# Unknown Value of Inamura Fire, Sprit of Hamaguchi leads 160 years future UN initiative "Sendai Framework for DRR".

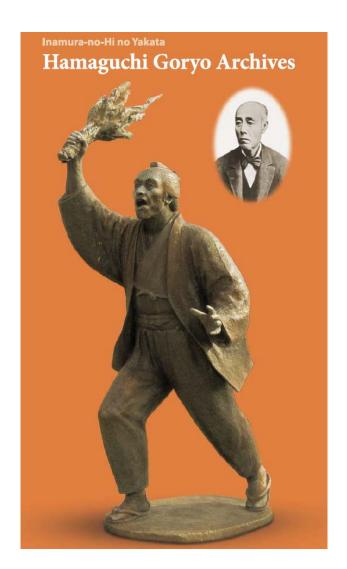
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#### Inamura-no-hi is famous for evacuation alart







From Hamaguchi Goryo Archives Tsunami Educational Center



#### Impact of first captured Tsunami attack

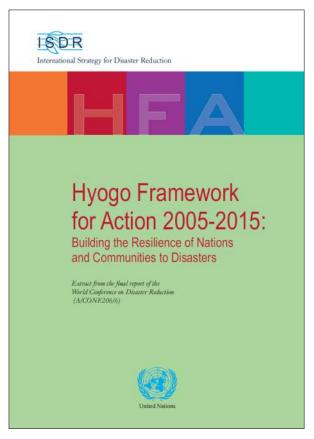
Huge Impact of Sumatra Tsunami movie, Dec. 2004

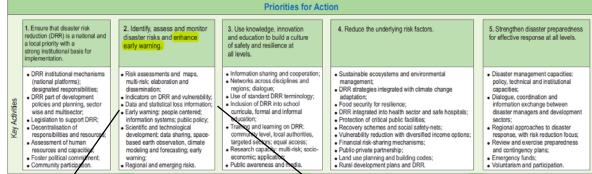


 For some European country, this was a biggest mortality induced natural disaster after world war I



#### Inamura-no-hi Concept was applied to Un Document Hyogo Framework for Action





**2.** Identify, assess and monitor disaster risks and enhance early warning.

- 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, spacebased earth observation, climate modeling and forecasting; early warning;
- Regional and emerging risks.



#### 2011 East Japan Tsunami Evacuation Situation

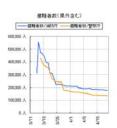








- 460,000 residents lived in the tsunami affected area
- Total causalities were around 18,000
- Evacuation ratio can be estimated more than 96 %
- This high evacuation ratio achieved by common sense of Japanese people for Earthquake and Tsunami, social system for Tsunami Early Warning including public TV emergency news and continuous evacuation drill efforts
- 65% of casualties were aged people
- Disabled person mortality ration was double to others



#### Successful case & unsuccessful case

The students started evacuation promptly and voluntarily, following their experiences of evacuation drills.

The students decided to evacuate further to higher ground based on their own observation of situation.







#### Lesson Learned from 2011 East Japan Tsunami

 Most of the people evacuated by various way of Early Warning, but local economy was completely destroyed.

Structure measures are effective for

"Extensive Risk"

but not enough so that society must prepare for "Intensive Risk"

with best combination of

Structure and Non-structure measures.



### Not well known Hamaguchi's spirit for Build Back Better

Goryo then came up with the plan to build a seawall to protect the village. It is more than 600 meters long, 20 meters wide, and 5 meters tall. Goryo led Hiromura's recovery from disaster by spending his own money to hire villagers for the construction. Since that time, the seawall has minimized damage to the town from tsunamis.







From Hamaguchi Goryo Archives Tsunami Educational Center

"Cash for work" concept

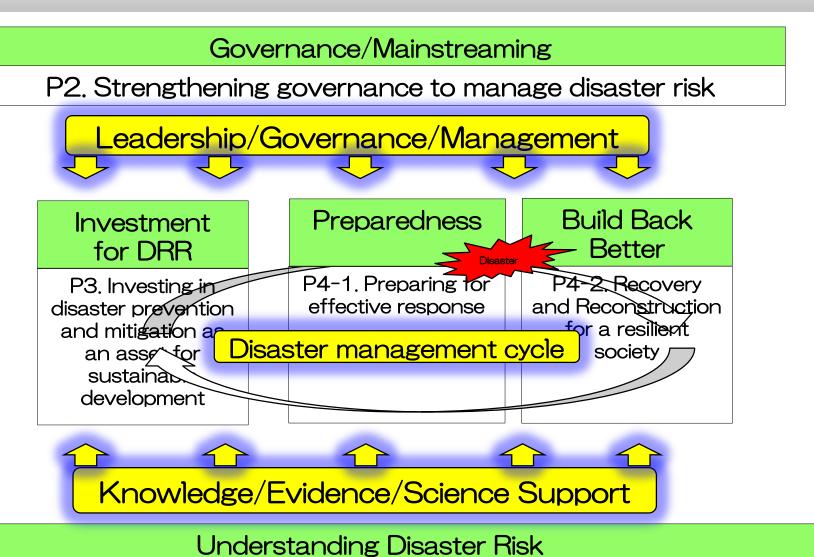
"Build Back Better" to prevent future risk



#### Sendai Framework for DRR, 2015-2030



### Logical Structure of the Priority for Action



P1. Understanding Disaster Risk

#### Risks in Sendai Framework; Risk type 1

### Existing Risk

## Future Risk produced by development







Hazard is same, but bigger exposure by development, so "Risk" will increase!



#### Risks in Sendai Framework; Risk type 2

#### Magnitude & Frequency

#### Extensive event,

High frequency happen, small damage by each but huge damage by total



#### Typhoon Ondoy in Manila 2009

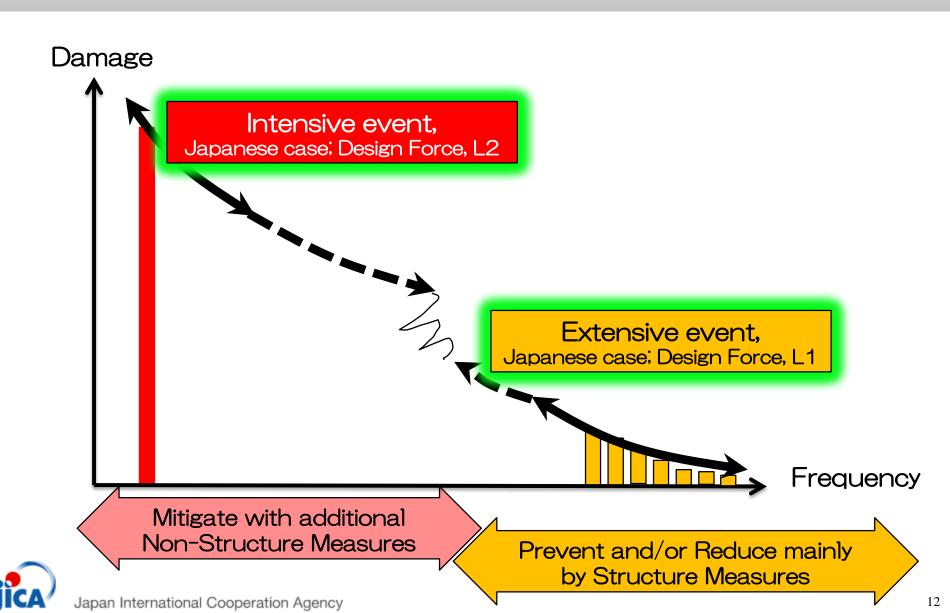
#### Intensive event.

Low frequency but serious damage by one event



Thai Flood 2011

### In order to make Investment define design level & residual risks

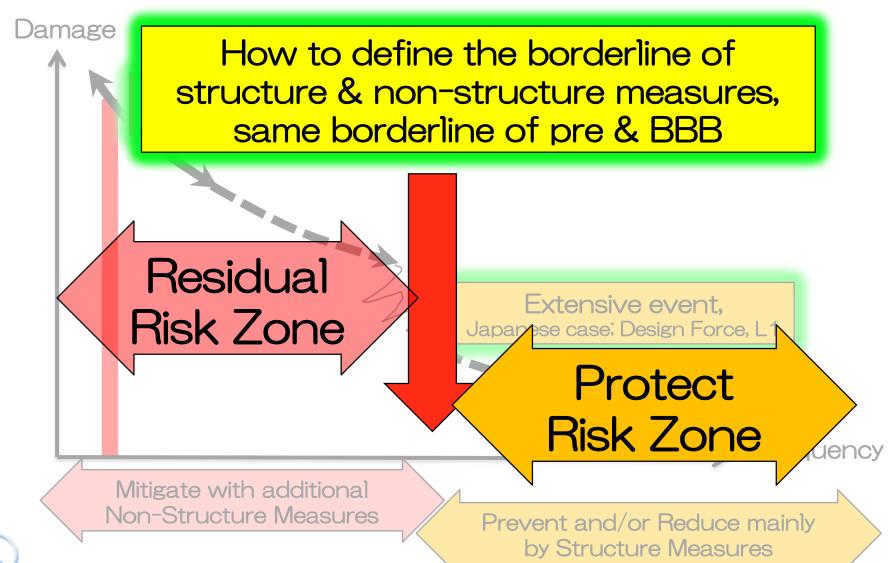




#### Example; Philippine Yolanda case proposal, Nov 2013

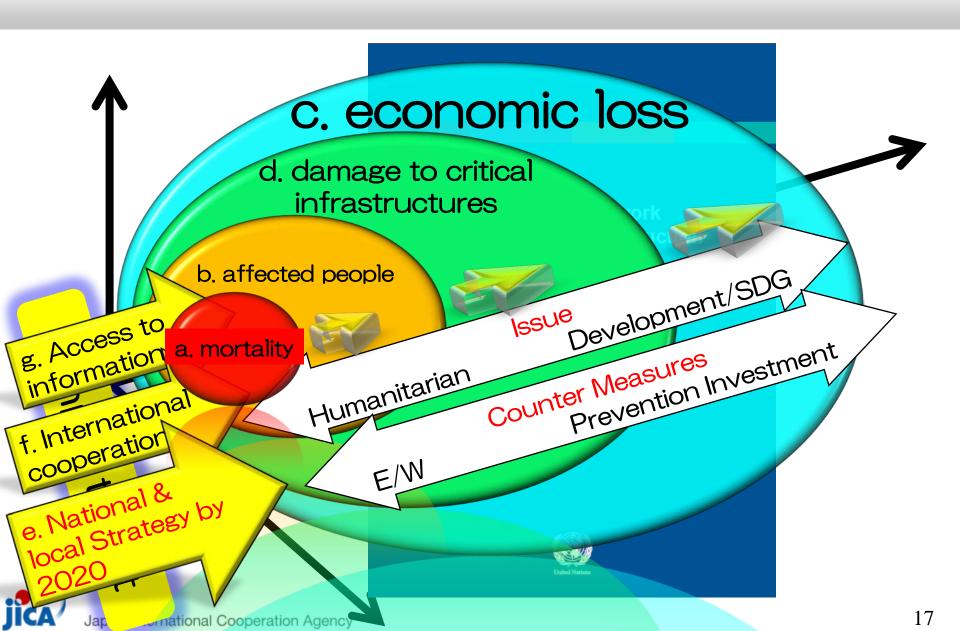


## In order to make Investment define design level & residual risks

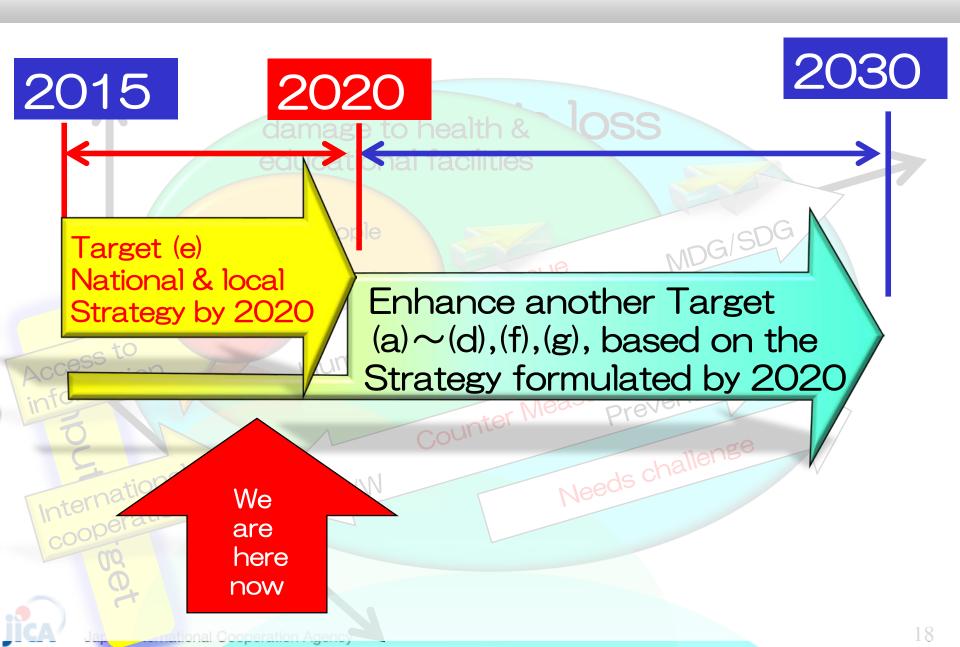




### Logical Relation between 7 Targets



#### 2 phases of 7 Targets for 2020 & 2030



#### JICA's Methodology to enhancing Target(e)

 $\sim$  Dialogue with Minister of DRR agency & line Ministries  $\sim$ 

- Dialogue with Minister of national DRR agency
  - with another line ministry high level official, including inviting to Japan, act as a National Platform Team by the leadership of DRR agency.
  - Outcome of this dialogue, develop the Road Map for DRR in several countries, Sri Lanka, Vietnam and others.





#### Outcome of Dialogue with Minister of DRR agency & line Ministries

#### ~ Road Map for DRR, Vietnam case ~

#### Priority Program 5: Implement measures against landslide and flashflood easures against landslide and flashfloods in the northern mountainous region, a comprehensive approach will be taken. covering 3 pillars of measures. From the viewpoint of cost-effectiveness, non-structural measures will be main countermeasures except in area adjacent to major infrastructure ■ Combination of Structural and Non-structural Measures · Warning /evacuation, land use regulation and relocation will be implemented to protect lauman lives. Structural measures will be implemented to mainly protect major infrastructures Assessment and publication of risk of landslide and flashfloods should be promoted with improved accuracy. and Belocation Pilot projects for early warning systems will be conducted to explore full-scale implementation. Collection and accumulation of information on disaster occurrence and hydro-met data should be early warning for landslides and flashfloods. Local communities should be involved in designing early warning systems to secure Forests will be restored and protected as a fundamental and longterm solution to reduce the risk of disasters in mountainous areas. Three pillars of measures against sediment-related disasters Priority Program 6: Transform production and livelihood for sustainable Mekong Delta development to adapt climate change Mekong Delta is one of the most vulnerable regions severely affected by climate change. It is under the risks of not only floods, storm and storm surges, but also other disasters such as droughts, salimity intrusion, ground subsidence, river and coastal erosic It is strongly required to implement countermeasures based on guidance of the Government Resolution No.120 (Sustainable and Climate-Resilient Development of Mekong Delta). · A traditional idea of "Living with floods" should be shifted to "Actively Living with floods, immdation, brackish water and salty water All of the investment should be made in line with the transformation of ways of living to adapt to different environmental conditions caused by climate change. ■ Solutions proposed from the view of Water Resources Management · Landslides and flashfloods also account for high percentage in mortalities, next to storms and floods. These are typically · All measures should be consistently planned and implemented in view of Integrated Water Resources Management of the river basin, including the upstream areas managed by other countries ■Effective Investment based on Master Plan . The "Master Plan for Sustainable and Climate-resilient Development of the Mekong Delta until 2030" will be prepared with a vision towards 2050 using the method of multi-sectoral integration. Monitoring system of climate change and sea level rise will be upgraded, and climate change scenarios will be updated. Effective investment will be strengthened in flood drainage, salinity control, erosion control and mangrove forest protection. All measures will be implemented through integration of works by different sectors such as flood control, transportation and irrigation. Residents and infrastructures will be rearranged along rivers and canals to avoid risk of disasters and space for water will be preserved. Sendai Framework for DRR 2015-2030 -Sendai Framework sets 7 Global Targets which will be achieved by each state. These Targets are categorized into 3 "Input Targets" and 4 "Outcome Targets". Among 4 outcome targets, reduction of (c) economic loss is one of the most important from the viewpoint of sustainable development. By aiming at reducing economic loss, reduction of disaster mortality and affected people can be simultaneously achieved. Sendai Framework also sets 4 Priorities for Action. Disaster management cycle can be implemented under strong leadership and governance based on proper understanding of the risk perception.



concentrated in the northern mountainous region Drought (including salinity intrusion) is a typical disaster from the viewpoint of economic loss. These concentrate in the Central Highland and Mekong Delta. Especially drought in 2015-2016 caused severe economic loss in the Central Highland and Mekong Delta. The damage cost accounts for 38% of the total natural disaster damages for these two years

 Economic loss caused by natural disasters has ince-Priority Programs in light of Damage Fe-

related to DRR under 6 Priority Programs, which cover 4 Priorities for Action in the Sandai Francework.

In Visitings, Law on Natural Discotor Prevention and Control (NDPC) was lamilated in 2013 and Visitings Discotor M. and local levels should be coordinated in a better way. It is necessary to focus on strengthening basic institutions in promoting DEE for the near few years. In the long run, a shall contribute to implement all DEE activities offsectively.

Enhancement of coordination through CSCNDPC and VNDMA at the central level VRUMA at the central feeter. Through the central Steering Committee on Natural District Powerstein and Costrol (CSCNDPC) and VNDMA (Standing office of CSCNDPC), coordination manng all relevant tableholders should be trengtheast to assurative to DRN in all section.

For this purpose, it should be considered that the Prime Minister will lead CSCNDPC as charges on, because natural districts has impacts on all sectors and province

t for DRR at local levels

Disaster data and information provide bein for all evidence-based DER activities, including future inversions planning. It is crucial to establish appropriate data and information unmagnment, including hydro-met data, disaster displaye data and

Forecasting and analy proving inflorgation will be transmitted in forms that can be

Dissemination of Annual Report on Natural Dissater and DRR

etilized for processing removing by director many

in apportant to improve operation in both energency obtaining and normal time Through enhancement of hydro-met observation, disaster management including

Hydro-met observation will be improved, including over narroy and discharge men

. Surtainable emioration of recourses such as forest and raws and will be proposed from the viewpoint of rares-basin mana-Preparedness to Strong and ospec typhocos

In order to reduce damages caused by strong and super typhosos, response plans will be developed based on damage

To develop a plan for DRR at county and local levels in stradard in Law on Natural Disputer Processing and Control (2017). It is all

. It is important to establish an overall planning framework for DER, which covers selector sectors at the local level. The DER pla

No important to maintriesan DRA in SEDS-SEDP, and to allicente a certain personage of budget as inswitment in DRA at central provinceal levels. It is also meaningful to develop a desibout for the investment in DRA to clarify the current scale of DRA-on budget and other electrons investment.

Priority Program 4: Implement comprehensive DRR relating storm, flood and droug

throld clearly define role; and responsibilities of all stakeholders. Involving local people is essential in developing a plan for DRR occumings level. It is also necessary to strengthen the capacity of financiating disaster response plans at central and local level.

securacy for the central government to establish a natural DRR Fund to namage disaster recovery and preventive assumes. At 6 tental level, absent all of the previous have established local DRR Fund at level level.

Provincial People's Committees (PPCs) to develop their DER plant including

Development of Risk-based DRR Plans

#Fstabilishment of DDD Fund

notural measures will be strengthened as a main pillar address flood disoster ricks. Non-structural measures I be applied to address residual ricks, which counce be weed by the capacity of structures.

■ Implementation of Integrated Flood Management

Flood coursel capacity and sofety of emiring sever-voirs as dylen well be reviewed for further improvement as substitutionant. In particular, the soview of flood controvens in deleta, including Keel Knee system) is importa-tion to the control of East-time operation of severyour in emergency citization will

The project will be extended to all having having the came

management on rediment movement in river horizo, including deposition in dam reservoirs and sand mining

· Warning system for coastal and river bank enotion will be developed based on erosion with maps. Rance training is promoted together with relocation of impropriate settlement along river bunks to secure more room for rivers.



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### JICA's Methodology to enhancing Target(e)

#### ~ Reginal DRR Agency Meeting for Local Plan~

- Host regional DRR agency meeting for Local DRR Plan focusing to GPDRR and RPDRR like AMCDRR
  - to discuss real gaps and barrier for Target(e).
  - Outcome of this meeting, "Practical Guide for Developing Local DRR Plans toward 2020",
     as 8 steps for developing Local DRR Plans.





#### Outcome of Reginal DRR Agency Meeting for Local Plan

#### $\sim$ 8 steps for developing Local DRR Plans $\sim$

#### Eight (8) steps for developing Local DRR Plans

#### Confirmation of hazard

- a) Hazard information prepared by national or upper authorities should be referred.
- b) If there is not enough hazard information, historical disaster records is recommended to be utilized instead, due to constraints of time and budget.

#### 2. <u>Understanding of local disaster risks</u>

- a) Recognize existing risks and possible future risks which hinder development.
- b) Prioritize and identify risks which has large scale impact.
- c) Focus on prioritized risks until 2020 but other risks should be reduced after 2020.

#### 3. Confirmation of DRR measures by national and upper authorities

 Refer to urban planning and DRR plans developed by national governments to confirm mainly structural measures by disaster types.

#### 4. Identification of residual risks considering time-span

- Know implementation schedule of structural measures, because it takes time to complete.
- b) Identify residual risks corresponding to time-span.



#### Outcome of Reginal DRR Agency Meeting for Local Plan

#### $\sim$ 8 steps for developing Local DRR Plans $\sim$

#### Eight (8) steps for developing Local DRR Plans

#### 5. Consideration of DRR measures to reduce residual risks

- Seek the best mixture of structural and non-structural measures.
- b) Grasp other related plans developed by local governments such as land use plans, then integrate into local DRR plans.

#### 6. <u>Developing of local DRR plan with prioritized DRR measures</u>

- a) Understand budget limitation and residual risks, set priorities to narrow down feasible and practical minimum DRR measures with stakeholders' consensus.
- b) Establish government procedure for approval of the developed plans.

#### 7. Allocation of budget from both local and national government

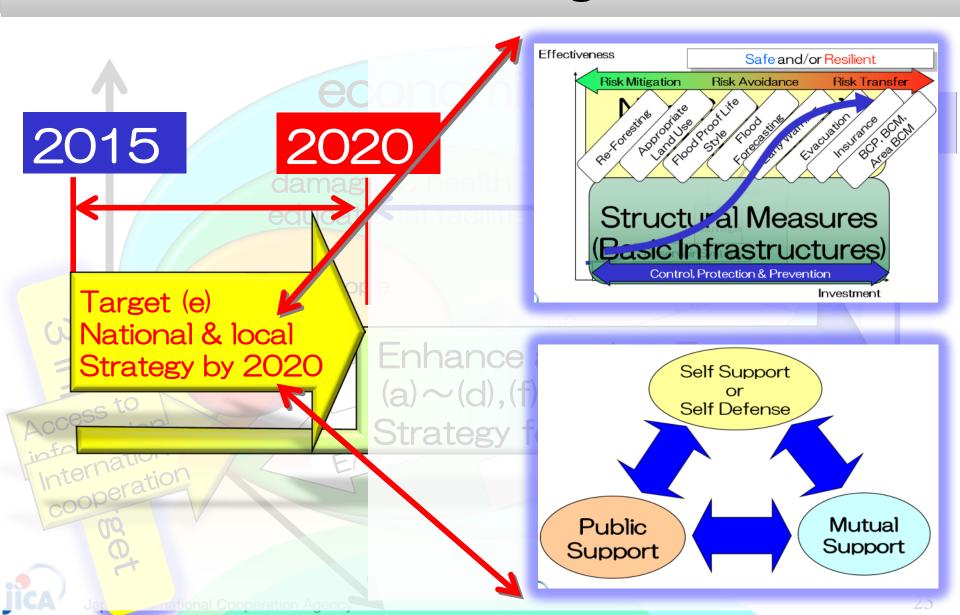
 a) Stipulate which organizations should shoulder the expenses for implementing DRR measures. In case of lacking budget, it is needed to take an action for secure.

#### 8. <u>Implementation of DRR measures and periodical review of DRR plans</u>

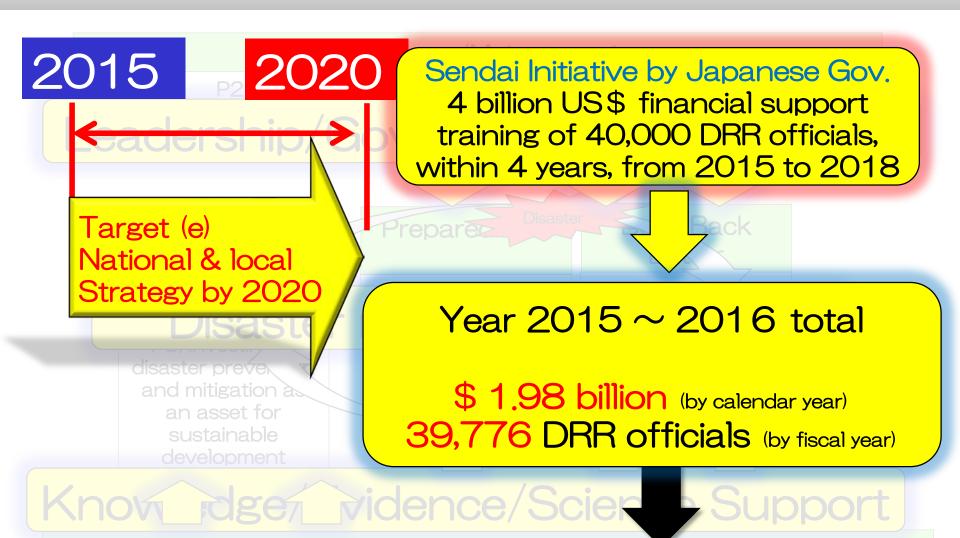
 Periodically review and revise the plans based on changing condition including revision of hazard information and national DRR plan.



## Sendai Framework for DRR Targets = Relation between 7 Targets for 2030=



### Sendai Initiative by Japanese Gov.



Huge and urgent needs to enhance Local DRR Plan till 2020