



# OVERVIEW OF NATIONAL RESILIENCE POLICY OF JAPAN AND FUTURE CHALLENGES

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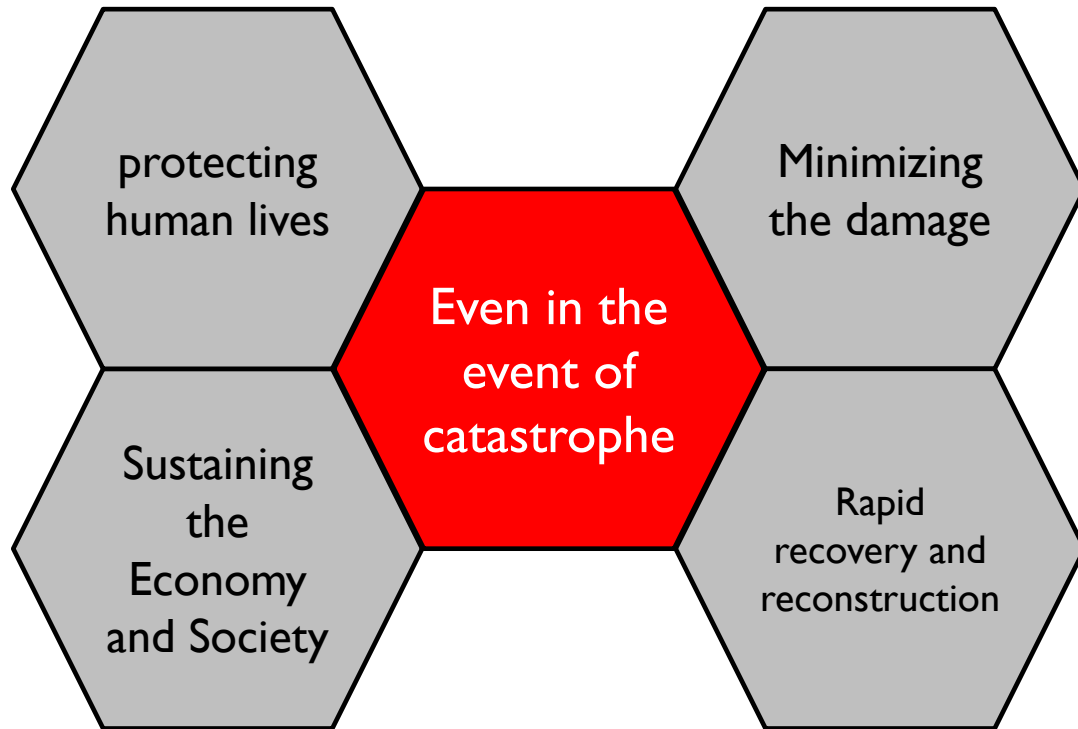
- Overview of national resilience policies in Japan
- Academic challenges
  - Responsibility gap in disaster risk governance
  - Challenges in scientific community for DRR

# NATIONAL GOVERNANCE OF RESILIENCE POLICIES

- March 11, 2011: Great East Japan Earthquake
- 2014: Enactment of **Basic Act for National Resilience** Contributing to Preventing and Mitigating Disasters for Developing Resilience in the Lives of the Citizenry
- Development of **the Basic Plan for National Resilience**



# THE BASIC PLAN FOR NATIONAL RESILIENCE



- National Resilience = **protecting lives and property from catastrophic disasters**

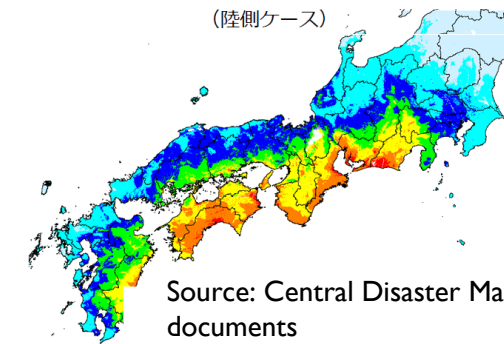
Source: National cabinet office

# EXPECTED CATASTROPHIC DISASTERS

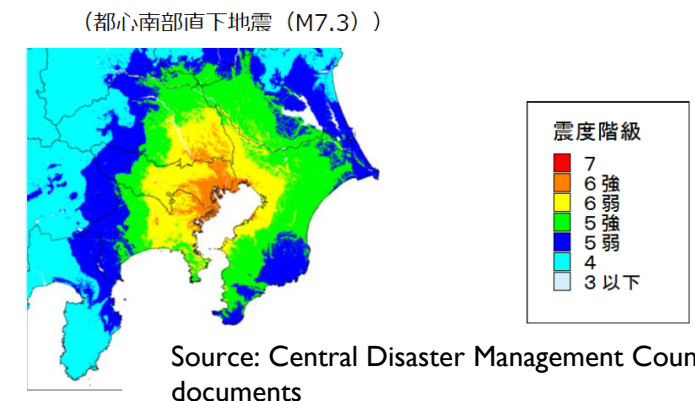
	Great East Japan Earthquake	Nankai Trough Mega Earthquake	Tokyo Metropolitan Earthquake
Number of victims	Approx. 20,000	323,000 (worst case)	23,000 (worst case)
Direct economic loss such as asset	17 trillion yen	170 trillion yen	47 trillion yen
Including indirect economic loss due to business interruption		214 trillion yen	95 trillion yen

Source: Cabinet office

Distribution of seismic intensity of Nankai Trough Mega earthquake



Distribution of seismic intensity of Tokyo Metropolitan earthquake



# A SUCCESSION OF DISASTERS IN 2018



Typhoon Jebi, September, 2018



Torrential rain around the  
Western Japan  
July, 2018



Hokkaido Eastern Iburi earthquake  
September, 2018

# RESPONDING TO CLIMATE CHANGE

Three-year emergency measures for disaster prevention, disaster mitigation, and national resilience (2018 – 2020)

Concentrate on hard and soft measures that need to be urgently addressed over a 3-year period

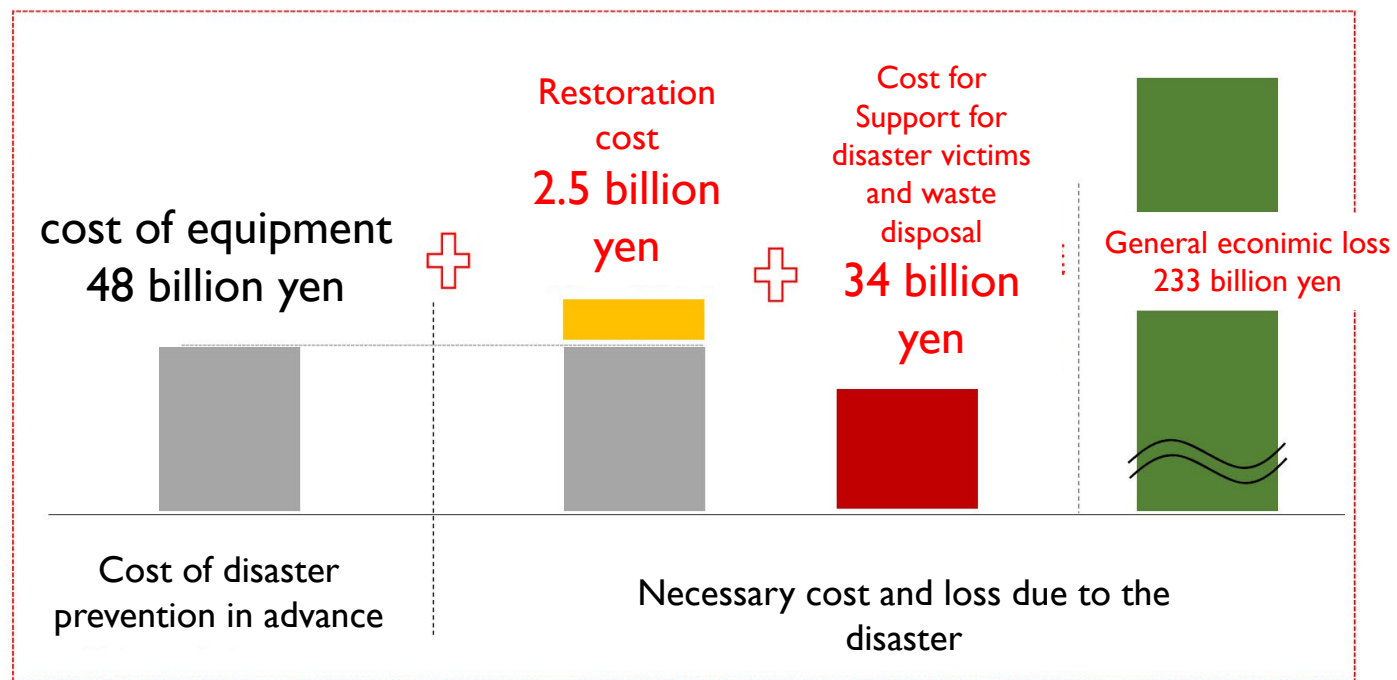
- Functional maintenance of critical infrastructure, etc. for disaster risk reduction (3.5 trillion yen)
- Maintenance of critical infrastructure and other assets that support the national economy and livelihoods (3.5 trillion yen)

Five-year accelerated measures for disaster prevention, disaster mitigation, and national resiliency (2021 – 2025)

1. Measures to cope with increasingly severe wind and flood damage, imminent large-scale earthquakes, etc. [78 measures].
  - (1) Measures to prevent or minimize damage to life and property [50 measures].
  - (2) Measures to maintain transportation networks and lifelines to support the national economy and livelihood [Measure 28].
2. Aging measures for a shift to preventive maintenance-oriented infrastructure maintenance [Measure 21].
3. Promotion of digitization, etc. for efficient implementation of measures related to national land resilience [Measure 24].
  - (1) Digitization of measures related to national land resilience [12 measures]
  - (2) Advancement of forecasting, collection, accumulation, and communication of disaster-related information [12 measures].

# PROACTIVE DISASTER PREVENTION

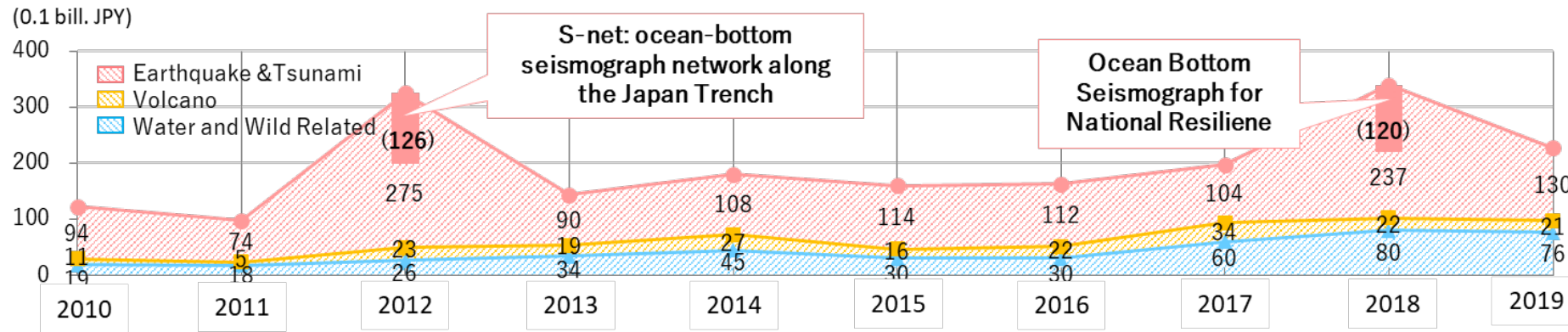
- 事前防災 – *jizen bosai* – proactive disaster prevention
- Avoiding the losses to the social economy, etc., due to the delay in taking disaster-prevention measures in advance



Source: National cabinet office



# TRANSITION OF R&D BUDGET FOR DRR



Source: Disaster Prevention Research Institute, Kyoto University and Tokio Marine & Nichido Risk Consulting Co., Ltd. (2021)

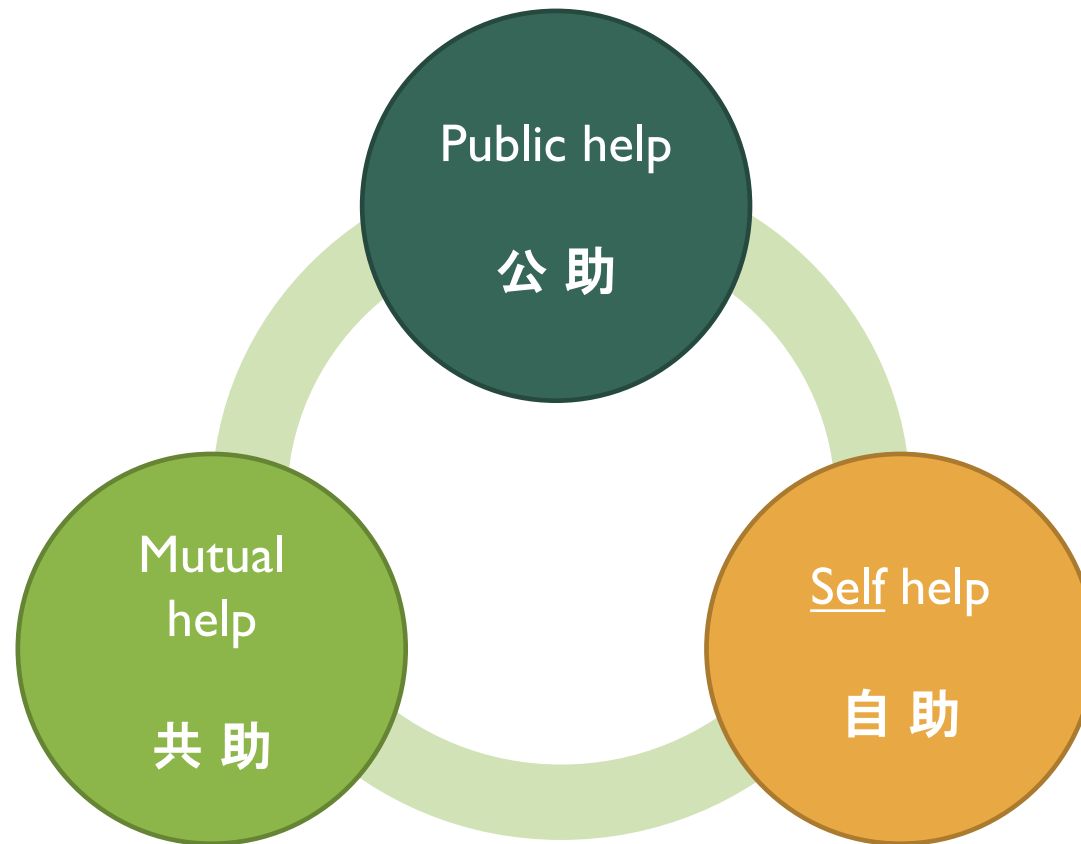
The Government seems to allocate transient budgets after major disasters occurred.

→ Locking the stable door after the horse has bolted.

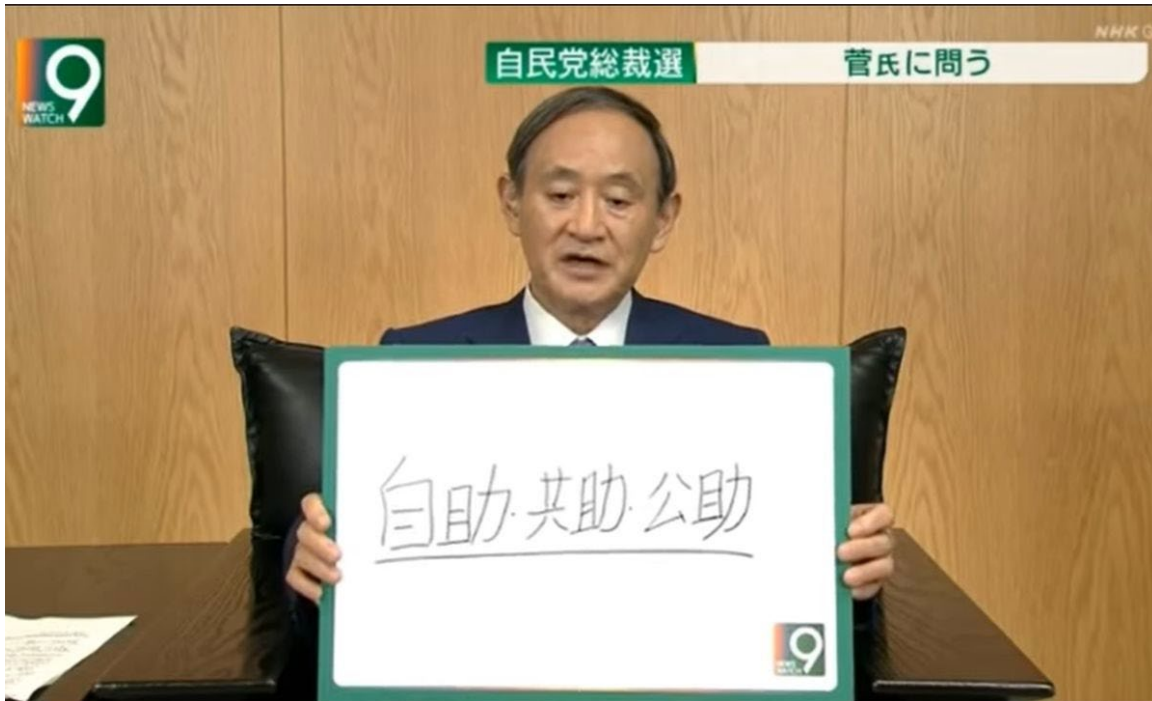
# SUMMARY OF NATIONAL RESILIENCE POLICIES IN JAPAN

- The concept of resilience has come to be called out in the wake of the Great East Japan Earthquake.
- While national resilience implies survival against catastrophic disasters, dealing with weather-related disasters due to climate change has also become a major challenge.
- The concept that "it is too late to take countermeasures after something has happened" is gaining popularity, and the term "proactive disaster prevention" is often used these days.
- Consideration of disaster response under infectious disease epidemics is also recognized as an issue.

# 3 HELPS IN DISASTER MANAGEMENT



# POLITICAL SLOGAN



Source: NHK

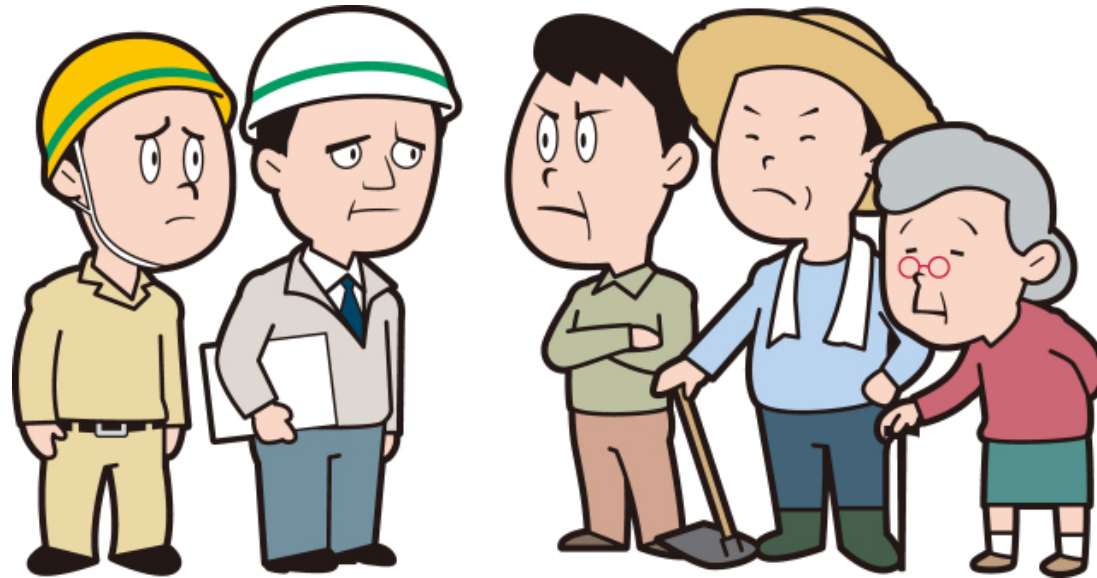
Former Prime Minister Yoshihide Suga used the phrase

“Self-help, Mutual help and Public help”

as his political slogan during the campaign for LDP leader election.

# DISAGREEMENT OVER RESPONSIBILITY

Self and mutual help is important.



Public help is important.

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Disappearance of responsibility

# GAP IN RESPONSIBILITY RECOGNITION IN DISASTER RESPONSE

Rate of YES answer by residents and local municipality's EM staffs for activities for which they recognize local residents and community should be responsible.

Activity Item	Residents	Gov.	Gap
Safety check and rescue of local residents	48.2	61.5	Res < Gov.
Implementation of evacuation guidance for residents	30.4	15.4	Res.   Gov.
Voluntary evacuation shelter management and cooperation	25.8	87.2	Res. << Gov.
Providing shelter and supplies	35.9	0.0	Res. > Gov.
Supporting the evacuation of people who need assistance with evacuation activities	17.6	66.7	Res. << Gov.
Collection of evacuation information and dissemination of information from the government	22.8	17.9	Res.   Gov.
Prompt evacuation and support for such evacuation	38.3	35.9	Res.   Gov.
Miscellaneous	0.9	0.0	Res.   Gov.

Source: The Institute for Tokyo Municipal Research (2022), Yamori (2022)

# NEW FLOOD RISK MANAGEMENT POLICY

## River Basin Disaster Resilience and Sustainability **by All**

**① 氾濫をできるだけ防ぐ・減らすための対策**

**雨水貯留機能の拡大** 集水域  
 [国・市、企業、住民]  
 雨水貯留浸透施設の整備、  
 ため池等の治水利用

**流水の貯留** 河川区域  
 [国・県・市・利水者]  
 治水ダムの建設・再生、  
 利水ダム等において貯留水を  
 事前に放流し洪水調節に活用  
 [国・県・市]  
 土地利用と一体となった遊水  
 機能の向上

**持続可能な河道の流下能力の  
維持・向上**  
 [国・県・市]  
 河床掘削、引堤、砂防堰堤、  
 雨水排水施設等の整備

**氾濫水を減らす**  
 [国・県]  
 「粘り強い堤防」を目指した  
 堤防強化等

**② 被害対象を減少させるための対策**

**リスクの低いエリアへ誘導／  
住まい方の工夫**  
 [国・市、企業、住民]  
 土地利用規制、誘導、移転促進、  
 不動産取引時の水害リスク情報提供、  
 金融による誘導の検討

**氾濫域**  
**浸水範囲を減らす**  
 [国・県・市]  
 二線堤の整備、  
 自然堤防の保全

**③ 被害の軽減、早期復旧・復興  
のための対策**

**土地のリスク情報の充実** 氾濫域  
 [国・県]  
 水害リスク情報の空白地帯解消、  
 多段型水害リスク情報を発信

**避難体制を強化する**  
 [国・県・市]  
 長期予測の技術開発、  
 リアルタイム浸水・決壊把握

**経済被害の最小化**  
 [企業、住民]  
 工場や建築物の浸水対策、  
 BCPの策定

**住まい方の工夫**  
 [企業、住民]  
 不動産取引時の水害リスク情報  
 提供、金融商品を通じた浸水対  
 策の促進

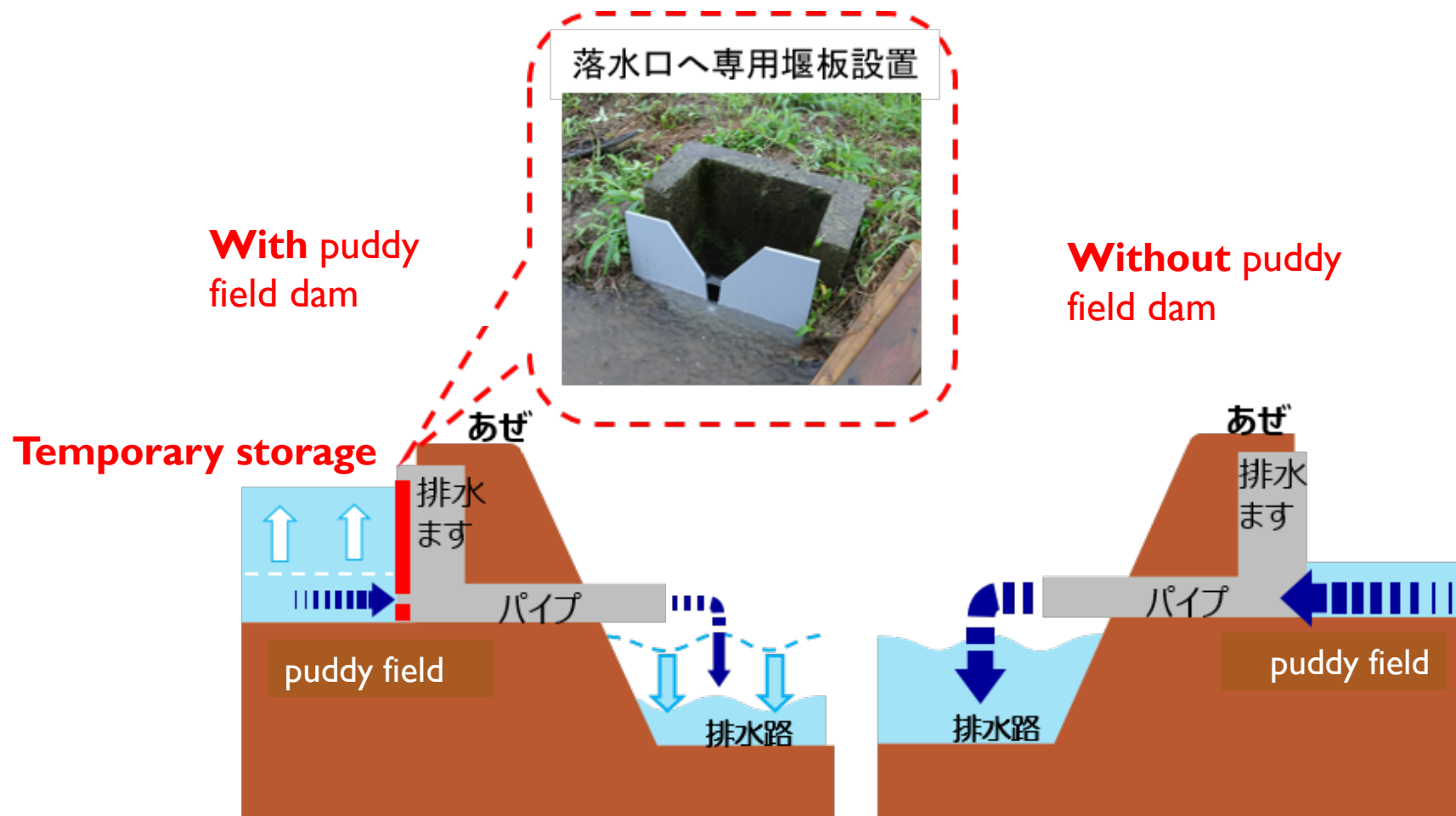
**被災自治体の支援体制充実**  
 [国・企業]  
 官民連携によるTEC-FORCEの  
 体制強化

**氾濫水を早く排除する**  
 [国・県・市等]  
 排水門等の整備、排水強化

**河川区域**  
 県：都道府県  
 市：市町村  
 [ ]：想定される対策実施主体

1. Minimizing the risk of flooding
2. Reducing the exposure
3. Reducing the impact and rapid recovery

# PUDDY FIELD DAM





# CHALLENGES

- **Double-bind:** A dilemma in communication in which an individual (or group) receives two or more reciprocally conflicting messages
  - Government emphasizes the importance of voluntary actions by individuals and communities.
  - Paternalistic governments say 'do not rely on governments'.
- Conflicts are arising over the delineation of areas to be targeted for residential relocation.
- How the responsibility border of 'Self-help, Mutual help and Public help' can be determined?

# PROCESS IS IMPORTANT

- The starting point is to "protect one's own life by oneself."
- Experts who work with residents
- Practical research
  - Residents take the lead
  - Continuity is power



Wide-area evacuation project for large volcanic eruptions