

UNESCO Special Session 14th Annual Meeting AOGS,
8/8/2017, Singapore

New Strategy and Implementation Framework of International Flood Initiative



International Flood Initiative (IFI)

International Flood Initiative (IFI) is a joint initiative in collaboration with **UNESCO (IHP), WMO, UNISDR, UNU, IAHS** and **IAHR**. ICHARM is the secretariat of IFI.

Mamoru Miyamoto
Executive Manager of IFI secretariat
ICARM

In Close Collaboration with:



The journey of the IFI initiative

May: XIVth **WMO Congress** welcomed the initiative and suggested to establish a joint UNESCO/WMO Committee on Floods. The proposed ICHARM will constitute a global facility for this programme.

18-22 Jan 2005
Inauguration of IFI at
WCDR in Kobe
WMO/UNESCO/UNISDR
/UNU

2003

2004

2002

17-22 Jun : **15th UNESO-IHP IGC Resolution** XV-14 on Joint UNESCO/WMO Programme on Floods

- > 12-14 Jul : **Preparatory meeting in Tsukuba**
A joint UNESCO/WMO task team (6 members) produced a **concept paper** "The Joint UNESCO/WMO Flood Initiative (JUWFI)"
- > 20-24 Sep : **16th IHP-IGC** approved the concept paper and renamed as "The International Flood Initiative (IFI)".
- > 20-29 Oct : **12th WMO CHy** discussed the Concept Paper

In Close Collaboration with:



International Strategy
ISDR
for Disaster Reduction



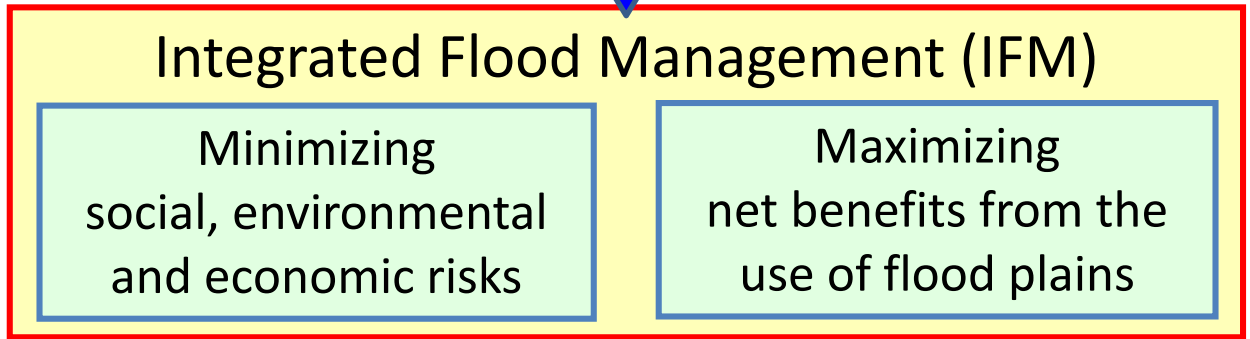
UNITED NATIONS
UNIVERSITY



IFI Strategic Structure

Integrated Water Resources Management (IWRM)

Sendai Framework
SDGs
Paris Agreement



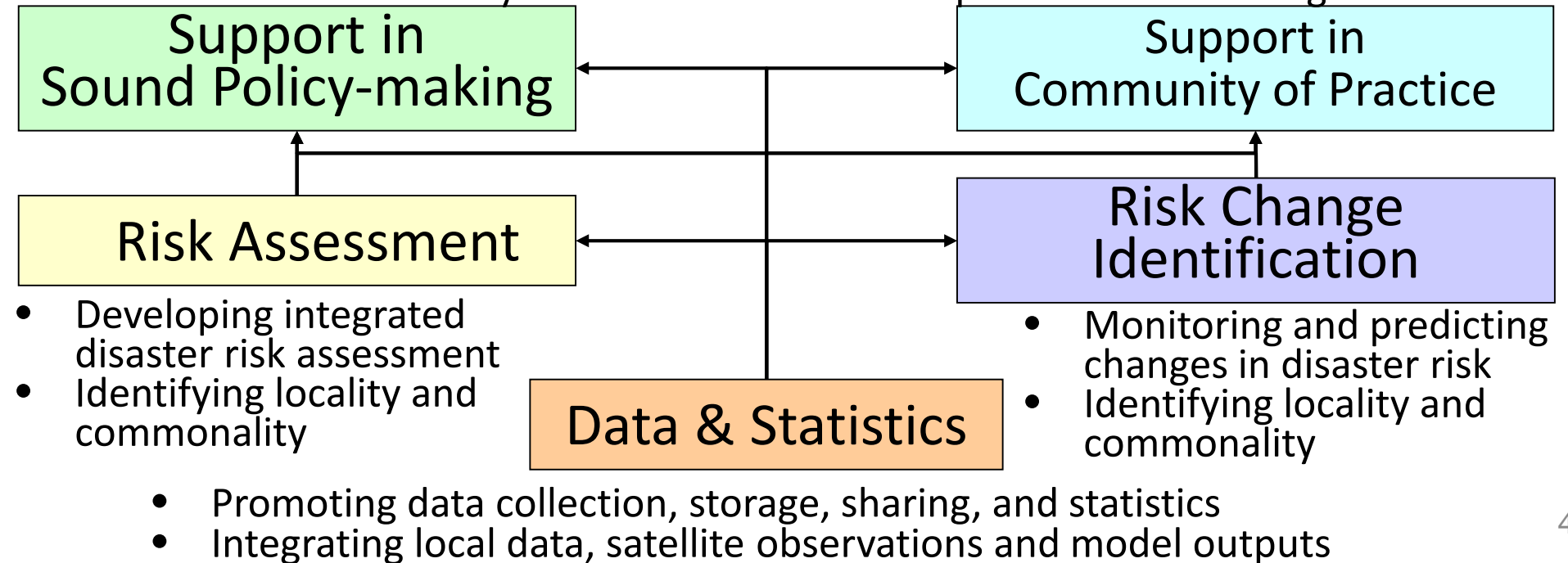
Expected Stakeholders



IFI Key Actions

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

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



In Close Collaboration with:



Spiral-up Framework 2016-2022

Phase-3 Operation: Strengthen & Expanding



Phase-2 Prototyping: Install in Specific Areas



Phase-1 Demonstration: Existing Infrastructure



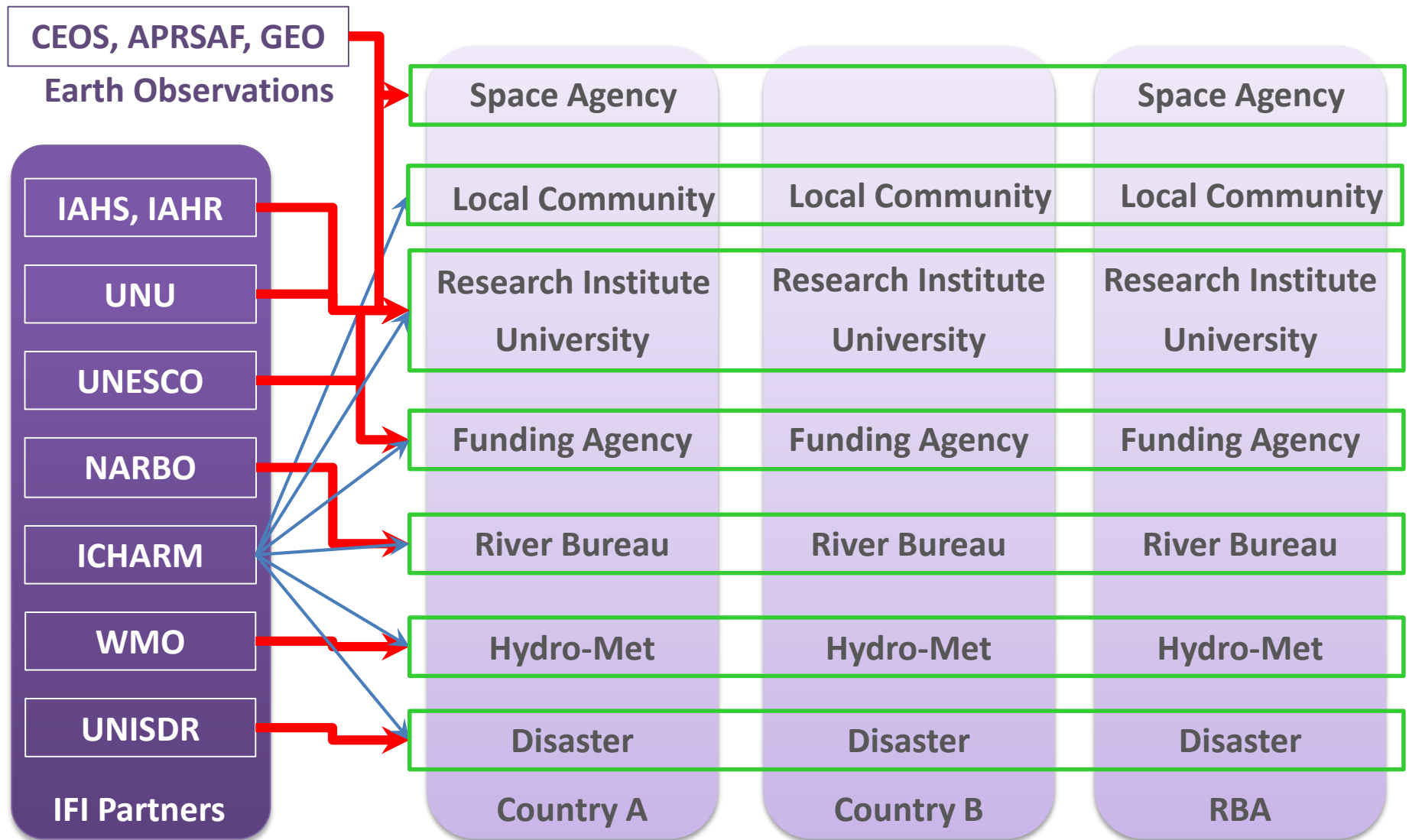
National Coordination Framework



- Locality
- Institutional arrangements
- Observation & data integration
- Natural & Socio-economic
- Communities of practice

Regional Coordination Framework

- Commonality & Priority
- Sharing knowledge, best practice
- Strengthening capability
- Establishing a forum for promoting dialogue

Structure Image of IFI Support



Main support: 
collaboration 

Regional Cooperation

HELP-IFI Jakarta Statement (draft Oct.31, 2016)

-Towards an interdisciplinary and transdisciplinary partnership to consolidate flood risk reduction and sustainable development -

1. Present Status

- increasing losses
- human factors + climate change
- globalized and interconnected 21C
- gap between science and society
- lack of effective inter-agency coordination

2. Key Directions

- Sendai+SDGs+Paris
- budgetary imitations and capabilities
- spiral-up approach
- interdisciplinary and transdisciplinary
- quantifying and minimizing the uncertainty
 - data
 - assessment
 - change identification
 - awareness
 - preventive investment
 - response-recovery

3. Actions

Each country:

- platform on water and disaster (<national platform)

IFI Partners:

- assist the platform

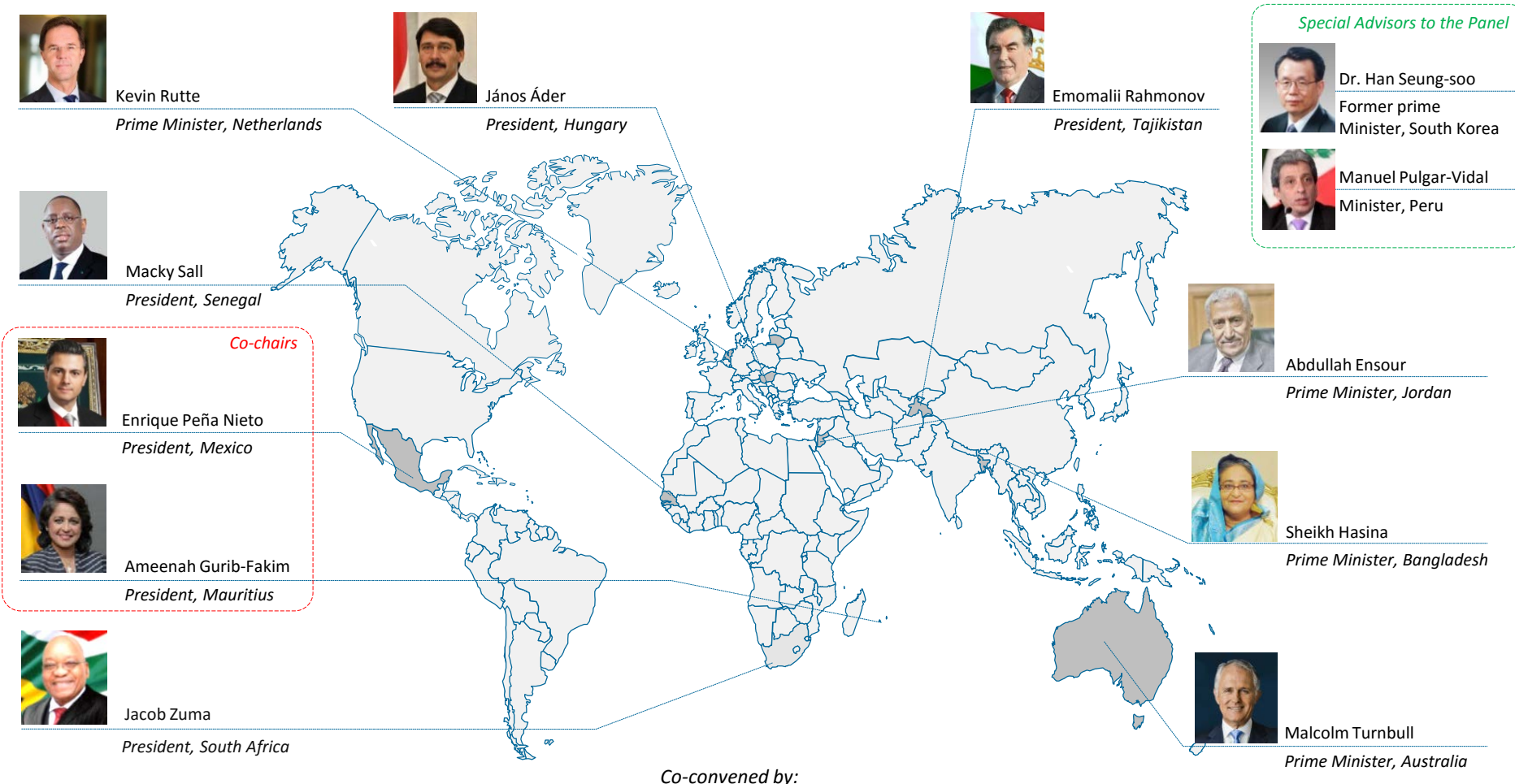
Donors:

- incremental support

Asia and Pacific → World

HLPW Panel members (as of 3/21/2016)

United Nations Secretary-General and President of the World Bank Group convened a High Level Panel on Water (HLPW), consisting of **11 sitting Heads of State and Government** and one Special Adviser, to provide the leadership required to champion a comprehensive, inclusive and collaborative way of developing and managing water resources, and improving water and sanitation related services. <https://sustainabledevelopment.un.org/HLPWater>



Co-convened by:



Ban Ki-moon
Secretary General, United Nations



UNITED NATIONS



WORLD BANK GROUP



Jim Yong Kim
President, World Bank Group

HLPW Action Plan “9 Areas of Action”

1. Catalyzing Changes, Building Partnerships and International Cooperation
2. Resilient Economies, Societies, and Disaster Risk Reduction
3. Universal Access to Safe Water and Sanitation
4. Sustainable Cities and Human Settlements
5. Water and the Environment
6. Infrastructure and Investments
7. Water Governance
8. Water Data
9. Valuing Water



HLPW's Expectations to IFI

- Countries, **in collaboration with IFI Members**, should establish a flood platform as a part of national platform with help of international networks.
- Countries, **with assistance by IFI Members**, should collect and archive data, assess current and future risks, demonstrate that flood risk reduction pays off, define locally applicable methodology, and monitor and predict changes.
- Stakeholders, **with support by IFI Members**, should make well-informed decisions and improve their practices of Integrated Flood Management.
- Donors should support **collaboration among IFI Members, countries, stakeholders and partners** in progressive manners so that good practices are widely learned, applied, and operated in other communities, countries and regions.

Grand Design on Water and Disaster (direct and indirect contributions to SDGs)



Implementation Planning Workshop on International Flood Initiative (IFI) in Asia-Pacific

January 10, 2017 in Tokyo, Japan

http://www.ifi-home.info/20170110_event.html



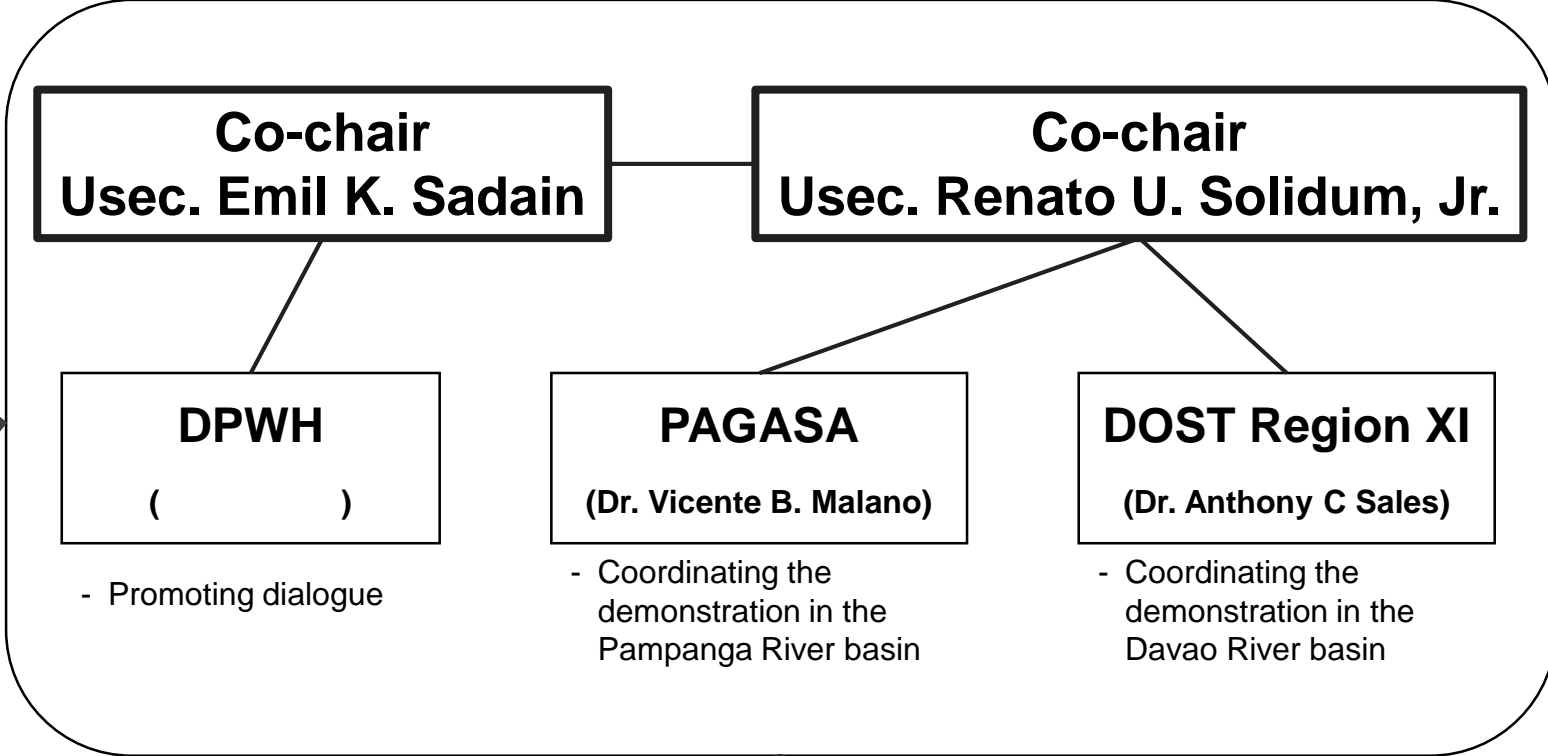
Participated Countries (6)

Indonesia, Malaysia, Myanmar, Pakistan, Philippines, Sri Lanka

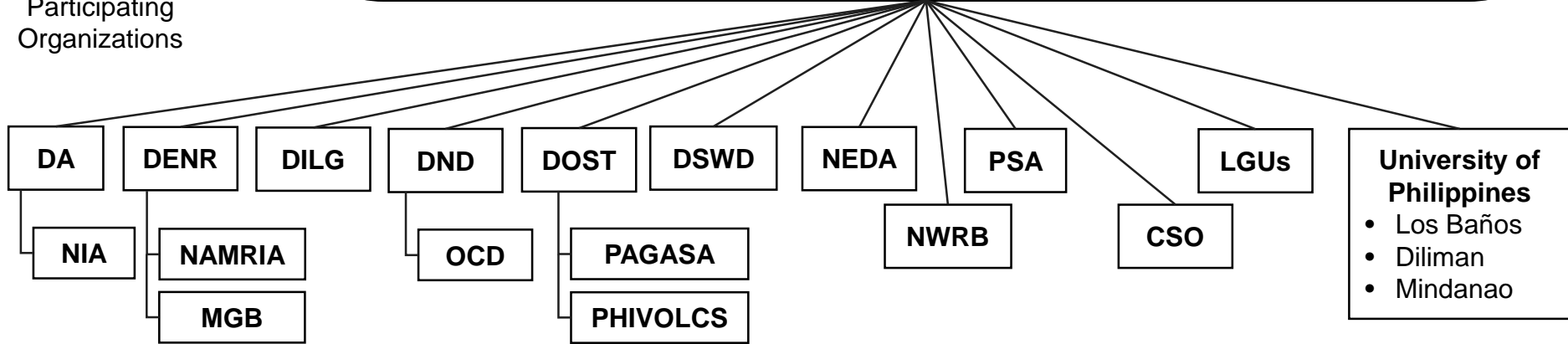
Philippines Institutional Structure of “Platform on Water-related Disasters”

- NDRRMC
- RDRRMCs
- LDRRMCs

Contribute

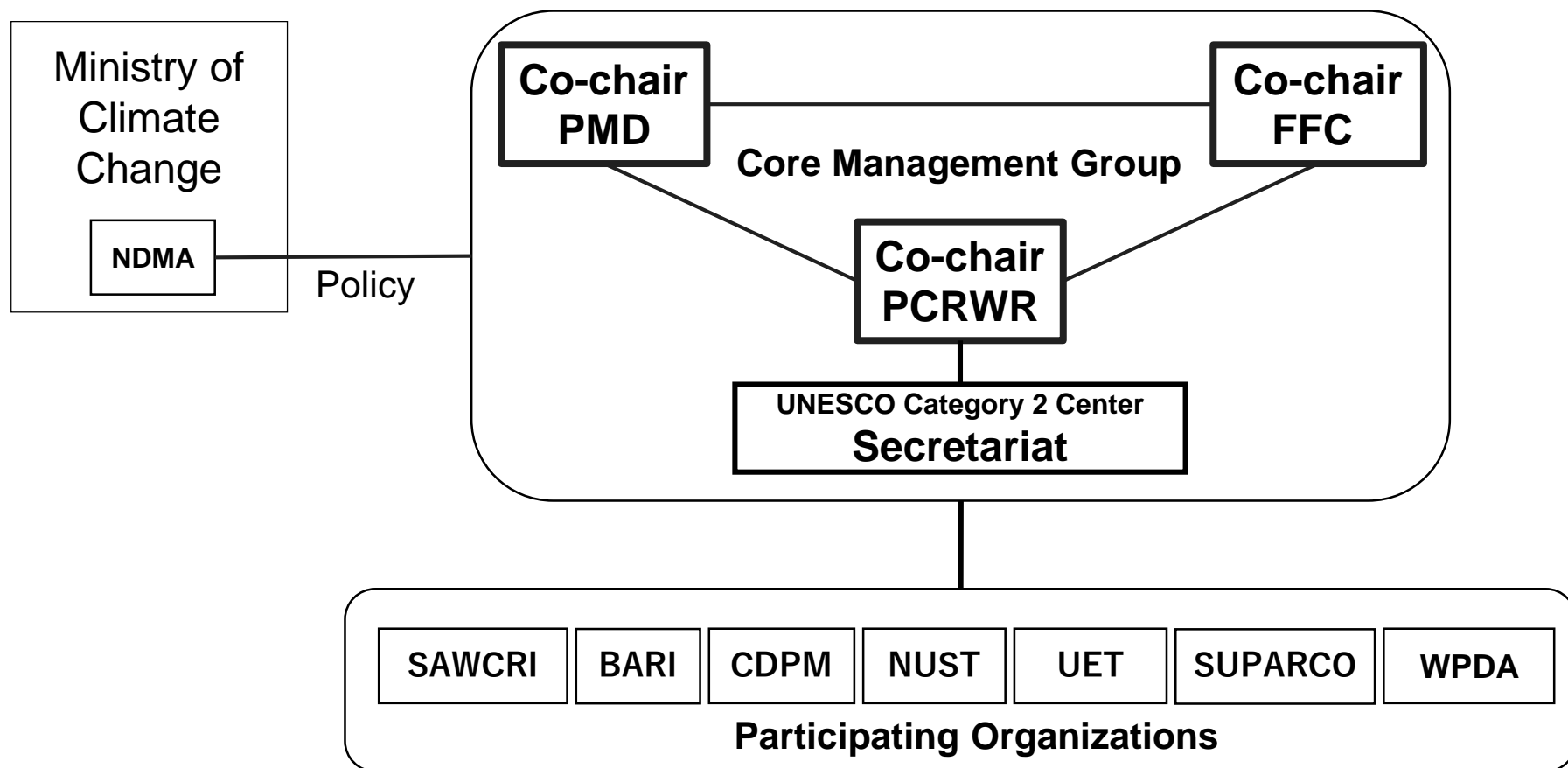


Participating Organizations

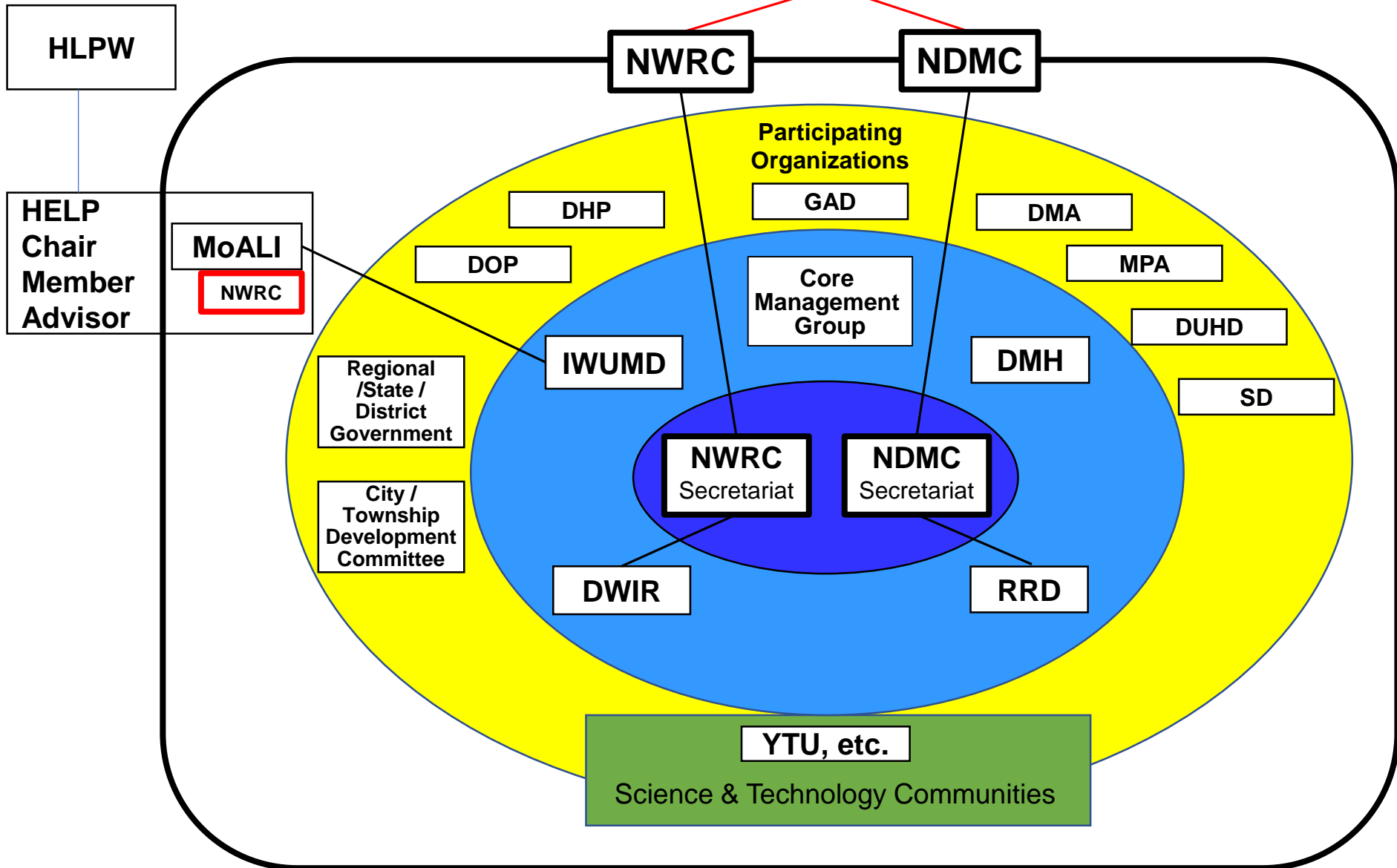


Pakistan

Institutional Structure of the Platform on Water and Disasters

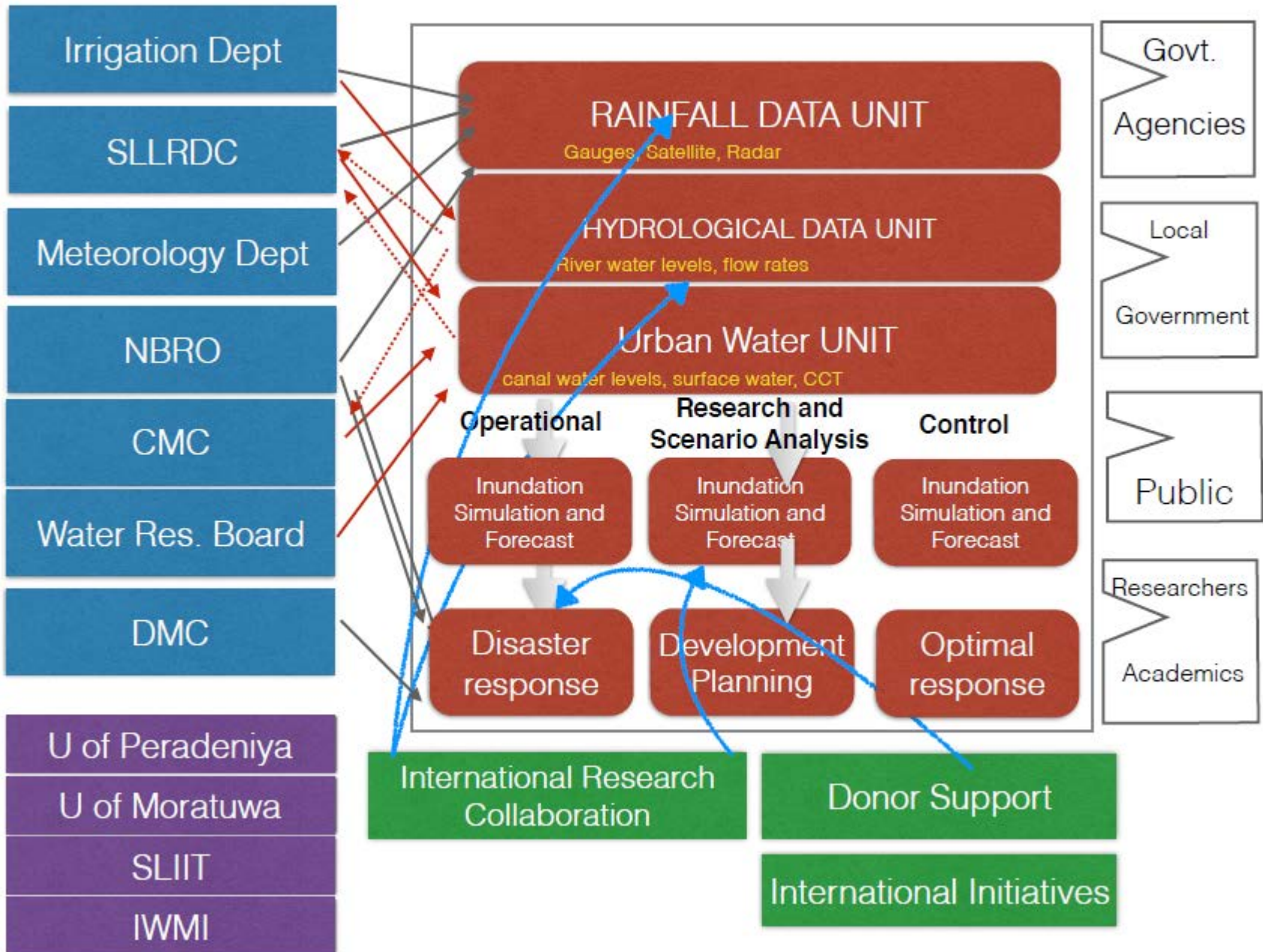


Myanmar

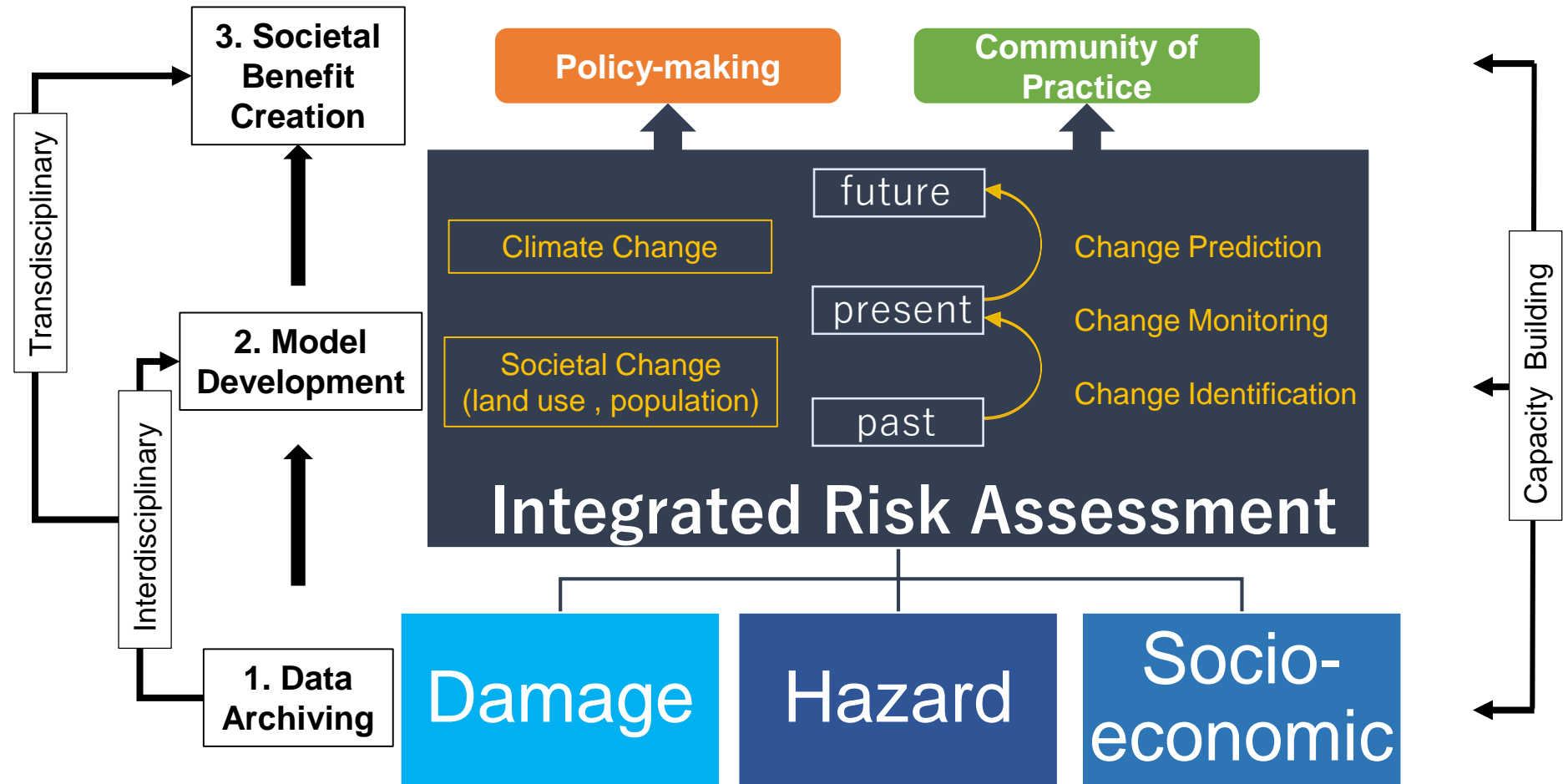


Sri Lanka

System Implementation



Implementation Framework of the Platform on Water and Disaster



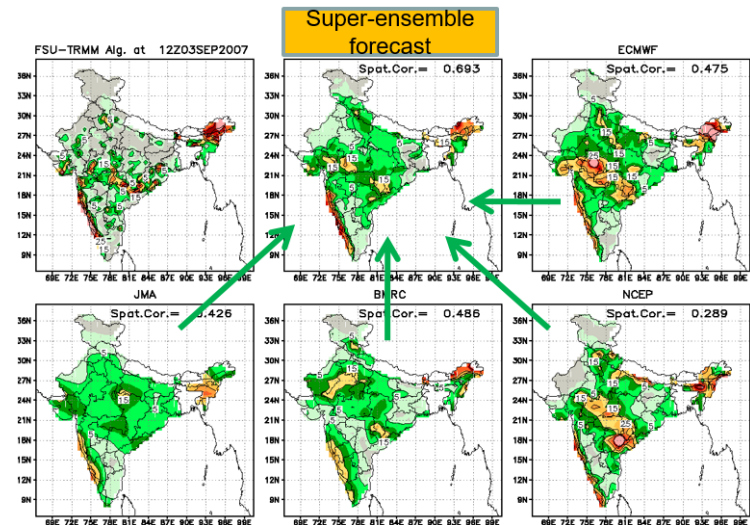
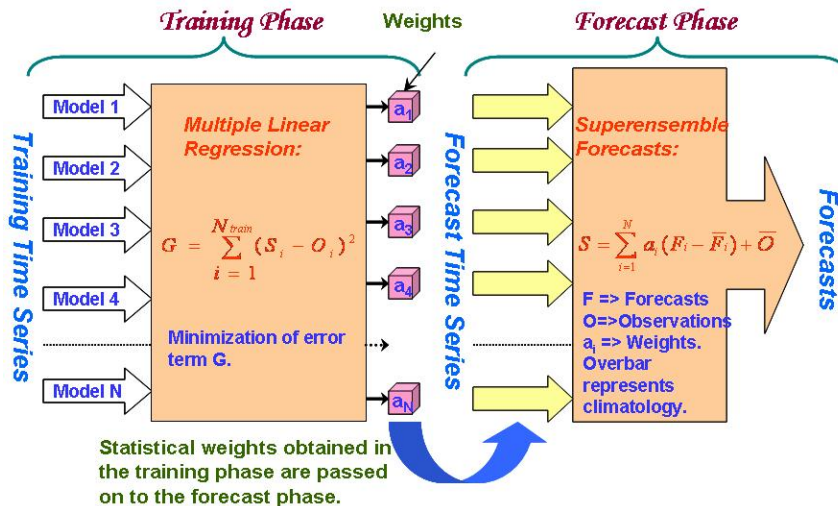
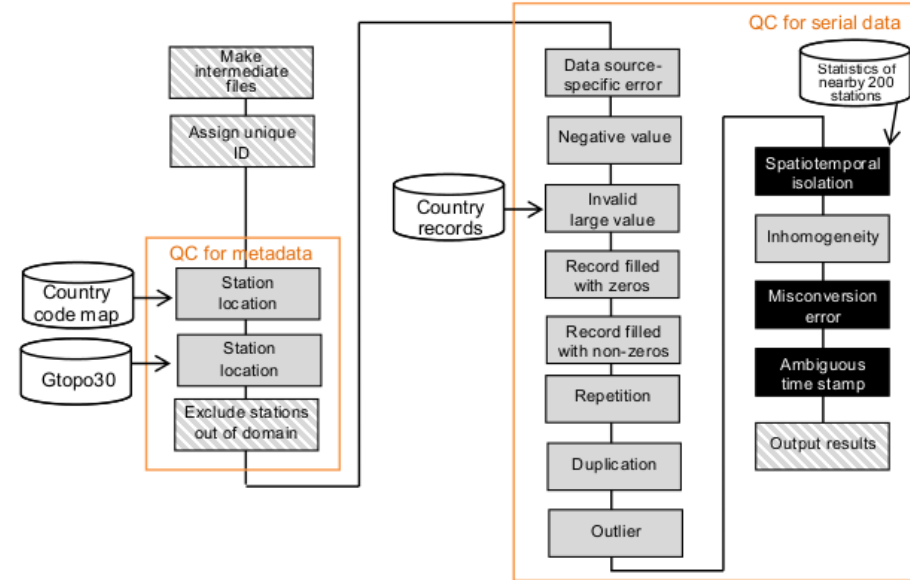
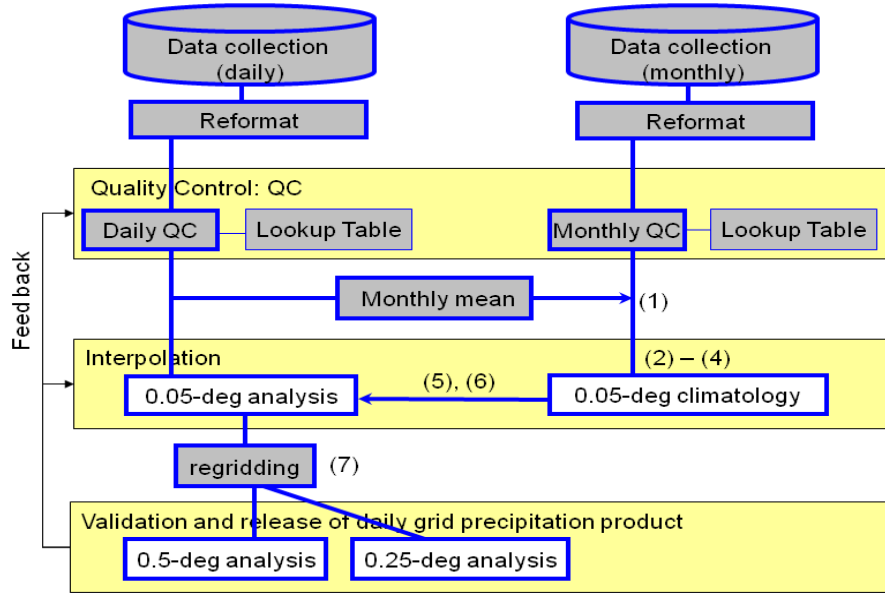
Future prospect of the Platform

(expectations and needs for the platform)

1. Data Set Creation
2. Climate Change Impact Assessment and Adaptation Planning
3. Early Warning
4. Economical Assessment
5. Contingency Planning

1. APHRODITE

Asian Precipitation-Highly Resolved Observational Data Integration Towards Evaluation Water Resources & Extreme Events



2. End to End Approach on Climate Change Adaptation



Research on Climate Change Impact (SOUSEI Program)

SOUSEI Program

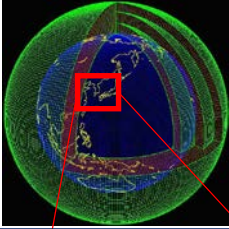
Fund: Ministry of Education, Culture, Sports, Science and Technology, Japan

Period: July 2012-March 2017

Target: 5 Asian river basins (Pampanga, Solo, Lower Mekong, Chao Phraya, Indus)

GCM

MRI-AGCM
3.2S

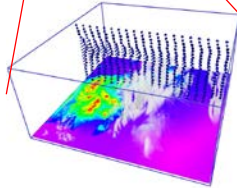


Climate experiment data by GCM (Global Climate Model)

Present Climate Experimental Data (1979-2003) : 1 pattern

Future Climate Experimental Data (2075-2099) : 4 patterns (MME, C1, C2, C3)

Regional model



Dynamic downscaling

Basin scale rainfall information

Hazard Assessment using hydrological model (IFAS / RRI/ BTOP)

Flood inundation analysis

Long-term discharge analysis with dam operation

Inundation area, depth, duration

Possible water supply volume

Damage function

Harvest yield per unit area, Gate price

Harvest yield per unit area, Gate price

Risk Assessment (Socio economic impact assessment)

Flood Risk Assessment

Agricultural economic loss, Affected population

Drought Risk Assessment

Possible irrigation area, Predicted harvest amount

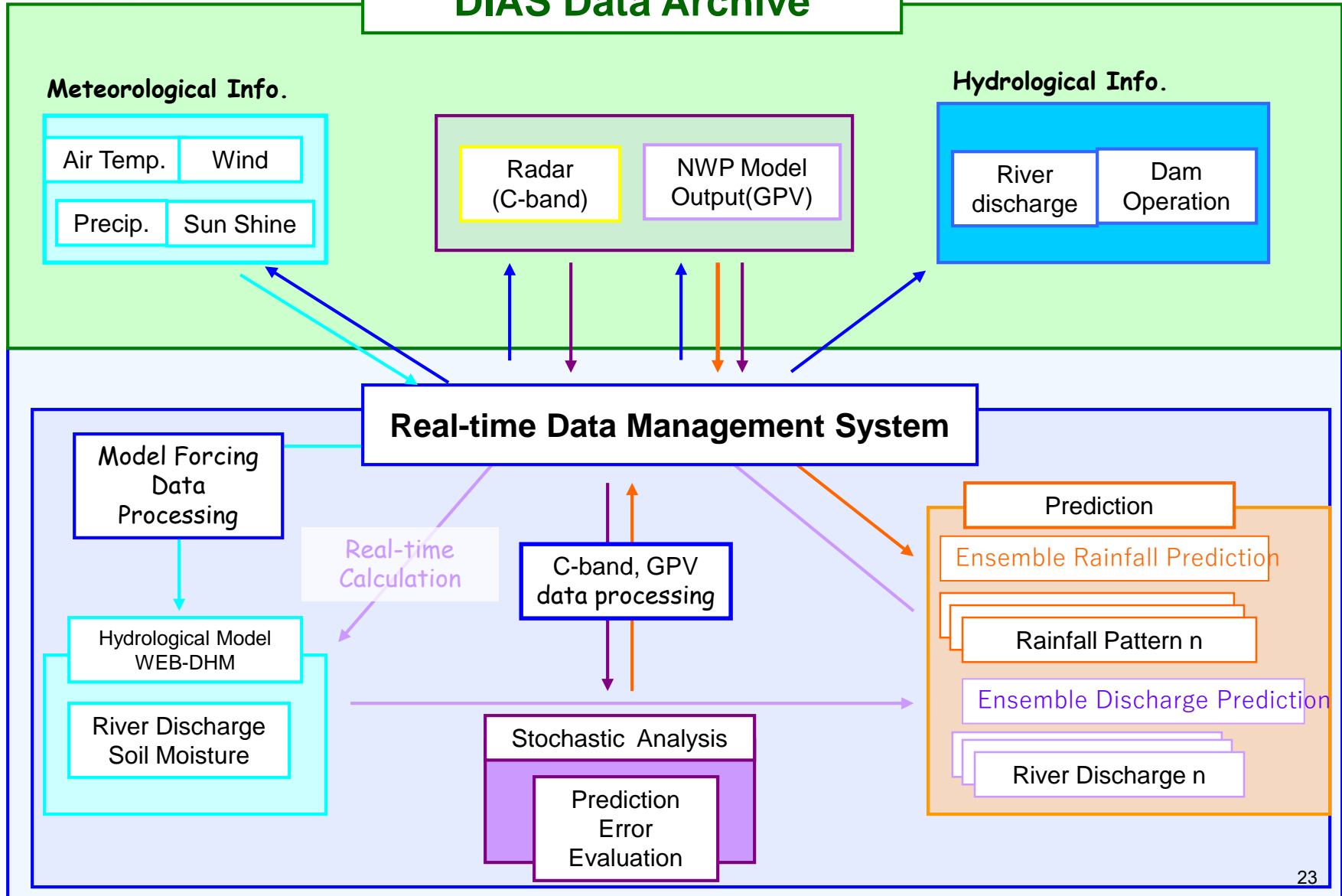
3. Realtime Data Management



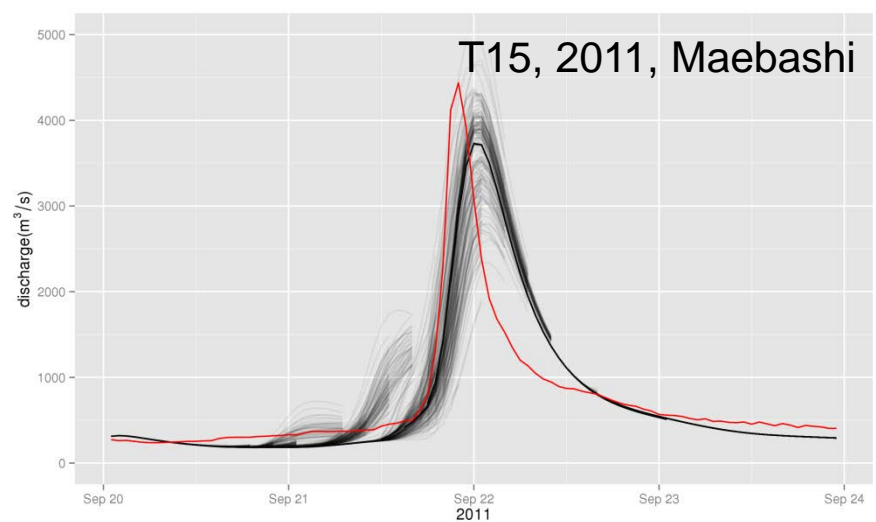
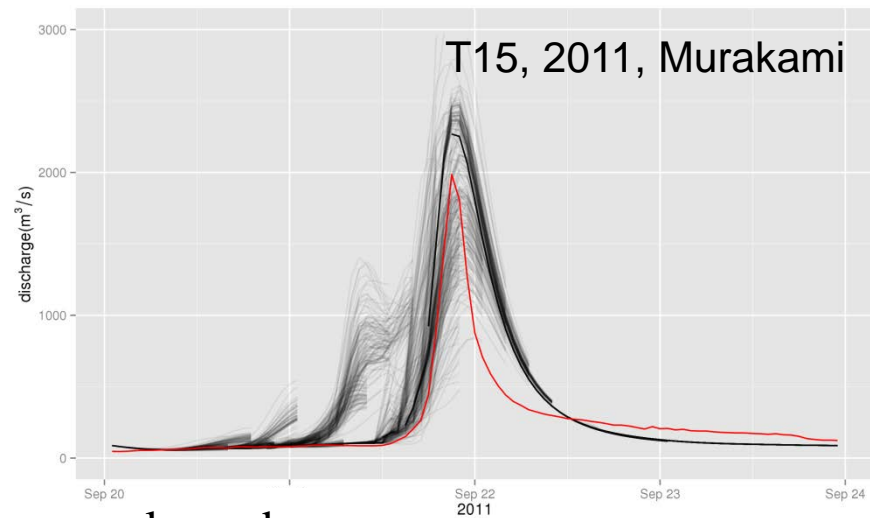
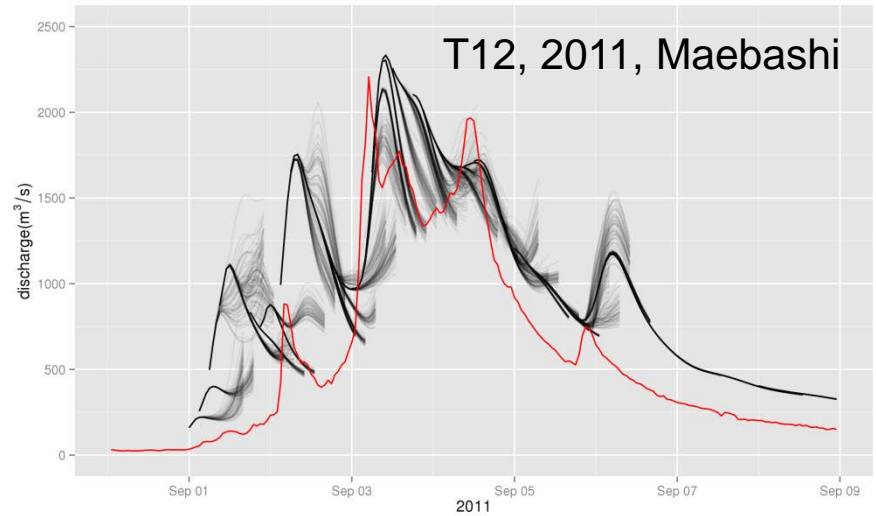
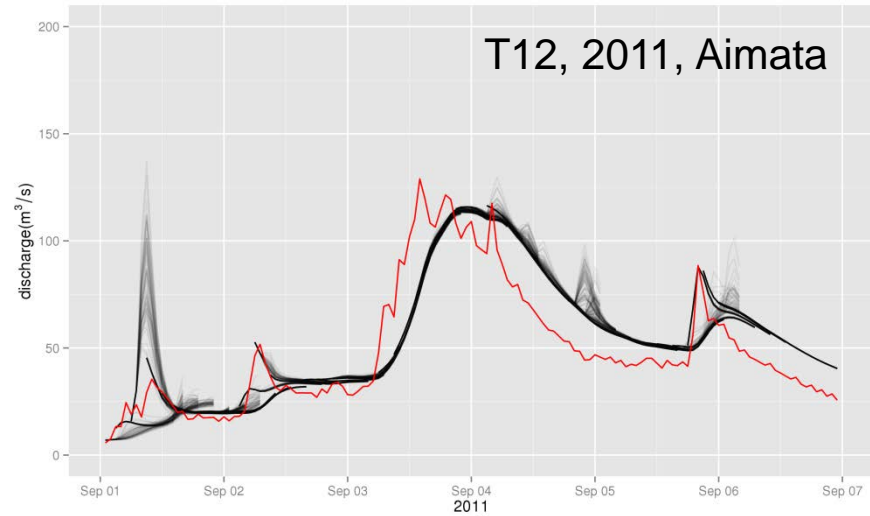
Flood Early Warning



DIAS Data Archive



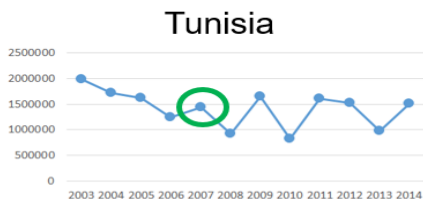
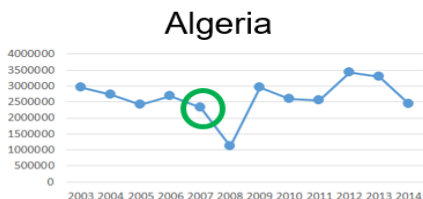
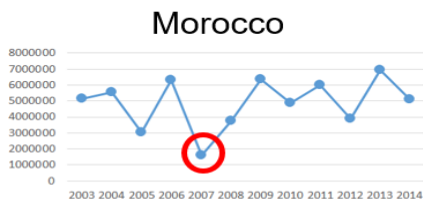
Ensemble Flood Prediction



Drought Monitoring and Prediction

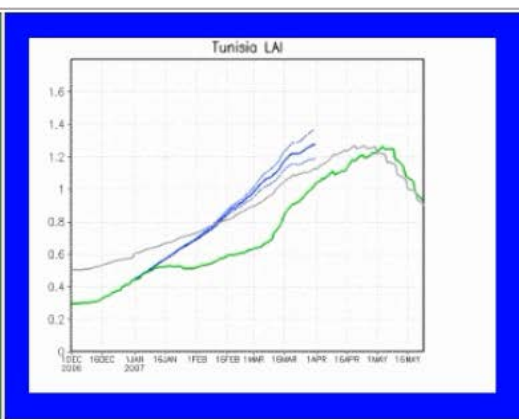
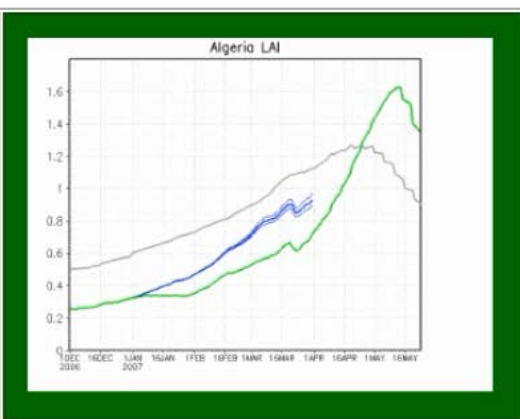
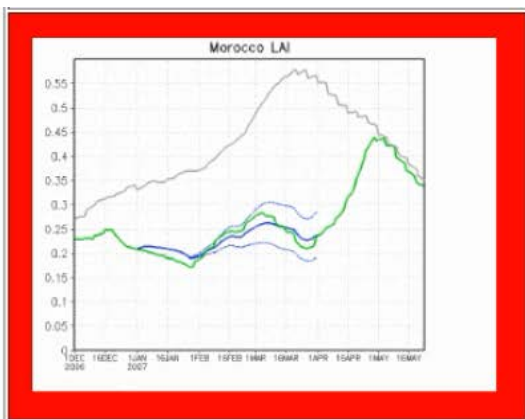
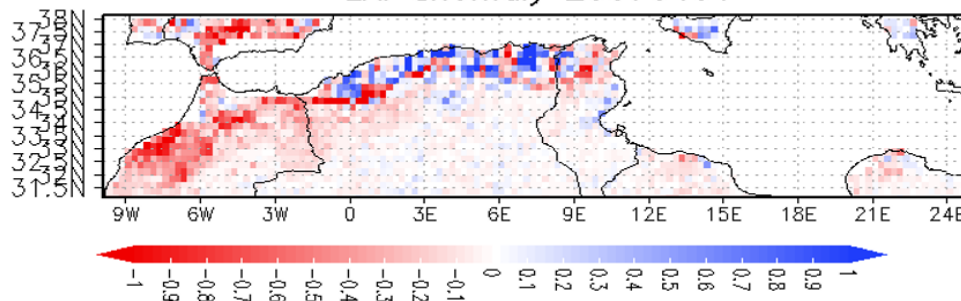
Wheat production

2007 Morocco Drought



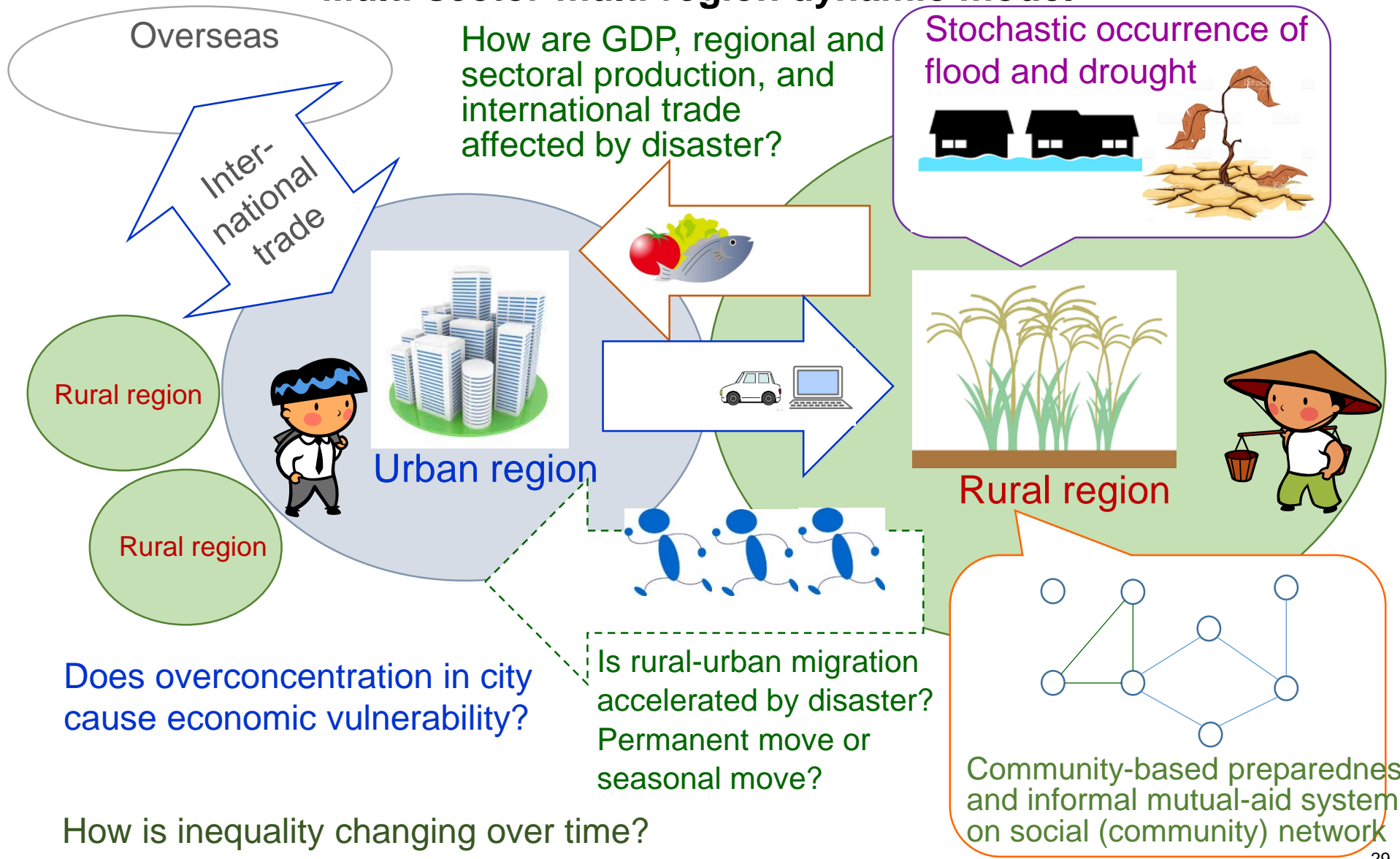
LAI anomaly from CLVDAS

LAI anomaly 20070401



4. Assessment of Economic Risk

- Model framework in the SATREPS project in the Philippines -
Multi-sector-multi-region dynamic model



5. Evidence-based Contingency Planning

Case study in Calumpit Municipality in Pampanga River Basin in the Philippines

1. Understand Current status

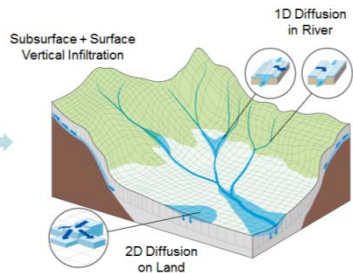


Interview Survey

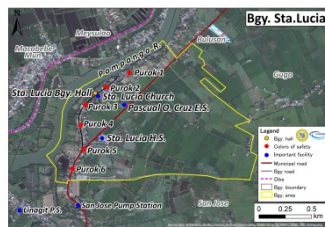


Field Survey

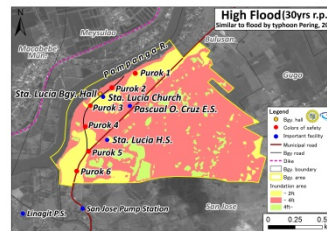
2. Identify Risk (with National and Provincial govt.)



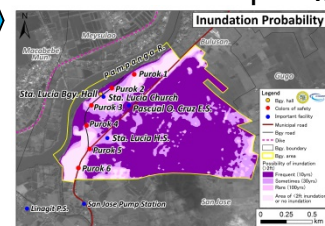
Flood Simulation by RRI Model (Use of 5m IfSar Dem data)



Resource Map



Inundation Map (30 Years)



Inundation Probability Map

Flood Case	Point 1		Point 2	
	1991	2011	1991	2011
Ordinary Flood	0.00	0.00	0.00	0.00
High Flood	0.00	0.00	0.00	0.00
Extreme Flood	0.00	0.00	0.00	0.00
Public and Stat.	0.00	0.00	0.00	0.00
Ordinary Flood	0.00	0.00	0.00	0.00
High Flood	0.00	0.00	0.00	0.00
Extreme Flood	0.00	0.00	0.00	0.00
Public and Stat.	0.00	0.00	0.00	0.00

Inundation Water Chart

3. Analyze Flood Impact

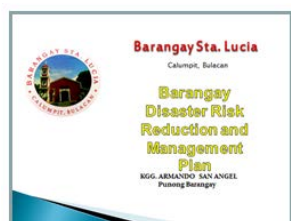


Workshop at Communities (July, 2015)

5. Develop and 6. Share the Plan



Final Workshop at Municipality (Feb, 2016)



Example of Community Contingency Plan

4. Develop Response Strategy at Communities



Workshop at Communities (Jan, 2016)



Proposal of Strategy



Thank you for your kind attentions!

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Future Events of IFI

- Sep. 2017 ICFM7@Leeds, UK (IFI special session)
- Sep. 2017 GEOSS-AP@Hanoi, Vietnam (IFI special session)
- Nov. 2017 World BOUSAI Forum@Sendai, Japan (IFI session)