



“Towards a Disaster-Resilient ASEAN”

Disaster Risk Reduction by Integrating Climate Change Projection into Flood and Landslide Risk Assessment (ASEAN DRR-CCA)

Project Final Seminar
23 February 2021, Virtual Conference

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Institute for Global Environmental Strategies



Japan-ASEAN Cooperation



BACKGROUND

► Overall objective:

Enhance risk assessment and risk awareness in the ASEAN Community by strengthening the capacity in risk and vulnerability assessment, improve the availability of data and information on regional risk and vulnerability, and enhance risk data utilization and information sharing mechanism

► Project objectives:

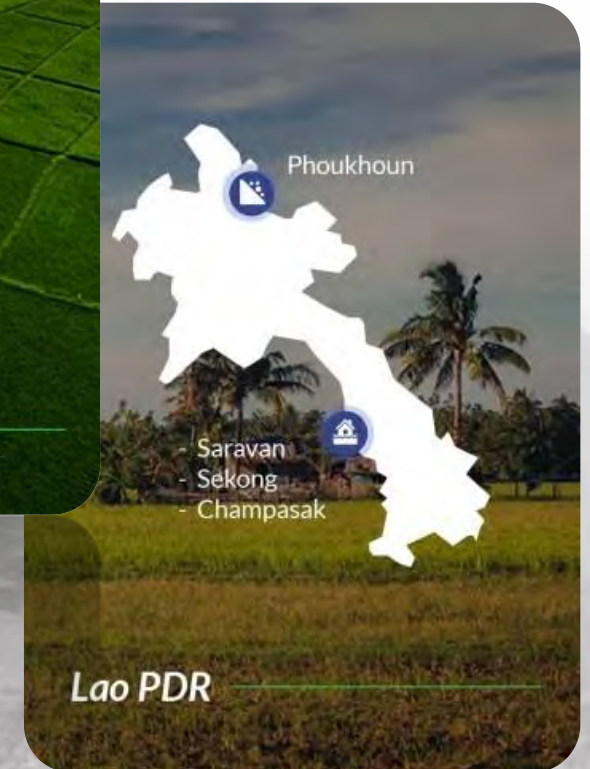
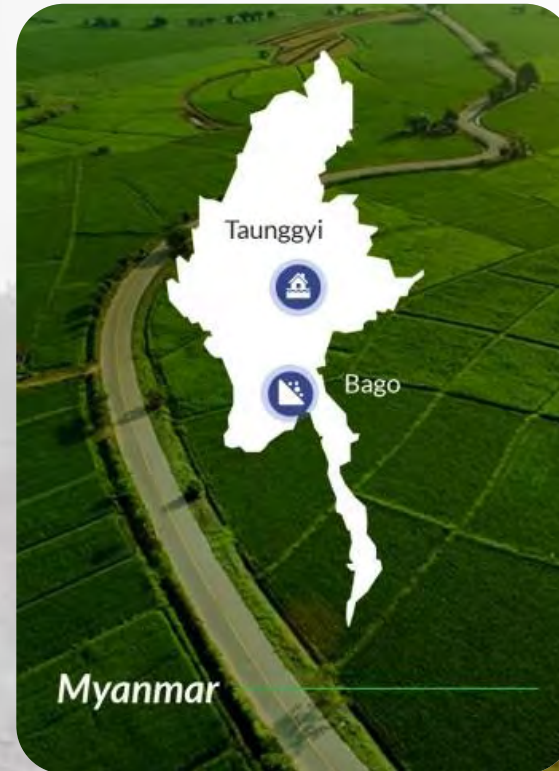
- (1) **Demonstrate the integration of climate projections** into flood and landslide risk assessment through **pilot project** in selected river basins in Lao PDR and Myanmar;
- (2) Develop **guidelines and training modules** integrating climate projections into flood and landslide risk assessment;
- (3) Enhance **technical capacities** of targeted national and local government officials and institutions on flood and landslide risk assessment and risk mapping incorporating of climate projections through structured training sessions, case studies and case visits to ensure transfer of key know-how.

► **Implementing period:** 27 months, October 2018 – December 2020

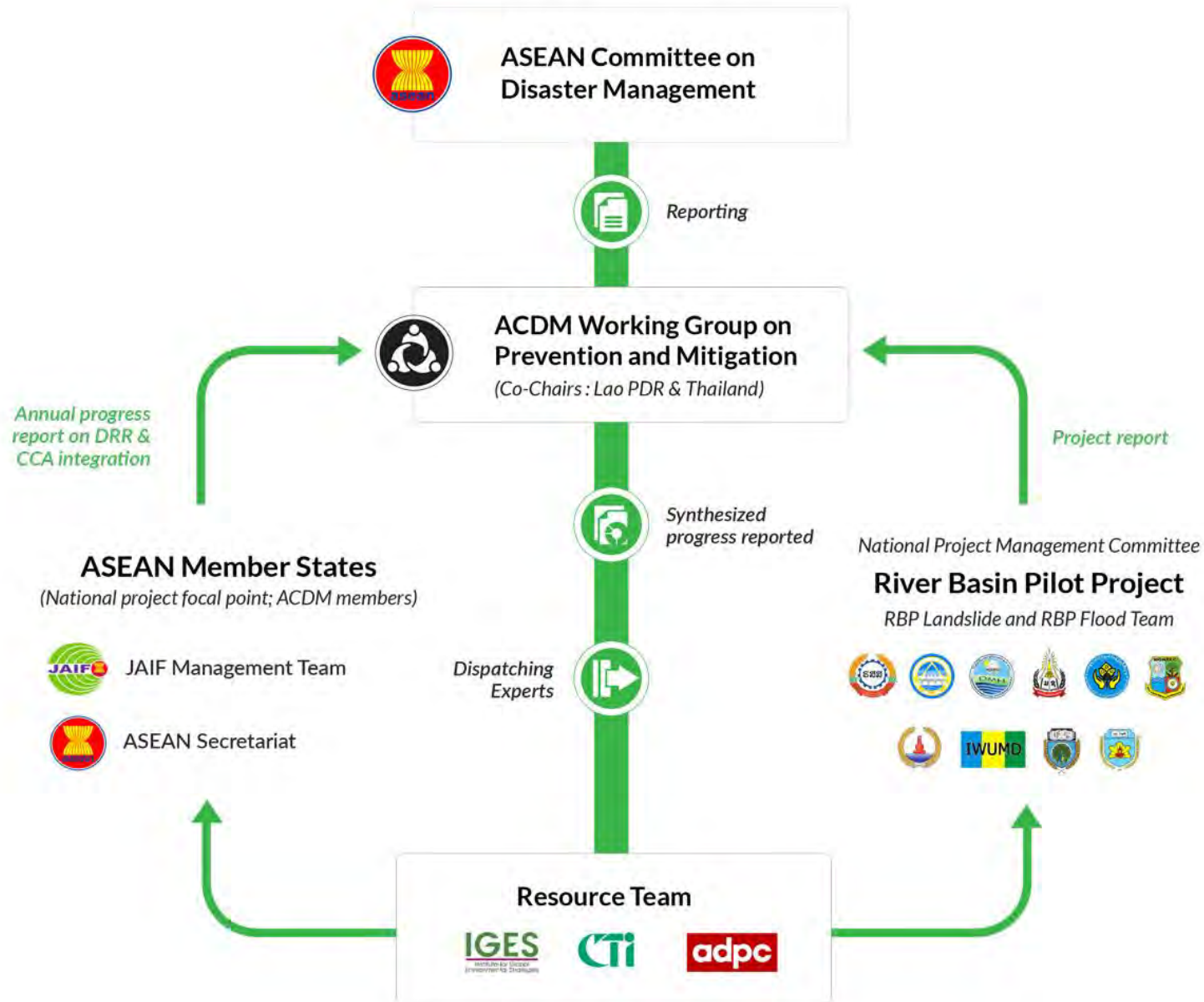
► Target disasters:

Water-related disasters: flood and landslide

► **River Basin Pilots (RBPs):** trial study areas selected in this project. RBPs are conceptualized a units for flood/landslide risk assessment by using the river basin approach and integral part of the capacity building in this project



IMPLEMENTING STRUCTURE



PROJECT TIMELINE

2018 – 2021

PILOT STUDY MYANMAR & LAO PDR

1st Baseline Survey
2nd Field Survey
3rd Field Survey



Myanmar & Lao PDR
Baseline Study
Pilot project sites



Thailand Inception
Seminar & Workshop
Risk Assessment Methodology

Myanmar & Lao PDR
Field Survey
*Risk Assessment Survey
and Training*



Myanmar & Lao PDR
Field Survey
*Risk Mapping Survey
and Training*



Myanmar & Lao PDR
Workshop
*Risk Assessment
Guideline*



COMMUNITY-BASED DISASTER RISK MANAGEMENT (CBDRM) Myanmar & Lao PDR



15 OCT
Project Approval

2018

23 OCT
Lao PDR
Inception Meeting

2019

JAN-FEB
Thailand
Case Visit 1
Landslide Risk Management



MARCH

Philippines
Case Visit 2
Flood Risk Management



JULY

Malaysia
Case Visit 3
Flood Risk Management



NOV

Japan
Case Visit 4
Disaster Risk Management



2020

JAN
Online
Final Seminar

JANUARY

Dissemination of Project Outputs

Output
Guideline and Training Modules

Output
Hazard Maps and Risk Maps

INCEPTION SEMINAR



CASE VISITS

Case Visit 1: Thailand (Landslide Risk Management)
Case Visit 2: Philippines (Flood Risk Management)
Case Visit 3: Malaysia (Flood Risk Management)
Case Visit 4: Japan (Disaster Risk Management)



KEY RESULTS

Guidelines (Manual)
Integrating Climate Change Projections into
Landslide Risk Assessments & Mapping



Technical Reports



Guidelines (Manual)
Integrating Climate Change Projections into
Flood Risk Assessments & Mapping



Technical Reports



STRUCTURE OF THE GUIDELINES

Part I Preparation

Characterize
Hazard

Identify Technology,
tools, resources,
institutions

Team
formation

Collection of
dataset and
information

Data compilation
and strategy for
risk assessment

Part II Assessment

Prediction of
climate scenario

Hazard
Assessment

Vulnerability
Assessment

Risk
Assessment

Risk
Mapping

Part III Planning

River basin
scale planning

Local or community
level planning

Risk
Communication

Recommendations/
guidelines for
stakeholders

EMPHASIS ON THE PROCESS

Climate Impact Modeling



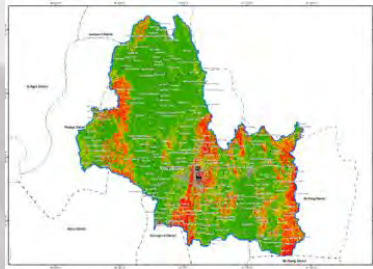
Flood Vulnerability Assessment



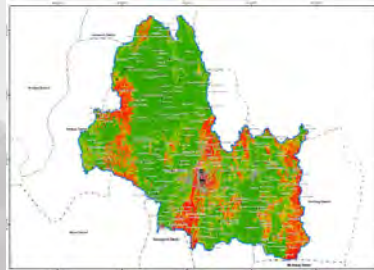
Landslide Hazard & Risk Maps (with/without climate change impact)

80 Flood
34 Landslide

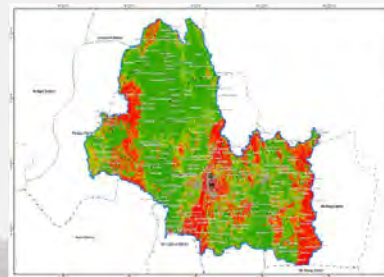
Flood Hazard & Risk Maps (with/without climate change impact)



Landslide Susceptibility Map of Taunggyi, Shan State, Myanmar. By 2030s based on the Highest Extreme GCM with RCP 4.5 Scenario



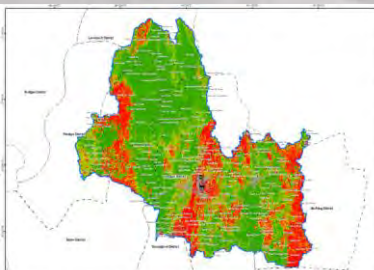
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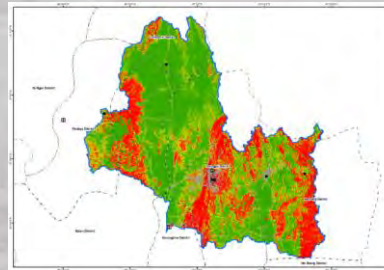
Landslide Susceptibility Map of Taunggyi, Shan State, Myanmar. By 2050s based on the Highest Extreme GCM with RCP 4.5 Scenario



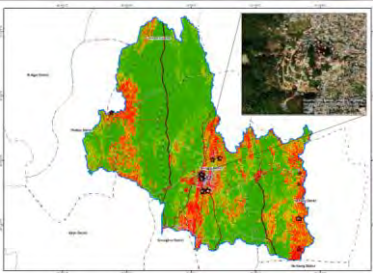
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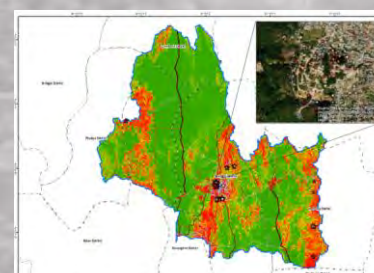
Landslide Susceptibility Map of Taunggyi, Shan State, Myanmar. By 2080s based on the Highest Extreme GCM with RCP 4.5 Scenario



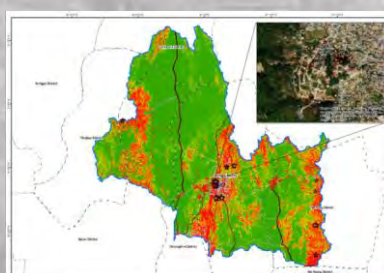
Landslide Susceptibility Map of Taunggyi, Shan State, Myanmar. By 2080s based on the Highest Extreme GCM with RCP 8.5 Scenario



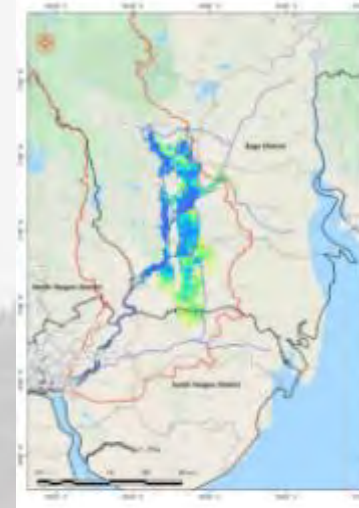
Risk Distribution of Household Surveyed in Taunggyi Watershed of Shan State, Myanmar. By 2030s based on the Highest Extreme GCM with RCP 4.5 Scenario



Risk Distribution of Household Surveyed in Taunggyi Watershed of Shan State, Myanmar. By 2050s based on the Highest Extreme GCM with RCP 8.5 Scenario



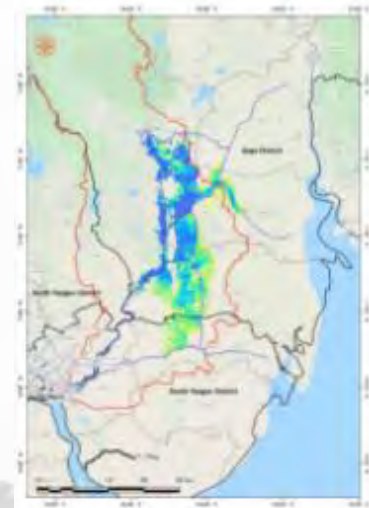
Risk Distribution of Household Surveyed in Taunggyi Watershed of Shan State, Myanmar. By 2080s based on the Highest Extreme GCM with RCP 8.5 Scenario



Flood Hazard Map (Year 2030) Bago River Basin, Myanmar (using the projected rainfall data of RCP 4.5 scenario)



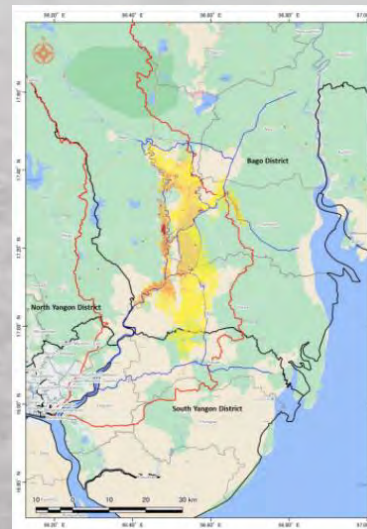
Flood Hazard Map (Year 2050) Bago River Basin, Myanmar (using the projected rainfall data of RCP 4.5 scenario)



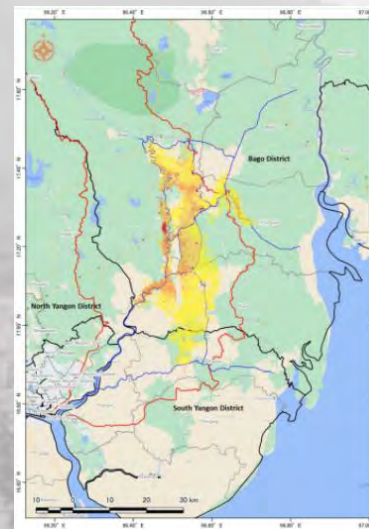
Flood Hazard Map (Year 2080) Bago River Basin, Myanmar (using the projected rainfall data of RCP 4.5 scenario)



Flood Risk Map (Year 2030) Bago River Basin, Myanmar (using the projected rainfall data of RCP 4.5 scenario)



Flood Risk Map (Year 2050) Bago River Basin, Myanmar (using the projected rainfall data of RCP 4.5 scenario)



Flood Risk Map (Year 2080) Bago River Basin, Myanmar (using the projected rainfall data of RCP 4.5 scenario)

PROJECT WEBSITE

A screenshot of the project website homepage. The background is a lush green landscape with a winding road. At the top left is the "asean DRR-CCA" logo. A navigation menu at the top includes "Home", "About", "Thematic Area", "Guideline", "Product", "Media", and "Contact", with "Home" underlined. A search icon is on the right. A large white text box in the center contains the following text:

Building Resilient Communities

Disaster Risk Reduction by Integrating Climate Change Projection

ASEAN suffers damage in excess of US\$4.4 billion each year on average as a consequence of disasters resulting from natural hazards, including flood



<https://aseandrr.org>



THANK YOU

