

JICA's approach to Transforming the Path to Resilient Infrastructure for Sustainable Urban Development

**- envisioning an inclusively protected social system that
leaves no one behind -**

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World Urban Forum 11

Katowice, Poland

Nozomu YAMASHITA

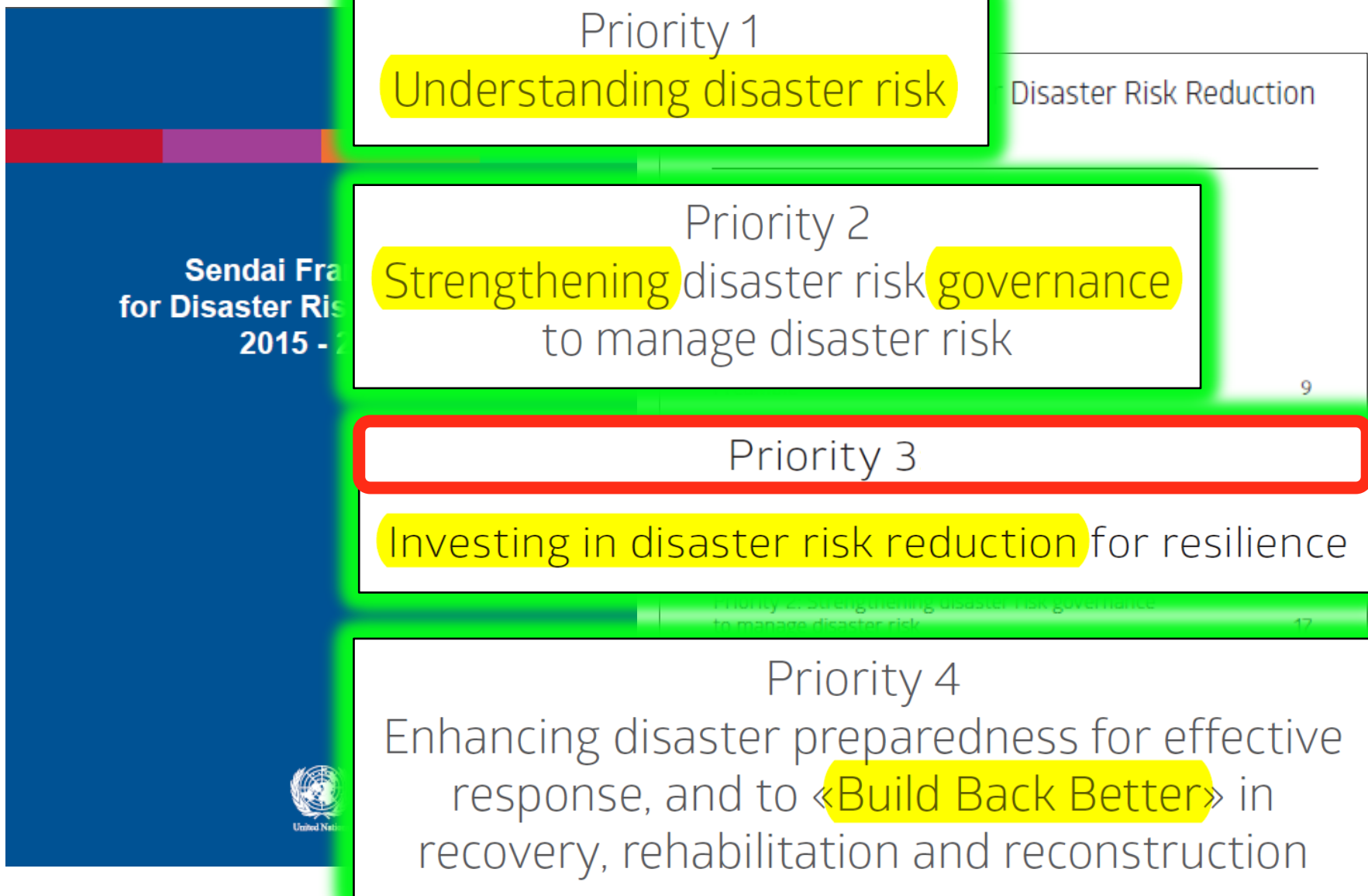
Director, Office for Peacebuilding,
Governance and Peacebuilding Department,
Japan International Cooperation Agency



Presentation Abstract

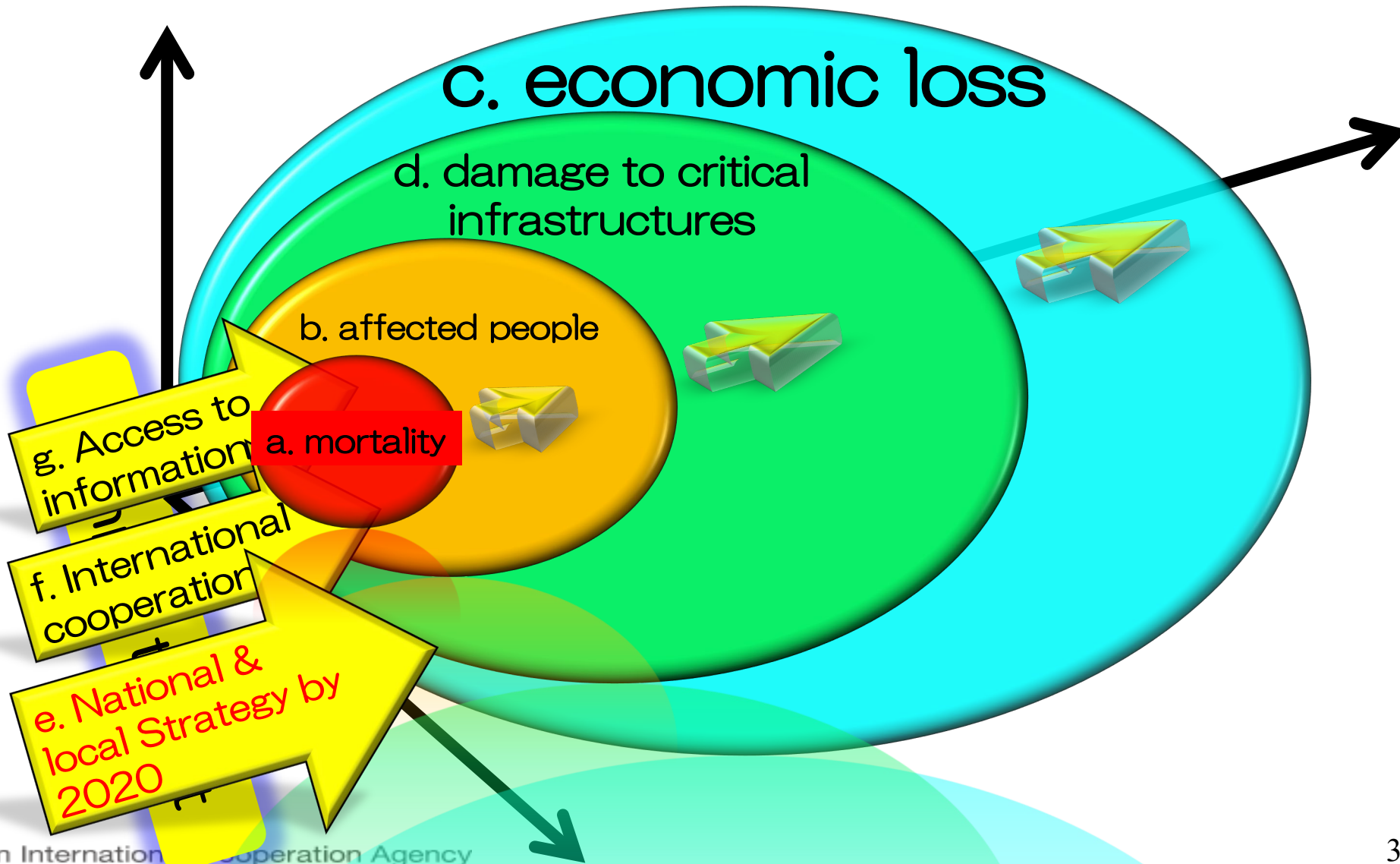
- **UN Sendai Framework for DRR underlines the importance to reduce the damage of critical infrastructure and economic damage (Priority 3).**
- **Why focus on resilient infrastructure?**
- **JICA's DRR cooperation strategy.**
- **Hint for transforming the path to resilient infrastructure envisioning an inclusively protected social system that leaves no one behind.**

Sendai Framework for DRR, 2015-2030

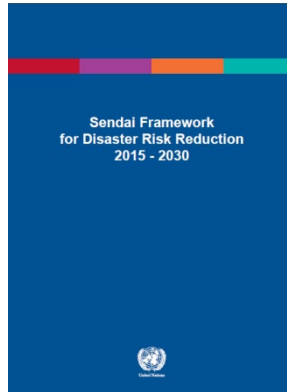


Sendai Framework


Logical Relation between 7 Targets



Definition of Critical Infrastructure



United Nations

 **General Assembly**

A/AC.285/CRP.2/Rev.3
18 November 2016
English only

**Open-ended intergovernmental expert working group
on indicators and terminology relating
to disaster risk reduction**
Geneva, 29-30 September 2015, 10-11 February 2016 and 15-18 November 2016

Critical infrastructure

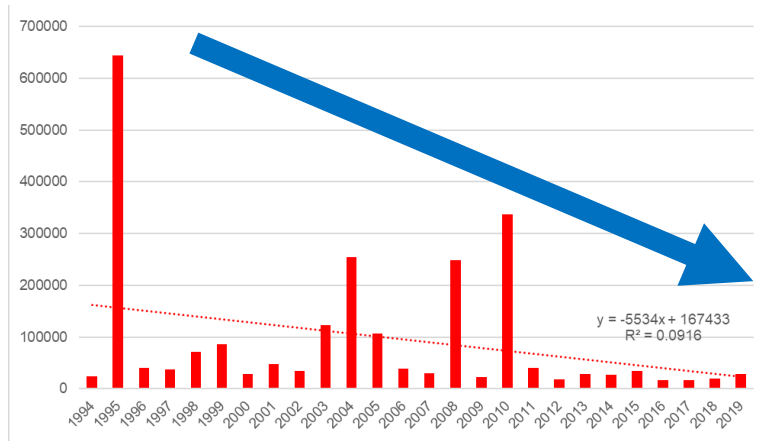
The physical structures, facilities, networks and other assets which provide services that are essential to the social and economic functioning of a community or society.

When we discuss infra, we must make clear the types of infrastructure

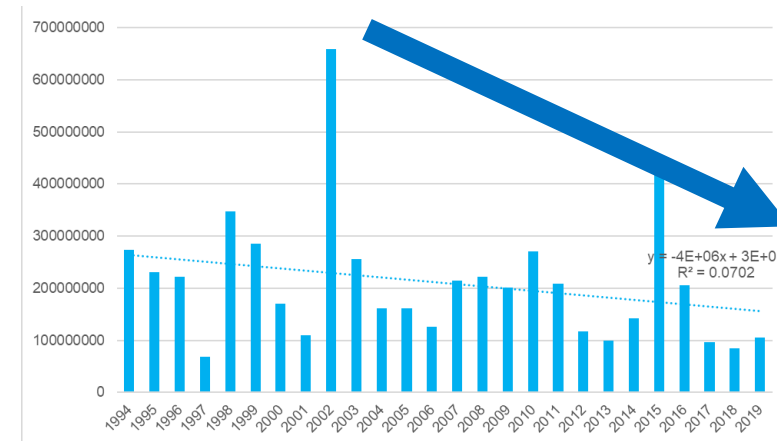
- ① **DRR infra which protect inclusively space from disaster, like river embankment which protect flood.**
- ② **Most important infra which lead and maintain society, like Prime Minister Office function, DRR Agency's functions, Police station.**
- ③ **Important infra which maintain society's life to survive, lifeline infra, main road, hospital, fire station.**
- ④ **Infra which can be the emergency shelter, like school and city hall**

Realization of DRR investment in concentrated areas

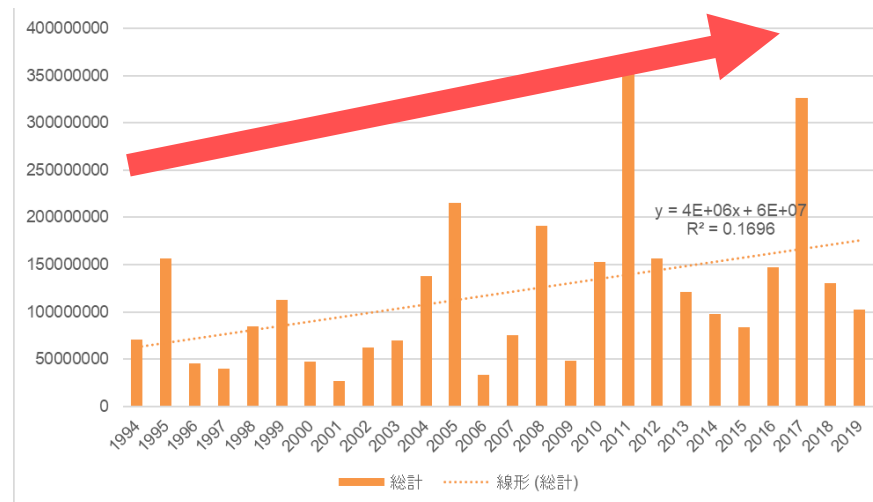
- Increase in Economic Loss Due to Disasters -



▲ World disaster deaths



▲ World disaster affected peoples



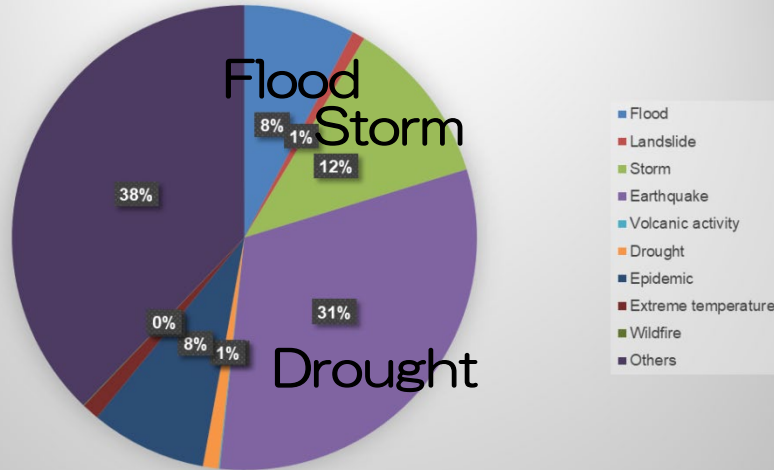
▲ World disaster economy losses

The amount of economic damage caused by disasters show larger increase, compared with deaths and victims

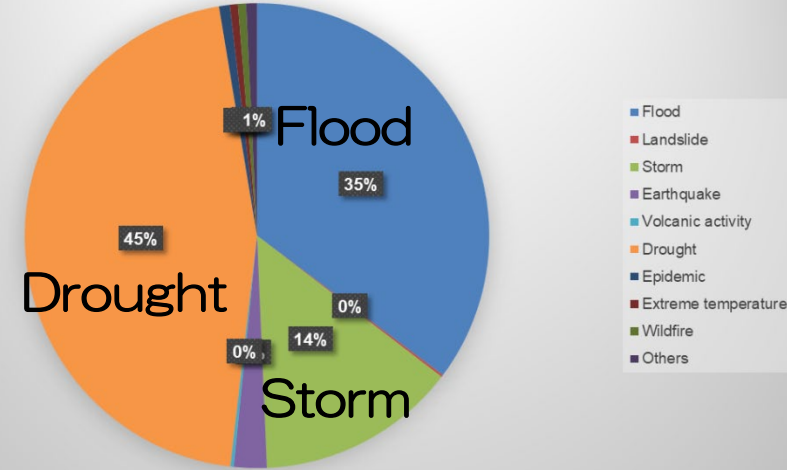
Not limited to Water Related Disaster

Damage by Hazards, DCs

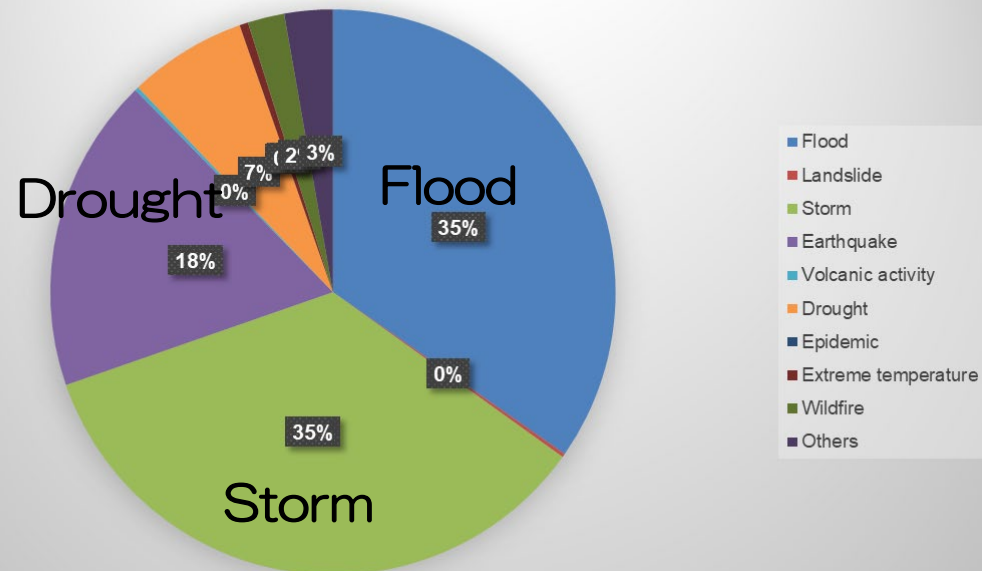
of deaths DCs (1994-2021)



of affected people, DCs (1994-2021)



Economic Damage, DCs (1994-2021)

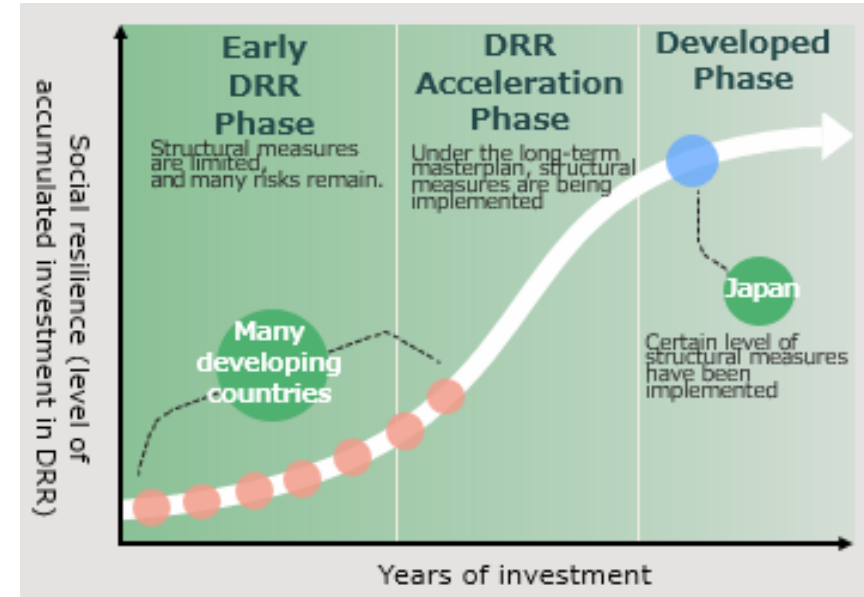
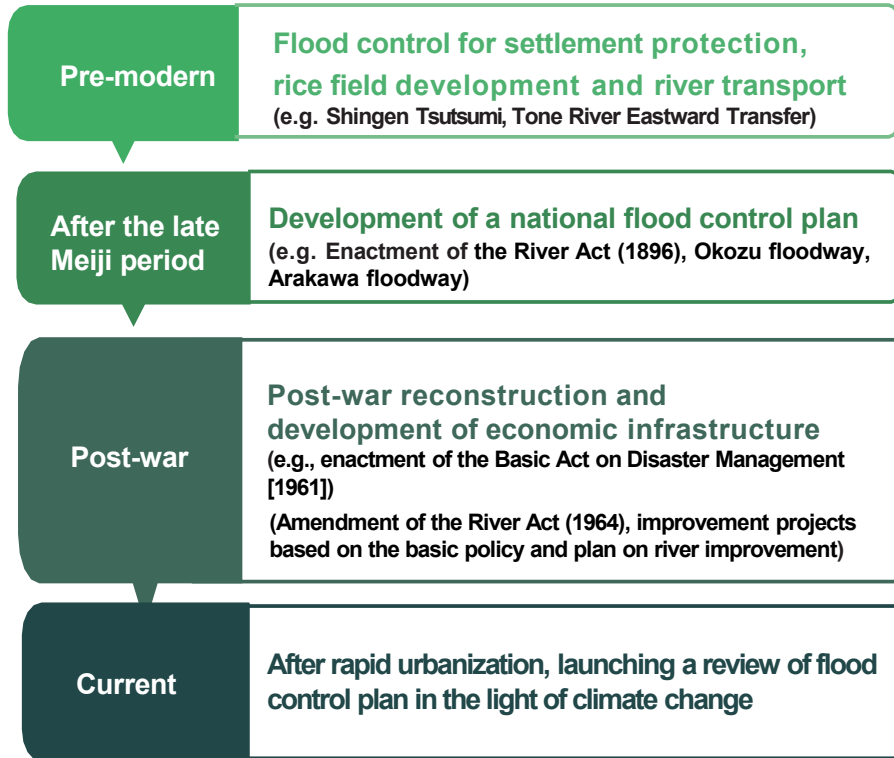


Not limited to
Water Related Disaster

JICA's DRR Cooperation Strategy is in line with Japanese Experience in DRR

Evolution of Flood Control in Japan

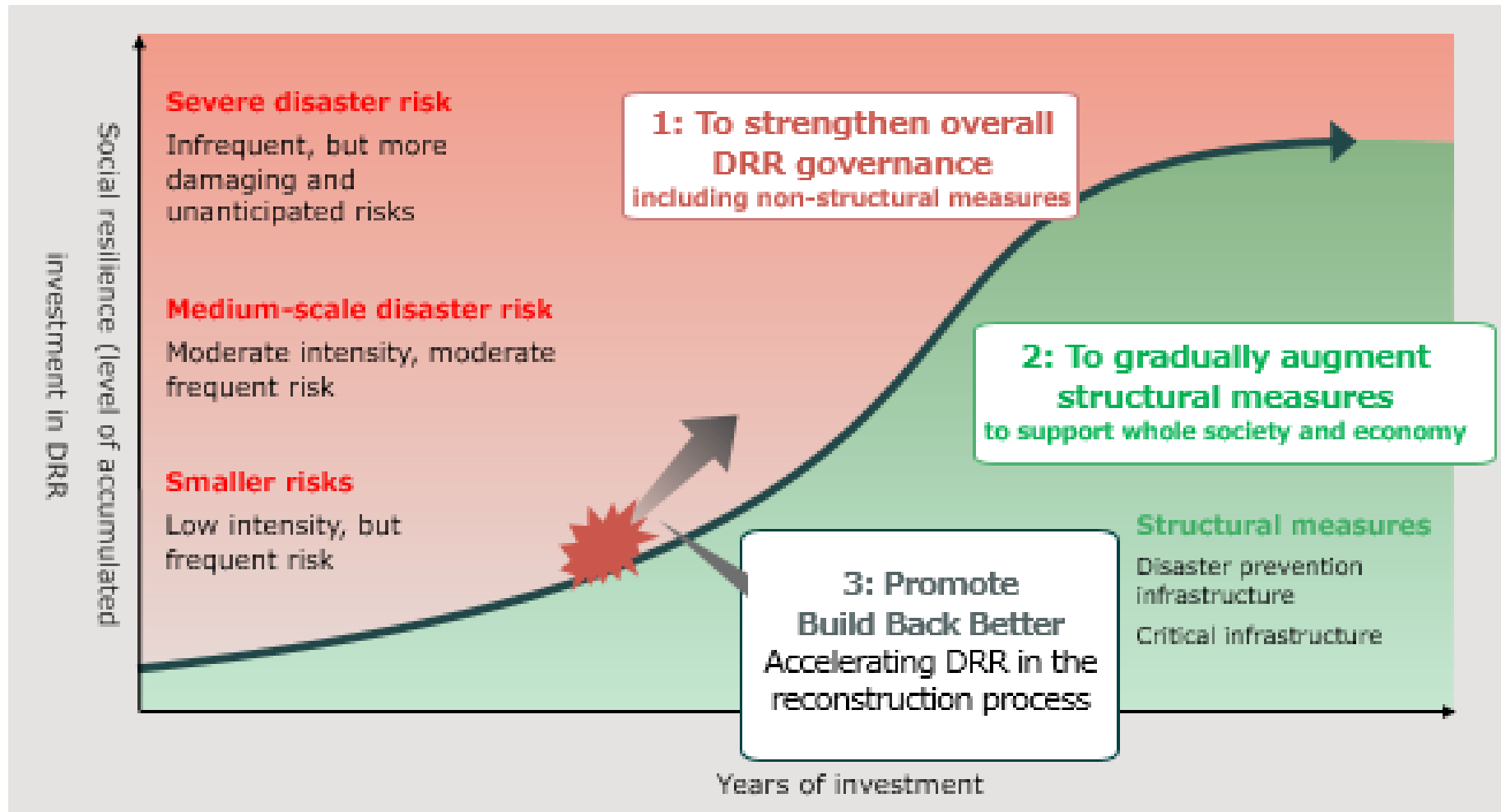
(Prepared with reference to data from the River Council, Ministry of Land, Infrastructure and Transport)



Sendai Framework for Disaster Reduction (SFDRR)

The guiding principles for global DRR were adopted at the Third UN World Conference on DRR, held in Sendai in March 2015. Japan led the discussion based on our disaster experiences and the principle of Pre-disaster Investment has been recognized globally.

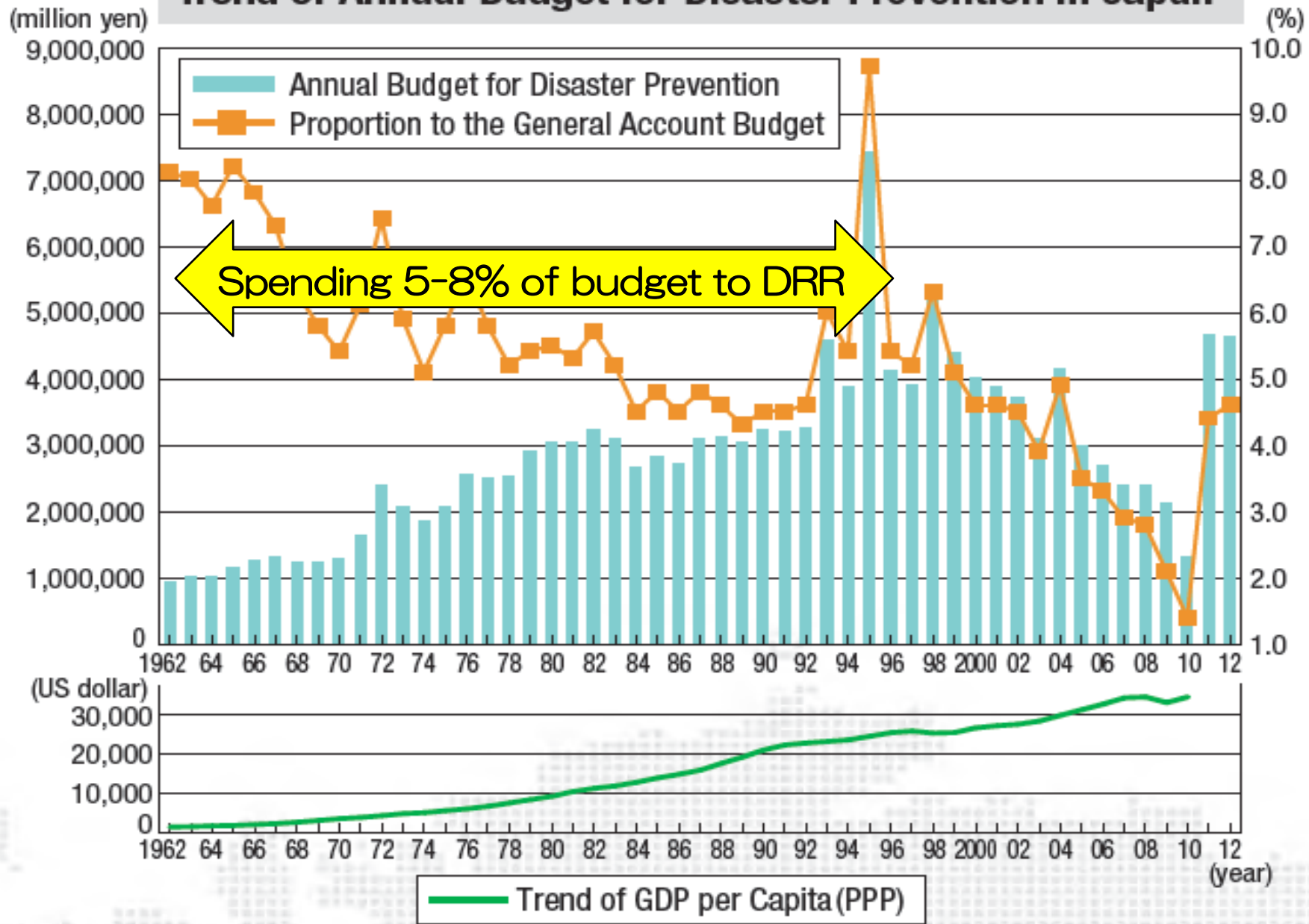
JICA's DRR Cooperation Strategy



Continuous DRR Investment even just after the World War II , from poor era

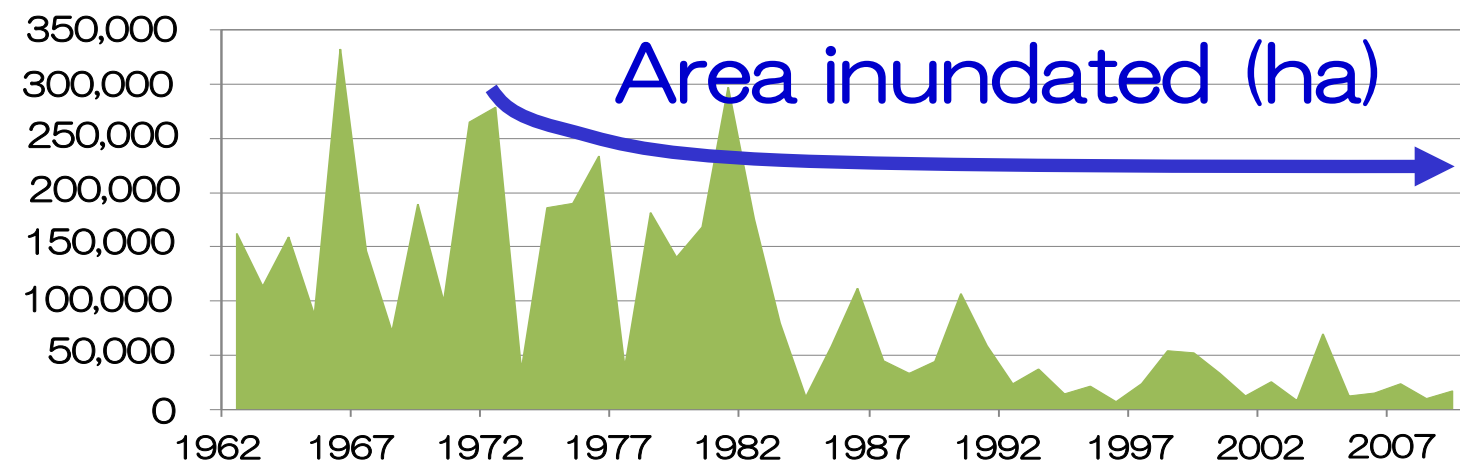
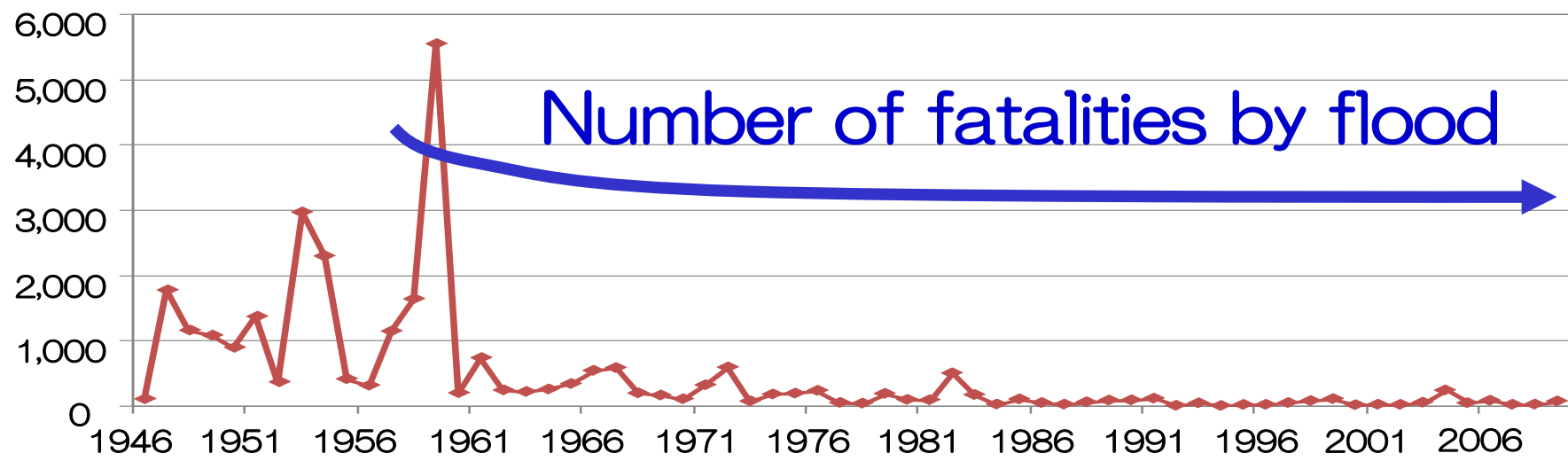


Trend of Annual Budget for Disaster Prevention in Japan



(Source) the Cabinet office

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.

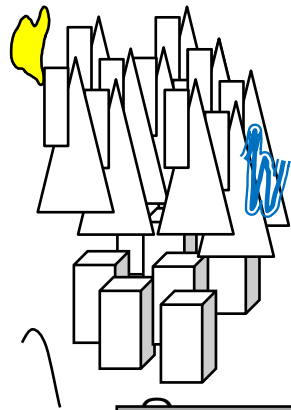


Focusing on Flood, How to be “inclusive”

Individual's self Protection



Far away from SDGs or Inclusive!

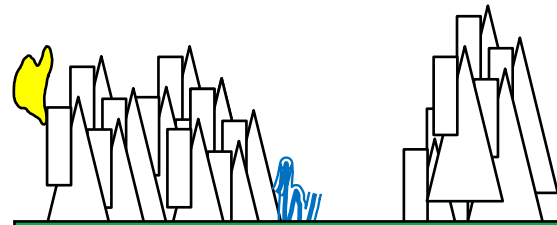


By the way, we call this "economic loss".

only rich people can do



Government Public Investment, Inclusively protect as a social system



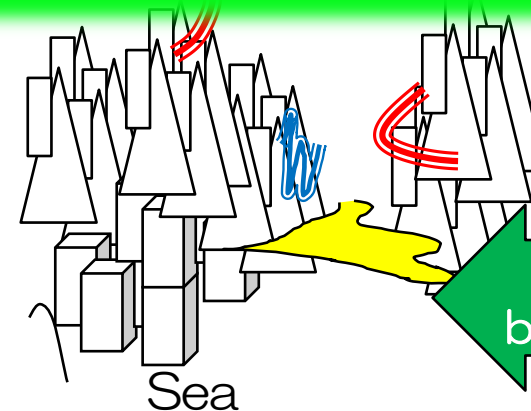
Risk Reduction as a
Social system

Sea

DRR Investment

- ① Reservoir; by Central Gov.
- ② Levee; by Central Gov.
- ③ Retention Area with Land use regulation & Controlled inundation by Local Gov.

Inclusively protected



No living area
by land use plan

Sea

Focusing on Earthquake, How to be “inclusive”?

Vulnerability infrastructure

- ◆ Most of the schools are built by same bricks structure, which will catastrophically claps and no one can survive.
- ◆ Although in this situation, some group insist “Education and Evacuation training are important for students”
- ◆ Government has serious responsibilities to change situations.



ex. Earthquake, School safety and DRR education **=depends on the level of school building safety=**

- **if the school is vulnerable, catastrophic collapse will happen then,**
 - **evacuation plan has no sense**
 - **hide under the desk is not enough**
- **if the school is strong and partially collapsed,**
 - **evacuation plan has a sense**
 - **hide under the desk is effective**
 - **cushion helmet is effective**
 - **but where is a temporary shelter?**
- **if the school, hospital and government build is strong enough**
 - **can be the emergency center for operation**
 - **can be a shelter for refugee**

Preparedness in Japan case



Government Responsibility in Japan

How Japan is preparing for big earthquakes

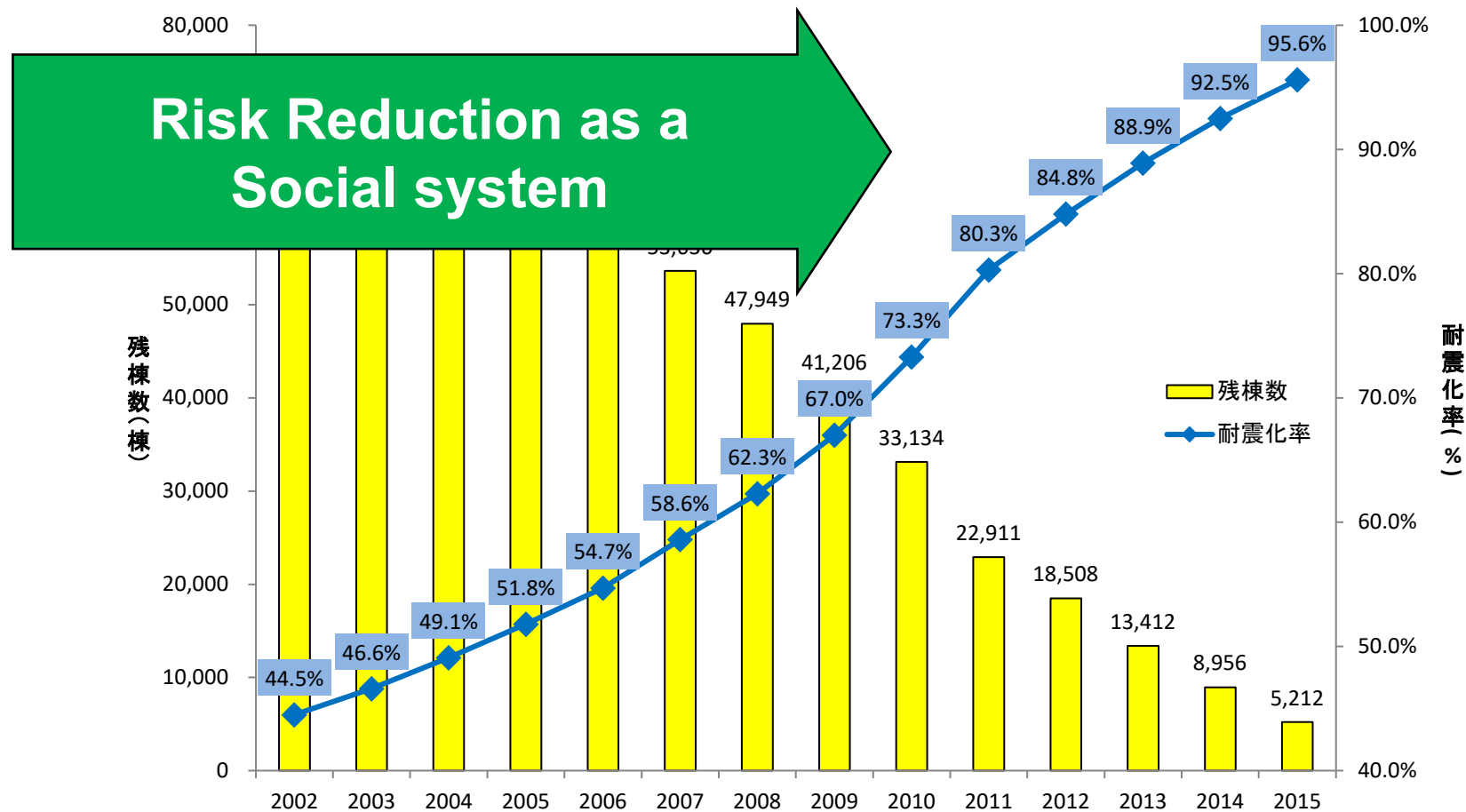
- for school safety, **full scale mode test** for strengthening methodology



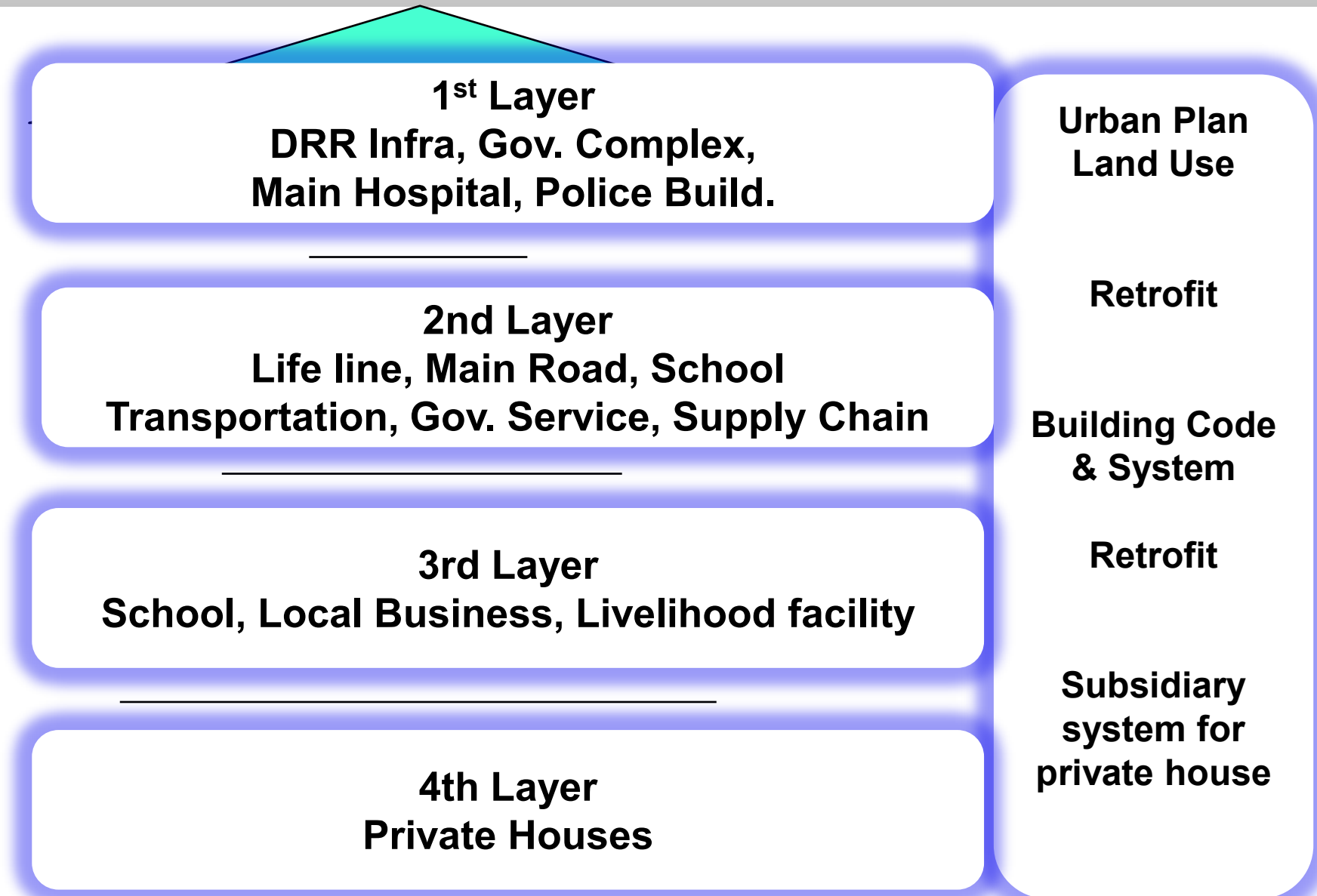
School Safety

retro-fit, anti-earthquake strengthening

- for elementary school, almost to 100% as a result of 15 years effort

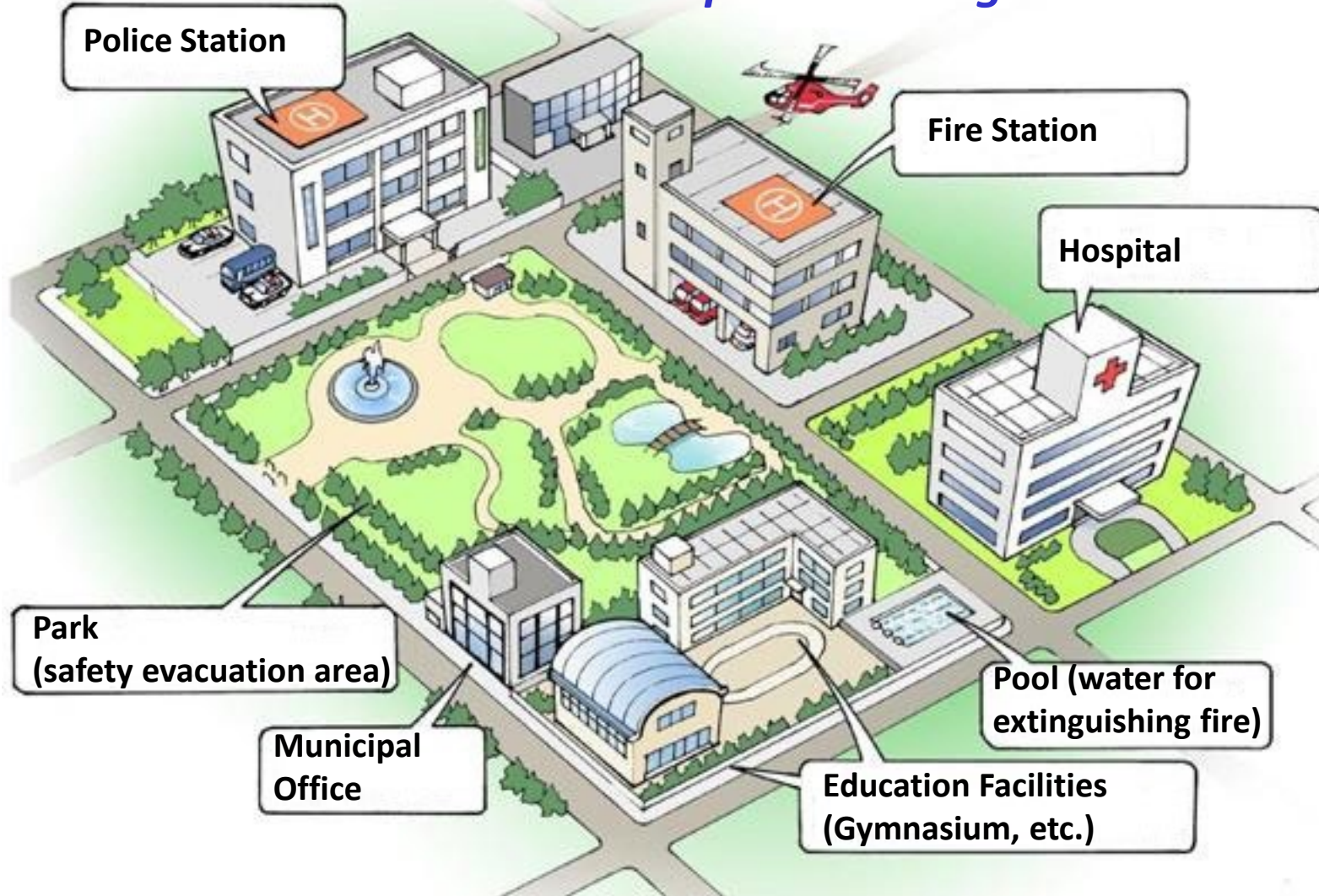


Layer Structure for policy priority

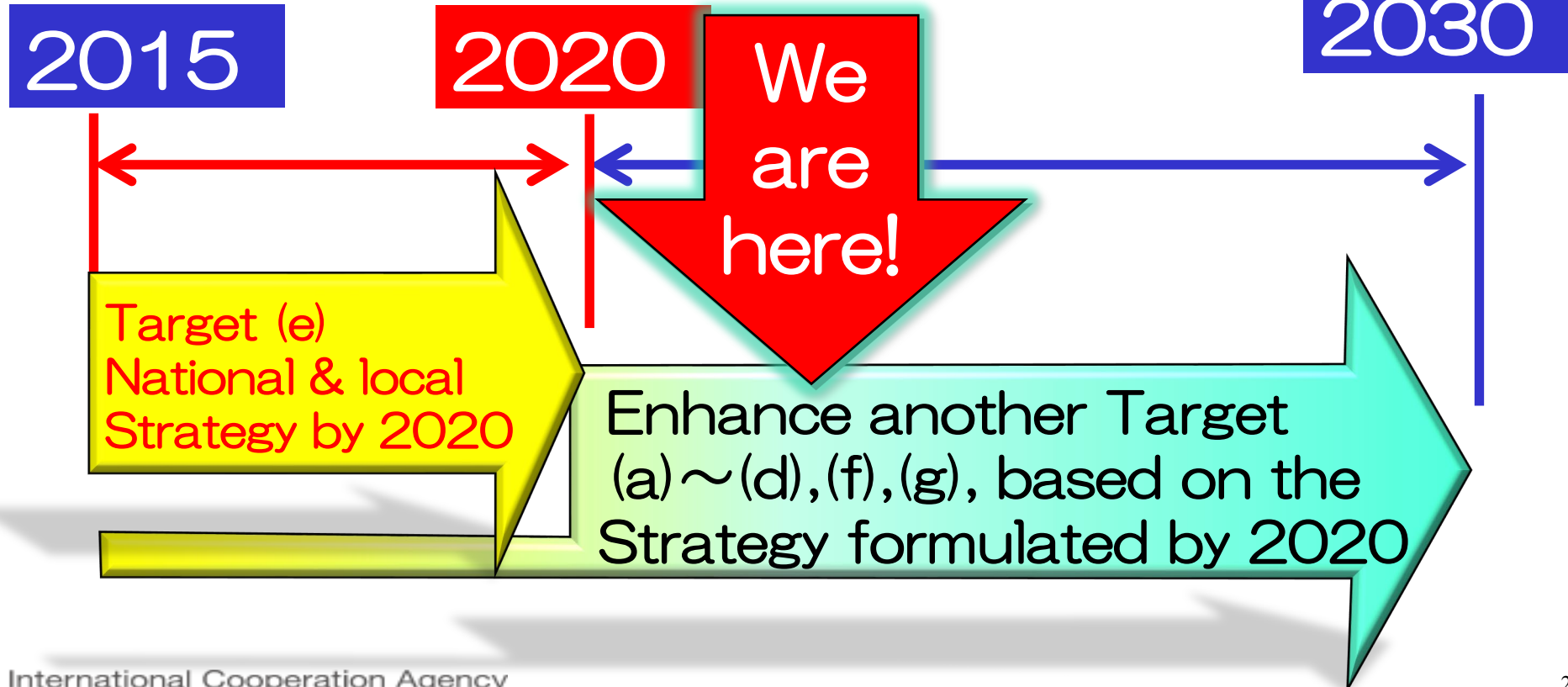
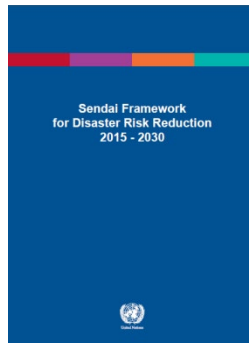


Strong Government Complex

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



Sendai Framework for DRR clearly outlines, Planning phase & implementation phase



Japanese Government's Sendai Initiative Phase 1 & 2

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2015

2020

Target (e) National
& local
Strategy by 2020

Sendai Initiative of Japan
4 billion US\$ support
training of 40,000 DRR officials,
within 4 years, from 2015 to 2018
→ JICA achieved in FY2015-2018
total \$4.769 billion USD and 75,109
people trained achieved

Sendai Initiative of Japan Phase II

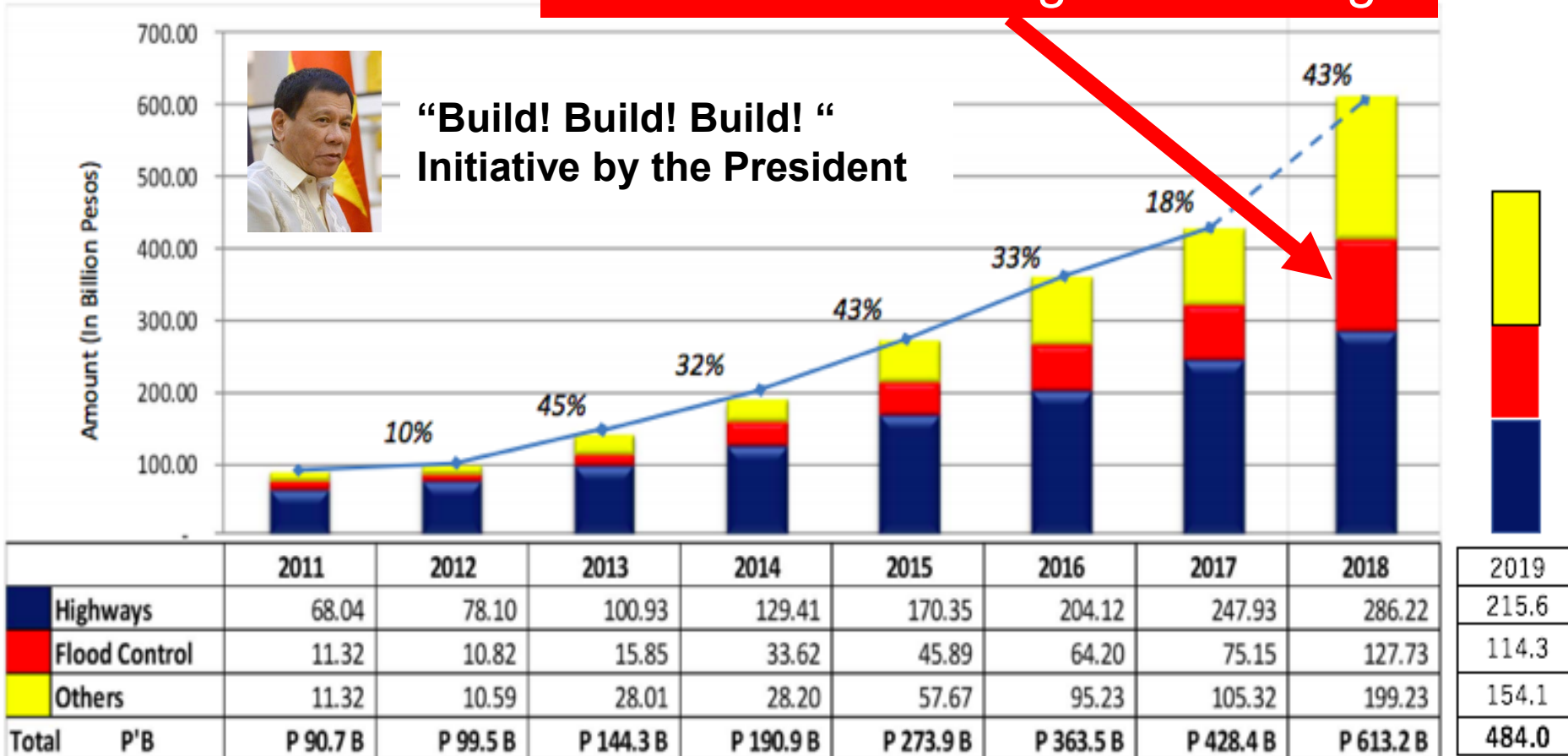
- ✓ Providing support for 5 million people and training/education to 85,000 DRR officials within 4 years (2019-2022)
- ✓ Supporting 80 countries to develop/improve DRR strategies/plans by 2020

Today's effort of Philippine Government for DRR Proactive Investment



2011-2018 DPWH Infrastructure Program: Capital Outlays (By Category)

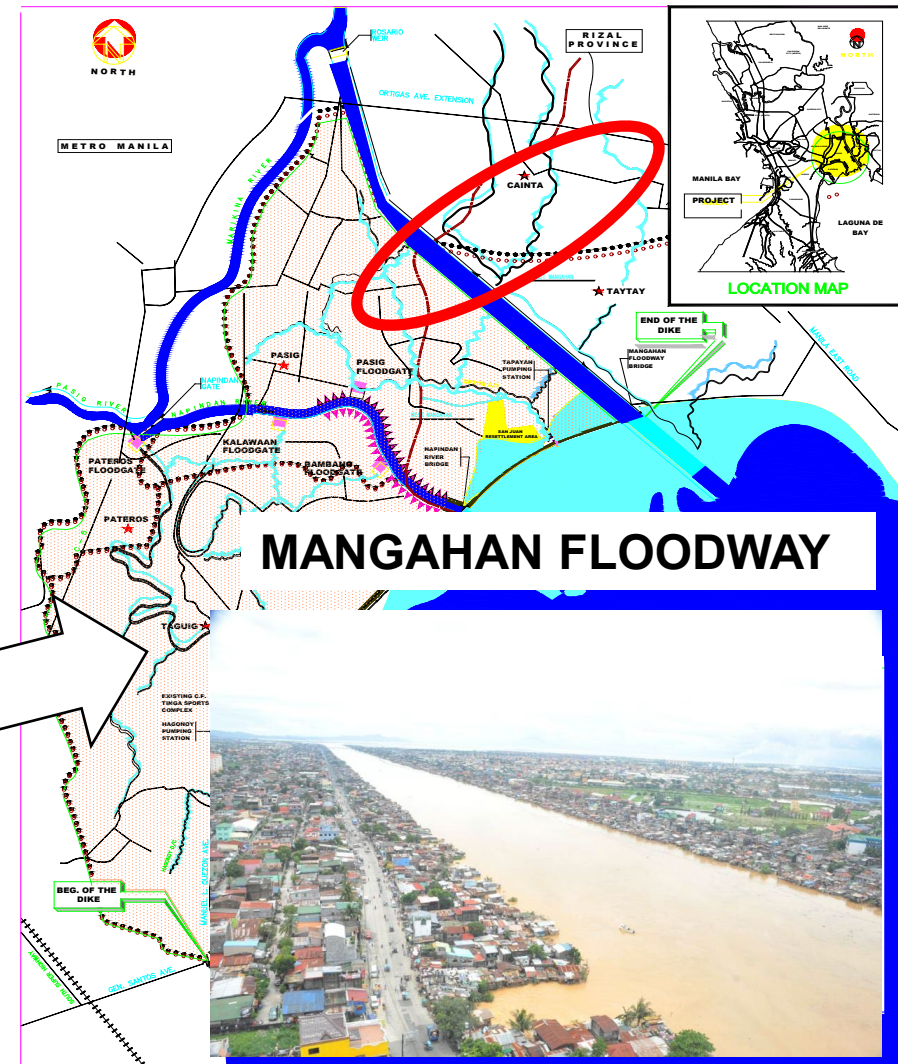
Flood Control Budget Increasing



JICA supported Pre-disaster prevention investment and flood control department in the government, which saved Metropolitan Manila from Flood

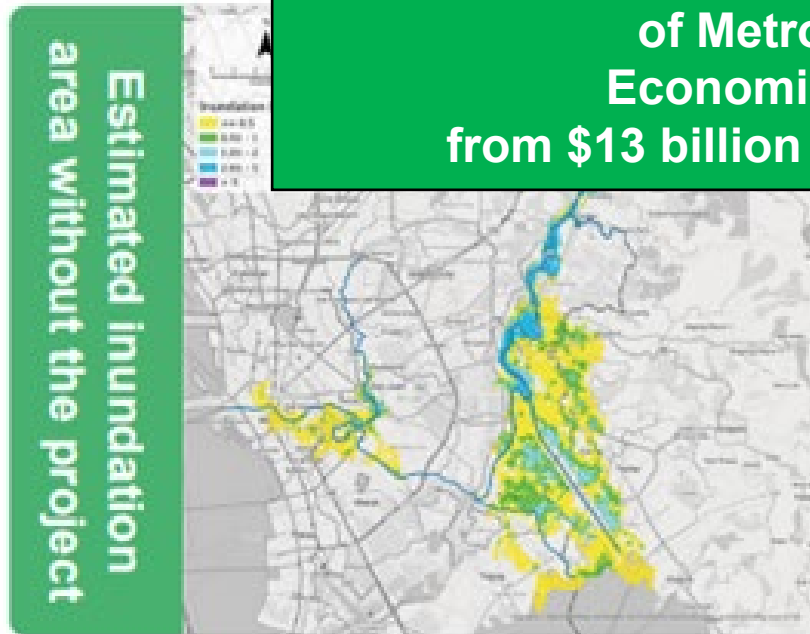
Since the 1970s, JICA has been supporting DRR investment through flood control planning, capacity building, and human resource development in the Philippines. In 1999, the government of the Philippines established a department specialized in flood control – only one of its kind in developing countries. The department has rapidly increased its budget for flood control. In the case of the Typhoon Ulysses in 2020, it is estimated that these projects reduced the economic damage by about 85%.

●Typhoon Ulysses in 2020 Analysis : CTI Engineering International Co., Ltd. Map : @OpenStreetMap contributors/CC BY-SA

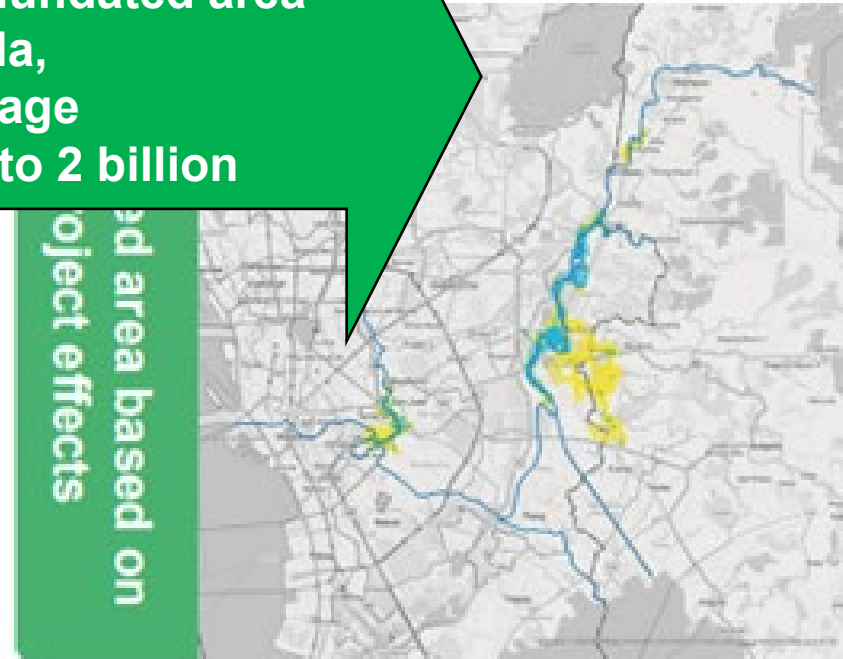


Pre-disaster prevention investment and flood control department in the government, saved Metropolitan Manila from Flood

Drastically reduced the inundated area of Metro Manila, Economic Damage from \$13 billion down to 2 billion



- » Estimated damage without the project : **13 billion dollars**
- » Estimated number of people affected by the disaster without the project : **1 million**



- » Estimated damage : **2 billion dollars**
- » Estimated affected people by the disaster : **0.03 million**

Japanese Government's Sendai Initiative Phase 1 & 2

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Governance/Mainstreaming

2015

2020

Target (e) National
& local
Strategy by 2020

Sendai Initiative of Japan
4 billion US\$ support
training of 40,000 DRR officials,
within 4 years, from 2015 to 2018

JICA achieved in FY2015-2018

**JICA shifting
from Plan to Implement DRR infra,
like Flood Control projects and so on.**

training/education to 85,000 DRR officials within 4
years (2019-2022)

- ✓ Supporting 80 countries to develop/improve DRR
strategies/plans by 2020

Which item is most important to increase proactive DRR prevention investment, and also investment for resilient infra?

1. **Government Budget?**

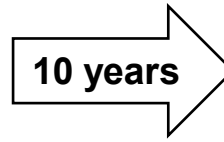
2. **Community Leadership?**

3. **Capacity Building?**

4. **Political Leadership?**

5. **Resilient Infrastructure?**

**Political Leadership
is most important!**



写真で比較する東日本大震災 あの時と今 [1.11] | ハフポスト NEWS (huffingtonpost.jp)

“Aspiring for a free, peaceful, prosperous, and **resilient** world where people can hope for a better future”

Thank you!

Yamashita.Nozomu@jica.go.jp