

An aerial photograph of Kumamoto City, Japan, showing the Arima River flowing through the urban landscape. Several bridges, including a prominent double-arch bridge, span the river. The city is densely packed with buildings of various heights and colors, interspersed with green trees and parks. The sky is overcast with grey clouds.

# **Kumamoto City Initiatives for a Sound Water Cycle and River Basin Disaster Management Creating a New Water Culture**

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**Mayor of Kumamoto City**

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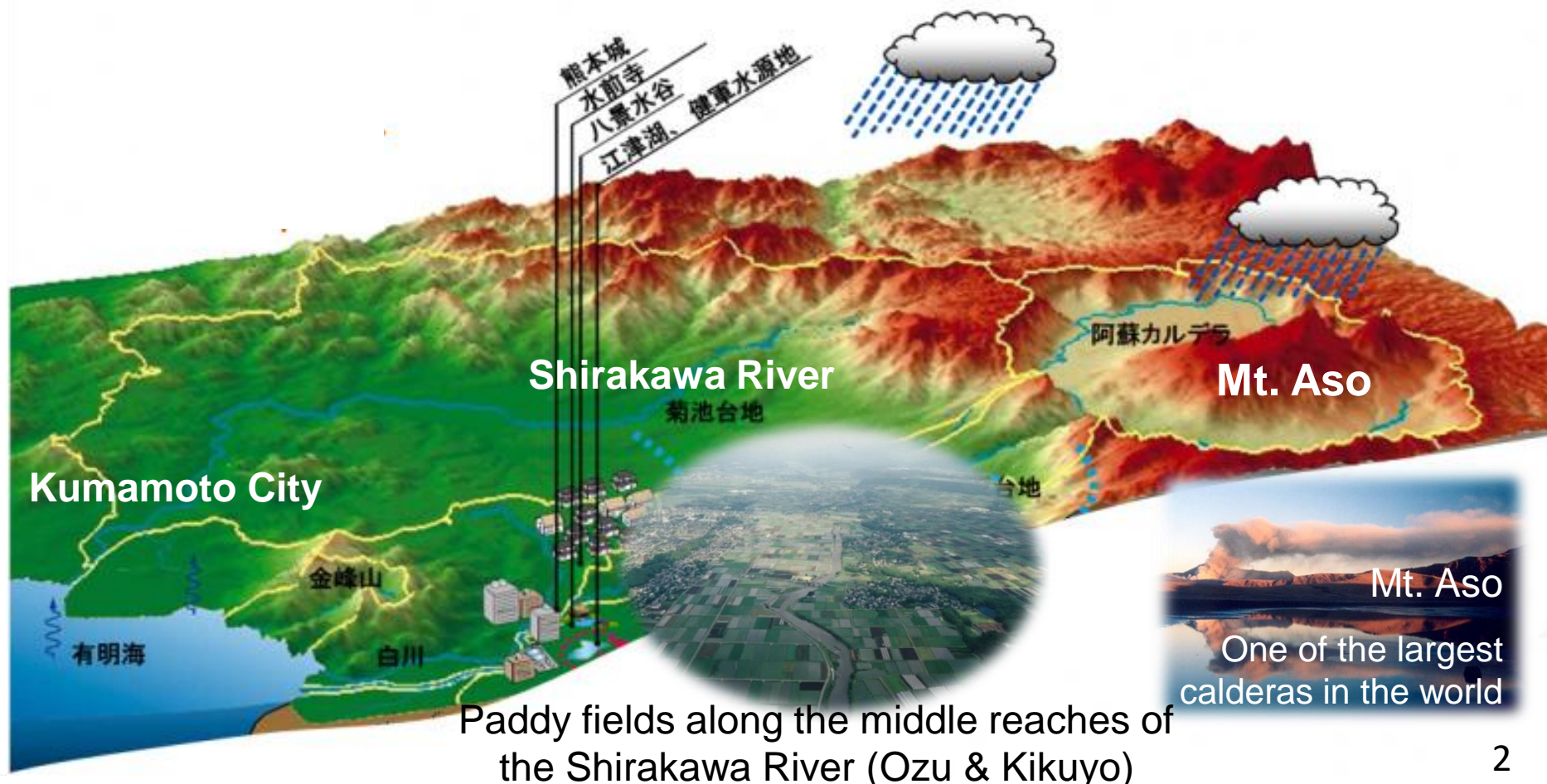
- I. APPEAL AND UNIQUE CHARACTERISTICS OF KUMAMOTO CITY**
- II. ISSUES**
- III. INITIATIVES**
- IV. TOWARDS A RESILIENT AND SUSTAINABLE SOCIETY**



# I. APPEAL AND UNIQUE CHARACTERISTICS OF KUMAMOTO CITY

## 1. Water Cycle in Kumamoto

Geological strata formed by volcanic activity is easy for water to penetrate and creates abundant groundwater



# I. APPEAL AND UNIQUE CHARACTERISTICS OF KUMAMOTO CITY

## 2. Water Fosters Nature and Culture

Groundwater is the basis of our economic activities and life in Kumamoto, and it continues to shape Kumamoto Culture

Suizenji Jojuen Garden  
(Kumamoto City)



Lake Ezu  
(Kumamoto City)

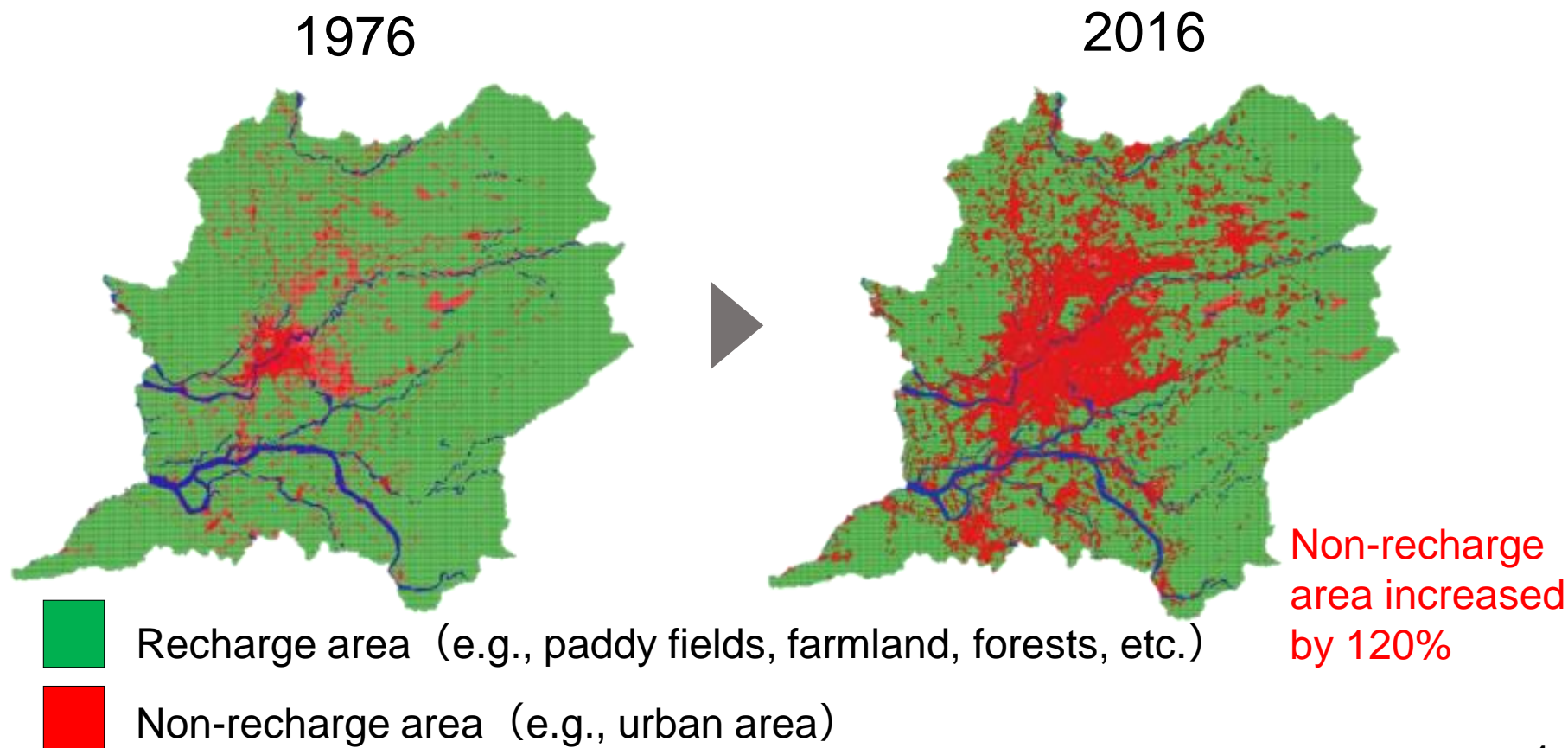




## II. ISSUES

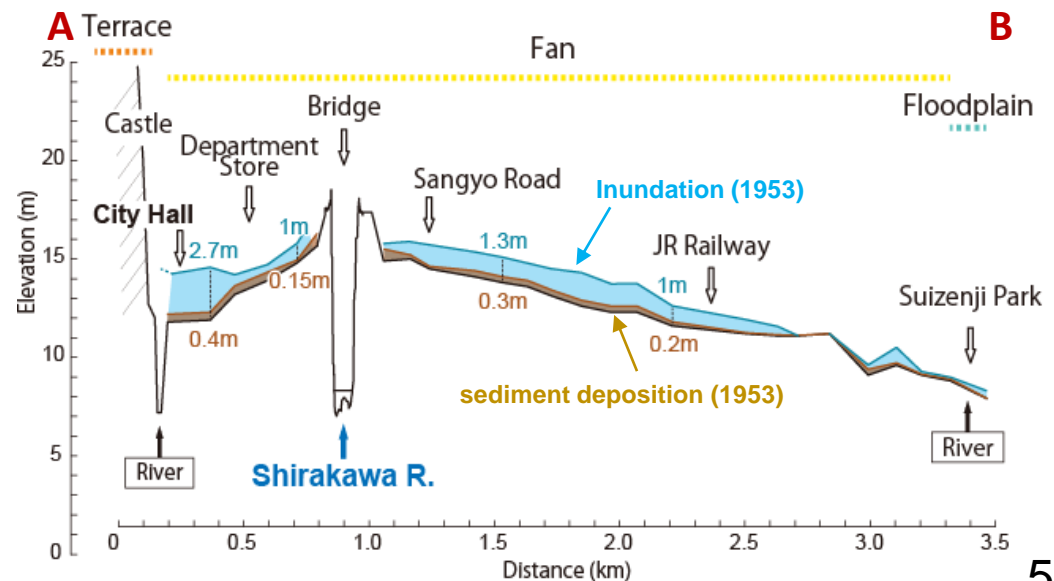
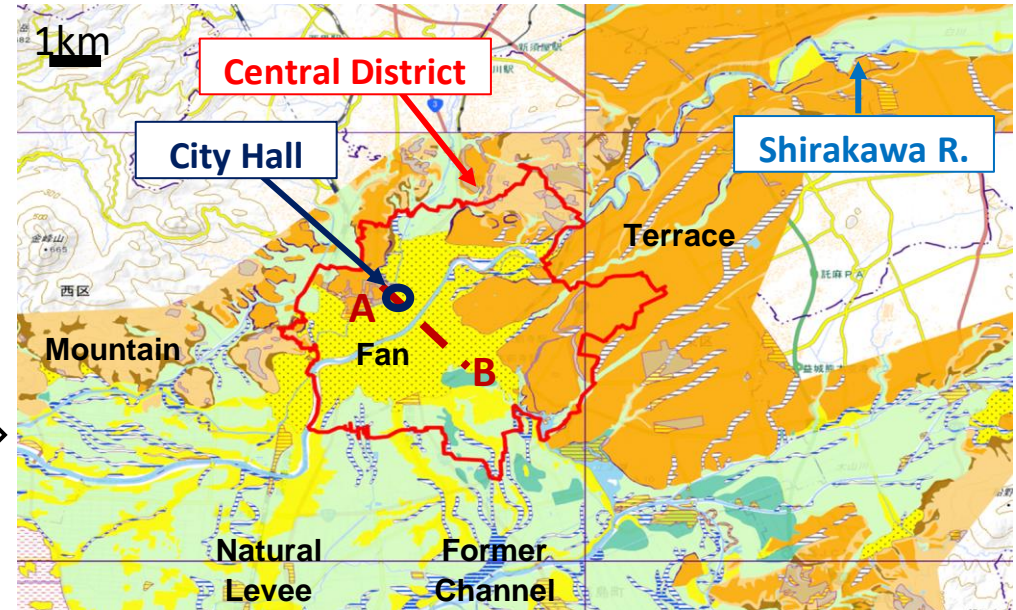
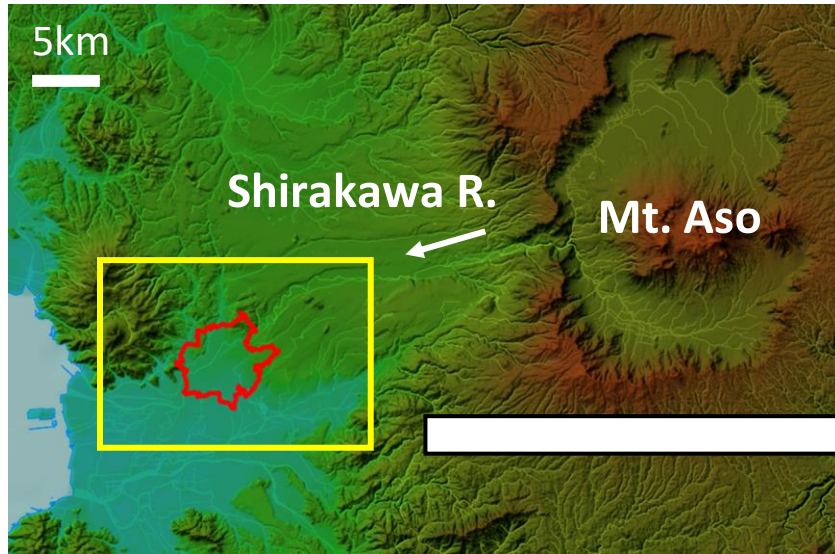
### 1. Groundwater Depletion

The decrease in paddy fields due to urbanization has led to a decrease in groundwater recharge



# II. ISSUES

## 2. Flood-Prone Landforms & Recurring Water-Related Disasters

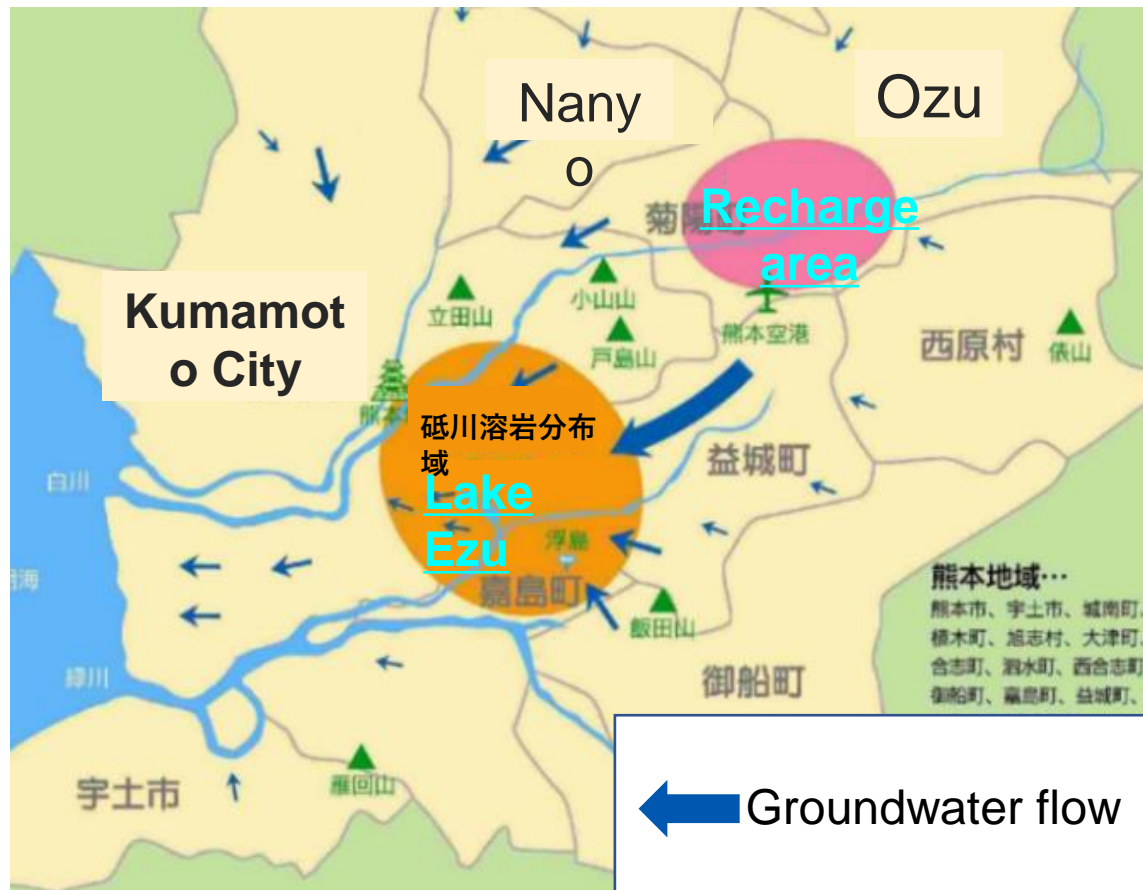




# III. INITIATIVES

## 1. Regional Groundwater Conservation

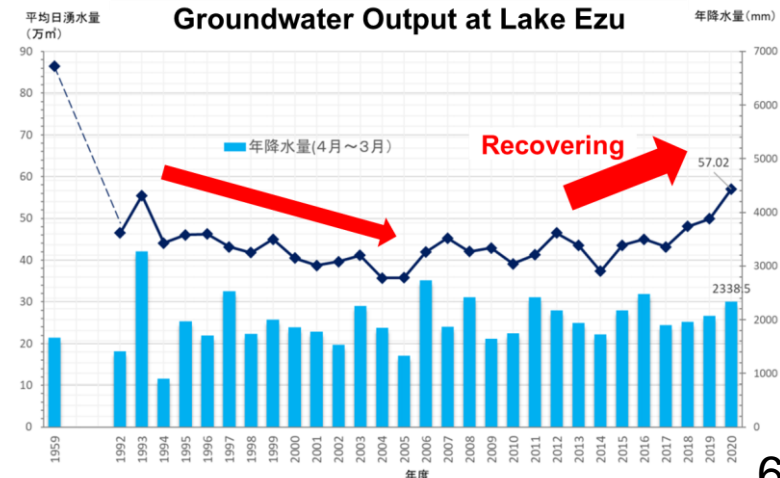
Promotion of cross-sectoral and trans-municipal groundwater conservation activities in the middle reaches of the Shirakawa River



Flooded paddy field



Groundwater Output at Lake Ezu



# III. INITIATIVES

## 2. Water-Related Disaster Risk Reduction

***River Basin Disaster Resilience and Sustainability by All***  
Comprehensive and multi-level water-related disaster prevention

### Prevent Floods & Reduce Hazards

e.g. Channel modification, stormwater storage facilities, forest conservation, paddy field water storage



▲ Modified Section of the Shirakawa River

### Reduce Exposure to Disaster

e.g. Promotion of redevelopment of decrepit buildings in the city center



▲ Promoting City Center Redevelopment

### Increase Disaster Resilience

e.g. Create hazard maps and raise citizen awareness of water-related disasters



# III. INITIATIVES

## 3. Strengthen Flood Evacuation Plan

Never underestimate future disasters and  
conduct training courses to protect lives

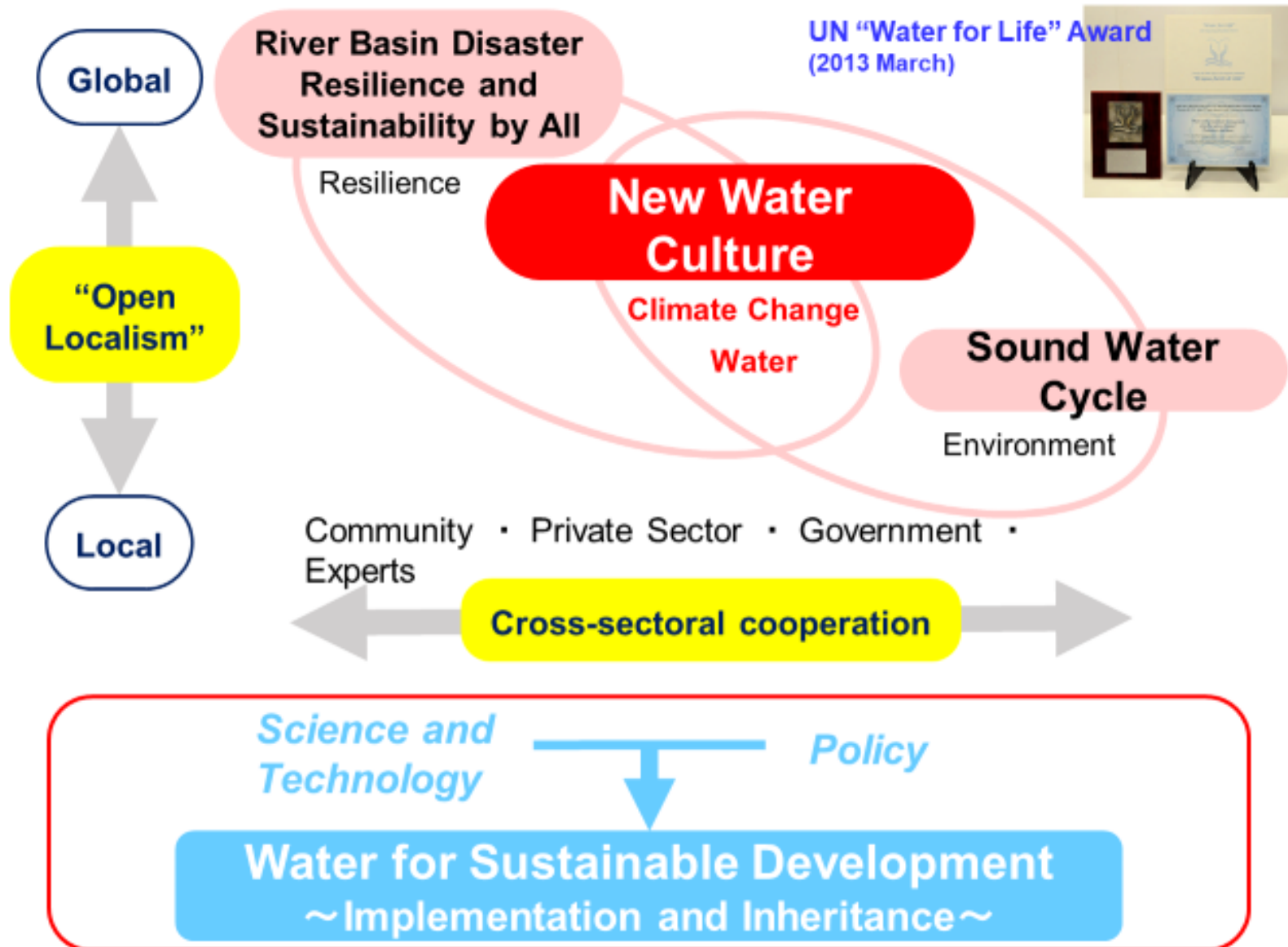
### ■ Training city workers for disaster response during the pandemic

Training on how to respond to various unexpected situations during disaster response while being cautious of the spread of COVID-19.

### ■ Training citizens for flood evacuation using VR (Virtual Reality)



# IV. TOWARDS A RESILIENT AND SUSTAINABLE SOCIETY







**Thank You for Listening**