Adaptive and Integrated Disaster Resilience Framework

Riyanti Djalante
PhD – Macquarie University
Local Government of Sulawesi Tenggara, Indonesia
Riyanti.djalante@gmail.com
Ability of nations and communities to build resilience in an integrated manner and strengthen mechanisms to build system adaptiveness.

It provides the ability to face complexities and uncertainties by designing institutional processes that function across sectors and scales, to engage multiple stakeholders, promote social learning, and include scientific and local knowledge.
AIDR - rationale

- Natural hazards, risks and disasters are increasing
- The impacts are socially, economically and environmentally interconnected
- The causes and impacts are increasingly complex (lack of transparency, many variables with significant connectivity) and uncertain (incomplete knowledge lead to inability to predict future dynamics and likelihood and impacts of a decision)
The need for integrated approach in DRR

- Frequency and magnitude of hazards and geophysical processes that create them
- Understanding of causes of vulnerability, resilience and impacts across the social-ecological system
- Multidisciplinary disciplines of natural and social sciences, different temporal and spatial scales, multiple sectors and stakeholders, using expert and local knowledge
Analytical Concepts

- Disaster Resilience
- Integration of DRR and CCA
- Adaptive Governance and Disaster Resilience
The need to build resilience
Relevance of climate change

Natural Hazards
- Volcanic eruption
- Earthquakes
- Tsunamis
- Cyclones
- Bushfires
- Typhoons
- Flooding
- Monsoons
- Landslides

Climate Change
- Event Intensity
- Event Frequency
- Rainfall patterns
- Changing temperature
- Water availability
- Sea level rise

(Modified from Geoscience Australia, 2008)
Resilience and Adaptive Governance

Polycentric and multilayered institutions

Participation and collaboration

Resilience (To natural hazards and climate change): Ability to self-organises, learn & adapt

Learning and innovation

Self-organisation / flexible networks

The Adaptive And Integrated Disaster Resilience Framework

Polycentric and multi-layer Institution

Participation and Collaboration

Governance
Integrated Disaster Resilience
Community Values Aspirations Networks Capacity
Disaster Prevention/mitigation
Disaster Preparedness
Disaster Rehabilitation/Reconstruction
Emergency Response
Built Environment
Natural Environment
Social Development

The integration of Climate Change Adaptation (Norm, Scale, Knowledge)

Self-organisation and Network

Adaptive Governance and Resilience

Learning and Innovation
Pathways for AIDR

1. Integrate DRR, CCA with development strategies
2. Strengthen polycentric governance architecture for DRR.
3. Increase and coordinate cross-sector and multi-stakeholder collaborations
4. Improve knowledge and information through comprehensive and systemic assessments of hazards, risks, vulnerability and impacts
5. Facilitate institutional learning from implemented policies and experiences
6. Encourage and nurture self-organisation and networking
7. Develop comprehensive disaster risk finance and insurance using a broad set of private and public instruments
Indonesia
Indonesia
Pathways for AIDR in Indonesia

- Facilitate management as **learning** amongst key actors in DRR.
- Strengthen polycentric **governance** system which can accelerate more support at the local level, increase participation of multi-actors and encourage self-organisations and networks.
- Strengthen sectoral **integrations** for analysis and implementation of DRR strategies, at the national and local level
- Advance trans-boundary risk **assessments** and hazard management
- Provide and consolidate **data** and information at different level, for different hazards and risks, and modelling of future risks.
- Provide key **infrastructures** at appropriate scale, decentralised and with diverse sources of design and power delivery, as well as consideration of climate risks
- Utilise of various methods of risks **financing** for DRR.