

Changing global risk landscape

Parallel Session 2: Mainstreaming CES in the Post-2030 Agenda for Enhancing **Integrated Actions on Climate and Sustainability Goals:** Towards Bridging **Local-to-Global** Feedback Loops

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Academia

Science Policy interface

Start-up and innovation

NPO / NGO

Context 1: global and local

2015 to 2030 time horizon

The Paris climate agreement: key points
The historic pact, approved by 195 countries, will take effect from 2020

Temperatures 2100
• Keep warming "well below 2 degrees Celsius". Continue all efforts to limit the rise in temperatures to 1.5 degrees Celsius.

Finance 2020-2025
• Rich countries must provide 100 billion dollars from 2020, as a "floor".
• Amount to be updated by 2025.

Differentiation
• Developed countries must continue to "take the lead" in the reduction of greenhouse gases.
• Developing nations are encouraged to "enhance their efforts" and move over time to cuts.

Emissions objectives 2050
• Aim for greenhouse gases emissions to peak "as soon as possible".
• From 2050: rapid reductions to achieve a balance between emissions from human activity and the amount that can be captured by "sinks".

Burden-sharing
• Developed countries must provide financial resources to help developing countries.
• Other countries are invited to provide support on a voluntary basis.

Review mechanism 2023
• A review every five years. First world review: 2023.
• Each review will inform countries in "updating and enhancing" their pledges.

Climate damage
• Vulnerable countries have won recognition of the need for "averting, minimising and addressing" losses suffered due to climate change.

Understanding disaster risk Strengthening risk governance Investing in risk reduction Build Back Better

1 Reduce mortality 2 Reduce affected people 3 Reduce economic loss 4 Reduce damage to critical infrastructure 5 Enhance countries with DRR strategies 6 Enhance international cooperation 7 Multi-hazard EWS

SFDRR

SDGs

Inter-relationship of Global Framework

	SDG (UN 2015b)	SFDRR (UN 2015a)	Paris Agreement (UN 2015c)
Sustainable development		20	16
Disaster risk	12		1
Climate change	20	15	

	SDG	SFDRR	Paris Agreement
Use of term "LOCAL"	10	48	9
Number of Pages	35	25	32
Context	Authorities, communities, culture, materials and planning (Goal 6, 8, 11 and 13)	Government, community, knowledge, priority, DRR strategy	Communities and knowledge (in terms of Adaptation)

- 2015: A landmark year
- 2020: The pandemic year
- 2023: An evaluation year

- All of society approach (*inclusive*)
- All of State Institutions involvement
- Local* implementation

The term LOCAL is used
10 times in SDGs,
48 times in SFDRR and
9 times in Paris Agreement



POLICY BRIEF

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SDGs, DRR and CCA: Potential for Strengthening Inter-linkages

Key Messages

- The world has arrived at a crucial turning point with the inception of three major global frameworks dedicated to sustainable development (SD), disaster risk reduction (DRR) and climate change adaptation (CCA). A coordinated response is now needed from all relevant stakeholders to maximise implementation on the ground.
- At the global level, while SD, DRR and CCA interlinkages are acknowledged, DRR is weakly linked to the Paris Agreement. Linking CCA with DRR by strengthening national and local level adaptation planning and implementation would assist here, and less and damage can provide ample opportunities for this to take place.
- At the national level, the economic aspect is key to sustainable development in many countries—DRR and CCA can assist in economic development objectives of most developing and least developed countries without compromising environmental integrity or increasing disaster risk.
- At the local level, strong convergence of SD, DRR and CCA calls for greater collaboration among relevant stakeholders with adaptive management—not just in drafting broad plans and policies but also actual implementation, monitoring and evaluation, via collaboration among local governments, local experts, non-government organisations and business sectors.
- This policy brief identifies approaches that could help achieve better synergies in implementation of these frameworks on the ground via programmatic integration, collaboration, capacity and innovation. Focal Points at national and sub-national levels could mainstream and monitor progress of indicators and targets in the three frameworks, as well as ensure convergence of these frameworks takes place on the ground.

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Context 2: Global risk landscape (WEF)

Figure I: The Evolving Risks Landscape, 2007-2020



2020

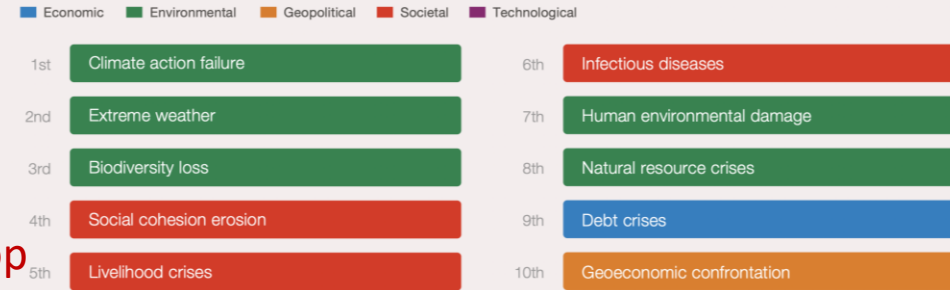
Environmental risk (disaster, climate change, Biodiversity loss) remains top

Complex risk landscape with New risks

- Digital divide
- Digital power concentration
- Energy crisis
- Food pricing

FIGURE 1.3

“Identify the most severe risks on a global scale over the next 10 years”



Source: World Economic Forum Global Risks Perception Survey 2021-2022

2022

FIGURE D

Currently manifesting risks

Please rank the top 5 currently manifesting risks in order of how severe you believe their impact will be on a global level in 2023



Source: World Economic Forum Global Risks Perception Survey 2022-2023.

2023

Need for inclusive risk reduction

Global risks ranked by severity over the short and long term

Please estimate the likely impact (severity) of the following risks over a 2-year and 10-year period



Top Global Risks by Impact



2021

Top Global Risks by Likelihood



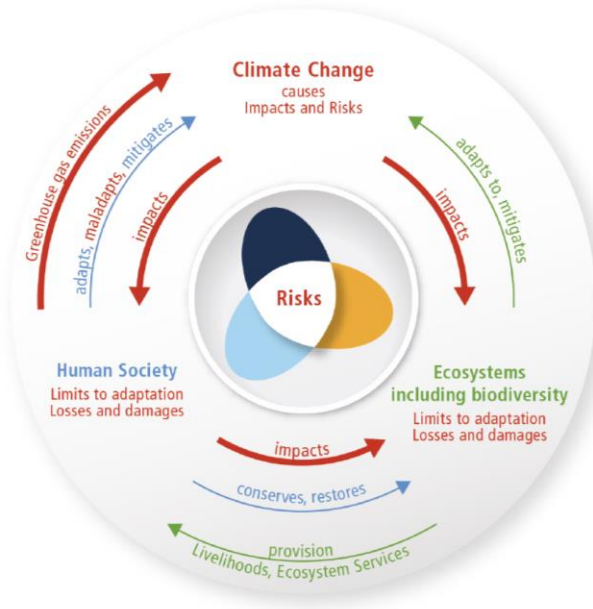
Context 3: CCA and DRR

Climate Change Adaptation and Disaster Risk Reduction

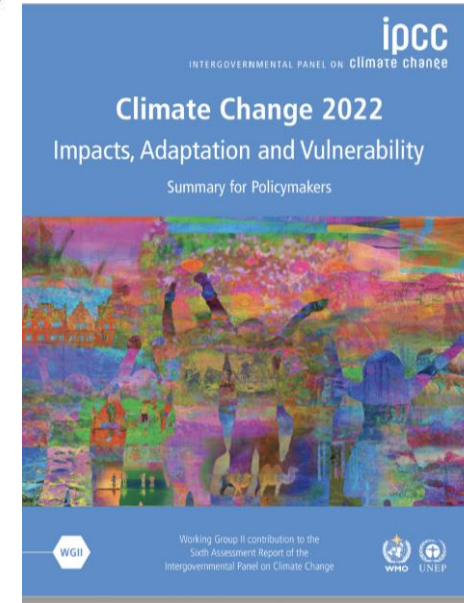
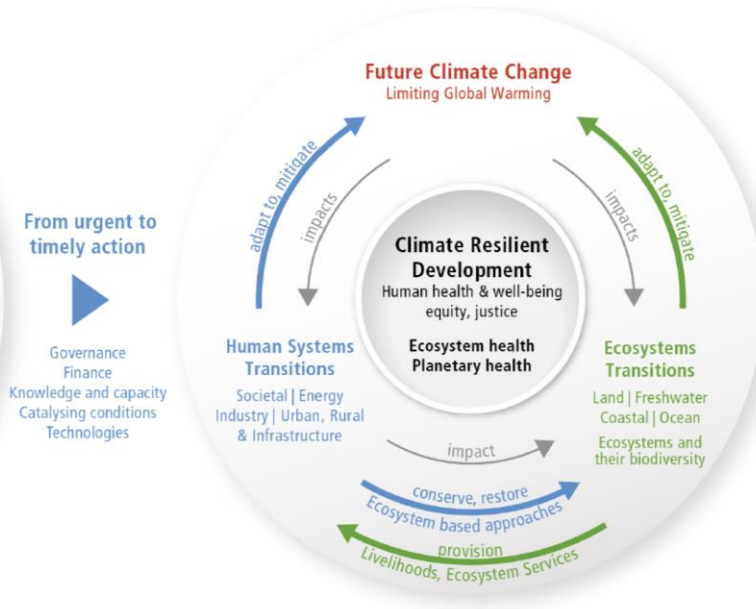


From climate risk to climate resilient development: climate, ecosystems (including biodiversity) and human society as coupled systems

(a) Main interactions and trends



(b) Options to reduce climate



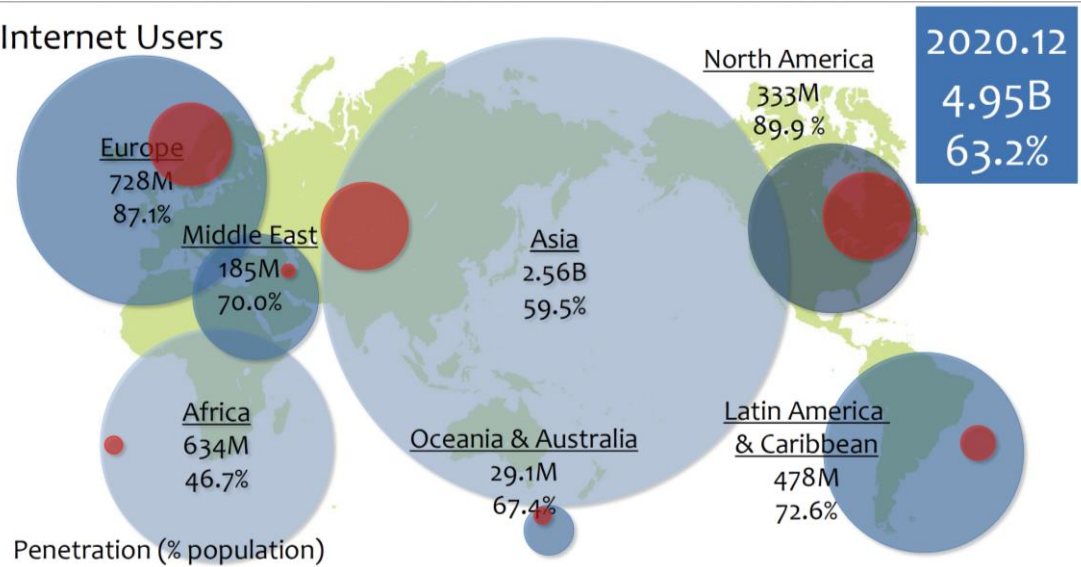
- Complex, cascading and compounded
- Climatic and non climatic stress
- Addressing systemic risk
- Adaptive governance
- Emerging technologies

The risk propeller shows that risk emerges from the overlap of:



Context 4: Digital inclusivity

Internet Users



Internet World Stat: <http://www.internetworldstats.com>
Internet Users as of Dec 31, 2020

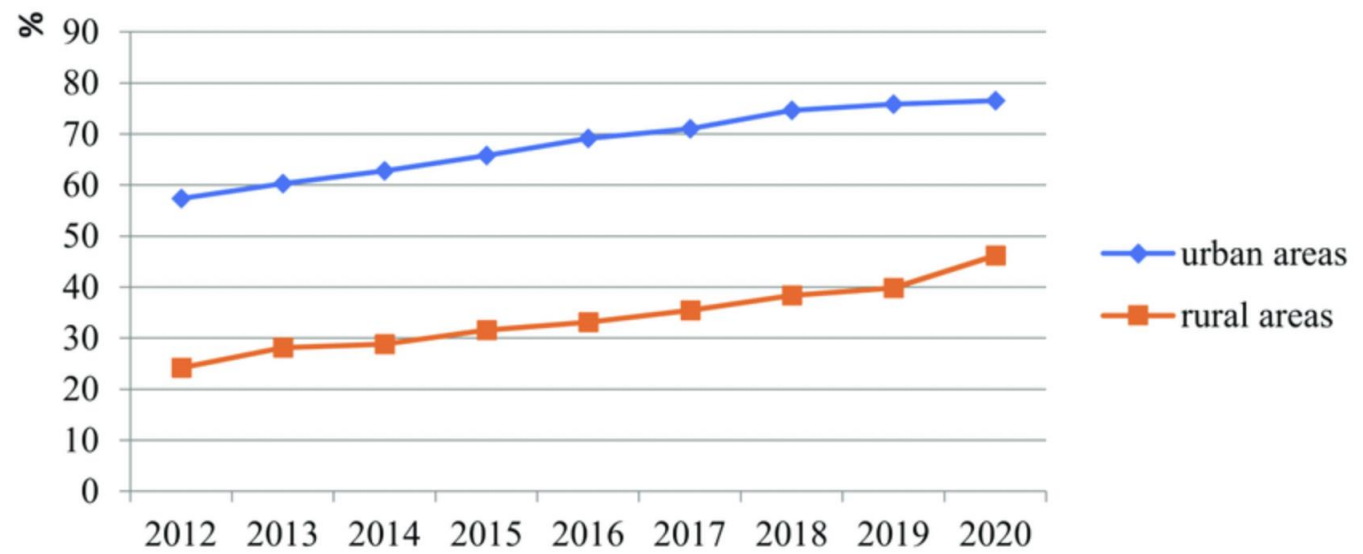
July 2022: 5.03 Billion

Digital Den-en-toshi

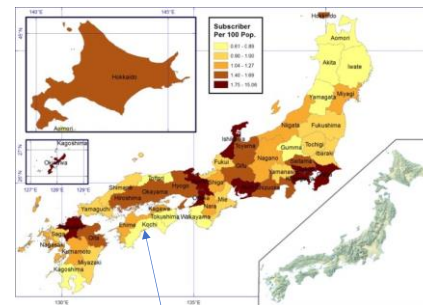
The concept of the Kishida Cabinet, which is launched in 2022. The objective is "*to promote regional revitalization through digitalization, and furthermore, to realize bottom-up growth from the regions to the entire country*".

The following **digital human resource development** and securing are listed as important measures.

1. Develop and secure digital human resources in the public sector
2. Implementation of online courses etc.

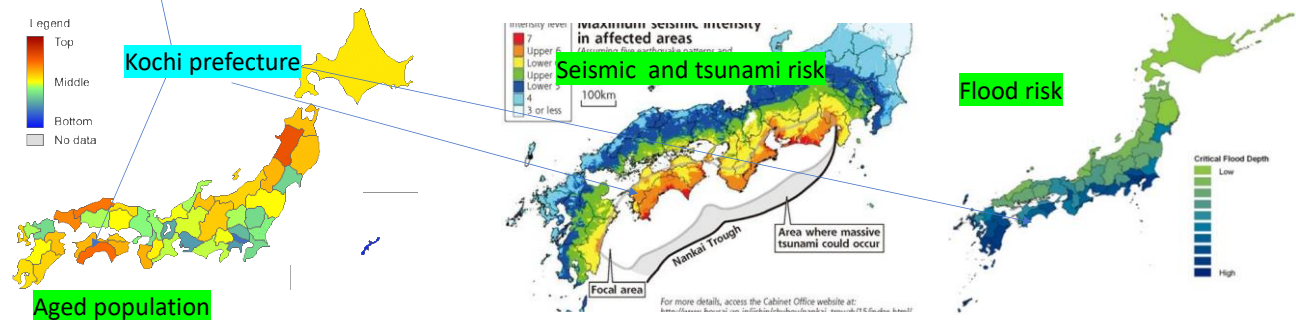


Digital media penetration



Nishida et al. (2014)

- Countries and socio-economic clusters
 - Infrastructure based divide
 - Policy based divide
 - Urban rural divide
 - Age based divide
 - Gender based divide
 - Physical and mental challenge based divide

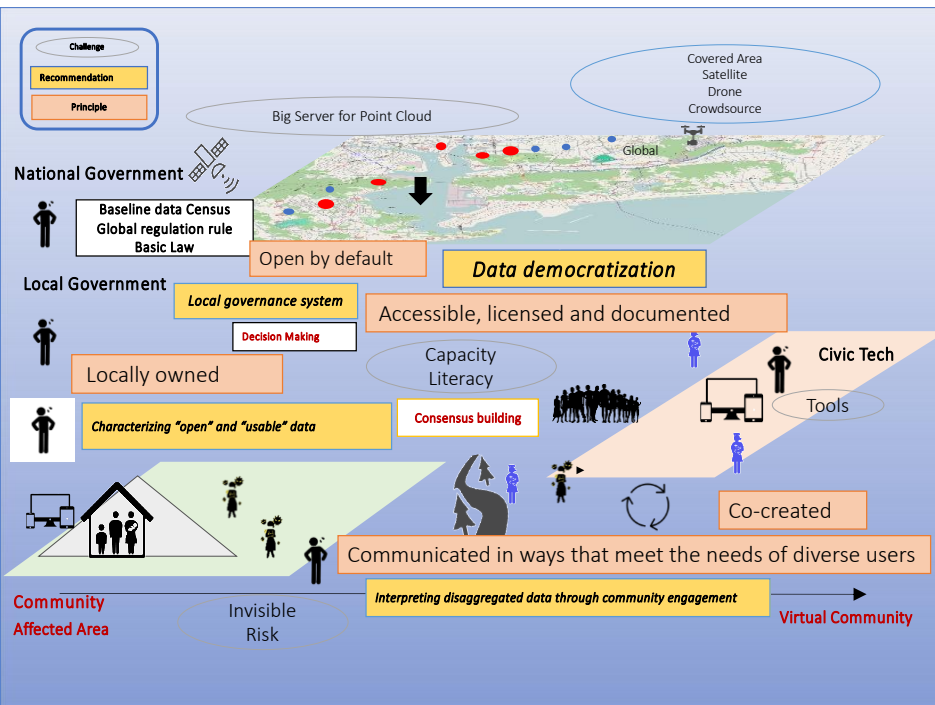


Context 5: Open data, adaptive governance

2018 West Japan Flood



Bousai Data Eye by Data Cradle and Kurashiki City
Participatory citizen interface for disaster information sharing

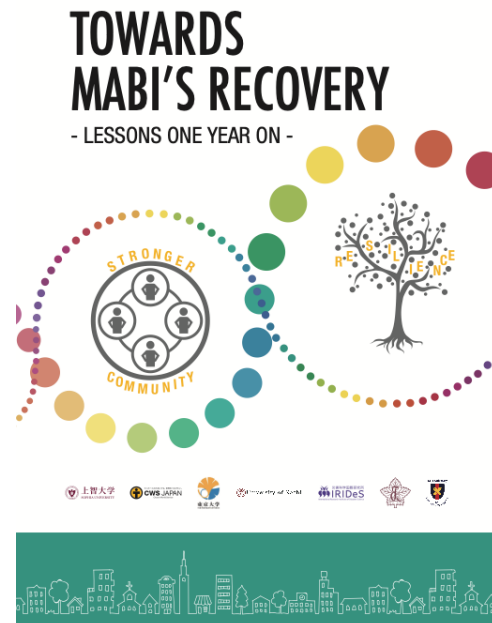


2020 Kumamoto Flood

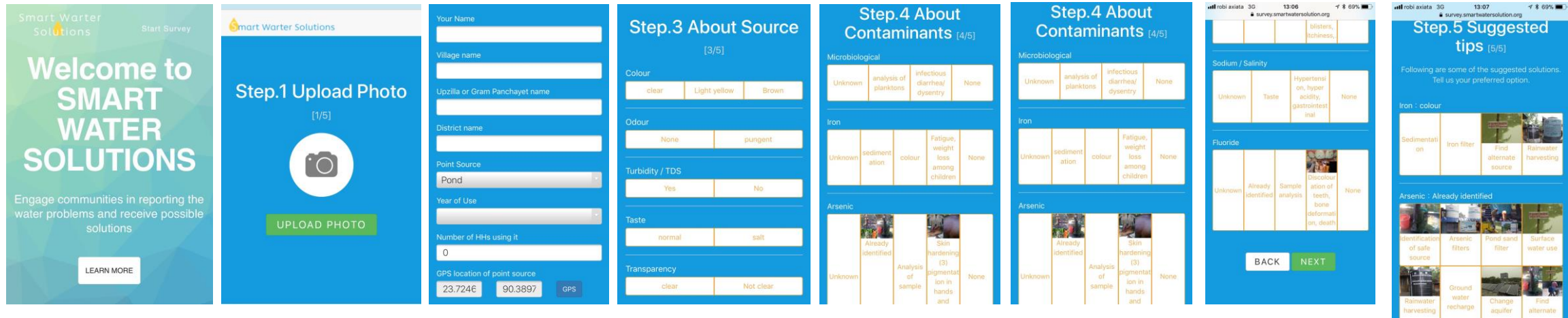


Adaptive Governance

- **Control the disease spread** in the evacuation center
 - Critical health monitoring
 - Separation of spaces / **evacuation center management**
 - Ensure air circulation etc.
- **Volunteer management**: specific incentive schemes with local government and business sectors
- **Data management**: link to contract tracing
 - Cluster approach and early detection



Context 6: Citizen science

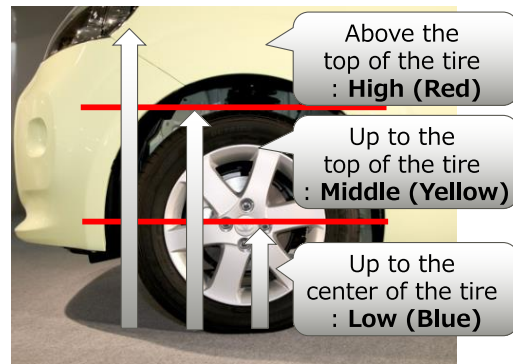


Technological intervention for Inundation flooding:

Water Level Measurement

Challenges:

- Short duration heavy rainfall
- Non uniform inundation flooding

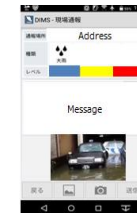


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Simple smartphone technology

3 types of smartphone apps for measuring water levels.

1. Select Type for DDMA



2. Input Type for Climate Schools



3. AR Type for Climate Schools



Processing



Water level Measurement



Map image

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Final comments

- Mainstreaming CES needs governance, technology and resource support
- Need to keep the changing risk landscape in mind, especially focusing on new risks
- Local implementation and local customization is an absolutely need
- Digital divide between urban and rural areas poses a significant challenge
- Emerging technologies, citizen science, open data and open governance becomes critical in the new era of climate and sustainable development