Japan & JICA's Efforts for Disaster Risk Reduction

=Direction and accelerating implementation of post HFA=

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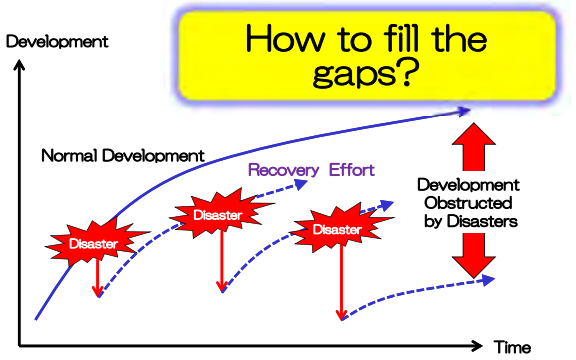
Japanese Experiences

Why Japan can dedicate on Disaster Risk Reduction

- Japan is one of the most natural hazardous country in the world.
- More than 50% of population, living in the flood plain
- More than 75% of whole asset located in the flood plain
- How to prepare typhoon, flood, earthquake and tsunami
- This is our countries key survival issue
- In the same time, one of the most technology oriented developed country.

Development Obstructed by Disasters



History of flood control investment for Tone River (400years ago)

Up to 15th Century, Tone River crossed the Kanto Plain from north to south and flew into Tokyo Bay

From 1594 to 1654, Tone River was connected to Pacific Ocean by eastward channel

- After the flood in 1910, flood control measures in upper and middle reaches has changed from "flood control allowing inundation" to "sequential levees confinement"
- After this change, the maximum discharge in the Tone River Channel has increased, which became the main challenge of flood control in Tone River Basin

Source: Water and Disaster Management Bureau, Ministry of Land, Infrastructure, Transport and Tourism, Japan

Ise Gulf Typhoon, 21 Sep. 1959 Japan

- Max pressure 895 hPa
- Max Wind Speed 75m/s,
- Casualties 5,238

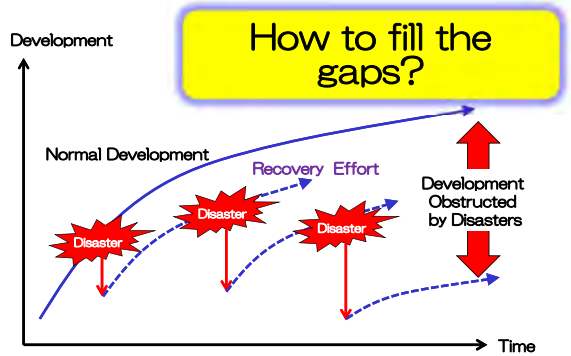
- Almost same magnitude of Philippines Typhoon Yolanda 2013

Ise Gulf Typhoon, 21 Sep. 1959 Japan

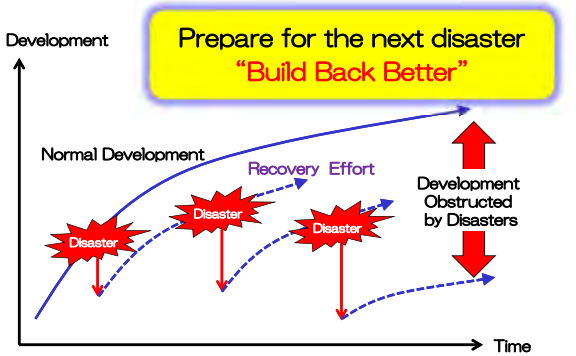
Use Disaster as a trigger to build back better

- How Japan conquered or coexists with disaster?
- Once serious disaster hit Japan, Japan revised building code, design criteria, land use plan, government institutional structure and so on.
- Japanese civil minimum or common sense is "prevent same kind of disaster, prevent same kind of vulnerability reborn again", that is really the sense of "Build Back Better".

Historically, Development Obstructed by Disasters



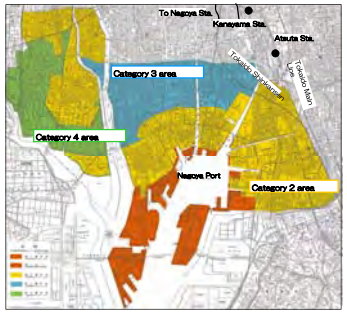
Development Obstructed by Disasters



Nagoya Area, after Typhoon 1959, New Land Use Regulationsc

Article 39 of the Building Standards Act, "Disaster Hazard Areas"

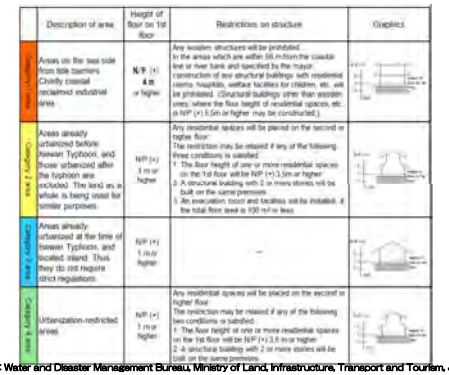
Costal disaster-prevention areas in Nagoya



* Where schools, hospitals, meeting grounds, public offices, welfare facilities for children, and other public architectures located in areas of Categories 2 – 4 are concerned, one or more residential spaces will be placed on the architecture with the floor height of the first floor of N • P(+) 2 m or higher, and with the height of N • P (+) 3.5 m or higher.

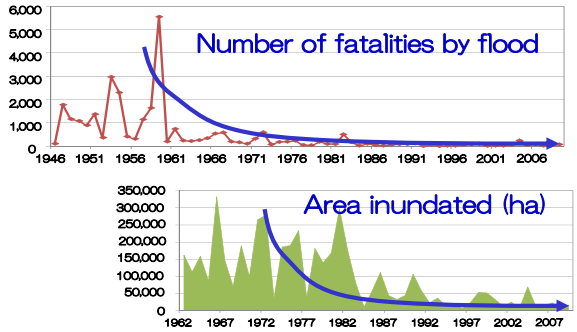
Source: Water and Disaster Management Bureau, Ministry of Land, Infrastructure, Transport and Tourism, Japan

New Building Code applied to the Land Use Regulations



Source: Water and Disaster Management Bureau, Ministry of Land, Infrastructure, Transport and Tourism, Japan

Reduction of flood damages in Japan by continuous investment



Number of fatalities and inundation area have dramatically been reduced in Japan due to continuous investment in and efforts for flood mitigation.

Source: Water Disaster Statistics, Ministry of Land, Infrastructure Transport and Tourism

History of DRR World Initiative

- Key Words
  - International Decade for Natural Disaster Reduction
  - Yokohama Strategy and Action Plan
  - ISDR: International Strategy for Disaster Reduction
  - UNISDR
    United Nations office for Disaster Risk Reduction
  - HFA Hyogo Framework for Action 2005-2015
    Building Resilience of Nations and Communities to Disasters
  - MDGs SDGs

Yokohama Strategy

17 Jan. 1995 the Great Hanshin-Awaji Earthquake

May 1994

Yokohama Strategy
Proposed 48 Actions

Yokohama Strategy

Yokohama Strategy and Plan of Action for a Safer World

Guidelines for Natural Disaster Prevention, Preparedness and Mitigation

World Conference on Natural Disaster Reduction
Yokohama, Japan, 23-27 May 1994

Contents

YOKOHAMA MESSAGE

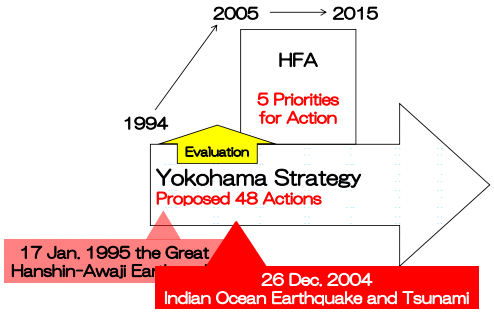
Yokohama Strategy and Plan of Action - Introduction

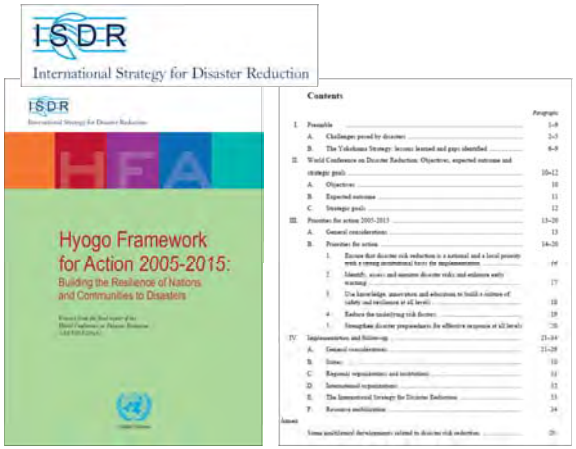
I. PRINCIPLES
A. Basis for the Strategy
B. Assessment of the status of disaster reduction midway into the Decade
C. Strategy for the Year 2000 and Beyond

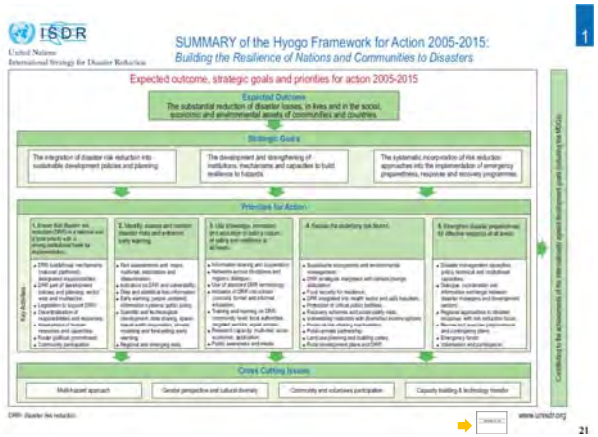
II. PLAN OF ACTION
1. Activities at the community and national levels
2. Activities at the regional and subregional levels
3. Activities at the international level, in particular through bilateral arrangements and multilateral cooperation

III. FOLLOW-UP ACTION

Relation btw. Yokohama Strategy & HFA







HFA was well described documents, but //

- HFA formulated in March 2005, just few months after the Sumatra Tsunami
- Influenced from the Tsunami impact
- Too much emphasized and given high priority to Early Warning

- Many donors inclined to Community Based Disaster Risk Management
- Humanitarian emotion superior to the holistic approach

Hyogo Framework for Action 2005-2015

Expected outcome, strategic goals and priorities for action 2005-2015

Expected Outcome
The substantial reduction of disaster losses, in lives and in the social, economic and environmental assets of communities and countries.

Strategic Goals

The integration of disaster risk reduction into sustainable development policies and planning.

The development and strengthening of institutions, mechanisms and capacities to build resilience to hazards.

The systematic incorporation of risk reduction approaches into the implementation of emergency preparedness, response and recovery programmes.

Hyogo Framework for Action 2005-2015

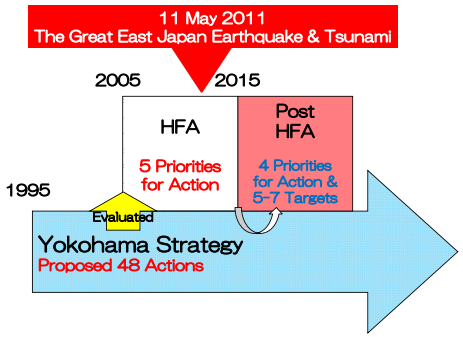
Hyogo Framework for Action 2005-2015

1. Ensure that disaster risk reduction (DRR) is a national and a local priority with a strong institutional basis for implementation.	2. Identify, assess and monitor disaster risks and enhance early warning.	3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels.
• DRR institutional mechanisms (national platforms); designated responsibilities; • DRR part of development policies and planning, sector wise and multisector; • Legislation to support DRR; • Decentralisation of responsibilities and resources; • Assessment of human resources and capacities; • Foster political commitment; • Community participation.	• Risk assessments and maps, multi-risk; elaboration and dissemination; • Indicators on DRR and vulnerability; • Data and statistical loss information; • Early warning: people centered; information systems; public policy; • Scientific and technological development; data sharing, space-based earth observation, climate modeling and forecasting; early warning; • Regional and emerging risks.	• Information sharing and cooperation; • Networks across disciplines and regions; dialogue; • Use of standard DRR terminology; • Inclusion of DRR into school curricula, formal and informal education; • Training and learning on DRR: community level, local authorities, targeted sectors; equal access; • Research capacity: multi-risk; socio-economic; application; • Public awareness and media.

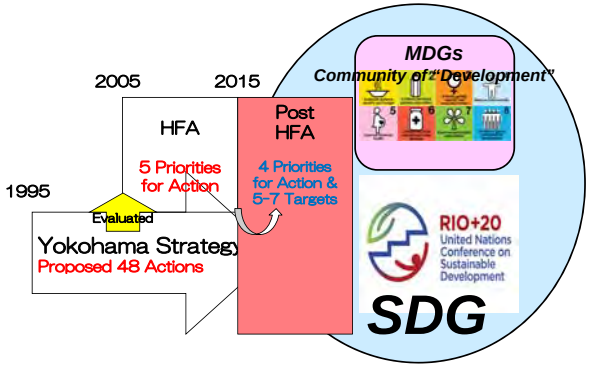
Hyogo Framework for Action 2005-2015

4. Reduce the underlying risk factors.	5. Strengthen disaster preparedness for effective response at all levels.
• Sustainable ecosystems and environmental management; • DRR strategies integrated with climate change adaptation; • Food security for resilience; • DRR integrated into health sector and safe hospitals; • Protection of critical public facilities; • Recovery schemes and social safety-nets; • Vulnerability reduction with diversified income options; • Financial risk-sharing mechanisms; • Public-private partnership; • Land use planning and building codes; • Rural development plans and DRR.	• Disaster management capacities: policy, technical and institutional capacities; • Dialogue, coordination and information exchange between disaster managers and development sectors; • Regional approaches to disaster response, with risk reduction focus; • Review and exercise preparedness and contingency plans; • Emergency funds; • Voluntarism and participation.

Yokohama Strategy, HFA and Post HFA



Yokohama Strategy, HFA and Post HFA

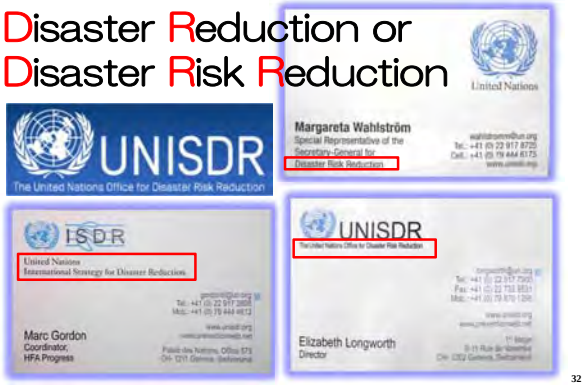


International DRR implementing agencies and Japan, JICA

UNISDR

ISDR & UNISDR
International Strategy for Disaster Reduction

Disaster Reduction or
Disaster Risk Reduction



GFDRR of World Bank, What is DRR?

The Major donors of DRR

Japanese position in the world DRR

- GFDRR & ODI reports, 20 years of international financing of disaster risk reduction (DRR)
- Donor financing is heavily concentrated with Japan and the World Bank accounting for more than 50% of the total.

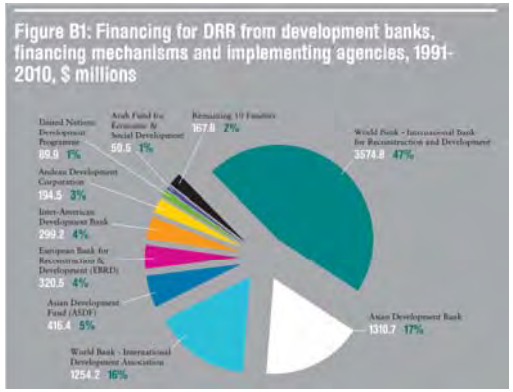
1991-2010

Total $13.5 billion
20 years of international financing of disaster risk reduction (DRR)

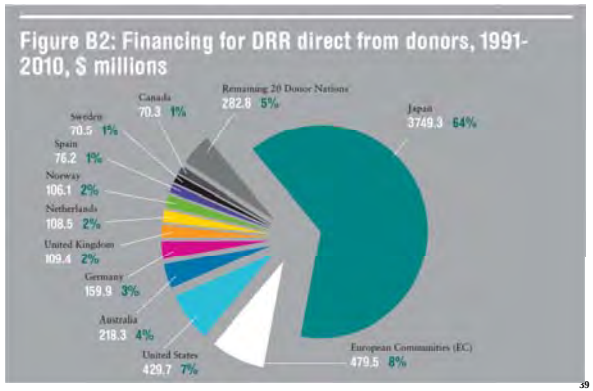
World Bank
$ 3.57 billion = 25.7%

Japan
$ 3.75 billion = 27.6%
≒4,000億円

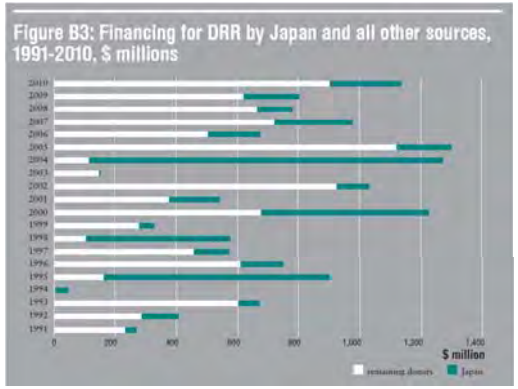
Among Developement Bank



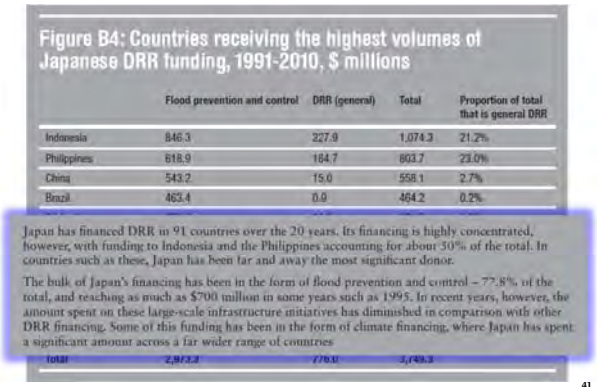
Among bilateral donors



Japan portion



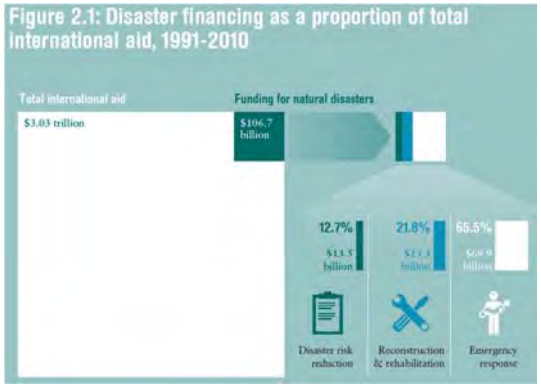
Analysis of Japan Financing Support



Japan has financed DRR in 91 countries over the 20 years. Its financing is highly concentrated, however, with funding to Indonesia and the Philippines accounting for about 50% of the total. In countries such as these, Japan has been far and away the most significant donor.

The bulk of Japan's financing has been in the form of flood prevention and control – 77.8% of the total, and reaching as much as $700 million in some years such as 1995. In recent years, however, the amount spent on these large-scale infrastructure initiatives has diminished in comparison with other DRR financing. Some of this funding has been in the form of climate financing, where Japan has spent a significant amount across a far wider range of countries

Still spending a lot for Emergency Response



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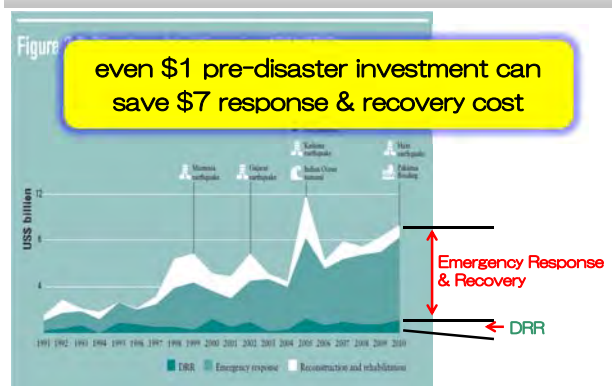
Pre-investment is much Cheaper than recovery cost, but・・・・・・

even $1 pre-disaster investment can save $7 response & recovery cost



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How pre-disaster investment is effective

- by the UN report, it is said that $1 pre-disaster prevention investment can save $7 rescue, recovery and reconstruction cost
- but it is rare case that developing country make pre-disaster investment
- they invest economical developing infrastructure first, like road, railway, subway, airport and seaport
- typical case was Thailand

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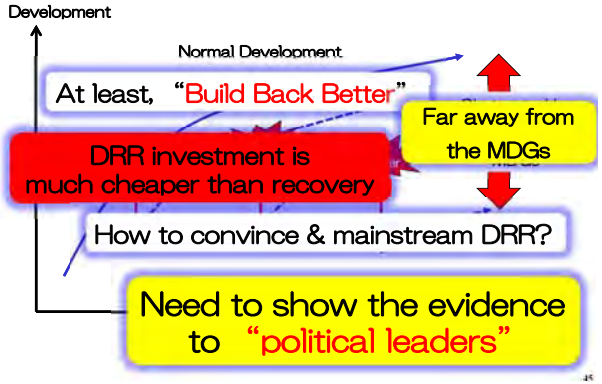
予防投資の重要性を各国財務大臣に説得する材料



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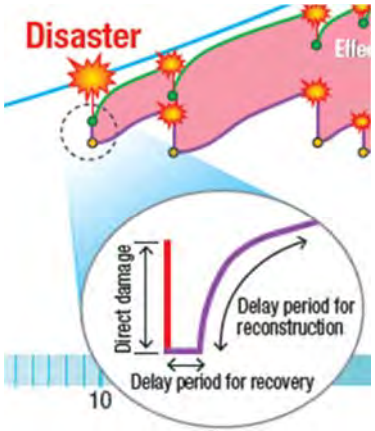

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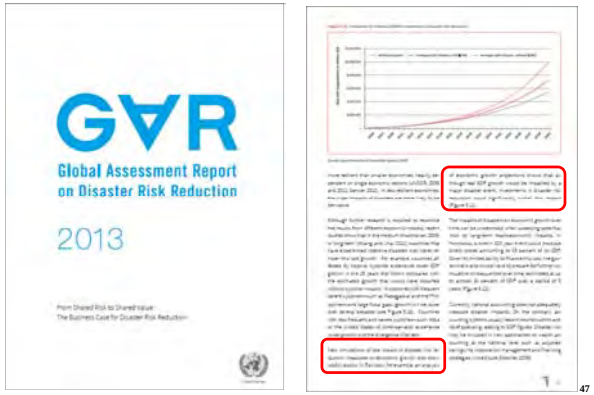
2013版国連防災白書に掲載 Global Assessment Report P-87



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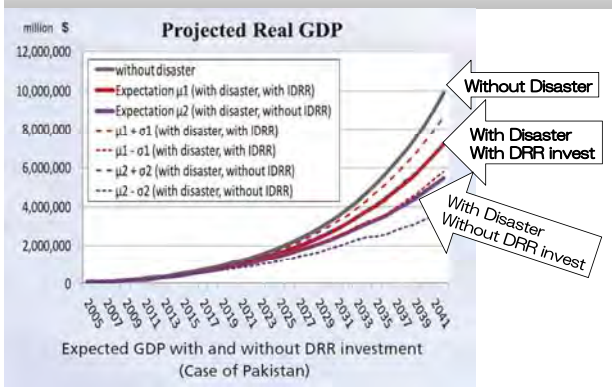
Pilot project for 20 countries will be done together with UNISDR & UNDP

Mainstreaming DRR to Government Policy

DR²AD Model

Show how Disaster Risk Reduction Investment account for Development

Pakistan case for 2042 GDP will 25% down without DRR investment



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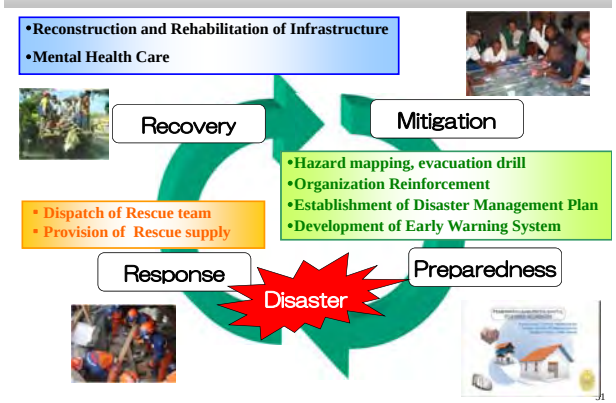
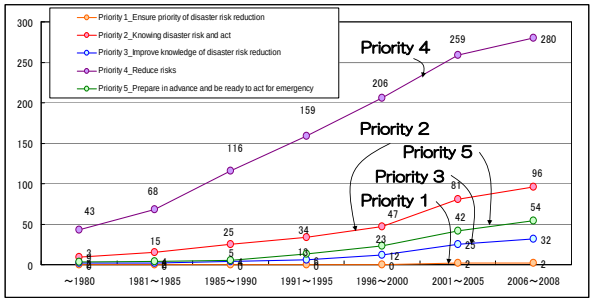
JICA's support items

Typical Disaster Management Cycle & DRR



JICA's Support meet to the Priority Action

- The projects related to priority action 4 are increasing rapidly compared to others.
- It entails the best mix of structural and non-structural measures.



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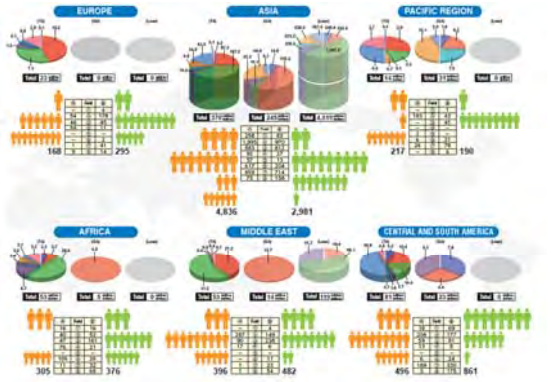
JICA's support ; TA, Grant and Loan



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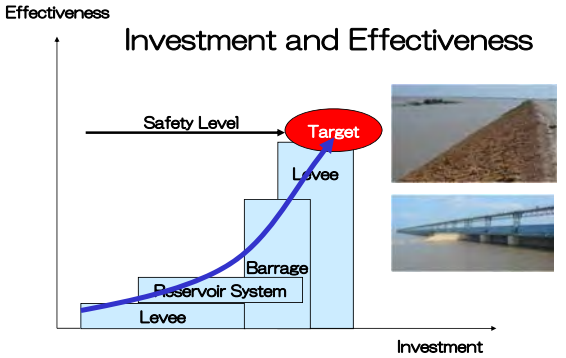
Combination of Structural Measures and Non-Structural Measures



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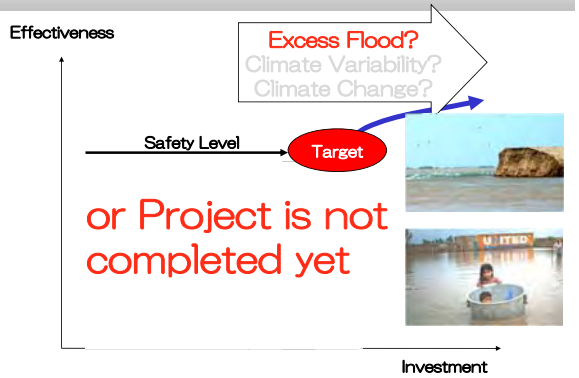

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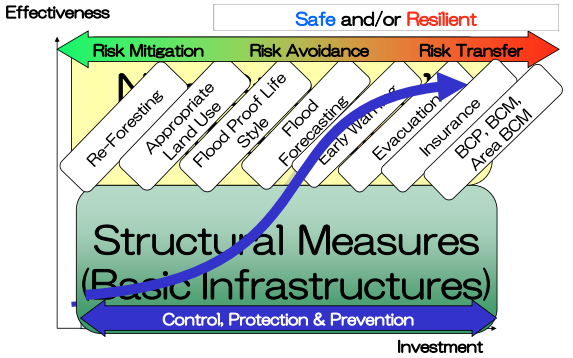
Flood Prevention case



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Use Disaster as a trigger to build back better

- How Japan conquered or coexists with disaster?
- Once serious disaster hit Japan, Japan revised building code, design criteria, land use plan, government institutional structure and so on.

Examples of new research and knowhow after disaster

kind of vulnerability reborn again", that is really the sense of "Build Back Better".

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What kind of knowledge we can provide at Sendai Conference?

What kind of lesson learned from Tohoku mega disaster, can Japan provide for the world?

- Looking from developing countries
  - Japan can make investment because so rich, but we are
  - We don't have evident of pre-disaster investment effectiveness
- What kind of lesson learned can we provide?
  - Just introduce the situation of reconstruction for future
  - Are there common knowledge which developing countries' can use ?
    →not the local issue but as global knowledge
- Are there big gap?

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How about the magnitude of big earthquake

- C:¥DATA¥DATA¥日本の知見¥耐震実験¥www.bosai.go.jp¥hyogo¥movie.html

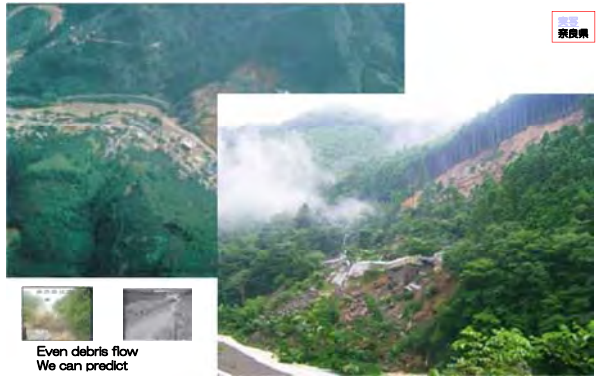


How about the magnitude of big earthquake?
E/Q happens with long return period

Lesson learned of E/Q transferred to next generation?
If no, you can learn from examples

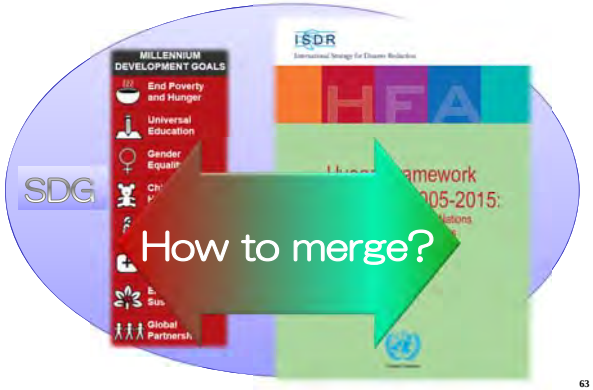
- w.bosai.go.jp¥hyogo¥movie.html


Every Natural Disaster has forerunning phenomenon then we can predict disaster & let people evacuate



Even debris flow
We can predict

Post MDG/HFA, 2015



JICA's Lesson Learned from Mega Disaster from 2011 March 11, Tsunami & Thailand Flood 1

JICA's Lesson Learned from Mega Disaster from 2011 March 11, Tsunami & Thailand Flood 1

JICA's Lesson Learned from Mega Disaster from 2011 March 11, Tsunami & Thailand Flood 1

- Was there anything out of our mind?

The ability to recognize risk and take action properly

Risk Literacy

JICA's Lesson Learned from Mega Disaster from 2011 March 11, Tsunami & Thailand Flood 1

Successful Evacuation by Students in Kamaishi City

More than 3,000 students decided to evacuate further to higher ground based on their own decision, as educated.

(Source: Research Center for Disaster Prevention in the Extended Tokyo Metropolitan Area, Gunma University)

Sad case in another area

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JICA's Lesson Learned from Mega Disaster from 2011 March 11, Tsunami & Thailand Flood 2

・Was there anything out of our mind?

Continuous Adaptation to Change

continuous improvement to deal with changing risk

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JICA's Lesson Learned from Mega Disaster from 2011 March 11, Tsunami & Thailand Flood 3

・Was there anything out of our mind?

"multi-sector" and/or "multilayer of defense

Redundancy

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Rural Development + DRR consideration

Myanmar: The Project for Preservation of Farming Area for Urgent Rehabilitation of Agricultural Production and Rural Life in Areas Affected by Cyclone Nargis (2009-2011)

In response to the Cyclone Nargis, which caused severe damage to Myanmar, JICA together with Myanmar Ministry of Agriculture and Irrigation implemented a project focusing on recovery of agricultural production as well as farmland preservation. Within the scope of this project, JICA not only implemented demonstration projects to formulate master plan for restoration of agriculture production and rural development, but also restored the embankments to protect the agriculture production areas from saline water intrusion, in order to resist future cyclone and flooding disaster.

Repaired floodgate of a ring dike

Repaired wind break mangrove forest

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Highway Construction + DRR consideration

Cambodia: The Project for the Improvement of the National Road No.1 (2002-2012)

National Road No.1 connects the Cambodian Capital Phnom Penh and Ho Chi Minh City, the economic center of Vietnam. Historically, the road had been continuously affected by floods. In 2000, the National Road No. 1 was inundated for more than 1,000km by a major flood, which caused severe disruption in the economic activity as well as negatively affected the everyday life of people. JICA extended its supported to raise elevation of the road surface, which provides safe traffic flow as well as an evacuation space for the people during flood.

Before improvement

After improvement

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Industrial Development Regional Cooperation + DRR consideration

ASEAN: "Natural Disaster Risk Assessment and Area Business Continuity Plan (BCP) Formulation for Industrial Agglomerated Areas in the ASEAN Region" (2013-)

In 2011, record-breaking rainfall caused large scale flood in Chao Phraya basin, including Bangkok and Ayutthaya, an industrial agglomerated area, which is the economic engine of Thailand. The flood caused devastating damage not only to the economic activity of Thailand but to the whole region since supply chain of various products is interlinked. JICA responded to this disaster in a comprehensive way by immediately sending in relief supplies as well as by dispatching a needs assessment team and a drainage team to support Thai Government respond to the emergency situation. Followed by this immediate emergency action, JICA extended its support to develop a comprehensive multi-sector master plan to cope with flood risks in the future with viewpoints of agriculture sector and industrial (private) sector.

JICA Drainage Train in action

JICA Flood Management Master Plan Team

Inundated industrial zone (1)

Inundated industrial zone (2)

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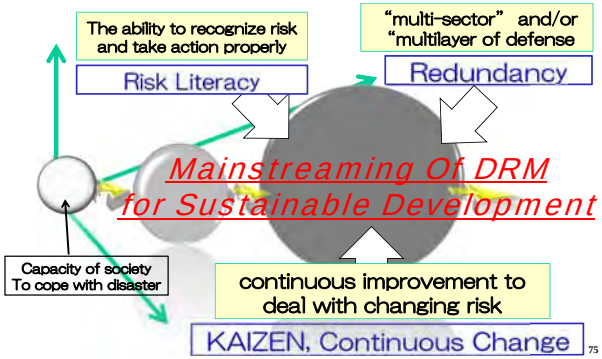
JICA's Lesson Learnt from MEGA Disaster =2011 March 11, Tsunami & Thailand Flood=

・Was there anything out of our mind?



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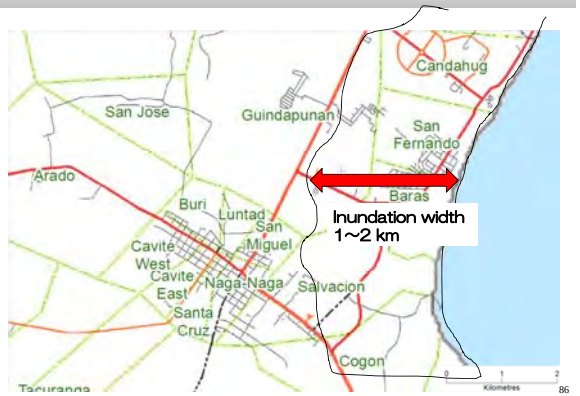
Proposing tools for Post MDG/HFA

JICA's Position Paper for DRR

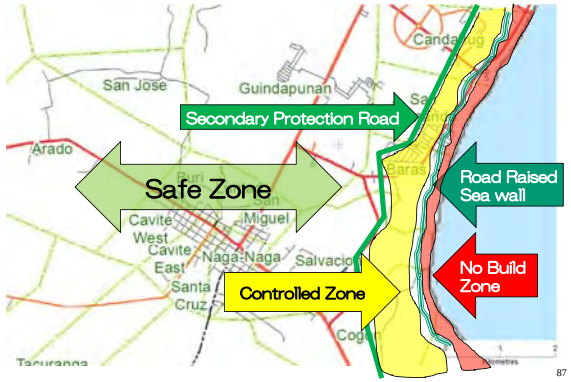
http://gwweb.jica.go.jp/km/FSubject0301.nsf/VIEWALL/3958A0A725ABA98549257A7900124F29?OpenDocument

JICA's Propose to Philippine Typhoon Yolanda (Hayan) case

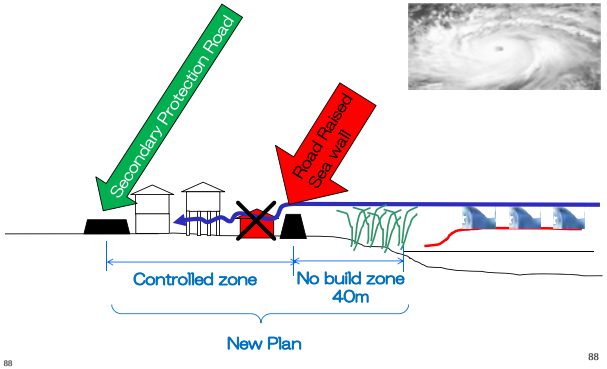
Storm Surge Affected Area



Concept for future Land Use Plan, "build back better"

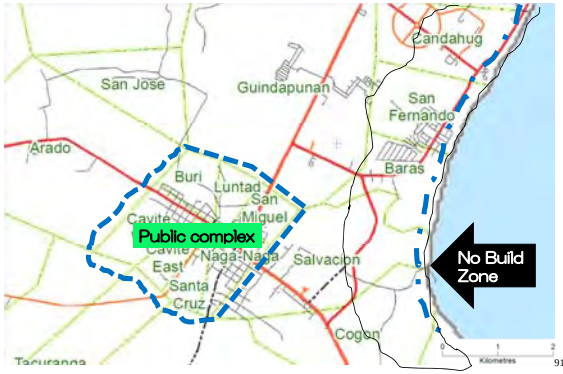


Concept for future Land Use Plan, "build back better"

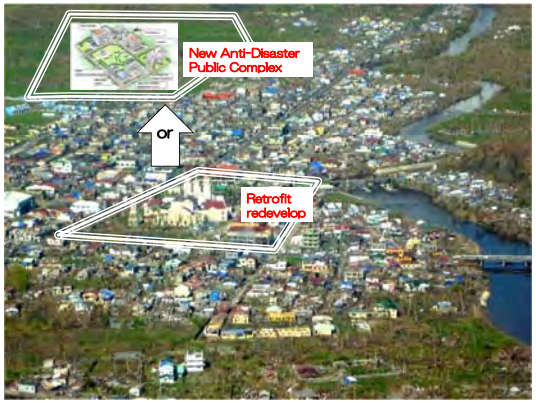


Discuss with relevant Minister and finalize

Public buildings must survive as for recovery center



Ring Dyke to protect most important area



Dyke to protect most important area

Idea of Resilient Public Utilities Complex

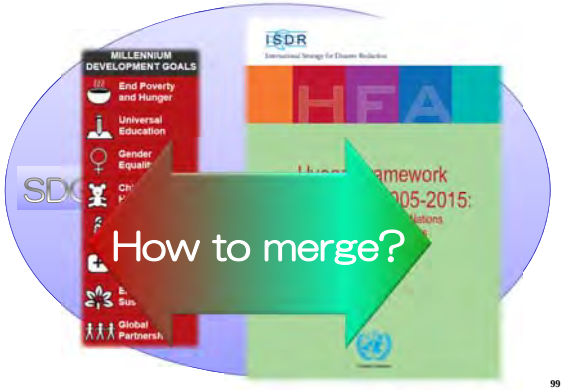
Maintaining a chain of command and public services and offering evacuation area are the most important things

leadership

- In order to realize "Build Back Better" on the ground, strong leadership will be needed
- We already have an evident of this kind of leadership which shown for Ormoc, Kagayan de Olo realized no build zone, effort of Province of Albay and Camotes Island

Government Plan

Post MDG/HFA, 2015

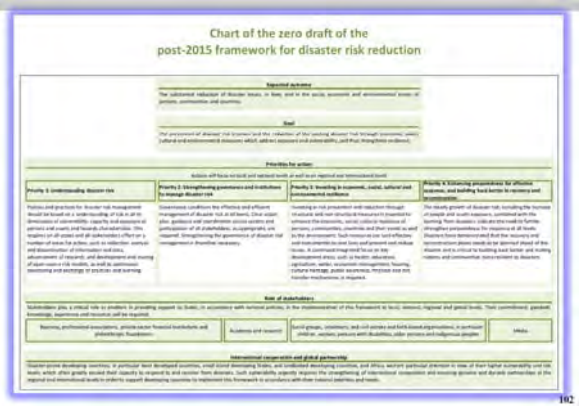


argument for Post HFA Drafting

- Environmental Change for Post HFA
  - 2005, main stakeholders were Japan, UN and EU
  - EU was opposite to the ISDR conference itself
  - for Post 2015, relation to the MDGs & SDGs, stakeholders grows 20 times bigger than 2005
  - EU group is exhorted to involve technological hazard, conflict and others
  - sometimes not realistic natural disaster discussion but just the debate for the meeting room, like "argue for the sake of arguing"

Now zero-draft version of Post HFA

Now zero-draft version of Post HFA



Debate for Risk Transfer

- $1 pre-disaster prevention investment can save $7 rescue and recovery cost
- in order to cover $7 by insurance, 25% of business cost will be needed, which cost $2
- instead of $1 pre-investment, pay $2 to insurance company and $7 damage never reduced
- This is what I want to say
  The road to Hell is paved with good intentions.

JICA's top 3 point for Post HFA

- pre-disaster prevention investment is most important
  - for some extent level must be protected by the structure measures in order to economically develop
  - this concept make DRR graduates from humanitarian issue to developing issue
- in order to make it happen legal and institutional reforming, budgetary reforming, and mainstreaming DRR into government policy, are needed
  in order to realize these issue, empowerment of central government is most important
- Build Back Better after disaster, use disaster as a trigger to build resilient society, prevent from same kind of hazard

These concepts are from Japanese experiences, only the right way to DRR

Relation between each Targets

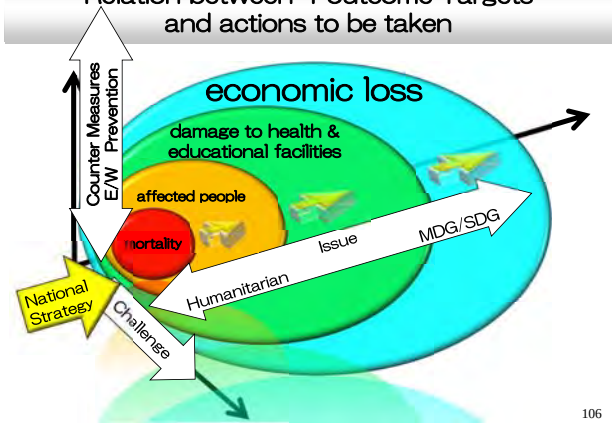
5. Increase number of countries with national & local strategies

input Target which can influence to another Targets

Outcome Targets

1. Reduce disaster mortality
2. Reduce the number of affected people
3. Reduce disaster economic loss
4. Reduce disaster damage to health educational facilities

Relation between 4 outcome Targets and actions to be taken



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JICA's Propose for the New Structure of Priority for Action

Priority for Action

Understanding Disaster Risk	Governance/ Mainstreaming	Prevention /Mitigation	Preparedness	Build Back Better
P1. Understanding Disaster Risk	P2. Strengthening governance to manage disaster risk	P3. Investing in disaster prevention and mitigation as an asset for sustainable development	P4. Preparing for effective response	P5. Recovery and Reconstruction for a resilient society

Japan International Cooperation Agency

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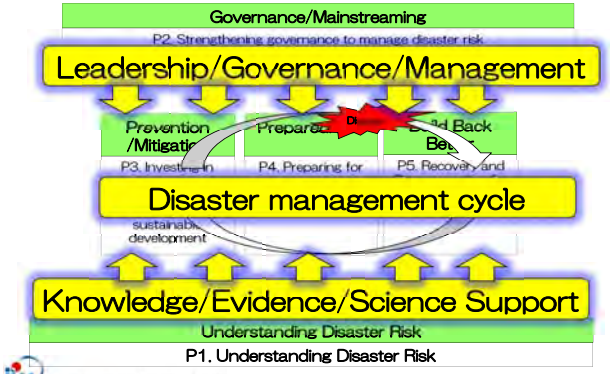
Logic of the Priority for Action



Japan International Cooperation Agency

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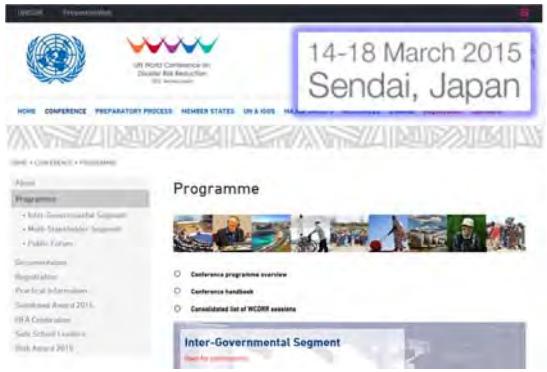
Join to the UN World Conference on Disaster Risk Reduction at Sendai



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connect for World Humanitarian Summit?

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