



## COP27 Japan Pavilion Seminar

“Nature-based solutions in forest sector to promote mitigation and adaptation against climate change sectors?”

# Issues Related to Land Use and Sediment Disaster Risk in Mountainous Areas of Vietnam

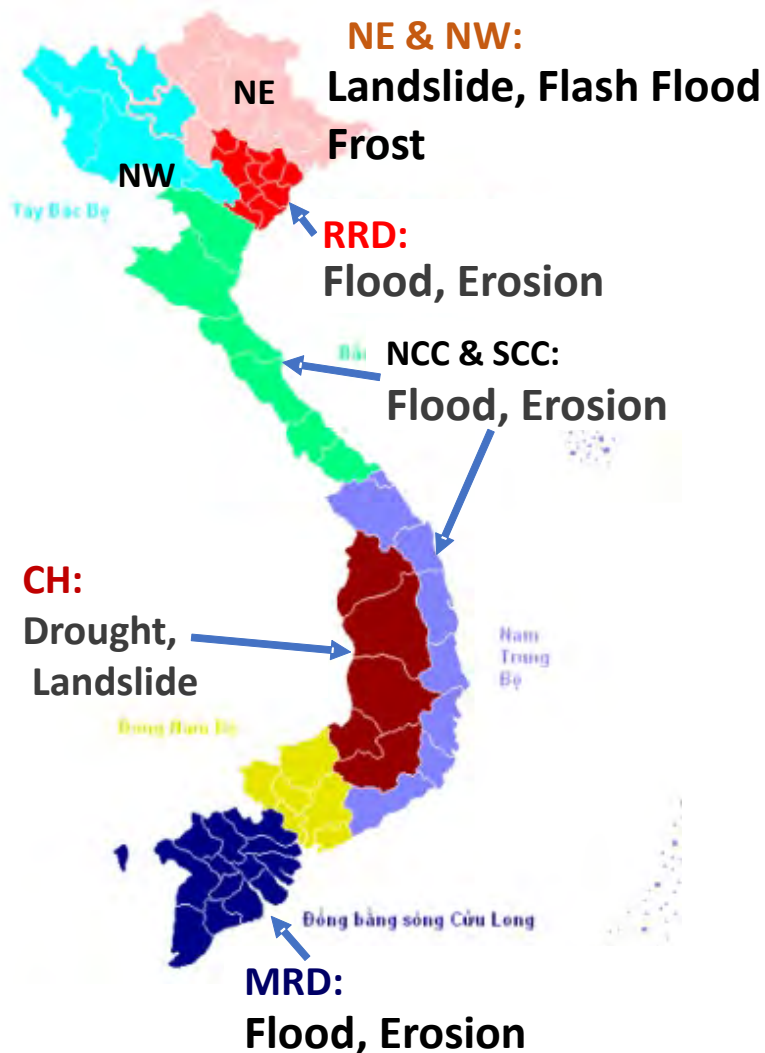


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# Natural Disasters in Vietnam



An aerial photograph of a lush green valley with terraced rice fields. The terraces are arranged in a grid-like pattern, with some fields appearing golden-brown, suggesting they are ready for harvest. A small stream flows through the valley, and a winding road is visible on the right side. The foreground is dominated by dense green trees and foliage.

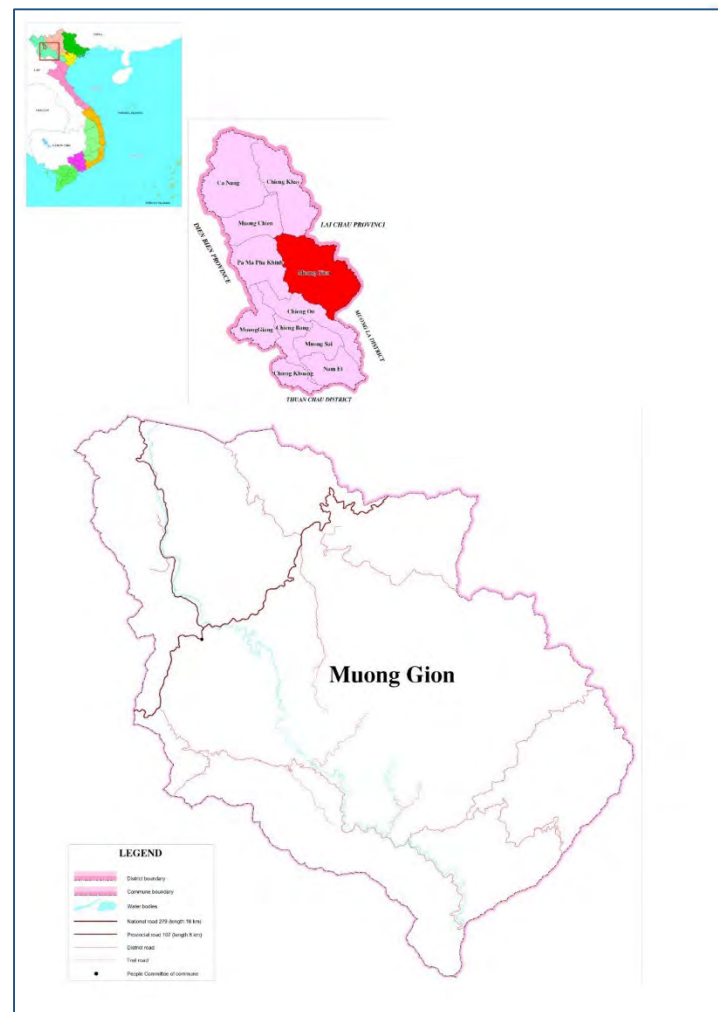
## Forests Management and Natural Disasters

- In developing countries, well-managed forests can contribute to effective disaster risk reduction.
- It is important to understand the awareness of local communities regarding forests, land use and natural disasters.

# MGC Research Site in Vietnam

- We conducted interviews with local residents in Muong Gion Commune (MGC) about forests, land use, and natural disasters

ITEM	VALUE
Total area	187.1 (km <sup>2</sup> )
Forest area ratio	47.8(%)
Elevation	500-1,500 (m)
Population	11,881
population density	64 (persons/km <sup>2</sup> )
Main sources of income	livestock (40%), agriculture (30%), Forestry (10%)
Household income	1,100 (USD/year)
poverty rate	14 (%)



An aerial photograph showing a mountainous landscape with a central river valley. The terrain is rugged and green, with a river winding through the center. The text 'Land Use Issues in MGC' is overlaid in white on the left side of the image.

## Land Use Issues in MGC

*Aerial view of MGC by Google*

- Due to the mountainous terrain, the farmland area is limited to only 7%.
- Steep slopes with gradients exceeding 30 degrees are also used as farmland after forests are cleared.
- Surface erosion occurs on slopes, which not only reduces the productivity of agricultural land, but also causes river pollution with the sediment.

# Sediment Disasters Experienced in MGC

- Main damage by the disaster included the destruction of rice paddies, residential areas, and roads, with associated repair costs and loss of forests.

Village	Flood	Flash flood	Land slide
Khop		✓	✓
Gion		✓	
Huoi Teo		✓	
Cut	✓		✓
Mac Liu		✓	
Xa	✓		✓
Cha Co			
Keo Ca			
Huoi Van			
Huoi Nga			



Shallow landslide along a road in MGC



## Residents' Perspectives Against Disasters

- The residents know that forests play important role in mitigating sediment disaster risks. They also understand that excessive deforestation can cause disasters.
- In order to maintain their living, it is difficult for them to stop using the mountain slopes as farmland, even if the disaster risk would increase.
- They have limited knowledge and experiences in natural disasters mitigation.

# National Policies on Forest Conservation

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- In MGC, 30% of the forests are designated as protected forests.
- Vietnamese government has imposed a “**Payment for forest environmental services (tax)**” on the hydropower plant that benefit from protected forests.
- The payment is distributed to MGC and used to cover the costs of afforestation.



A hill in MGC, devastated 30 years ago but now reforested! The residents are cooperating with the forest protection policy.



# Conclusions

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- Interviews on land use and sediment disasters were conducted with residents of mountainous areas in Vietnam.
- In order to make a living, residents are forced to use steep forest slopes as farmland, even though they are aware of the disaster risks.
- They have limited knowledge and experiences of disaster prevention such as risk assessment and evacuation methods.



*This content is part of a joint project between **Vietnam Academy of Forest Science (VAFS)** and **FFPRI**.*