

# Characterizing Loss and Damage due to Climate Change

**Rizaldi Boer**  
**Kiki Kartikasari**  
**Diva Oktavariani**

**5<sup>th</sup> Annual Meeting of the Low Carbon Asia Research Network (LoCARNet)**  
**Bandung Indonesia, 25 - 26 October 2016**



**Center for climate risk and opportunity management in Southeast Asia and Pacific (CCROM SEAP)**  
**Bogor Agriculture University**

# Outline

- Loss and damage issues in the UNFCCC
  - Highlighted findings
- Points of agreement
- Points of distinction
- Indonesia current state in addressing loss and damage
  - Facts
  - Approach
  - Gaps and issues
- Proposed framework
  - Remaining questions



# Loss and Damage Issues in the UNFCCC

2010 Work programme on loss and damage



Center for climate risk and opportunity management in Southeast Asia and Pacific (CCROM SEAP)  
Bogor Agriculture University

# Loss and Damage Issues in the UNFCCC

2010 Work programme on loss and damage



2013 Warsaw International Mechanism (WIM)  
on loss and damage



Center for climate risk and opportunity management in Southeast Asia and Pacific (CCROM SEAP)  
Bogor Agriculture University

# Loss and Damage Issues in the UNFCCC

2010 Work programme on loss and damage



2013 Warsaw International Mechanism (WIM)  
on loss and damage



UNITED NATIONS  
CLIMATE CHANGE CONFERENCE  
COP19/CMP9  
WARSAW 2013

2015 Paris Agreement



PARIS2015  
UN CLIMATE CHANGE CONFERENCE  
COP21·CMP11



Center for climate risk and opportunity management in Southeast Asia and Pacific (CCROM SEAP)  
Bogor Agriculture University

# Loss and Damage Issues in the UNFCCC

2010 Work programme on loss and damage



2013 Warsaw International Mechanism (WIM)  
on loss and damage



UNITED NATIONS  
CLIMATE CHANGE CONFERENCE  
COP19/CMP9  
WARSAW 2013

2015 Paris Agreement



PARIS2015  
UN CLIMATE CHANGE CONFERENCE  
COP21·CMP11

2016 Review of WIM



Center for climate risk and opportunity management in Southeast Asia and Pacific (CCROM SEAP)  
Bogor Agriculture University

# Loss and Damage Issues in the UNFCCC

- *“Loss and damage associated with impacts of climate change, including extreme events and slow onset events in developing countries that are particularly vulnerable to the adverse effects of climate change...” (Decision 2/CP.19 Warsaw Mechanism)*
- *“Parties recognize the importance of averting, minimizing and addressing loss and damage associated with adverse effects of climate change, including extreme events and slow onset events” (Paris Agreement Article 8)*



# Loss and Damage Issues in the UNFCCC

## Highlighted findings

- Not clear if WIM will refer to L&D from **anthropogenic** climate change only **or** including **all climate stressors**
- Whilst there are working definitions of L&D, there has been **no formal discussion** under UNFCCC **on what the term loss and damage signifies**





# Points of Agreement

Parties recognize the importance of averting, minimizing, and addressing loss and damage associated with the adverse effects of climate change including extreme weather events and slow onset events

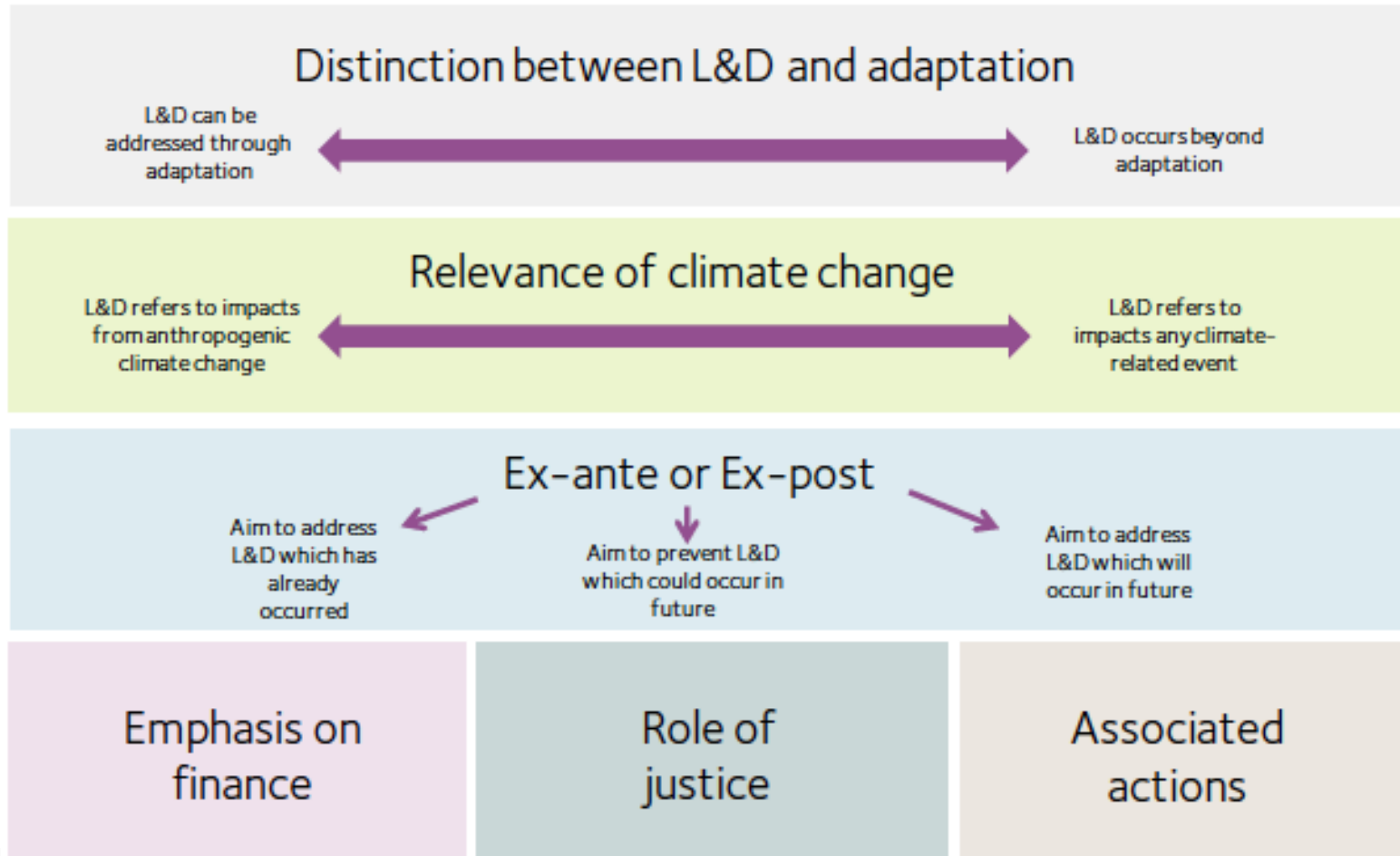
Residual impacts of climate stressors (L&D) occurs when:

1. Existing coping/adaptation and mitigation is not enough
2. Measures have costs (including non-economic) that cannot be regained
3. Despite short term merits, measures have negative effects in the longer term
4. No measures are adopted or possible at all



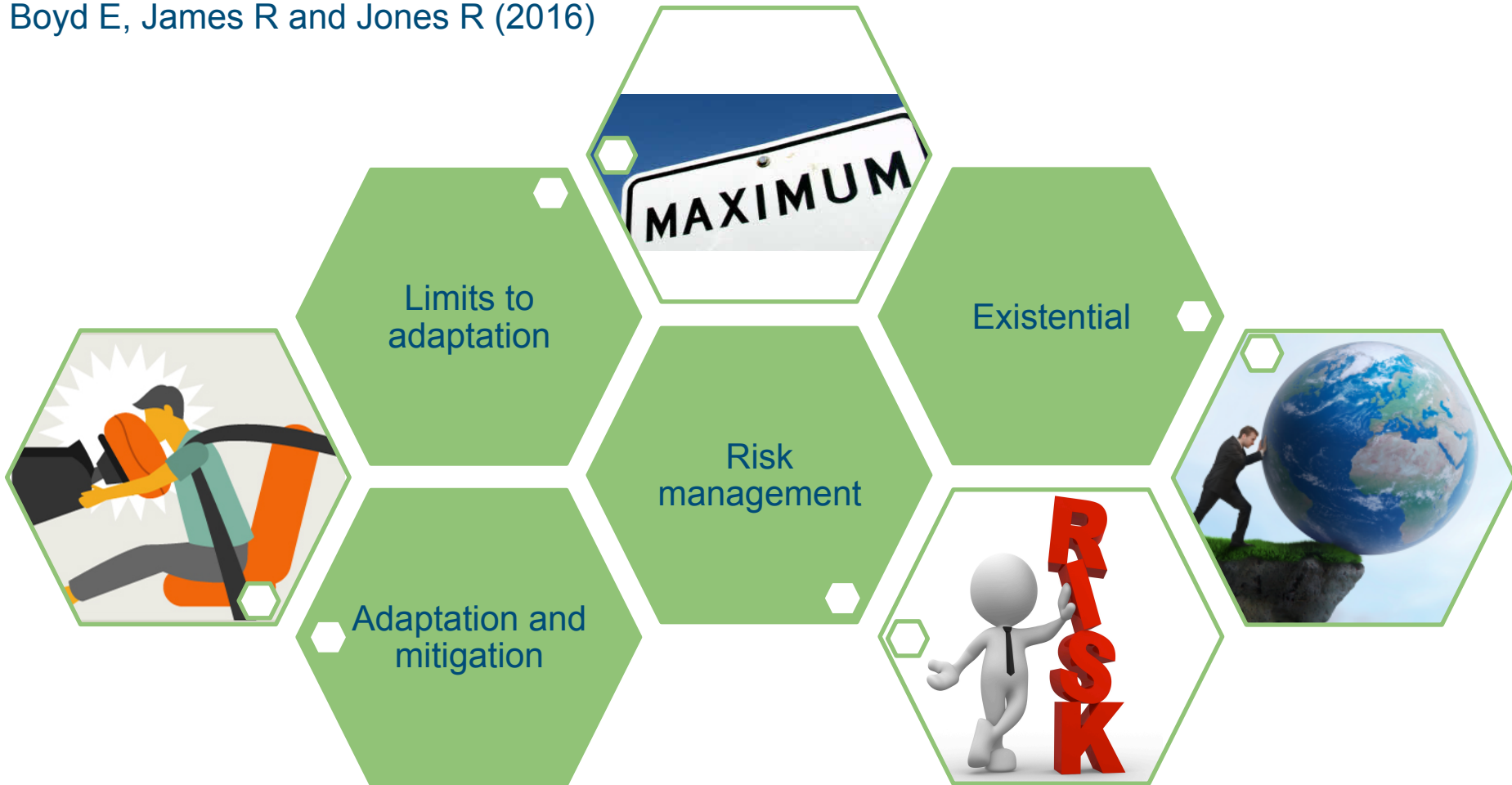
# Points of Distinction

Boyd E, James R and Jones R (2016)



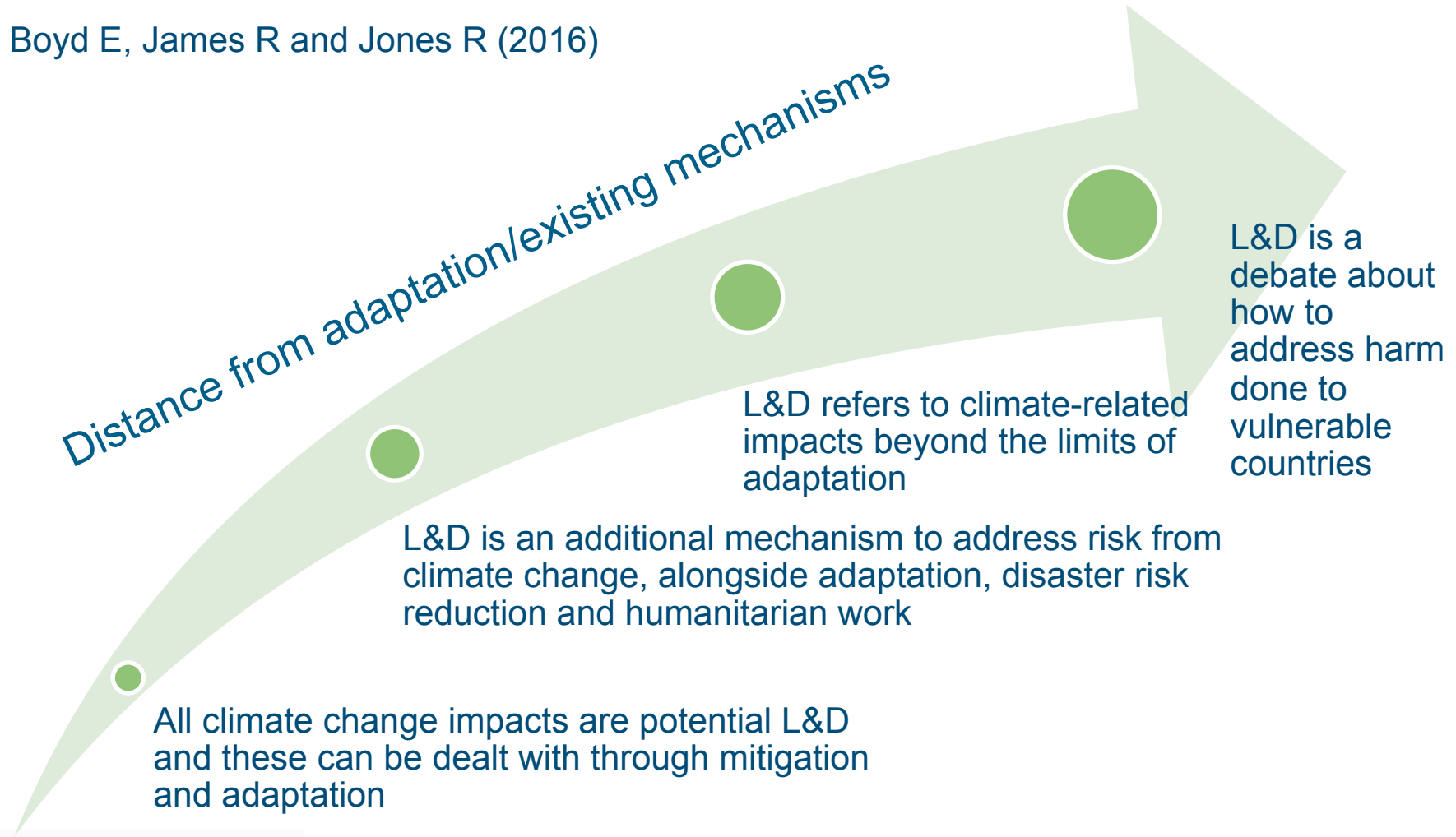
# Points of Distinction

Boyd E, James R and Jones R (2016)



# Points of Distinction

Boyd E, James R and Jones R (2016)



# Indonesia Current State in Addressing Loss and Damage



Center for climate risk and opportunity management in Southeast Asia and Pacific (CCROM SEAP)  
Bogor Agriculture University

# FACTS



Increasing frequency and intensity of climate extreme events will increase burden on government and may **threat development** as more fund is needed to increase retention of the risks



**Dependency** to government in coping w/ L&D is high



**Large disparities of vulnerability** among different regions. How to reduce the disparities as well as reduce the vulnerability?



# FACTS



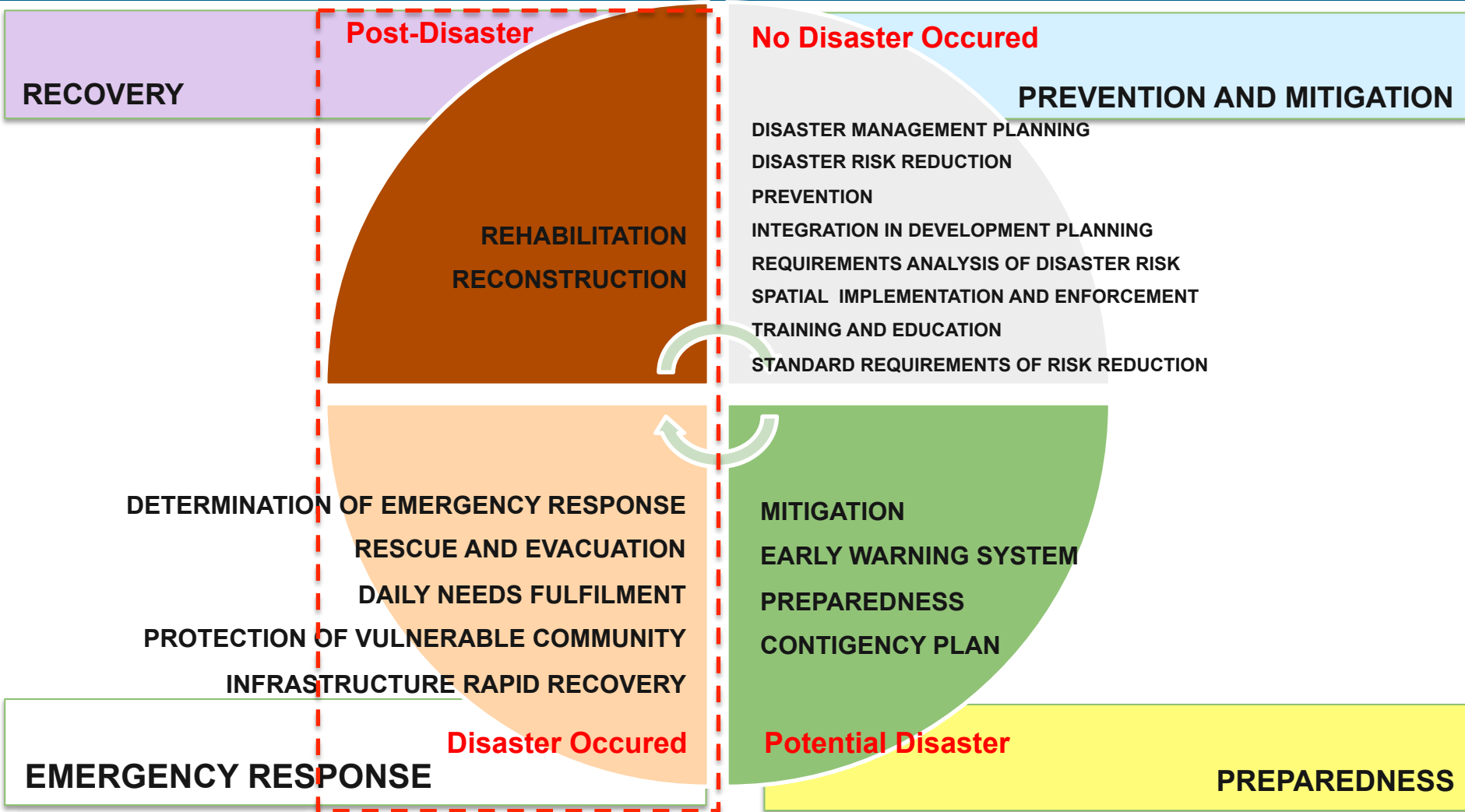
Early investment for adaptation about 0.2% of GDP could avoid damage amount to 1.9% of the GDP by 2100 (Supalachalasai *et al.*, 2009)



Look at climate impact in **near-term view**, it may not yet be seen as a very urgent and high priority issue, but this will put us at **risk of getting significant loss later and may lead to maladaptation** and threaten food security and sustainable development (Boer *et al.*, 2014)



# Disaster Management Approach





# Disaster Prevention Actions

Integration of disaster prevention actions into development plan



Annual budgeting and DRR are based on vulnerability maps

5 years

1 year



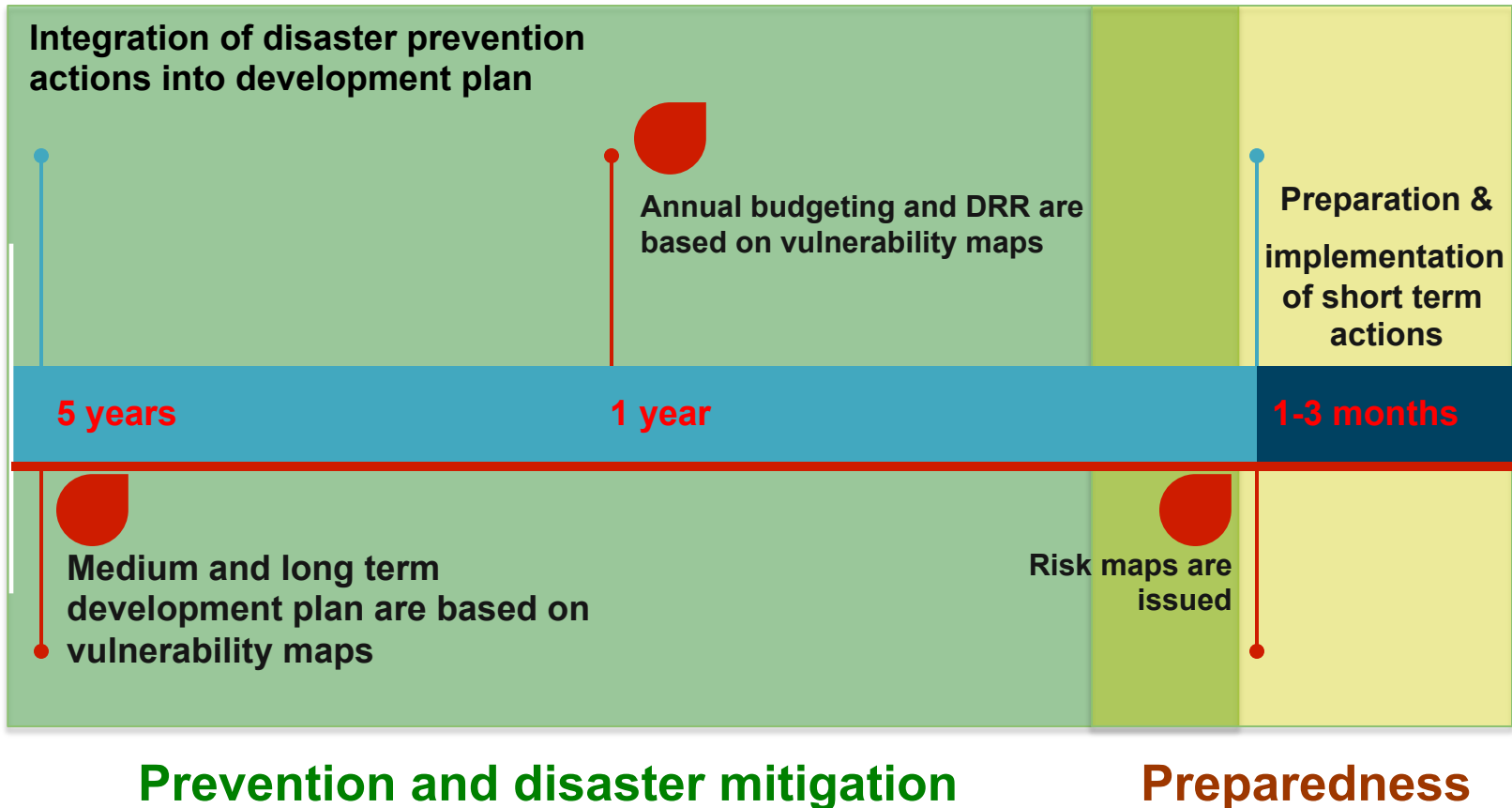
Medium and long term development plan are based on vulnerability maps

## Prevention and disaster mitigation

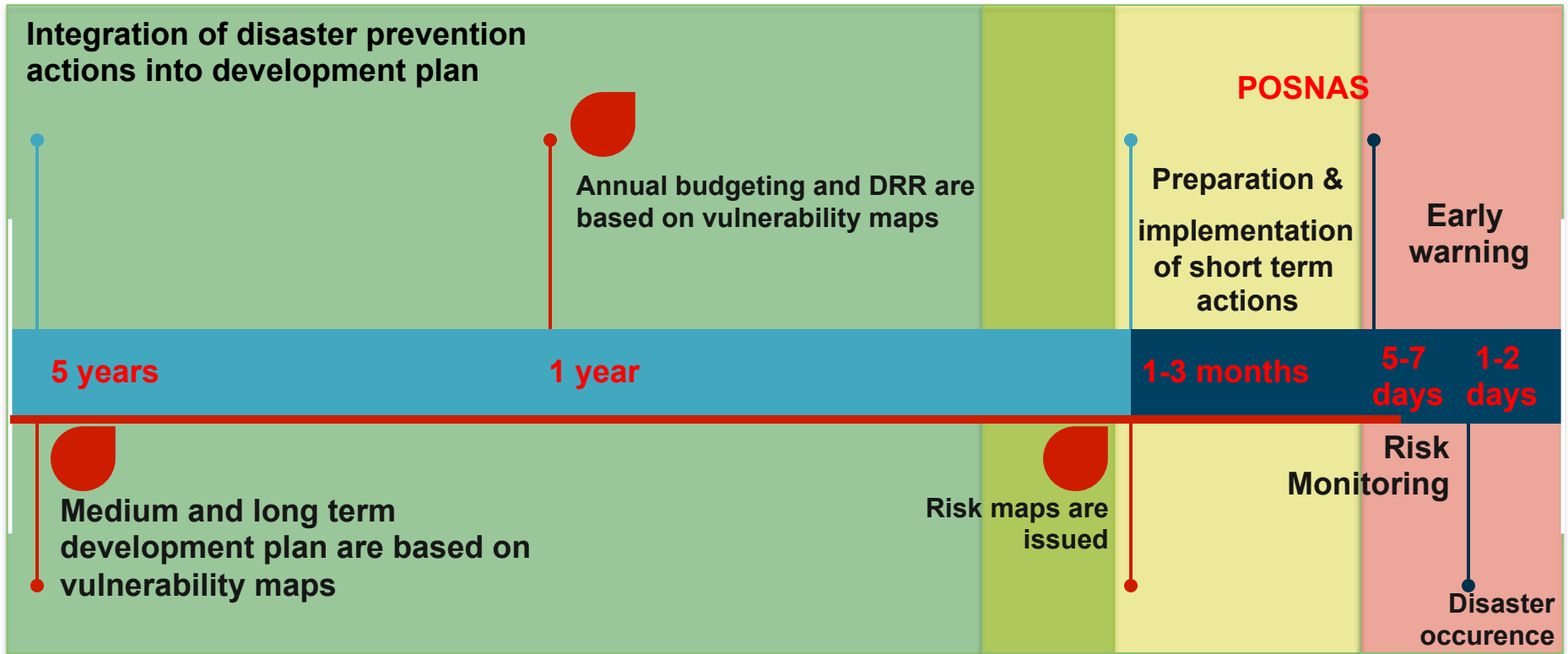


Center for climate risk and opportunity management in Southeast Asia and Pacific (CCROM SEAP)  
Bogor Agriculture University

# Disaster Prevention Actions



# Disaster Prevention Actions



**Prevention and disaster mitigation**

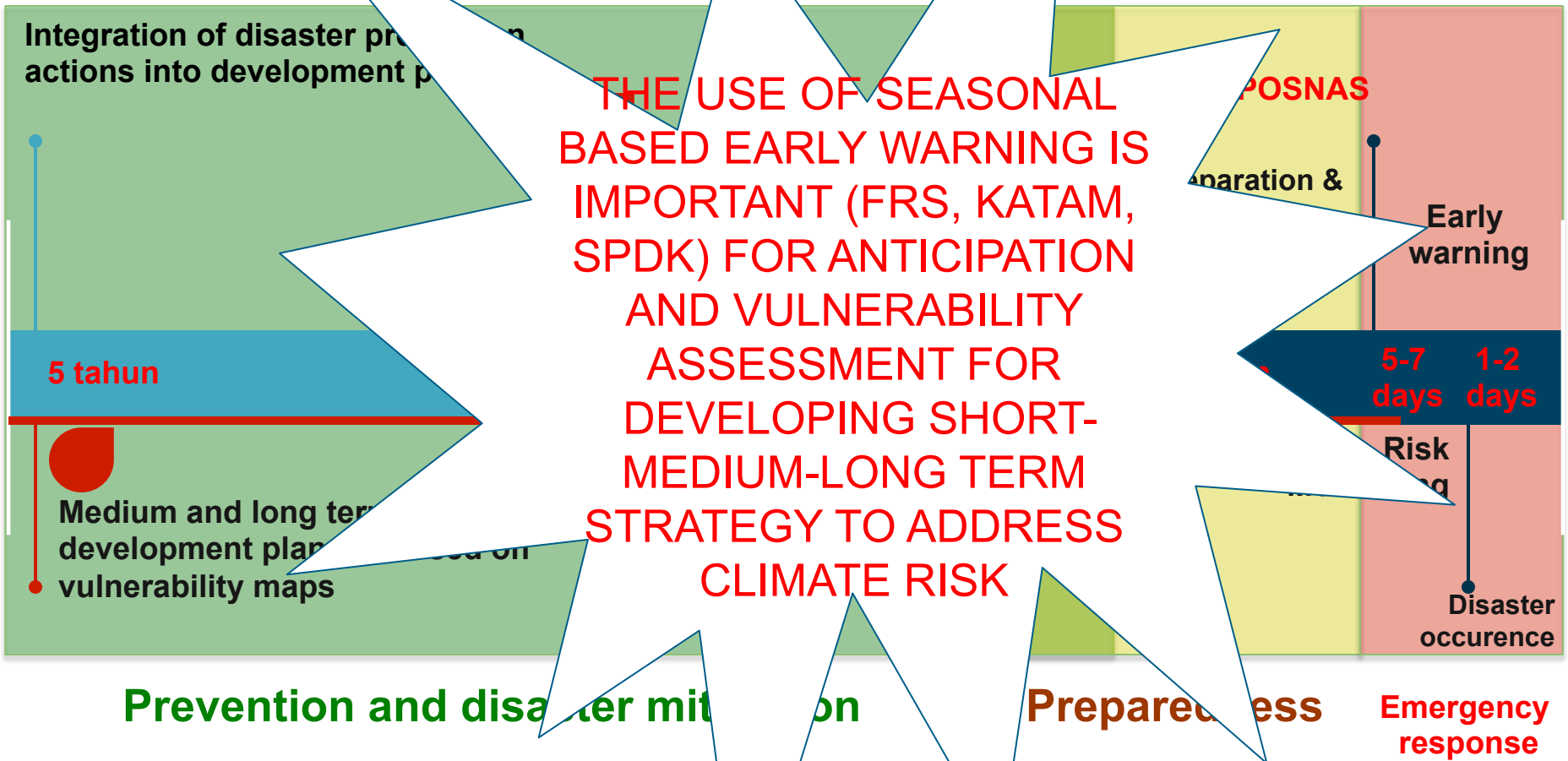
**Preparedness**

**Emergency response**

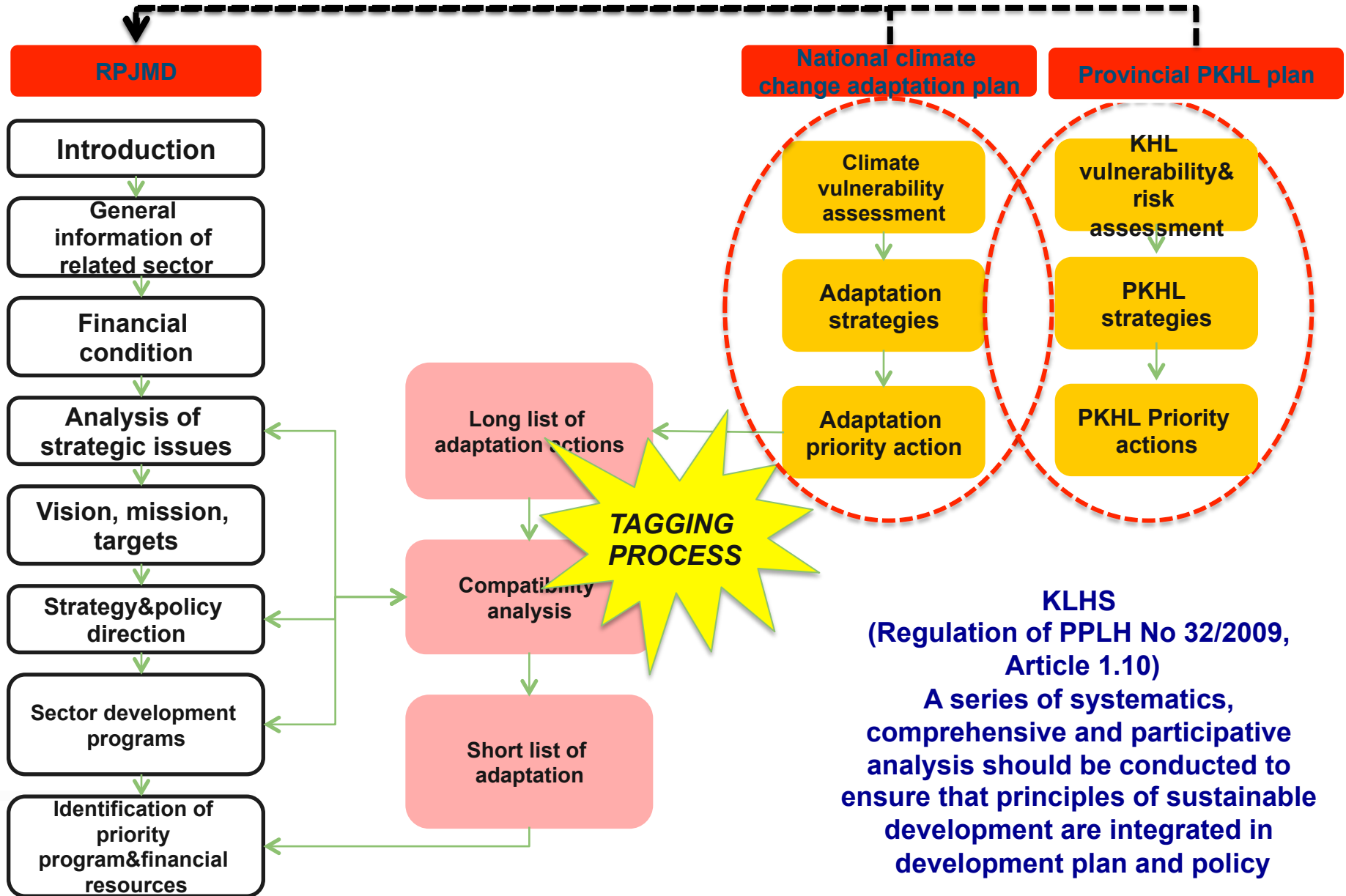


Center for climate risk and opportunity management in Southeast Asia and Pacific (CCROM SEAP)  
Bogor Agriculture University

# Disaster Prevention Actions



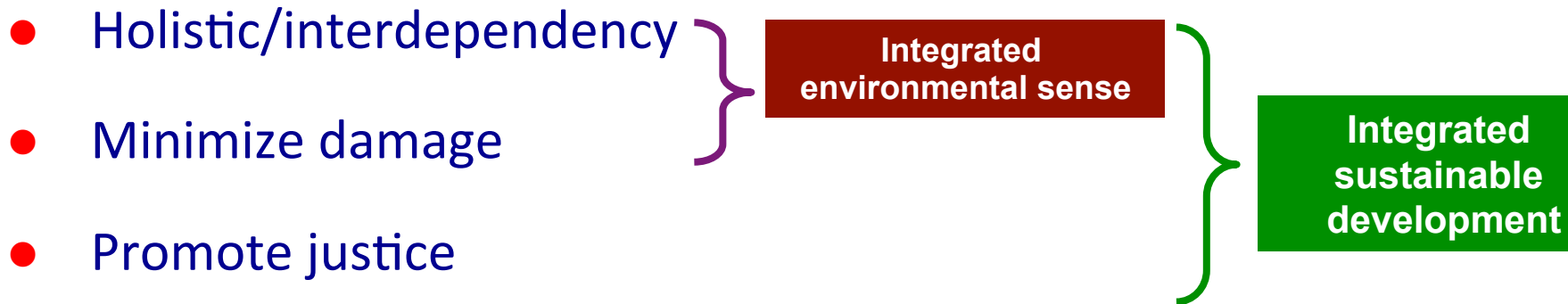
# Integration of National Adaptation/Mitigation Action Plans into Provincial Medium Term Development Plans



# KLHS

“... to ensure sustainable development remains as underlying principal and integrated to development policy, plan and program (KRP)”

KLHS should be designed supportively generating a KRP that fully addresses the principles of sustainable development



## Interdependency

- of central ~ local government
- of global ~ local
- among different sectors
- among different institutions
- causal effects

## Equilibrium

- Of economic growth vs biodiversity conservation
- Economic vs social function
- Short term vs long term interest

## Justice

- Distribution of access and control for better environment and natural resources
- Distribution of economic activities

## KLHS values

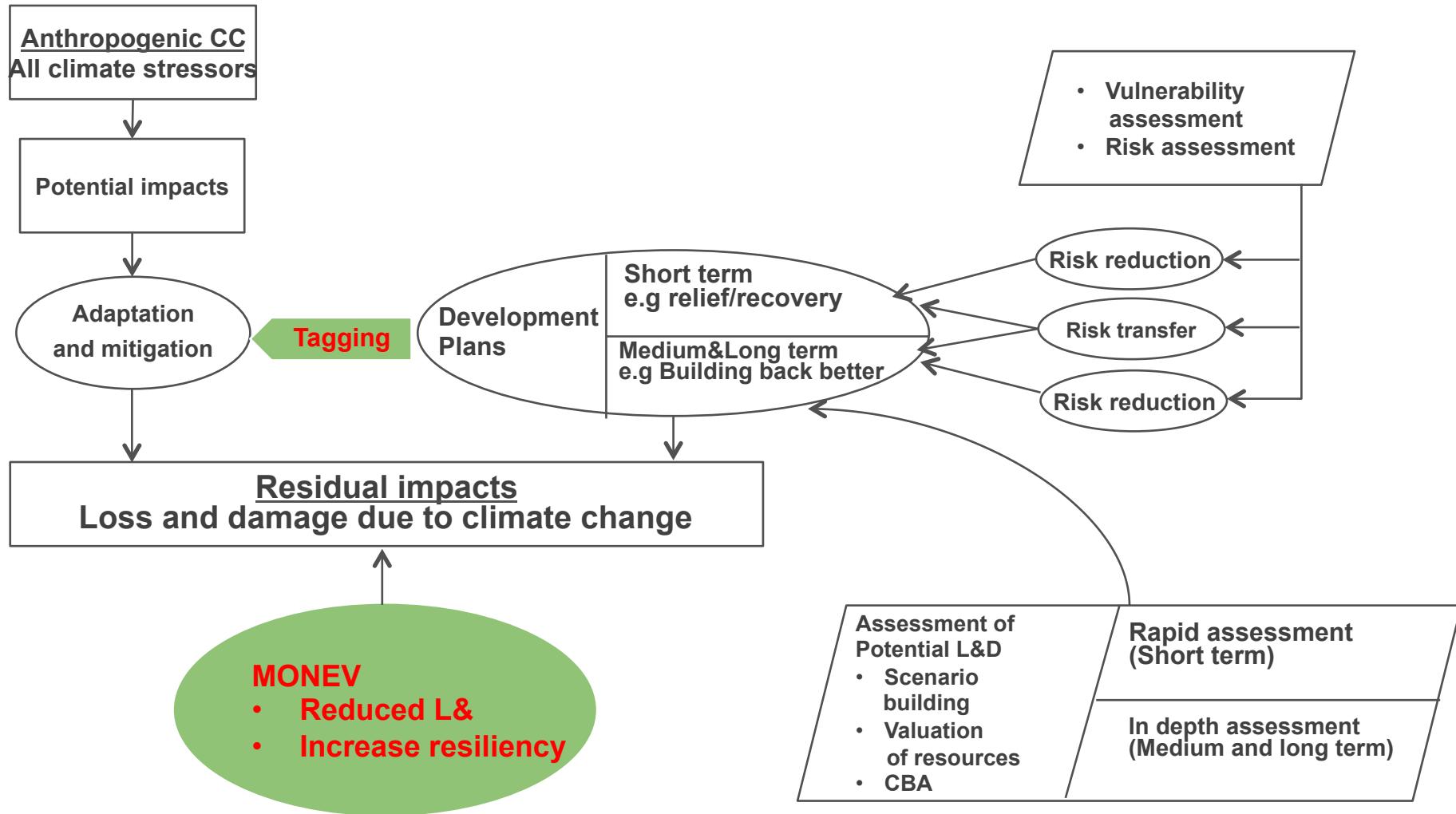
Ministry of environment  
and forestry regulation  
No. 9/2011

### Development Policy, Plan, Program (KRP)

- Environment
- Sustainability



# Proposed framework





# Gaps and Issues



- Current institutions are focusing on
  - Short term issues
  - Disaster prone areas only



# Gaps and Issues



- Current institutions are focusing on
  - Short term issues
  - Disaster prone areas only
- The availability and consistency of data



# Gaps and Issues



- Current institutions are focusing on
  - Short term issues
  - Disaster prone areas only
- The availability and consistency of data
- Sector-based work, lack of coordination



# Gaps and Issues



- Current institutions are focusing on
  - Short term issues
  - Disaster prone areas only
- The availability and consistency of data
- Sector-based work, lack of coordination
- Limited support for upscaling good lessons and practices



# Remaining Questions

1. What we have done so far related to risk reduction, risk retention, risk transfer and slow onset? Including institutional and governance approach for addressing L&D?
2. What tools and approach used?
3. What data we have about economic and social impacts, challenges, barriers, good lessons/practices?
4. What kind supports are necessary? (financial, technical, institutional and capacity)



**Thank you  
for listening**



**Inputs  
Comments  
Questions**



**Center for climate risk and opportunity management in Southeast Asia and Pacific (CCROM SEAP)  
Bogor Agriculture University**