

International Symposium on Integrated Actions for Global Water and Environmental Sustainability

In line with the Commemoration of the 70th Anniversary of UNESCO



21-22 October 2015, Medan, Indonesia

International Flood Initiative (IFI) and International Drought Initiative (IDI)

Implementation Now! How to Address?

Learn from and support to national and local platforms to practice evidence-based flood and drought risk reduction.

- Considering how to share best practice eg. WWF7 Implementation Road Map.
- Monitoring
 - Activities, progress, achievements
- Data Collection & Sharing, Statistics
- Risk Monitoring
- Early Warning and Risk Assessment
- Financing mechanism
- Capacity Building

Mobilize existing networks of scientific and research institutions, at national, regional and international levels.

- Synthesis
- Advice to Stakeholders
- Communication and Engagement

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Second UN Special Thematic Session on Water and Disasters



9:30-17:50

Wednesday, November 18, 2015

The UN Headquarters, New York

Organizers

UN Secretary-General
co-organized by
UN Secretary-Generals'
Special Envoy on Disaster
Risk Reduction and Water
and High-level Experts and
Leaders Panel on Water
and Disasters (HELP)



Science and Technology to Advance DRR on Water

Key Directions and Actions

Key Direction 1:

Improve data collection, sharing, integration and dissemination

Suggested Actions

- Support countries to collect damage data and maintain disaster statistics.
- Develop methodologies for measuring flood and drought risk and resilience based on improved understanding of disaster mechanisms and socio-economic characteristics.
- Enhance real-time data availability for early warning.
- Promote coordinated and sustained satellite observations: rainfall(PR), flooding area (SAR), drought index (MR)
- Enhance data integration and analysis capability.

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Key Directions and Actions

Key Direction 2:

Advance inter-disciplinary and trans-disciplinary research on flood and drought risk reduction

Suggested Actions

- Promote dialogue among stakeholders, share needs and co-design collaborative research plans.
- Enhance collaboration between natural science and socio-economic science communities by taking advantage of data integration and analysis infrastructure for assessing risk and resilience.
- Co-produce evidence-based actionable information and knowledge for reducing flood and drought risk and building resilience.

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Key Directions and Actions

Key Direction 3:

Promote regional cooperation by mobilizing existing international initiatives for supporting local/national efforts.

Suggested Actions

- Promote dialogue among representatives of administrative, civil and scientific communities, UN agencies, regional development banks and private sectors.
- Develop regional cooperative frameworks on flood and drought and make implementation plans for demonstration and/or prototyping of regional flood and drought monitoring and early warning support system.
- Share good practices of evidence-based flood and drought risk reduction.

Key Directions and Actions

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Asia Water Cycle Symposium (AWCS2016)

1-2 March 2016, Tokyo, Japan



161 participants from 20 countries
and 4 UN organizations

Integrated Water Resources Management (IWRM)

Integrated Flood Management (IFM)

Minimizing
social, environmental and economic risks

Maximizing
net benefits from the use of flood plains

Sendai framework
SDGs
UNCCC COP21

IFI implementation steps

climate change, changes in anthropogenic activities

inter-disciplinary, trans-sectoral and basin-wide approaches

Understanding of current status

- magnitude of flood hazards
- impact of development
(changes in exposure, vulnerability)
- shortage of resources
- shortage of political will

Planning

- stakeholder participation
- cultural diversity
- impact & cost/benefit assessment
- decision making

Implementation

- early warning systems
- land use management
- effective infrastructure development
- increasing people's awareness
- institutional frameworks
- building back better

Follow-up

- risk re-analysis
- clarifying problems
- identifying areas to be strengthened

IFI supporting tools

database

(statistics of flood damages/benefits and flood management knowledge)

science & technology

(monitoring technology, simulation tools, risk assessment methodology, clear indices)

local, national, regional initiatives

(IFI-AP, IFI-LAC etc.)

capacity building

(training courses)

financial mechanisms

(economic analysis tools and methods)

Focus Areas

Monitoring

Hazard Assessment

Exposure Assessment

Vulnerability assessment and capacity building

Finance and investment

Expected Stakeholders

IFI promoters
(International organizations etc.)

Academic Society
(universities, research institutes etc.)

Government
(water, disaster etc.)

Funding Agencies
(ODAs, Banks, UN etc.)

DB operational supporters

Project investors & owners

- Analyzing and formulating policies
- Visualizing values of preparedness and investment efficiency

- Improving disaster literacy
- Promoting co-design and co-implementation among stakeholders

Support in Sound Policy-making

Support in Community of Practice

Risk Assessment

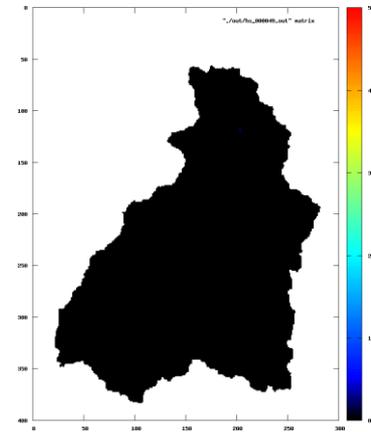
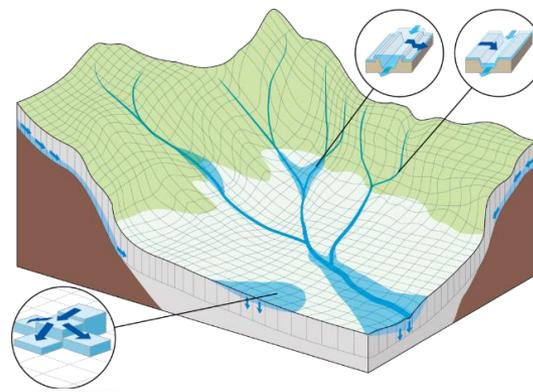
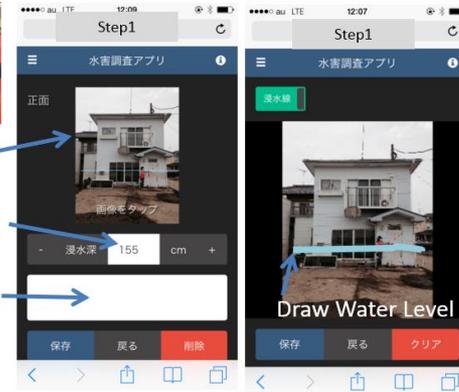
Risk Change Identification

Data & Statistics

- Developing integrated disaster risk assessment
- Identifying locality and commonality

- Monitoring and predicting changes in disaster risk
- Identifying locality and commonality

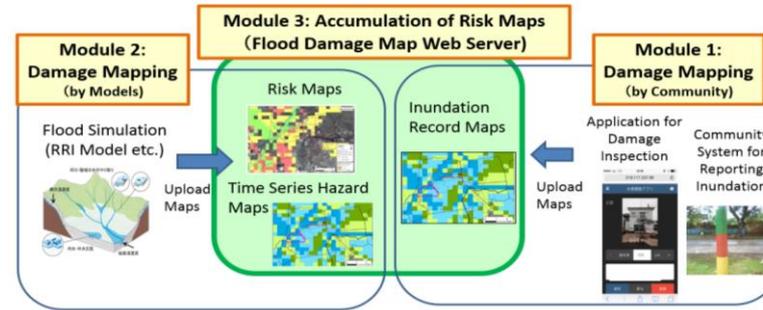
- Promoting data collection, storage, sharing, and statistics
- Integrating local data, satellite observations and model outputs



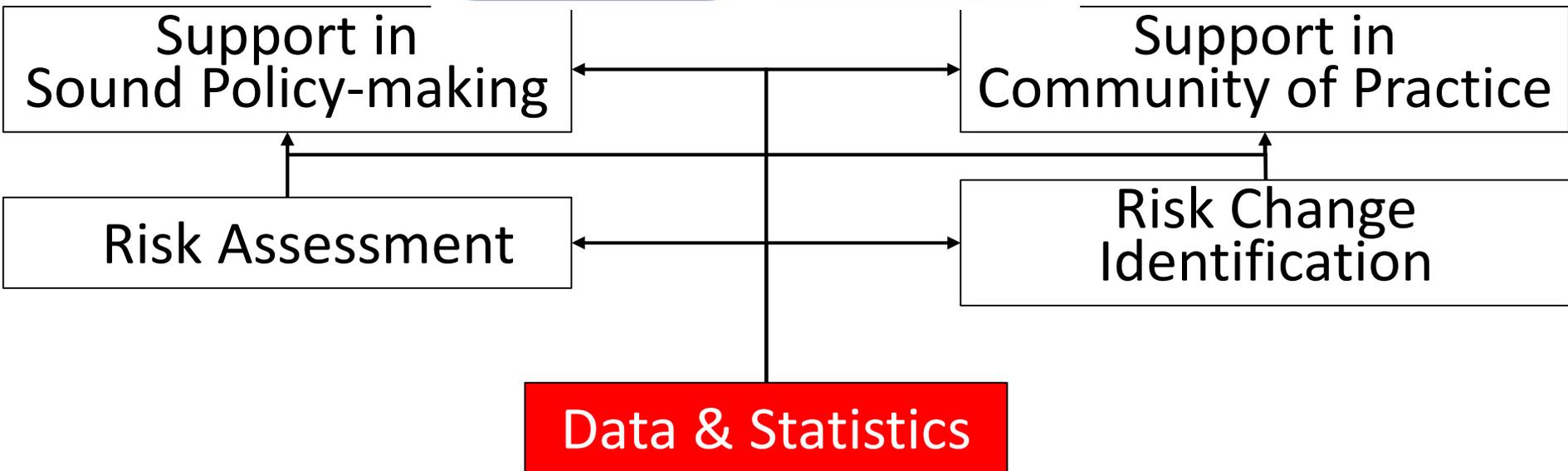
Upload Building Photo
Input Water Level(cm)
Input some comments on damage

Unload Button

systematic
+participatory
+accountability

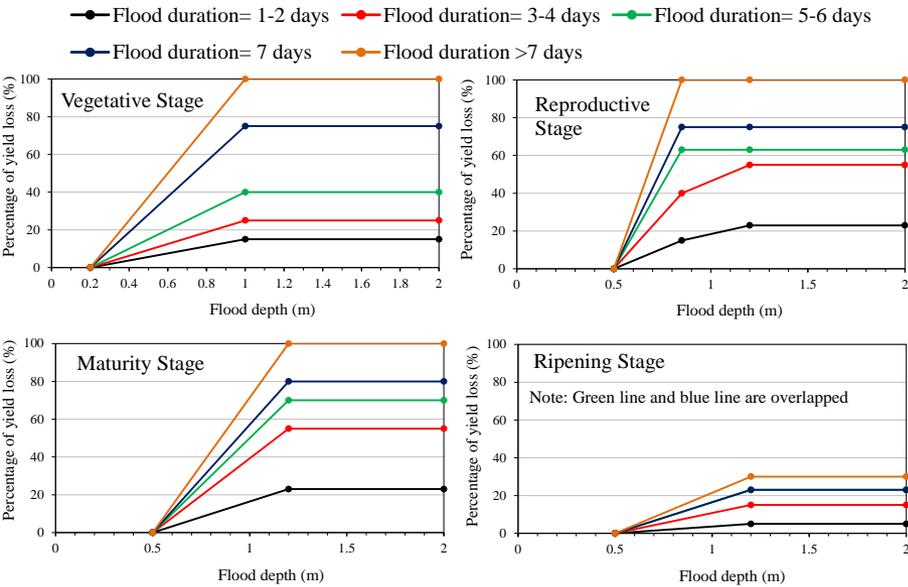


linkage
with line-agencies

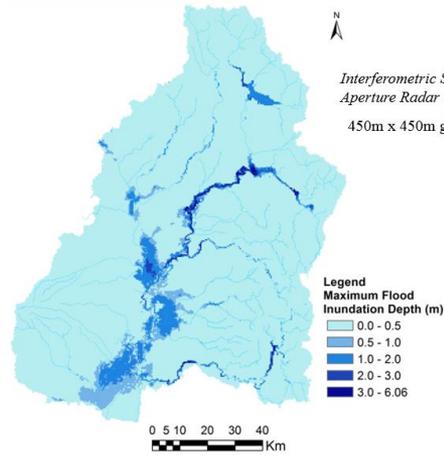


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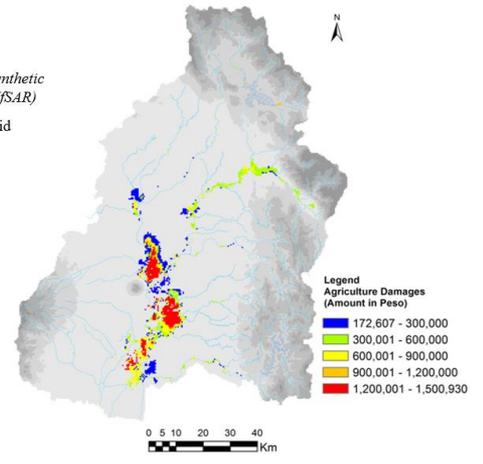
Crop Damage Function



September 2011 Flood

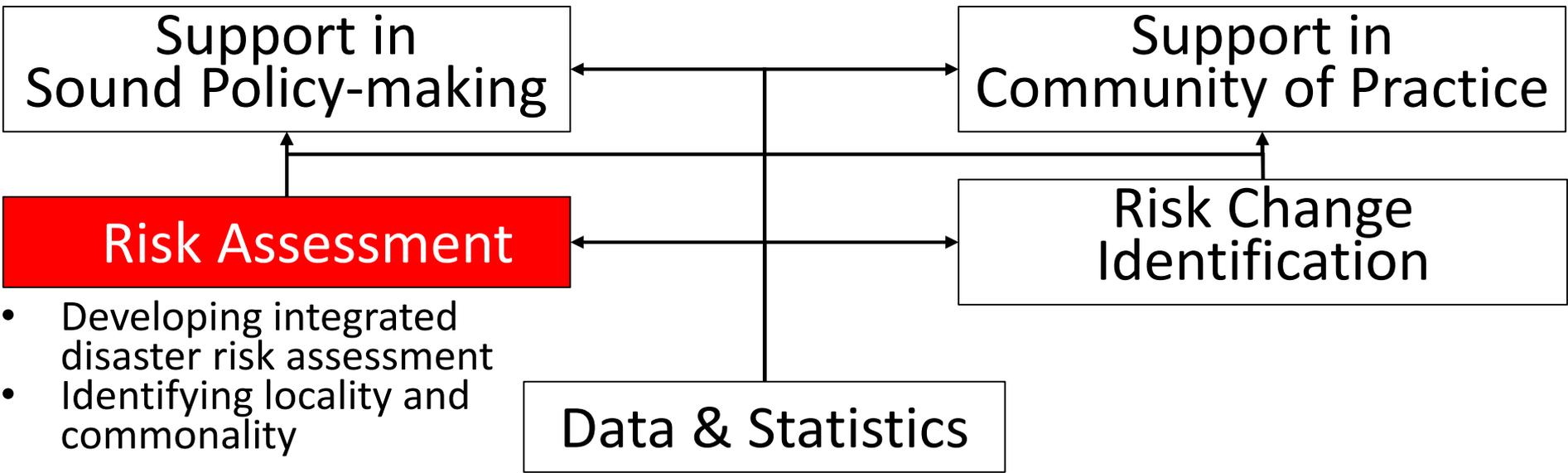


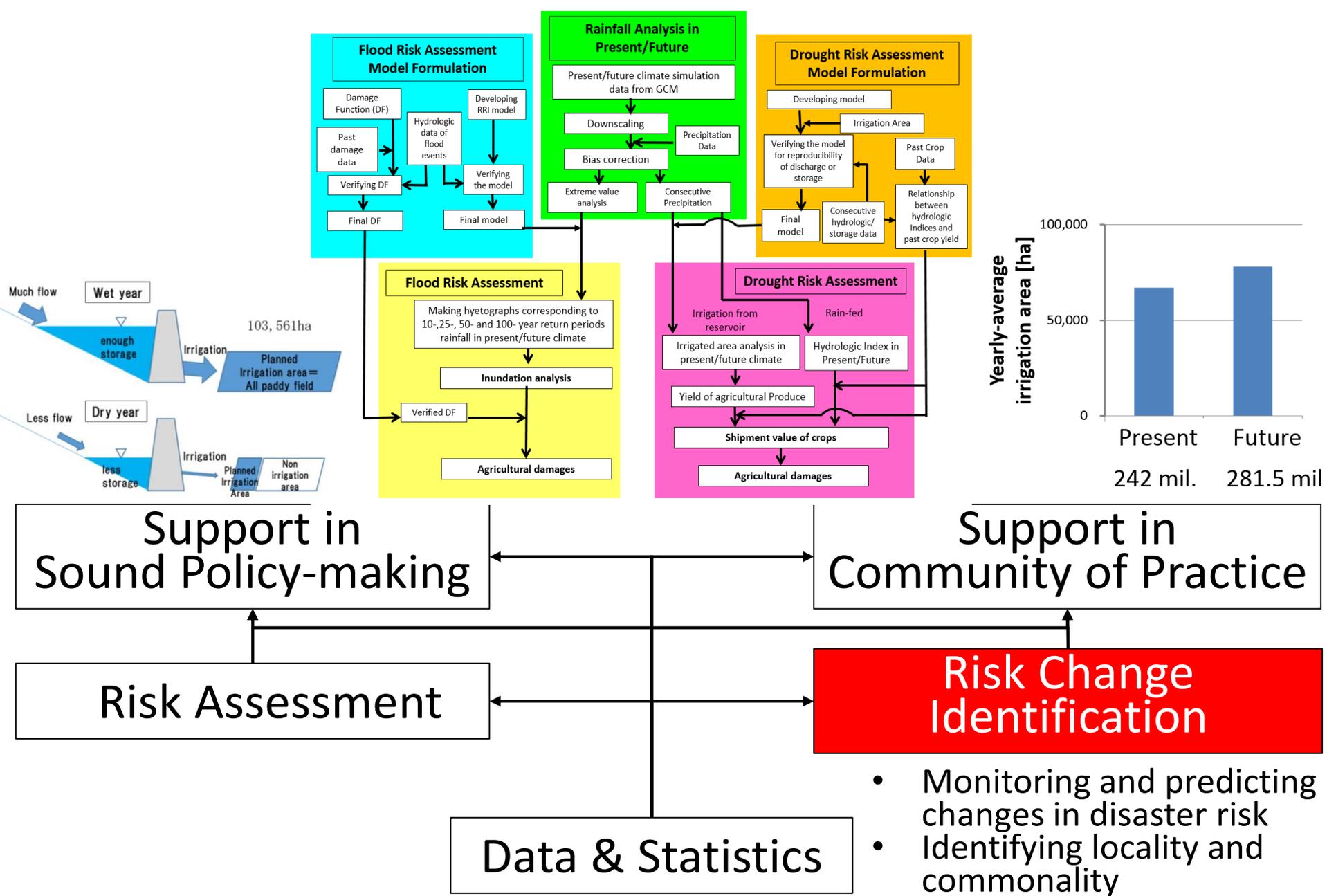
Depths*Damage Function

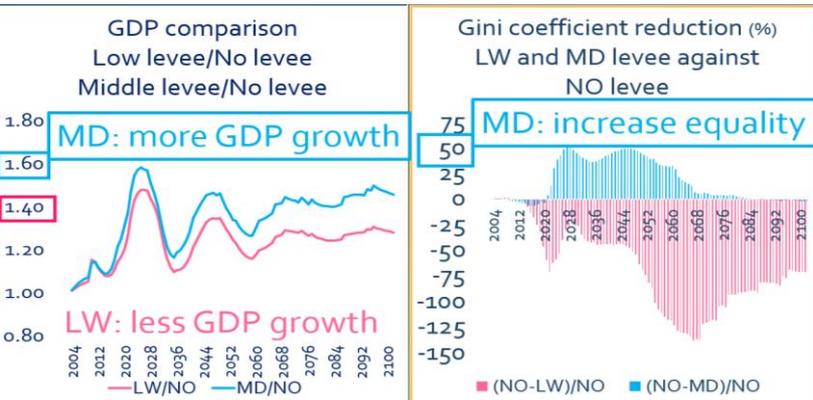


Damages: 1,475.78 million Peso

Rice Yield = 4360 kg/ha
Farm gate price of rice = 17 Peso/kg







- Analyzing and formulating policies
- Visualizing values of preparedness and investment efficiency

Flood simulation

1. Develop of flood models to reproduce actual flood damage.

2. Demonstrate counter measure effects for reducing damage.

3. Translate flood model outputs into economic model inputs

Economic simulation

4. Develop economic models to reproduce actual economic parameters.

5. Simulate effect of the counter measures on economy and society with several scenarios.

(Disaster Risk Reduction investment Accounts for Development (DR^2AD), Yokomatsu, 2013)

Support in Sound Policy-making

Support in Community of Practice

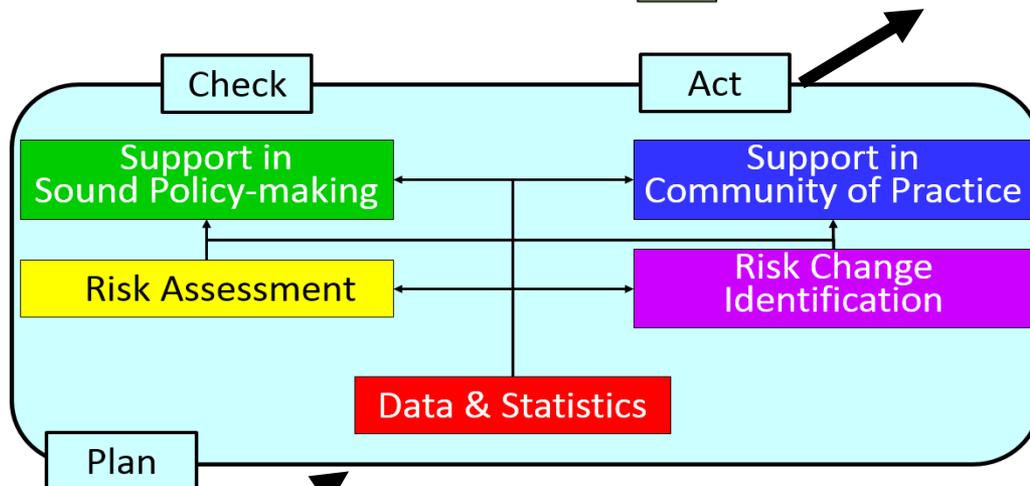
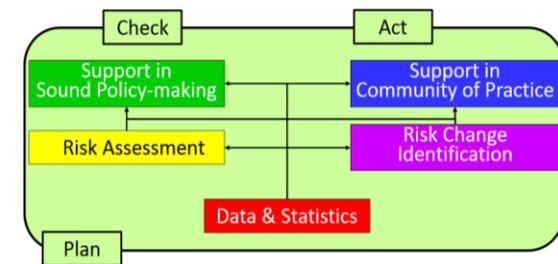
Risk Assessment

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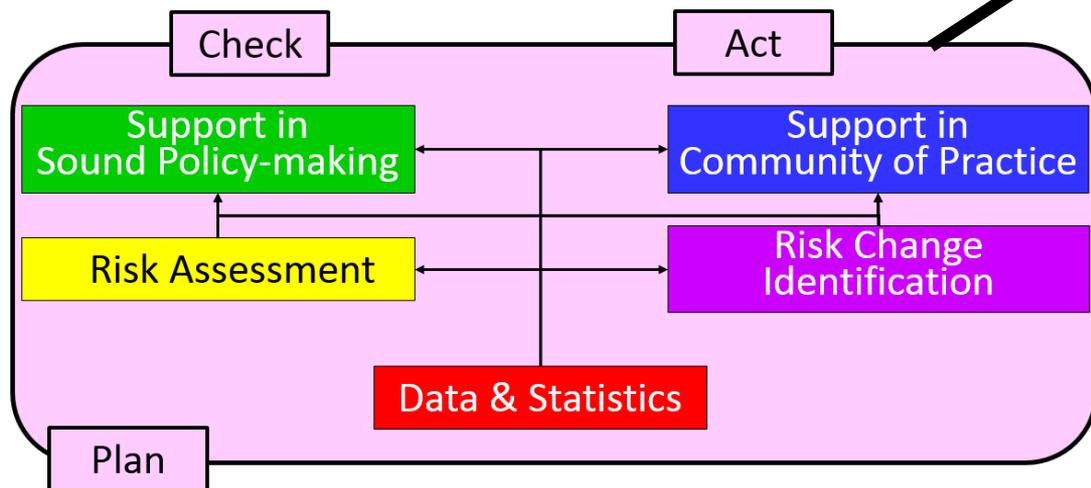
Spiral-up Development

Demonstration → Prototyping → Operation



Regional coordination framework

- Commonality & Priority
- Sharing knowledge, best practices
- Strengthening capability of observations, assessments and management
- Establishing a forum for promoting dialogue at all level



National coordination framework

- Locality
- Institutional arrangements
- Observations & data integration
- Natural & Socio-economic collaboration
- Communities of Practice