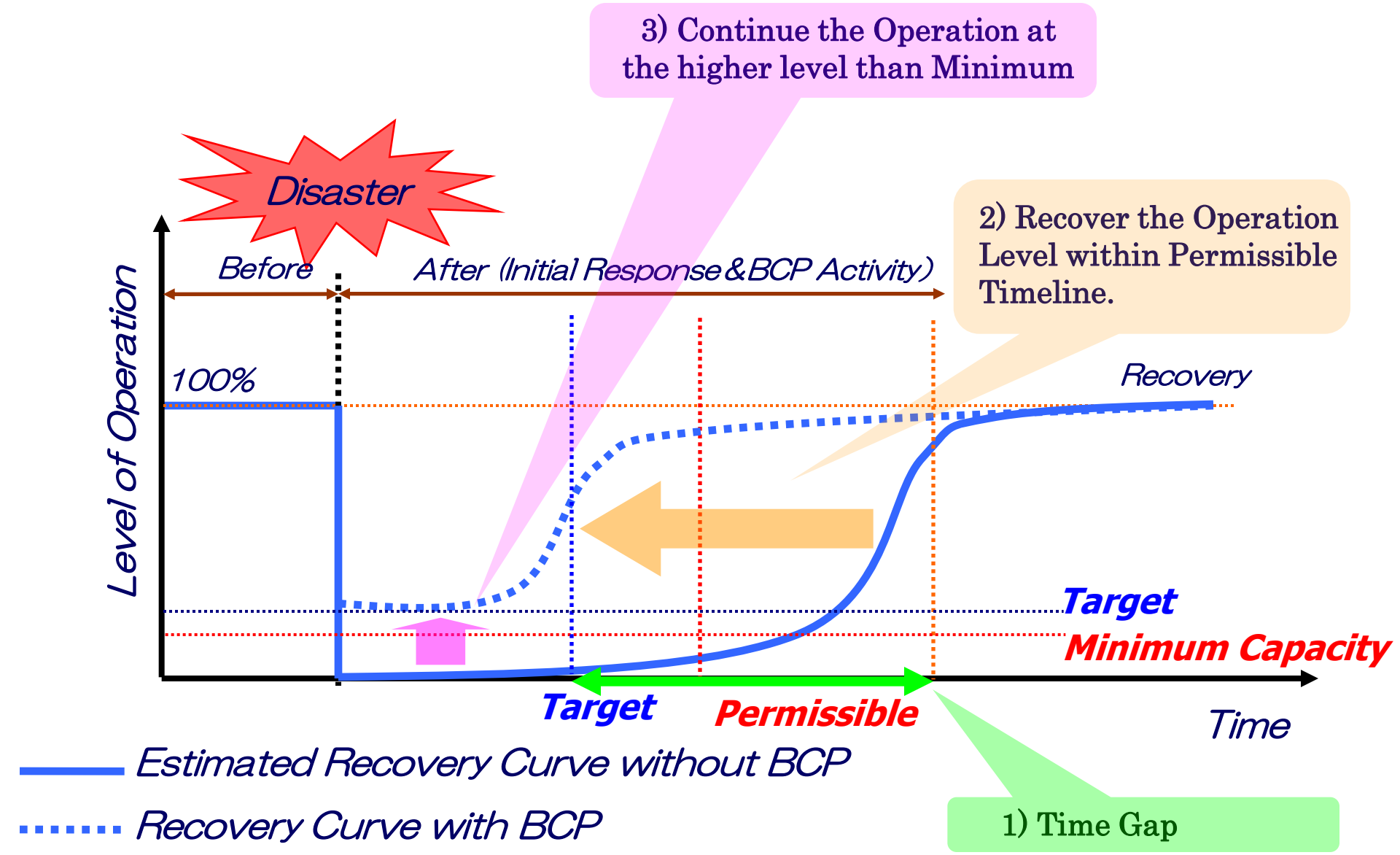


S. Nishikawa was the main author of this edition

1995 Hanshin-Awaji(Kobe) Earthquake, damage to factories
2000 Tokai Torrential Rains, suspended automobile parts manufacturing
2001 World Trade Center 911Terrorist Attack in NY, quick resumption by backup office
2004 Niigata-Chuetsu Earthquake, damage to electronic parts manufacturing

Stronger interest by the Business Community for Disaster Risk Reduction
“Business Continuity Planning Guideline 1st Edition” Published by the special committee under the Central Disaster Management Council, August 2005

Business Continuity Planning



Strategic Policy Targets for Disaster Reduction of the Corporate Sector

Background:
Pre-Assessment of Tokyo Inland Earthquake Damage published in 2005
Worst case economic damage 112 trillion yen ! (20% of GDP !)
Strategic Plan to reduce economic damage to 40% less by 2015 (in 10 years)

Strategic Policy Targets to achieve this strategic plan

- Seismic strengthening of (in 10 years)
  - buildings (75% → 90%)
  - pillars of artery roads & highways
  - piers of major ports (55% → 70%)
- **All of large-scale companies to implement their own BCP**
- **Half of medium-size companies to implement their own BCP**

How can we encourage companies to implement their own BCP ?

- Propagation of BCP Guidelines & Checklists
- Policy Incentives
- Create a sense of common practice to have BCP
- Outreach to partners

HFA Priority 3

Propagation of BCP

Publish Set of BCP Guidelines & Checklists

1. Business Continuity Guidelines 1st ed.
2. Checklist for Business Continuity Guideline
3. Sample models of Business Continuity Plan
4. List of the issues for self-evaluation regarding "Corporate Disaster Reduction Activities"
5. Sample reports for public relations on Corporate Disaster Reduction Activities

Policy Incentives

Special Low-interest Loan by DBJ

DBJ Development Bank of Japan

followed by local banks
Shiga Bank, Kyoto Bank

Create a Sense of Common Practice

•Japan Business Federation

KEIDANREN

Committee on Risk Management

•Encourage business unions to form their own BCP guidelines

Newly Organized a Non-Profit Organization BCAO

Annual BCAO Awards to highlight Best Practices by companies, business unions, local public-private-partnerships

BCP Guidelines for Medium & Small Business with

THE TOKYO CHAMBER OF COMMERCE AND INDUSTRY

BC
Business Continuity Advancement Organization

How do these efforts pay ?

Formulation Status of BCP of Japanese Companies
(implemented/under implementation)

Large-scale companies

2007	2009	2011	Target(2015)
35.3%	58.4%	72.3%	Almost All

Medium-sized companies

2007	2009	2011	Target(2015)
15.8%	27.2%	35.7%	Half

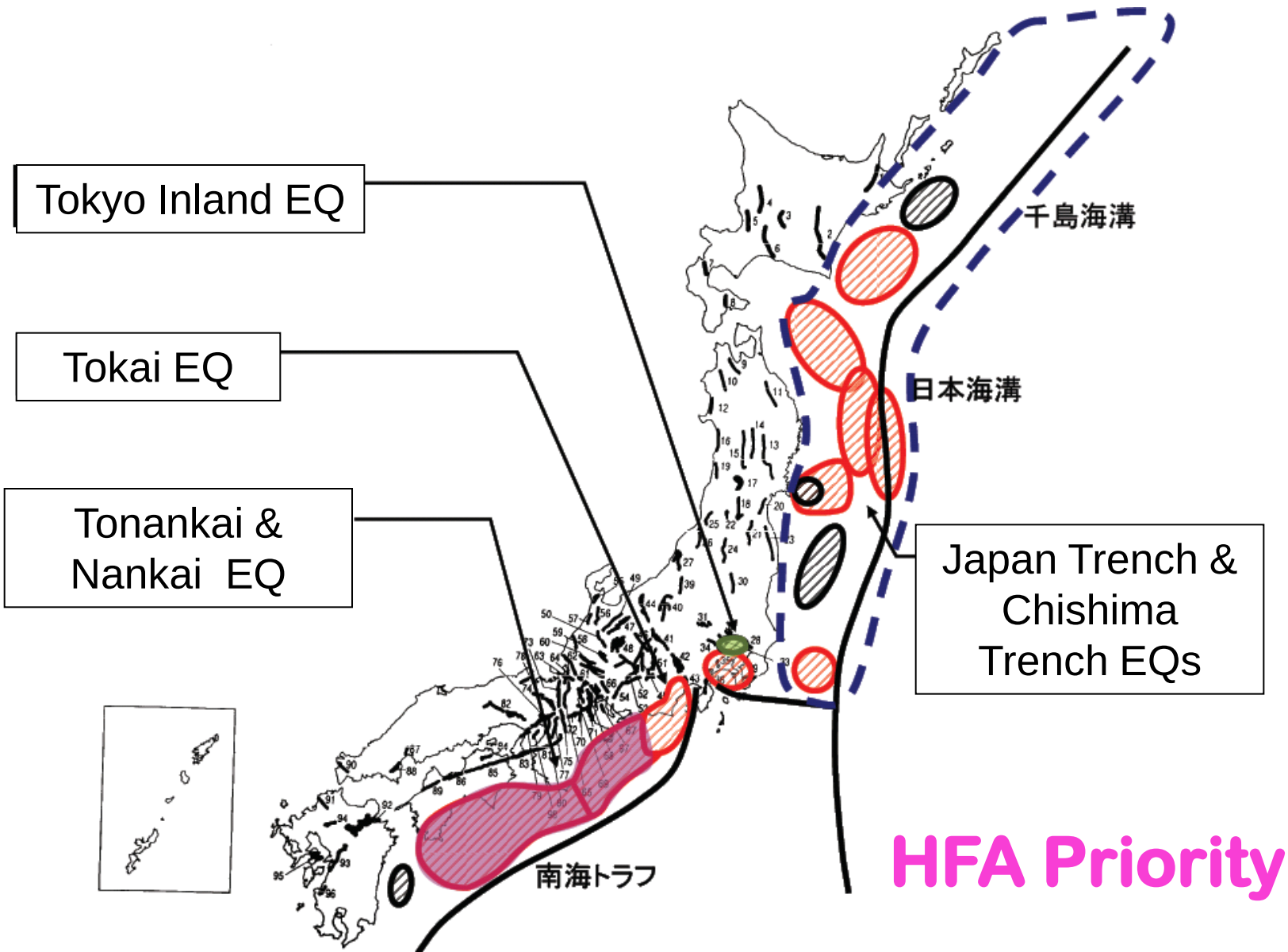
Special Low Interest Loan lending by DBJ (2006 to 2012 F.Y.)

Number of companies granted	Total of low interest loan
102	92billion yen

Laureates of BCAO Awards
- The Development Bank of Japan (awardee of 2006)
- Lawson Company (awardee of 2011)

featured in the World Economic Forum Global Risks 2012 Seventh Edition
http://www.weforum.org/reports/global-risks-2012-seventh-edition

Recognized Possibilities of large-scale earthquakes and tsunamis in Japan (pre-311)



HFA Priority 2

HFA Priority 3

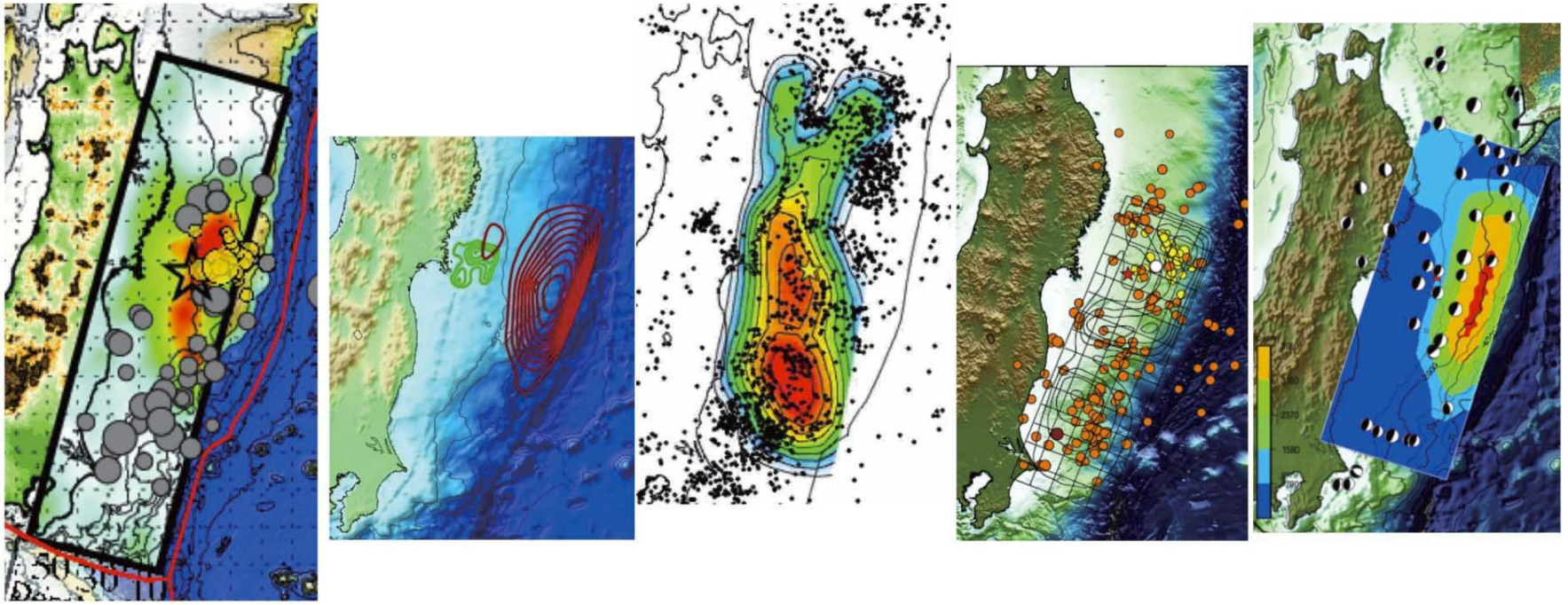
Emergency Exercise with Citizens' Participation
Checking Local Vulnerabilities using Hazard Maps (pre311)

But M9 Earthquake & Tsunami Came ! 2011

The 3rd Epoch-Making Turning Point

平成 23 年東北地方太平洋沖地震のすべり分布

事務局作成



USGS　山中（名古屋大学）　八木（筑波大）　横田ほか（東大地震研）　Shao et al. (UCSB)

Energy of M9 earthquake is 32 times stronger than M8 earthquake

Enormous Tsunami !!!

Photo taken at Miyako City, Iwate Prefecture
Courtesy of Tarocho Fisheries Cooperative Association

Relief: Thank you for the International Solidarity !

MLIT TEC-Force Dispatch Response based on better Preparedness

TEC-Force is a standby capacity of MLIT. In the Great East Japan Earthquake, TEC-Force became operational with 62 experts on the day of the disaster, 397 experts by the next day and more than 500 experts three days later.

18,115 man-days (Jan 9, 2012)

HFA Priority 5

Survey of disaster-affected areas

Supporting affected municipalities (technical assistance)

Securing a communication circuit with a satellite communication vehicle

Survey of disaster-affected rivers

Local needs survey

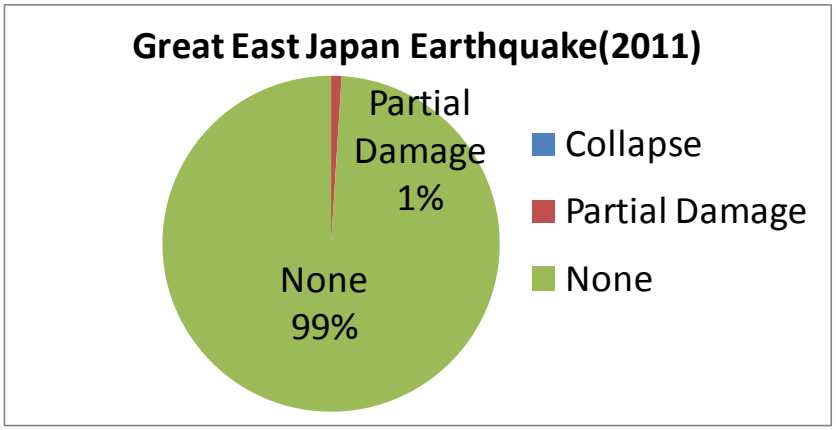
Assistance in the search for missing persons using drainage pump vehicles

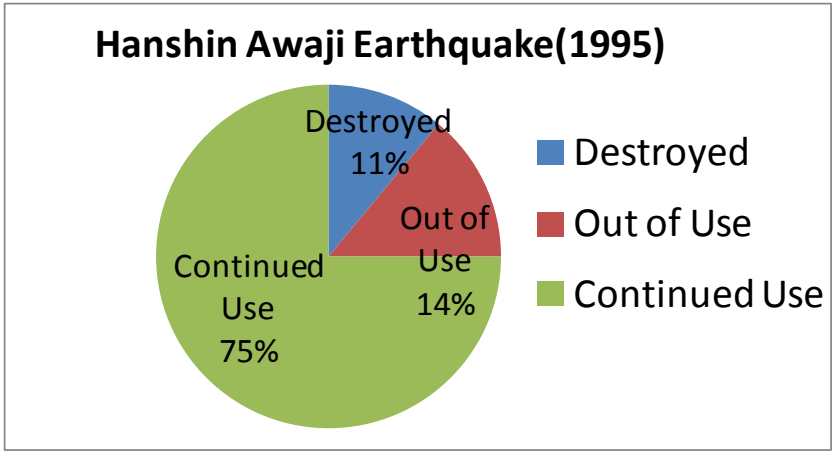
Preventive Approach 1 Japanese building codes showed its strength against M9 earthquake

The M9 Great East Japan Earthquake hit Sendai City, but there was no structural collapse of buildings.

HFA Priority 4

Office building in Sendai, photo by Satoru Nishikawa, Apr 15 2011





Source: CBRE Consulting “Impact of Great East Japan Earthquake on Japan Real Estate Market"

Statistics for monitoring of progress of DRR

Earthquake-resistant retrofitting of buildings showed value on 11 March 2011

* School Facility

* Building

Progress of retrofitting of public schools (elementary and junior high schools)	
2002	44.5%
2009	67.0%
2010	73.3%
2012	84.8%

HFA Priority 4

Preventive Approach 2 Structural Engineering

HFA Priority 4

Great Watergate of Fudai

15.5m high, engineered to withstand the 1896 Meiji-Sanriku tsunami.

All villagers safe.

Great Tsunami Levee of Taroo

10m high, engineered to withstand the 1933 tsunami.

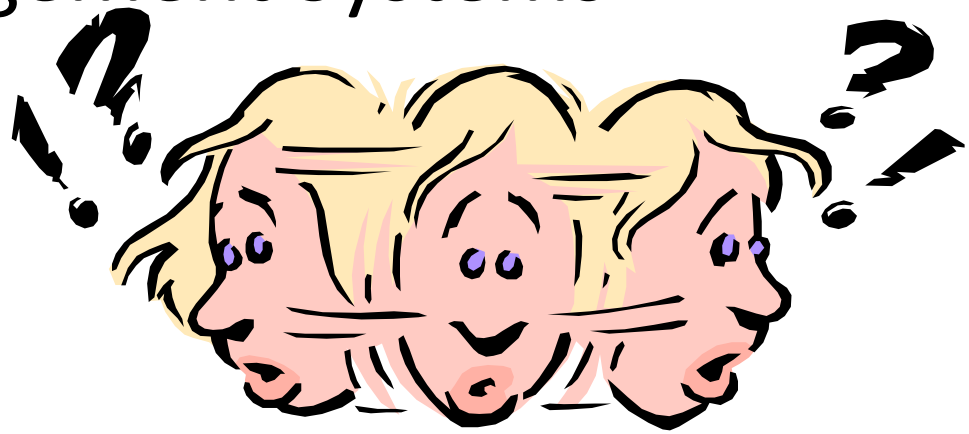
Tsunami overran. Catastrophic damage.

Preventive Approach 3

Application of Latest Technologies for Disaster Management Systems

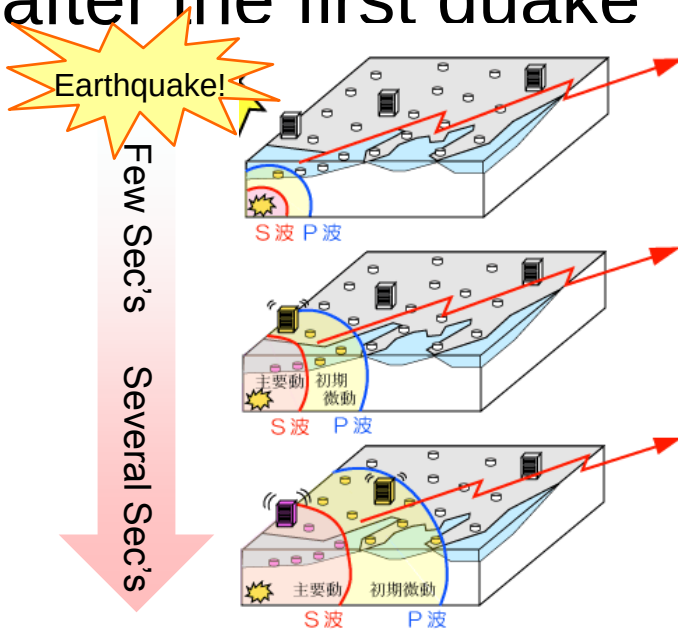
HFA Priority 2

Automated systems approach for saving lives by minimizing human errors.



- Microchip controlled Gas Meter for all household
- Safety mechanism triggered by earthquake stronger than JMA 5 scale will automatically shut down gas supply
- No city fires in Sendai by earthquake

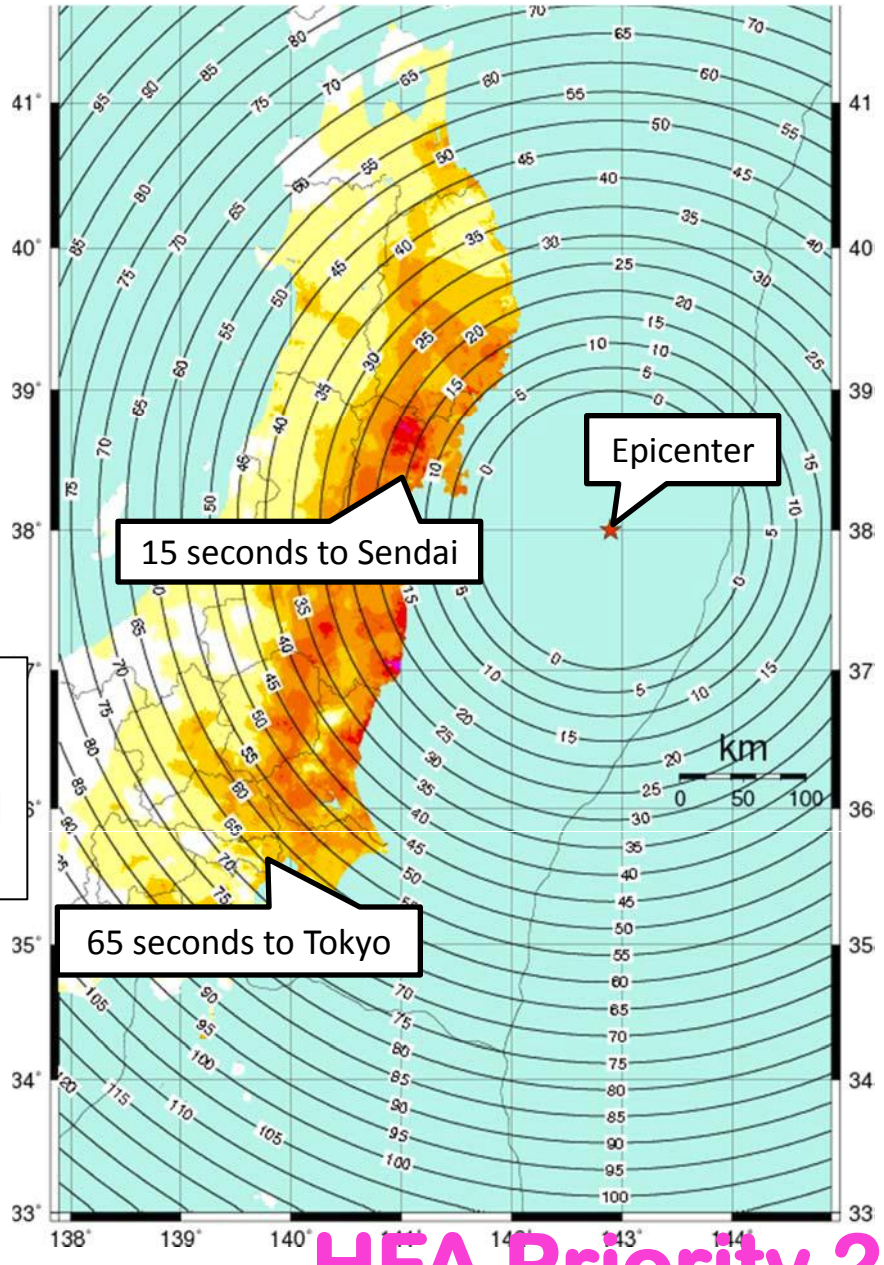
Real-time Earthquake Early Warning issued 8.6 seconds after the first quake



Primary Pressure wave travels much faster than the Secondary Shake wave

Japan Met Agency issues EEW and is aired on TV, Radio and cell phones

Protect yourself before the main shake comes!



HFA Priority 2

NHK Broadcasting on March 11

14:46 Emergency! Earthquake Early Warning

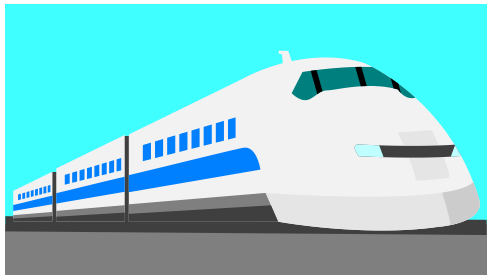
Live coverage of National Diet Session was being aired. Suddenly the special alarm sound sets off and the special screen broke in.

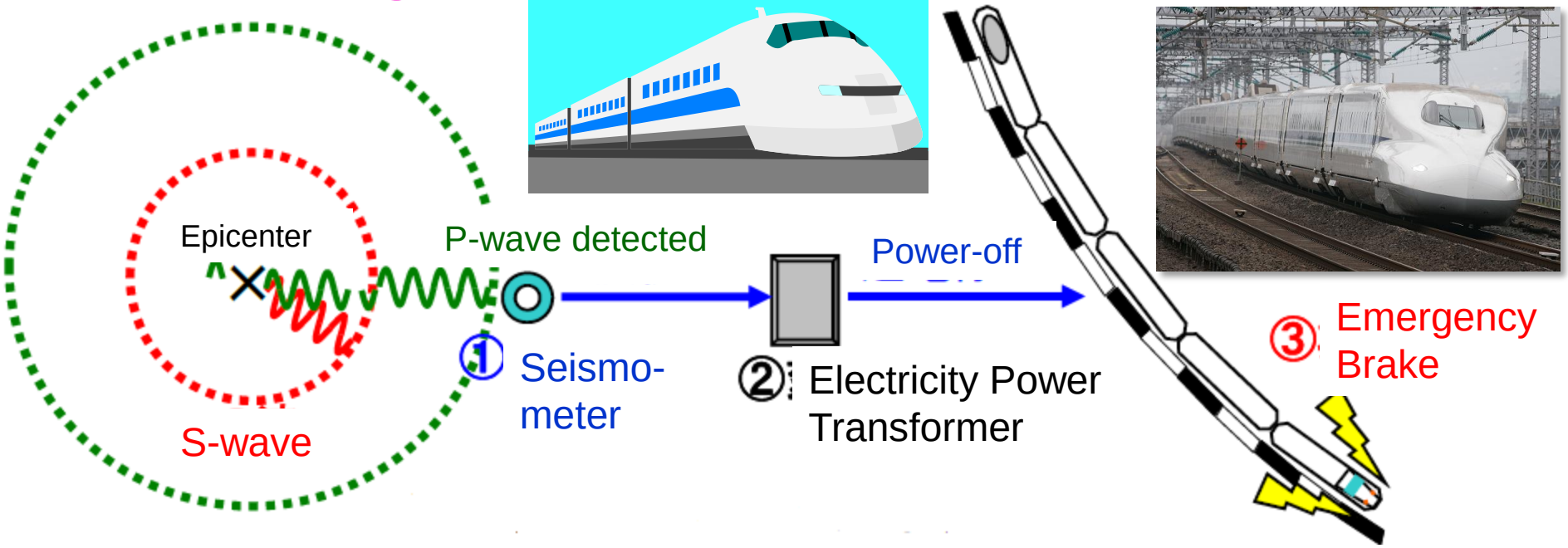
HFA Priority 2

Tohoku Shinkansen (Bullet Train) immediately stopped by primary-wave sensors located along the coastline.

No derailment, No fatalities, No injuries.

HFA Priority 4





27 Shinkansen were in service between Tokyo and Shin-Aomori.
2 Shinkansen were running at maximum speed 270km/h near Sendai.
P-wave detected, electricity immediately cut off, 9-12 seconds before the first S-wave.
Emergency brake. Maximum S-wave reached 70 seconds after the first detection, Shinkansen was already slowed down below 100km/h. Safe Stop!

Preventive Approach 4

Implementation of Business Continuity Plan (BCP) enabled quick resumption of companies

HFA Priority 5

©Suzuki Kogyo Co., Ltd

Convenience Store Chain quickly resumed retail service by mobile truck shops

Medical waste recycling company resumed operation in 2 days, critical service for hospitals

Preventive Approach 5

Combination of Latest IT and Human Response

14:49 JMA issues first Tsunami Warning to Pacific coast of Japan

14:50 Tsunami Warning Screen Aired on NHK

HFA Priority 2

15:14 JMA upgrades Tsunami Warning based on the off shore GPS buoy sea level observation. NHK immediately airs screen.

Tsunami Warning → Run!

HFA Priority 3

Disaster Education Tested!

Junior high school students helping elementary school children to run to high grounds in Kamaishi City.

Massive Evacuation !

Emergency Sirens for Tsunami Warning

Elementary School on hilltop

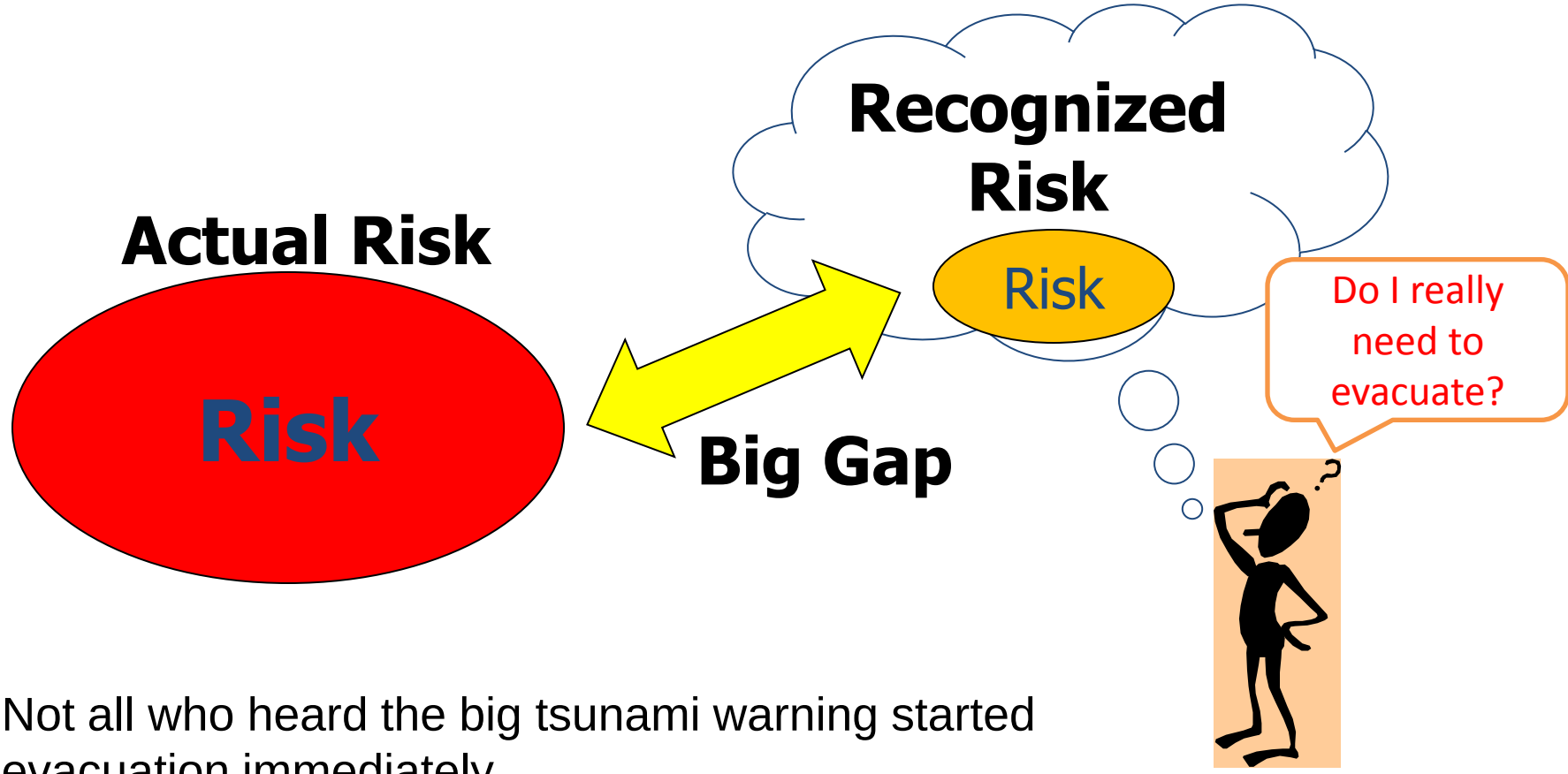
Signs of Tsunami Evacuation Building

Approx. 500,000 people in the Tsunami inundated area.
Majority escaped.
But 20,000 did not make it!

Photos by ADRC

The Pitfall in Human Response!

Risk Perception Gap



Not all who heard the big tsunami warning started evacuation immediately.

Some of the Lessons Learnt

- Were Early Warning System useful ?

  Yes! (ex. Real-time alert system safely halted bullet trains)
- Were anti-seismic codes for buildings and highways effective?

  Yes ! (ex. Elevated highways & Shinkansen bullet trains did not suffer major structural damage,

  Nobody was killed in Kurihara city where the maximum seismic motion was observed)
- Were Tsunami Awareness Programs worthwhile?

  Yes ! (elementary & junior high school children safely evacuated)
- Did everybody take the tsunami warning serious?

  Unfortunately No!
- Were we told that M9 earthquake & tsunami would be coming?

  Unfortunately No!

- Do we need more Risk Reduction Measures?

Yes !

Full picture review of “Disaster Countermeasures Basic Act” based on the lessons & challenges learnt

Report by the Central Disaster Management Council (March 2012)

Revision of the Basic Act (June 2012)

- Stronger response mechanism to wide-area catastrophe, provision of interactive back-up framework among local authorities and stronger national coordination
- Stronger push mechanism for relief supply distribution
- Coordination mechanism for distant evacuation of affected people & support to the distant evacuees
- Transmission of local disaster history made mandatory
- Wider disaster awareness education to be carried out by diverse entities
- Enhancement of local disaster management councils to include representatives of academia and local voluntary DRR organizations etc.

HFA Priority 1

Second revision in 2013

Enhance the awareness of diverse entities towards DRR
Preparedness for nation-wide emergency
Enhance support to affected people
Establish a framework for reconstruction
Redefine evacuation from disaster etc.

The Japanese Experience:

- Constant “Kaizen”(improvement) for DR
- Constant enlargement of participation
- Constant expansion of scope of DR

- Based on every bitter lessons learnt
- Including all of the priorities listed in HFA
- By always trying to raise awareness of numerous stakeholders

The tragic footages on TV screens are not isolated events, it may be right next to you !

(the award winning poster of the 2006 competition)

International DRR Movement & Japan

1959		Ise-Wan Typhoon (1st Epoch)
1961		Disaster Countermeasures Basic Act (Japanese National Platform & White Paper)
1971	establishment of UNDRO	
1987	UN GA Resolution on IDNDR	
1990	inauguration of IDNDR	
1994	World Conference on Natural Disaster Reduction (Adoption of Yokohama Strategy)	hosted in Yokohama
1995		Hanshin-Awaji (Kobe) Earthquake (2nd Epoch)
1998		Inauguration of ADRC in Kobe
2000	IDNDR to ISDR	
2002	Johannesburg Summit WSSD (lobbying by ADRC) publication of Living with Risk (supported by ADRC)	
2004	Indian Ocean Tsunami	
2005	World Conference on Disaster Reduction (Adoption of HFA)	hosted in Hyogo IRP organized in Kobe
2006	launch of GFDRR	
2007	1st Global Platform on DRR publication of 1st GAR	
2011		Great East Japan Earthquake & Tsunami (3rd Epoch)
2015	3rd World Conference on Disaster Risk Reduction	to be hosted in Sendai

From Yokohama, Hyogo to Sendai

Yokohama Strategy and Plan of Action

- 1st Internationally negotiated document on disaster reduction
- Principles
  - Basis for the Strategy
  - Assessment of the status of disaster reduction midway into the Decade
  - Strategy for year 2000 and beyond
- Plan of Action
  - Activities at the community and national levels
  - Activities at the regional and sub-regional levels
  - Activities at the international level, in particular through bilateral arrangements and multinational cooperation
- Follow-up Action

Hyogo Framework for Action 2005-2015

- Expected Outcome
- 3 Strategic Goals (incl. integration of DRR into sustainable development !)
- 5 Priorities for Action
- 4Cross Cutting Issues

What should be stated at Sendai ?

What do we really need to implement Yokohama & Hyogo ?

How should we

build on HFA?

improve HFA ?

fill gaps and mobilize resources to implement HFA ?

We have spoken among the “converted” but yet to convince the financing authorities and economic & planning ministry.

Evidence-based knowledge re need and benefit of DR is poor and underutilized.
How to demonstrate the returns for investment in DRR.
Approach the private sector with evidence.
Stronger mechanisms at national level and legal frameworks at national level.
National targets will prompt action at national and local governments.
The role of National Platforms re national ownership of DRR, governance & coordination, formulation of policies & incentives, involvement of private sector.
National platforms need effective dialogue & inclusion of scientists and advocacy to wider audience.
National recording and accounting of losses will numerically support our case for DRR.

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How can I secure budget for DRR !?

- Justifications are required to negotiate DRR budget with the Ministry of Finance.
- Unless budget for DRR are sustainable, cannot expect sustainable DRR at national and local level.
- Ad-hoc voluntary donations are unstable.
- A sustainable DRR cannot rely on “ad-hoc beauty contest for funding”.

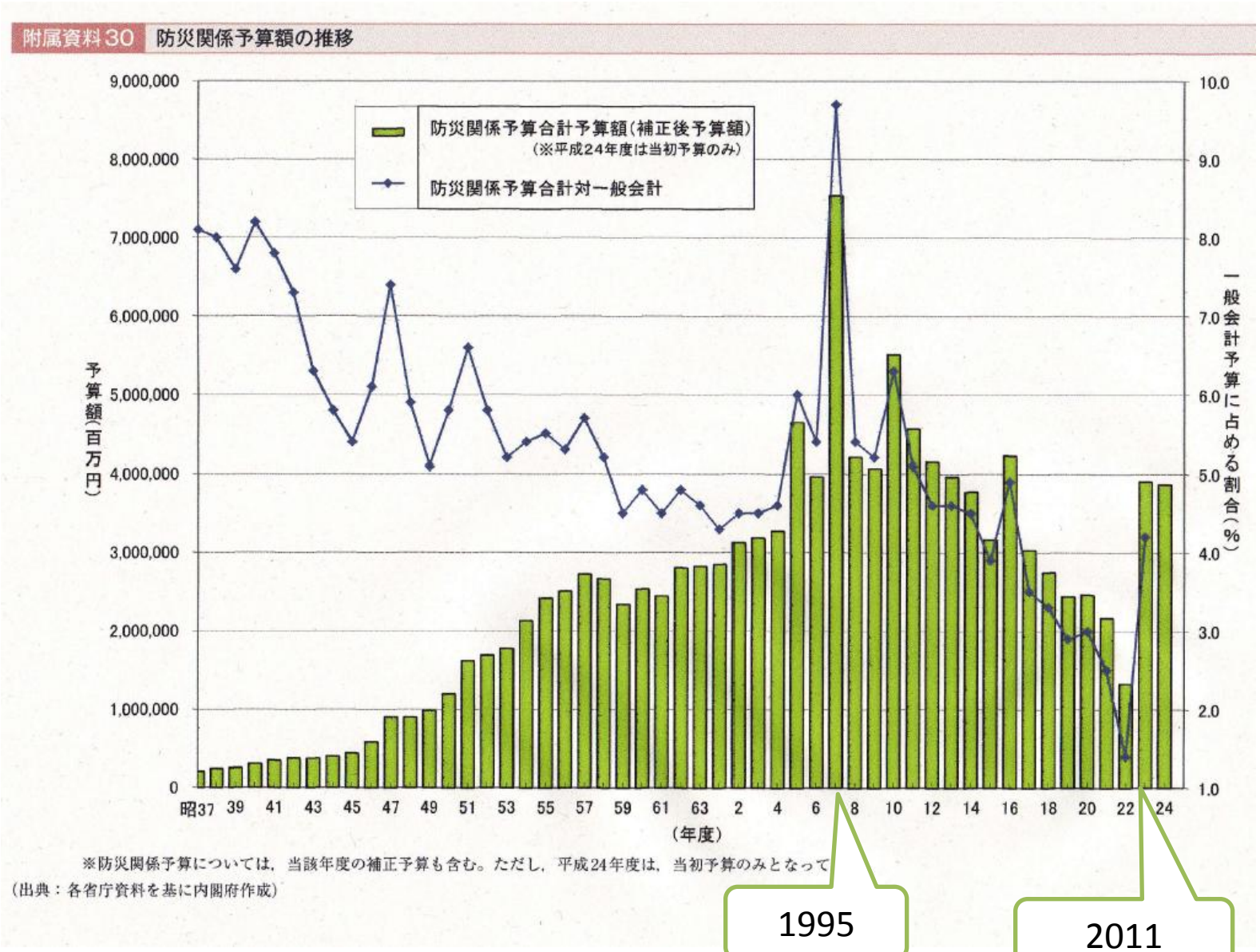
DRR should be seen as Investments not Expenditures !

To justify investment, B/C (benefit per cost) needs to be explained

Basic Disaster statistics

- human casualties
- losses of housing
- physical damage numbers
- economic damage figures

Budget Figures for Disaster Reduction in Japan



What will be our main message?

Some food for thought

From “Saving Lives” to “Saving Lives & Livelihoods”

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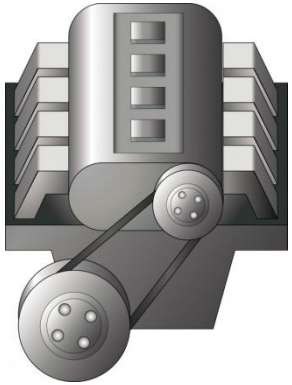
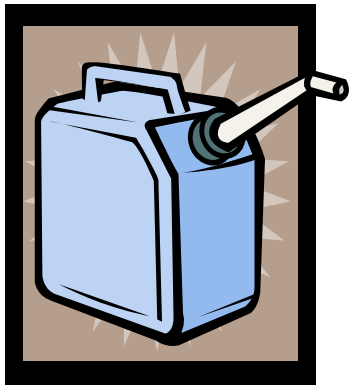
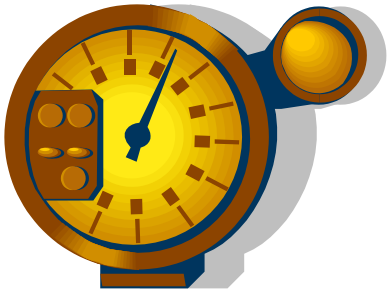
Need Engines, Fuels and Meters to Drive HFA forward



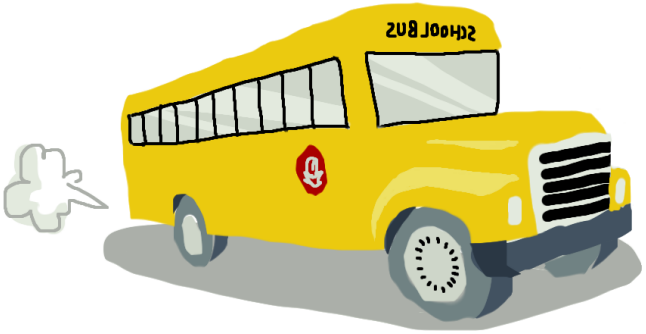
(national mechanism)



(finance & budget)



(statistics and measurements)



(with all stakeholders on board)

Lessons to be shared for future generations

December 2004

Lessons to be shared for future generations

September 2005

Lessons to be shared for future generations

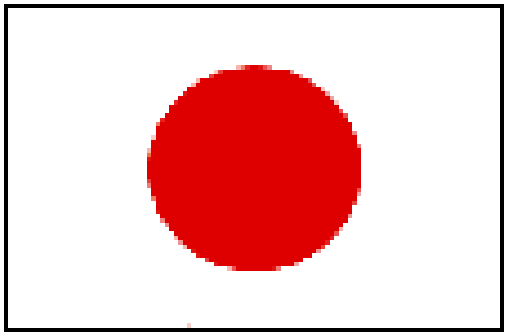
March 2011

Proverb by Japanese Physics Scientist
Dr. Torahiko TERADA (1878-1935)
who investigated the damage by
1923 Great Kanto Earthquake

「天災は忘れた頃にやってくる」

“Natural Disasters will hit us by the Time people have forgotten about it”

How to foster & inherit the Culture of Prevention



Thank you for your attention!