

# Impact/adaptation research activities in Japan

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- 1. Outline of Japanese National Adaptation Plan**
- 2. AIM's Research Activities for Climate Change Impact Assessment in Japan**
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# Outline of Japanese NAP

- **Draft of Japanese National Adaptation Plan was released on 23<sup>rd</sup> October, 2015**
  - Under collecting public comments
- **Contents**
  - I. **Basic concept**
    - Minimizing or avoiding climate change impacts on people's lives, property and livelihood, economy and ecology by implementing adaptation at any occasion
  - II. **Sectoral basic direction**
    - Summarizing climate change impacts and basic adaptation measures by sector
  - III. **Fundamental and International measures**
    - (i) Observation/Monitoring, Climate projection, Investigation/Research, (ii) Climate change information platform, (iii) Promoting local adaptation, (iv) Technical and financial support for developing countries

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# The Environment Research and Technology Development Fund (ERTDF)

## Funded by the Ministry of the Environment Japan

- **S-4: Comprehensive Assessment of Climate Change Impacts to Determine the Dangerous Level of Global Warming and Appropriate Stabilization Target of Atmospheric GHG Concentration”**
  - **FY2005-2009**, Targeted sector: **Water resources, forests, agriculture, coastal zones, human health**, Research budget: around **0.2** billion yen/yr, Sub-themes: **7**, Participating research institutions: **14** (2008), Participating researchers: **42** (2007)
- **S-8: Comprehensive Study on Impact Assessment and Adaptation for Climate Change**
  - **FY2010-2014**, Targeted sector: **Water resources, forests, agriculture, coastal zones, human health**, Research budget: around **0.35** billion yen/yr, Sub-themes: **12**, Participating research institutions: **28(34)**, Participating researchers: **93(over 140)**

# SI-CAT

## Social Implementation Program on Climate Change Adaptation Technology funded by Ministry of Education, Culture, Sports, Science and Technology

### ➤ Objectives

- Model and tool development for promoting climate change adaptation investigation and planning at Japanese local government
- Co-design and realization of local adaptation plan in Japan considering policymaker's needs scientist's seeds

### ➤ Budget/Period: 0.576 billion yen/year, FY2015-2019

### ➤ Research framework

- I. Social Implementation team
- II. Technological development teams: Near future climate scenario, Downscaling, **VIA**
- III. Local government collaborated with university or prefectural research institute

# Technological development team: VIA

## Model and Tool development on Climate Change for Vulnerability, Impacts and Adaptation in order to support local municipality adaptation implementation and planning in Japan

### 1. Model development for Climate Change Impact Assessment

- Target period: around 2030, Spatial resolution: 1km, Scenarios: downscaled climate scenarios and local socio-economic scenarios
- Target sectors: essential sectors used for local adaptation implementation and planning

### 2. Application tool development (SI-CAT App)

- Supporting local policymakers in utilizing scientific information developed by SI-CAT

### 3. Co-design and realization of local adaptation plan in Japan considering policymaker's needs scientist's seeds

- **Budget/Period: 0.167 billion yen/year, FY2015-2019**

#### ➤ Research framework

- I. Project management, SI-CAT App, 3 sub-teams
- II. Modeling sectoral impact assessment, 11 sub-teams
- III. Supporting local government adaptation planning , 4 sub-teams

# Research Outline: VIA

## ① Target sector/field

- **Coastal/Disaster Prevention:** River flood, Landslide, Storm surge, Coastal erosion, Water quality damage in water resources
- **Ecosystem:** Forest ecosystem
- **Agriculture & Fishery:** Main crops focusing rice, Vegetables, Fruits, Fishery
- **Water resource:** River flow, Amount of water reserved in dam
- **Health:** Hot environment, Heat stroke
- **Economic damage:** Water related disaster, Coastal damage, Loss of forest ecosystem, Heat related morbidity and mortality, Tourism

## ② SI-CAT App

- **Specification:** High convenience considering local policy makers' needs
- **Function:** 1) Function for extracting map and numerical information used for climate change adaptation report and pamphlet, 2) Function for displaying results of comprehensive climate change assessment used for investigating priority of adaptation measures, 3) Function for supporting the understanding of scientific uncertainty
- **Manual development**

## ③ Local government: Ibaraki, Shikoku, Gifu, Ngano



# Health

**Tsukuba U.**  
Hot env., Heat stroke

**NIES**  
Project management,  
SI-CAT App

**Economy**  
**Hyogo U.**  
Damage/Policy matrix  
**Meijyo U.**  
Unit of damage cost

## Coastal/Disaster Prevention

**Tohoku U.** River Flood, Storm surge,  
Coastal erosion, Water quality damage  
in water resources

**Fukushima U.** Landslide

**Kyusyu U.** River Flood, Storm surge,  
Landslide

## Ecosystem

**FFPRI** Forest ecosystem

## Agriculture & Fishery

**NIAES**  
Main crops (rice et al.)

**Ibaraki U.** Vegetables

**NARO/NIFTS**  
Fruits

**NECSI** Orange

**FRA**  
Rapid tide, Warm water spread

## Water resource

**Kyoto U.** River flow, Amount of water  
reserved in dam

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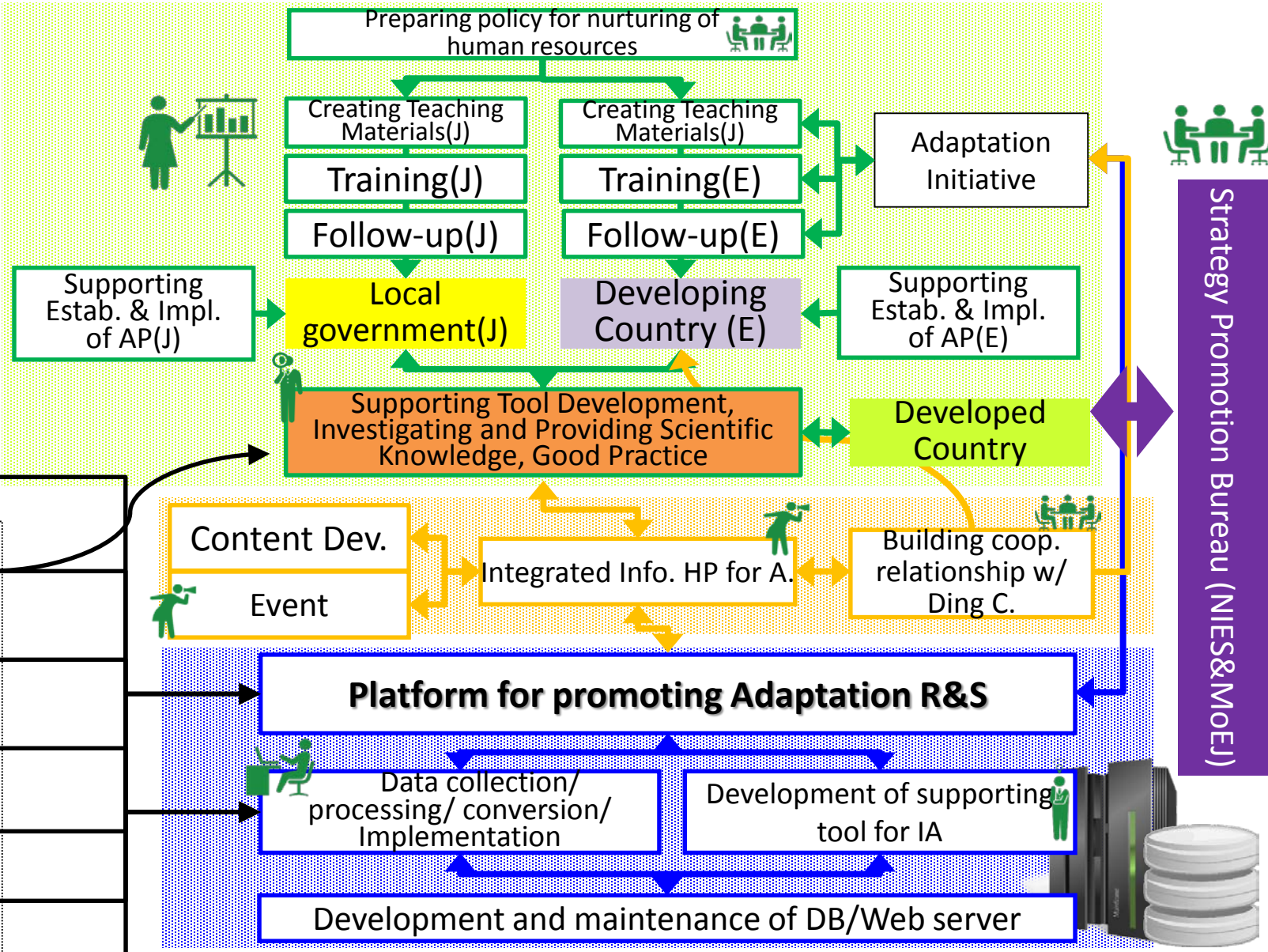
# Next Steps

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1. ERTDF S-14-5
2. SI-CAT
- 3. Adaptation Platform**
4. Priority Research Programs in FY2016-2020

# Office for Promoting Strategy on Adaptation to CC

- (1) Establishment of CC Info. Base Section
  - (2) Supporting Adaptation Action Section
  - (3) Information Transmission Section
- MoEJ
- Outside
- J : Japanese  
E : English
- Arrangement of other Ministries
- MoEJ Entrusted Services (FY2016-)
  - MoEJ ERTDF (FY2016-)
  - NIES Priority Research Programs
  - GOSAT, GIO MRV
  - IPCC PCMDI
  - SI-CAT



ご清聴ありがとうございました  
Thank you for your attention