



International Symposium on Earthquake and Tsunami Disaster Reduction
 - Learning from the Great East Japan Earthquake -
 14 March, 2012, Sendai

Interpretation and Consideration of the Great East Japan Earthquake 2011

- From the perspective of assistance
 to developing countries
 in the field of disaster prevention -

Japan International Cooperation Agency(JICA)

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Source: Sendai City, Sankei Shinbun, <http://blog.goo.ne.jp/taka9869/e/bb797466ea5a3d527c1dbd46948210e8>, JICA



Source: World "Kizuna" Graph by impress R&D

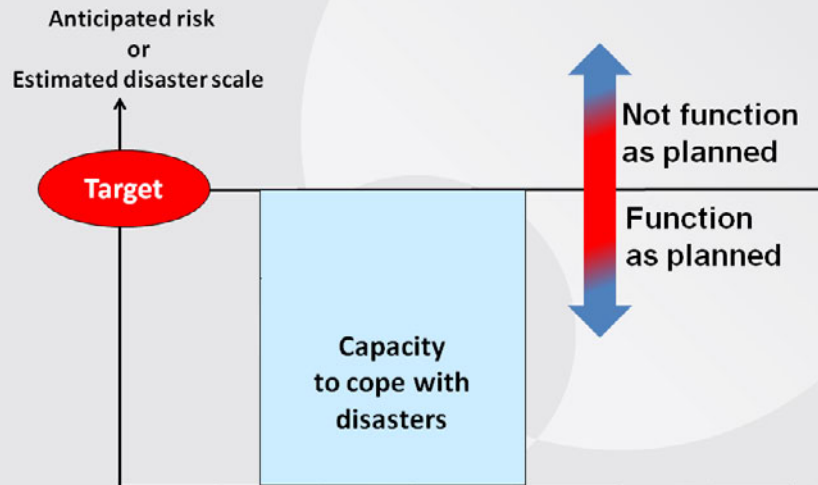


“The Study on the Effective Countermeasures against Earthquake and Tsunami Disasters; Lesson Learned from the Disaster and Recovery”

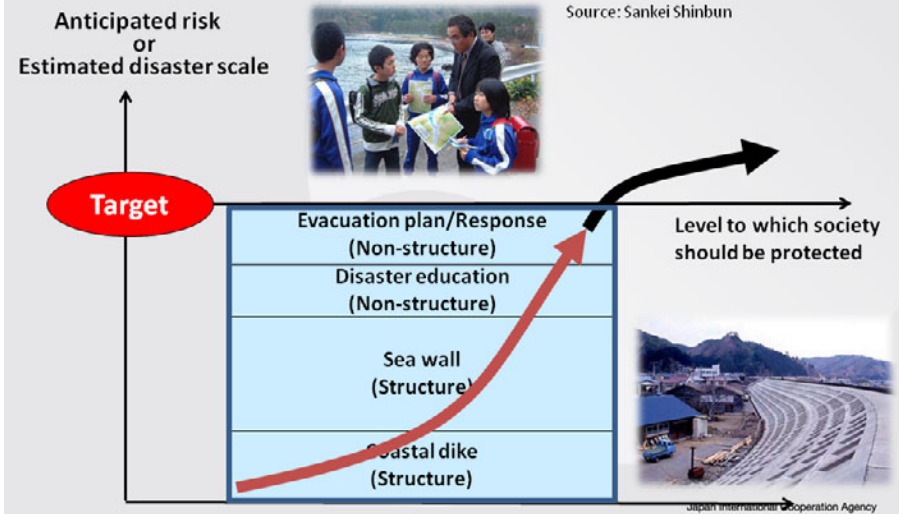
- To obtain lessons from the disaster and recovery process, applicable to JICA's future assistance for disaster risk management (DRM).
- Three (3) kinds of gaps were emerged between anticipated risk and actual risk, or capacity of society/community.
- JICA's “Trinity Approach” was proposed: (1) Risk Literacy, (2) Redundancy, and (3) KAIZEN, on the foundation of an integrated risk reduction strategy.

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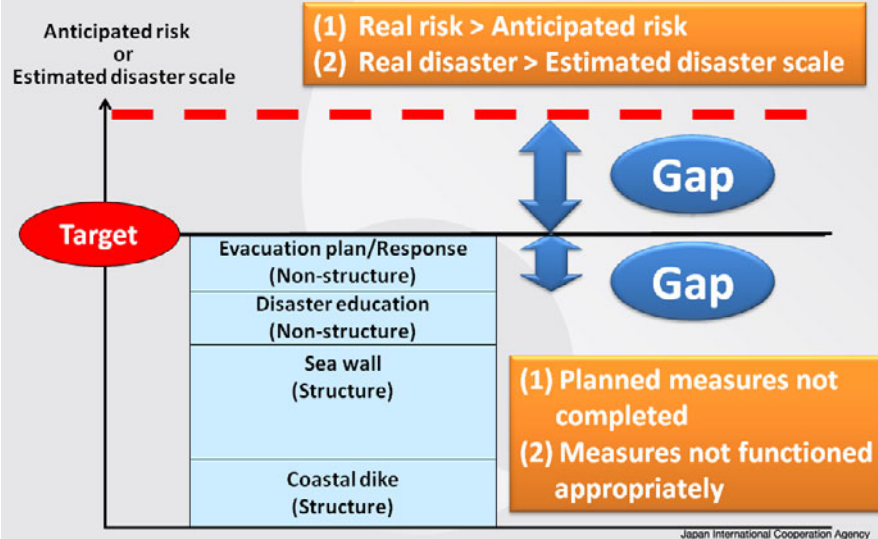
Conventional Disaster Risk Management (DRM) - Scenario disaster and anticipated risk -



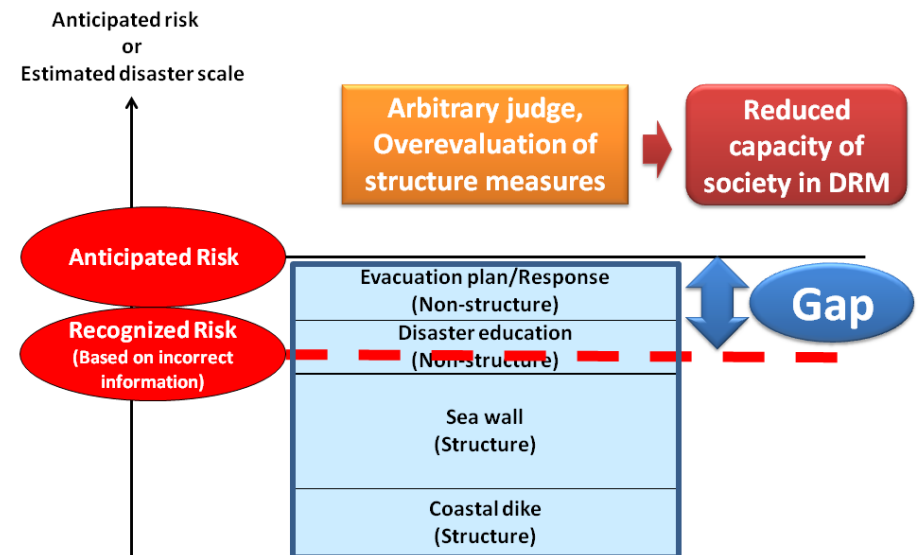
Conventional Disaster Risk Management (DRM) - Combination of structure and non-structure measures -

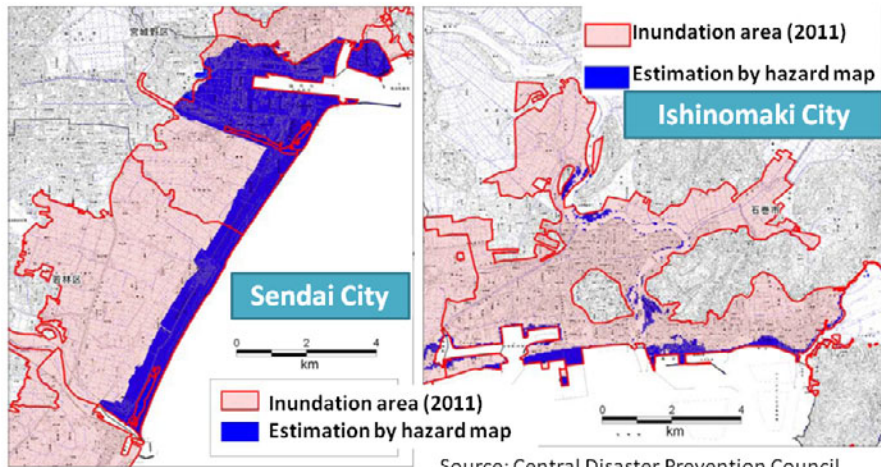


Hidden Gaps of Disaster Risk Management (DRM)



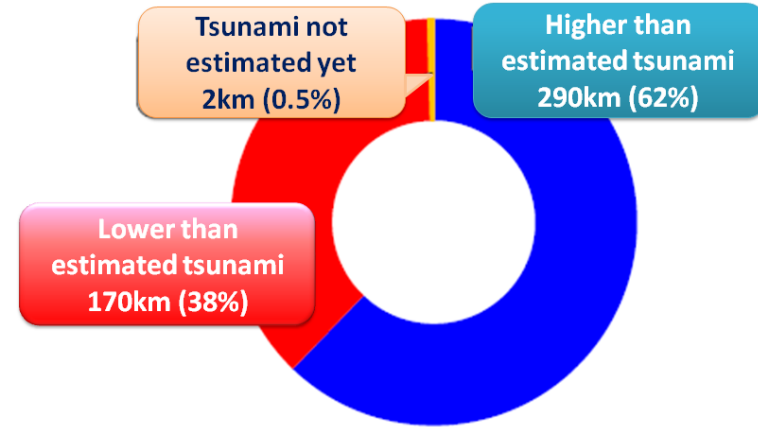
(1) Emerging "GAP" in risk between reality and recognition





Disaster information needs to be carefully distributed

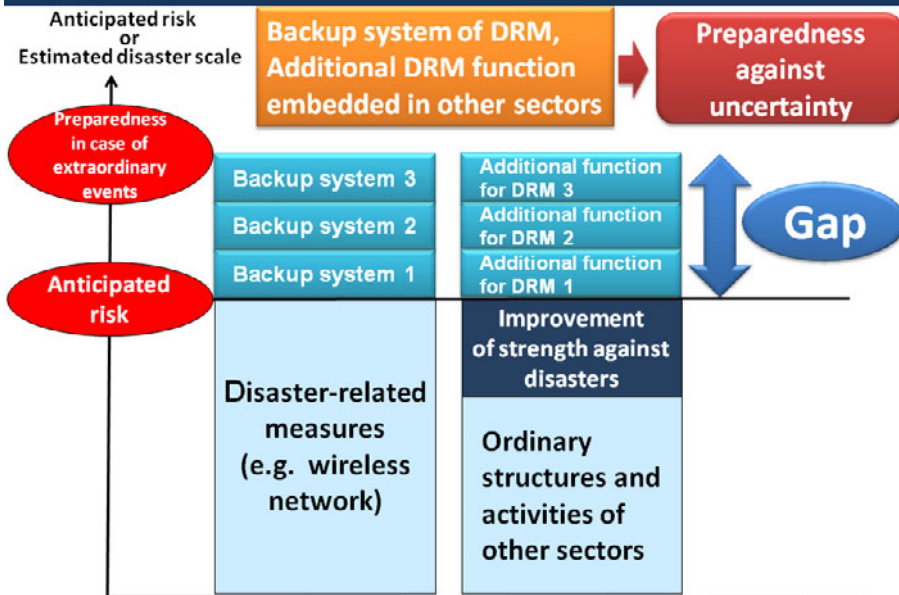
Mismatch of standards for construction of coastal levee



Coast of Tohoku Region 460km

Source: Central Disaster Prevention Council

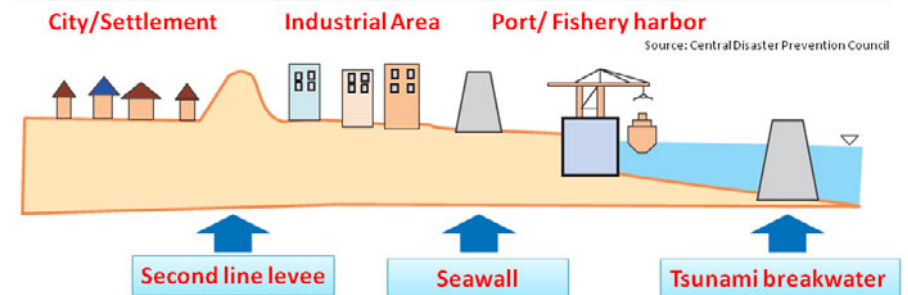
(2) "GAP" between anticipated risk and uncertain risk



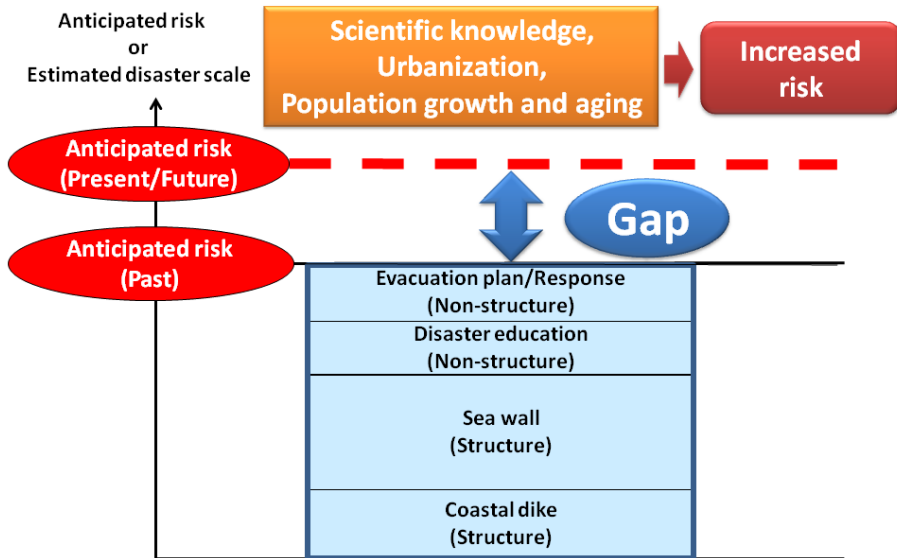
Elevated highway blocked tsunami and reduced damage



Land use considering multilayered measures



(3) Progressive "GAP" in anticipated risks over time



Latest scientific knowledge need to be considered

Social changes like aging need to be paid attention



Filling the "GAPs"

① Emerging "GAP" in risk between reality and recognition



Risk Literacy

Process of correct perception and information exchange of risks among related stakeholders considering:

- (1) Limitation of structure and non-structure measures should be properly recognized, and
- (2) Communication among various stakeholders should be promoted.



Filling the "GAPs"

② "GAP" between anticipated risk and uncertain risk



Redundancy (multidefense)

Inclusion of extra components to original functions in preparation for uncertainty considering:

- (1) inclusion of redundancy into DRM, and
- (2) inclusion of DRM into other sectors (multisectoral approach).



Filling the "GAPs"

③ Progressive "GAP" in anticipated risks over time



KAIZEN
(Improvement)

Continuous improvement and review
of countermeasures
considering:

- (1) scientific aspects (estimated scenario disasters, advancement in technology, etc.), and
- (2) social aspects (population growth, urbanization, aging society, etc.).

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Filling the "GAPs"



Strategy

Comprehensive and inclusive basis for disaster risk reduction
considering:

- (1) Holistic optimization of measures taken by individual stakeholders, and
- (2) Broad sharing within the whole society.



Principle: JICA Trinity Approach



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Application of JICA Trinity Approach

Sustainable Development based on Safe and Resilient Society



JICA Trinity Approach for improving quality of DRM

Mainstreaming of Disaster Risk Management into Development Process

Advance in Quality of DRM

Inclusive Coverage of Other Sectors

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Application to JICA project



Risk Literacy

- Disaster management museum
- Large-scale practical evacuation drill

Redundancy

- Redundancy plan of emergency road network
- Backup communication line

KAIZEN

- Revise emergency road network
- Revise master plan for community-based disaster management

STRATEGY

Comprehensive Master Plan on Urban Seismic Disaster Prevention and Management for Tehran



Application to JICA project



Risk Literacy

- Understanding of difference between desk plans and practices in evacuation response

Redundancy

- Both education and quake resistant building
- Inclusion of DRM into various subjects and club activities

KAIZEN

- Considering implementing body to revise and review curricula and materials

STRATEGY

National Earthquake Strategy and Action Plan



Input to International DRM Strategy

2012	2013	2014	2015
International conference on disaster	4 th Global Platform for Disaster Risk Reduction (GPDRR)		3 rd World Conference on Disaster Reduction

Discussion on new strategy on DRM and new framework after HFA (Hyogo Framework for Action 2005-2015)

Post-HFA



Thank you very much for your kind attention.

For further information, please visit our website.

http://www.jica.go.jp/english/operations/thematic_issues/water/earthquake/index.html

Just type and search!

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