

Lessons Learned From Landslide Disaster Recovery in Hakha Town, and How to Strengthen Resilience

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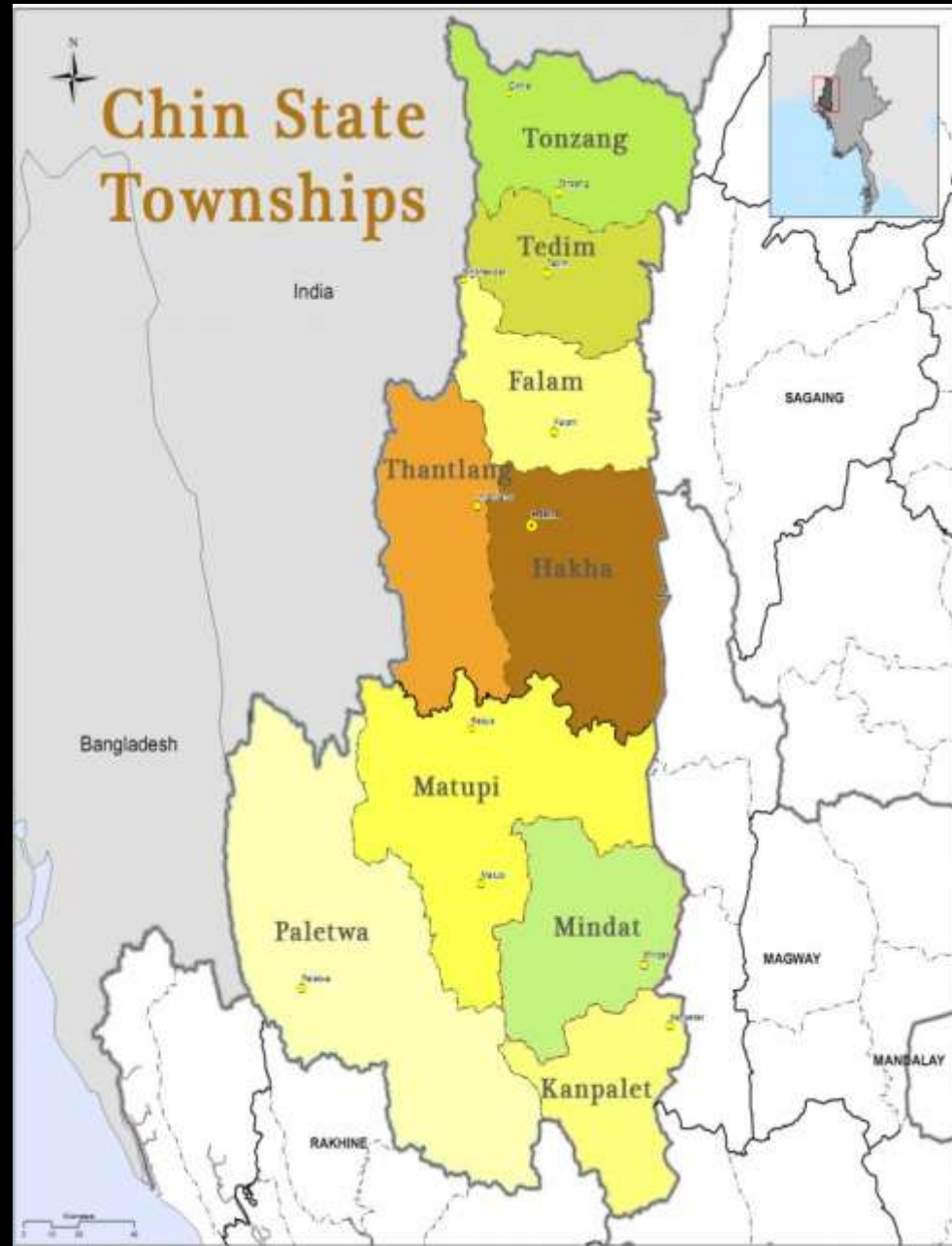
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Chin State

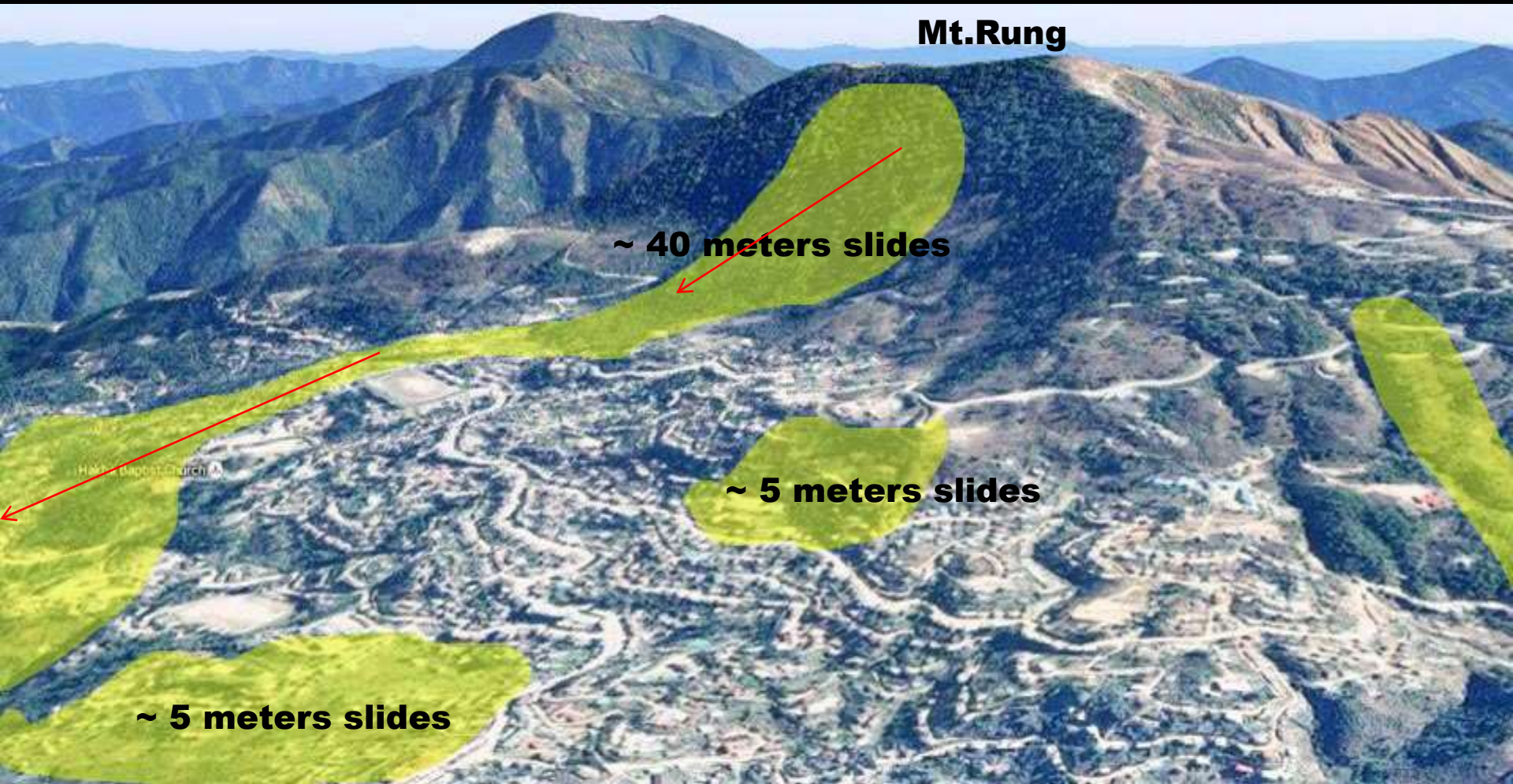


Hakha before landslide



Source: Google earth

Hakha landslide in 2015 (generally)



Source: Google earth

Hakha and Post-disaster scenario

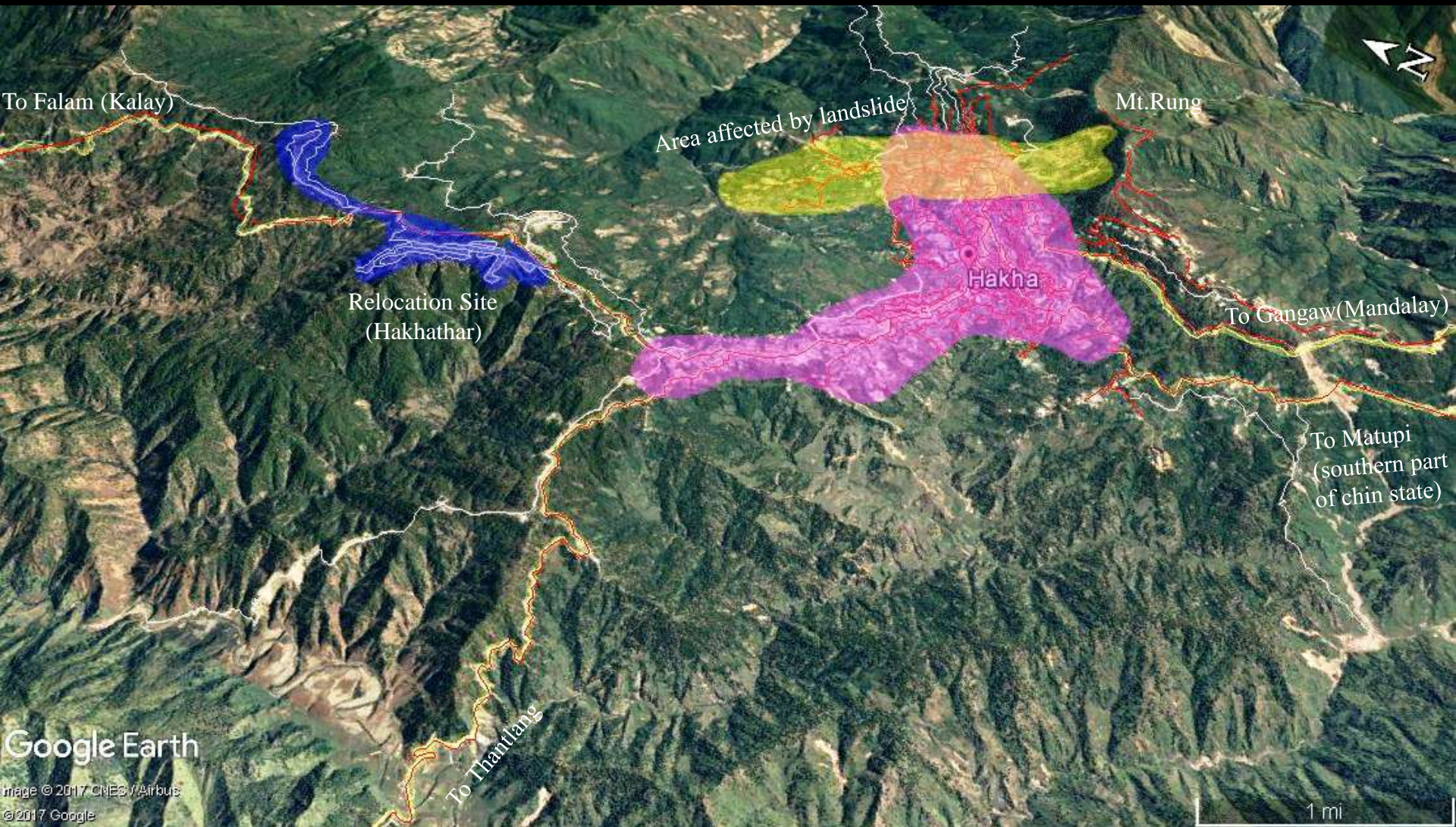


Fig. Hakha town and surrounded connection roads (image from google earth 2016)

Unprecedented landslides **Awakening CALL for all Chins** **around the world**

- ☐ **What just happened?**
- ☐ **Why?**
- ☐ **How can we not be that again?**

the government reported that **20,449 people** were affected
Data from CCERR (Chin Committee for Emergency Relief and Rehabilitation) updated as of 14th November 2015 estimated that number to be as high as **54,537 people**.

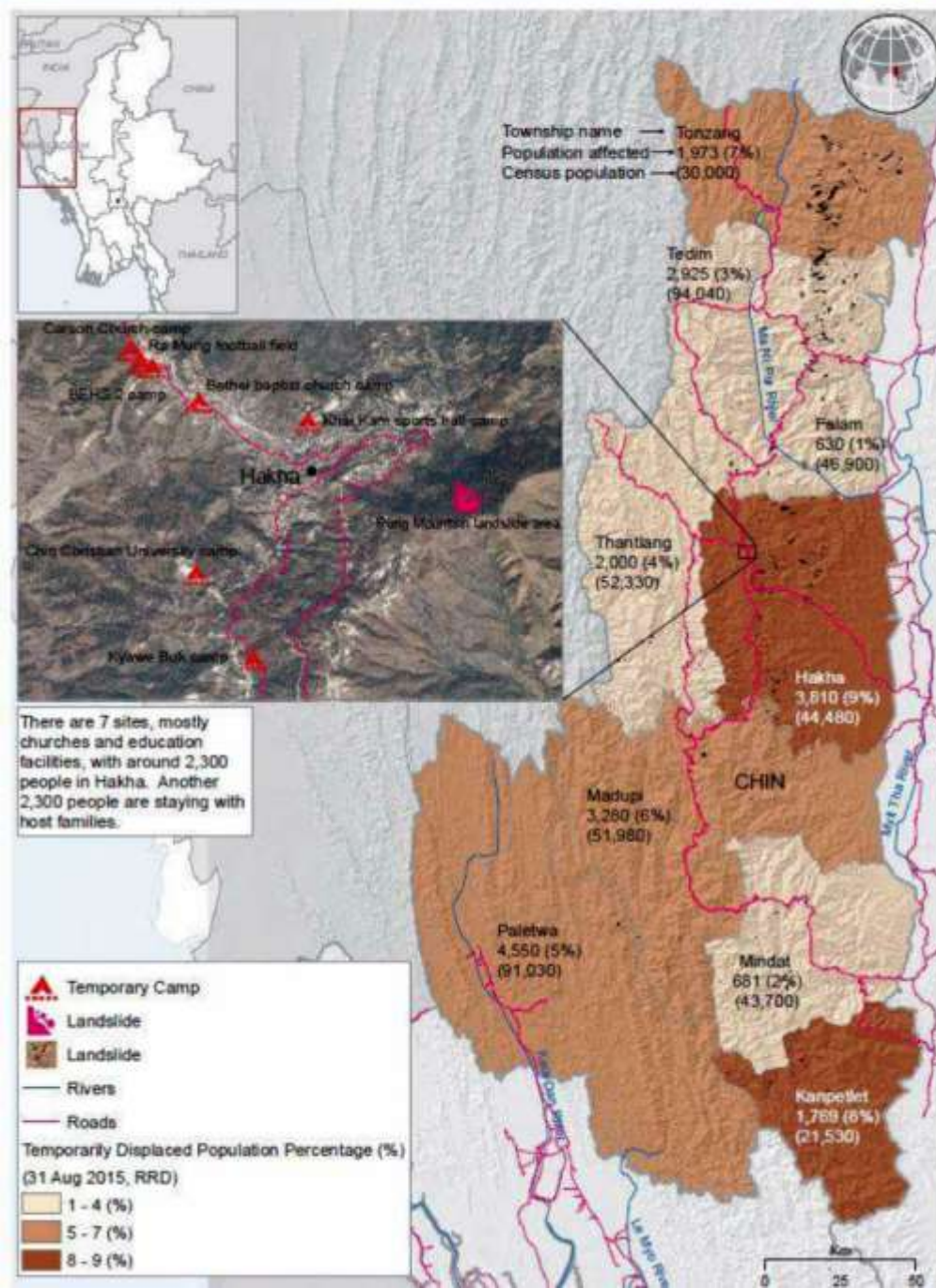


Fig. Affected Area and IDPs Camps (Source; UNOCHA)

**Why Chin State is more
vulnerable than other part of
the country?**

Most impacts to

- **Built Environment
(Buildings and Infrastructure)**
- **Social life**
- **Economic**
- **Livelihoods**
- **Resources**

1. Government Development Policies for the whole country

(Limited time, Limited Budget, Limited Quality)

Leading unqualified Finished Projects



Unfinished development Works - Connection Roads between Towns and Villages (landslide in slope Terrain)





Failed Roads and Drainage System (connecting roads between towns)



**Failed Roads and Drainage
System (Myo haung block,
Hakha Town)**



**Failed Roads and Drainage
System (connecting roads
between towns)**

2. Unplanned Town Planning (new settlement without proper streets)



new settlement without proper streets and planning



2. Unexpected Rainfall – Climate change - Deforestation / vegetation cover / green awareness



3. Poverty and lack of knowledge to get assistance in construction by Experts and Professionals



4. Construction methods – lack of Structural Awareness and rules and regulations



5. Awareness of Topography of the land

- **No record of Disaster hazard zoning map**
- **No awareness in Mitigation of Soil Erosion**



Example of Mitigation of Soil Erosion

6. Social-cultural issues

Church-based relief and rehabilitation works and Local people and aid committees have limited experience in responding to emergencies

Churches and Public buildings as IDPs Camp



Churches and Public buildings as IDPs Camp



Construction of Temporary Shelter

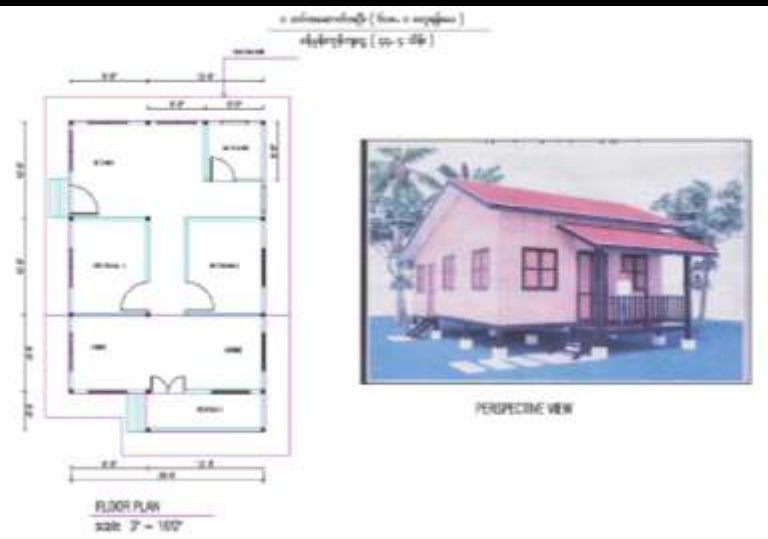


6. Relocation Area

**Government Policies – Limited time,
Planned without assuming local
topography**



Imported Designs – not adaptable with slope terrain



Prefabricated Imported Materials – Panelized in factory and assemble in site



To strengthen **RESILIENCE of the
community,**

- ☐ **Short term**
- ☐ **Long term**

For Short Term Resilience

- **Repairing the damaged**
- **Reconstruction of affected area**
- **Rebuilding**
- **Reconsidering the ongoing projects**

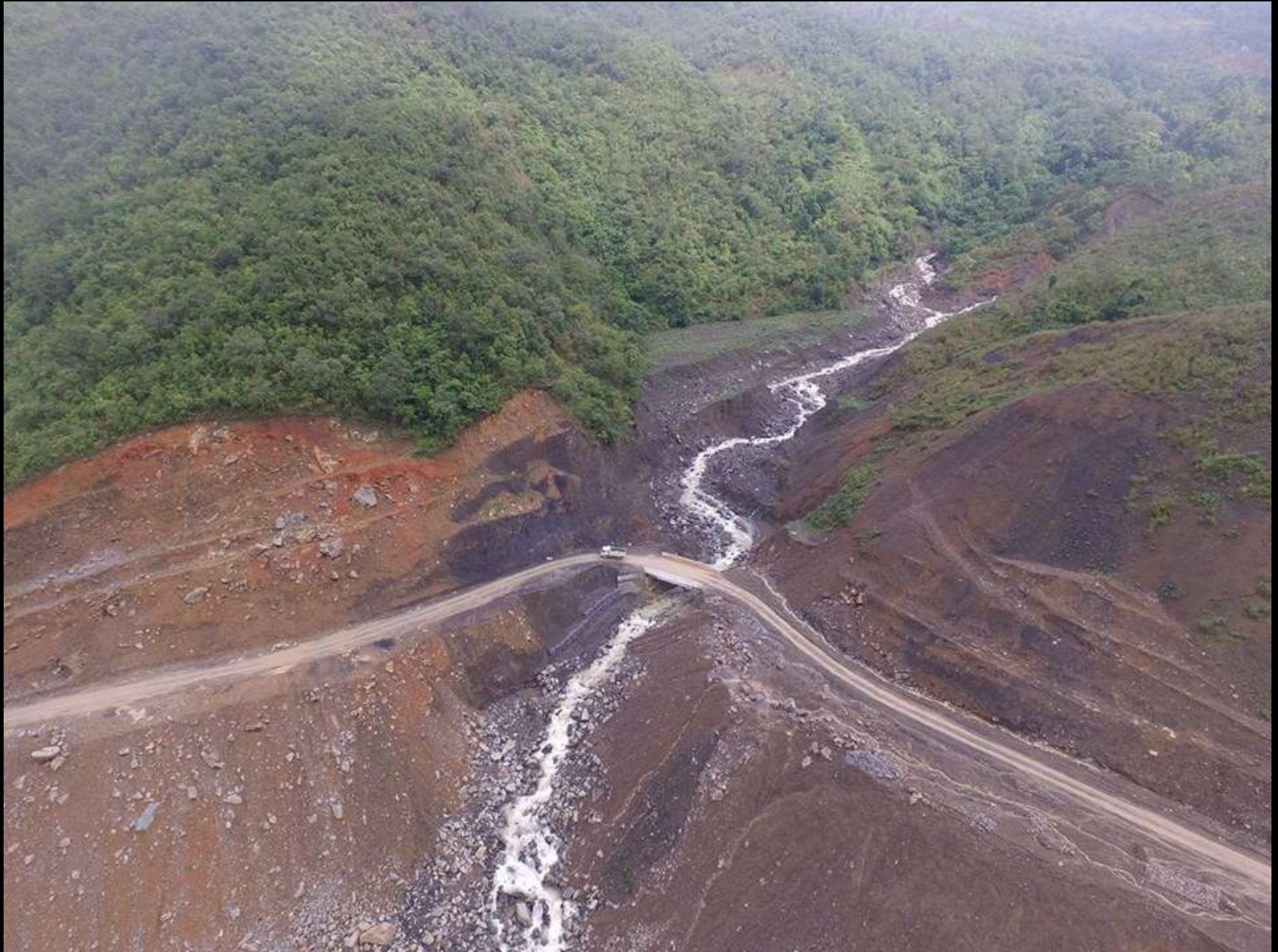
For Long Term Resilience

1. Government Rules and Regulation for Development Projects

Time frame



Monitoring





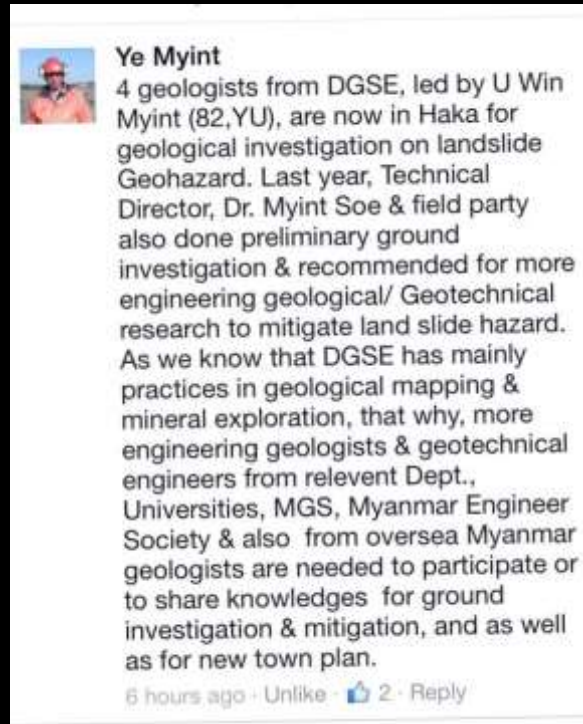
Technical supports



Technical supports



2. Geological Solutions – such as hazard zoning map from Experts



**Comments and Helps from Myanmar Geosciences Society
(sources: individual's Facebook page)**

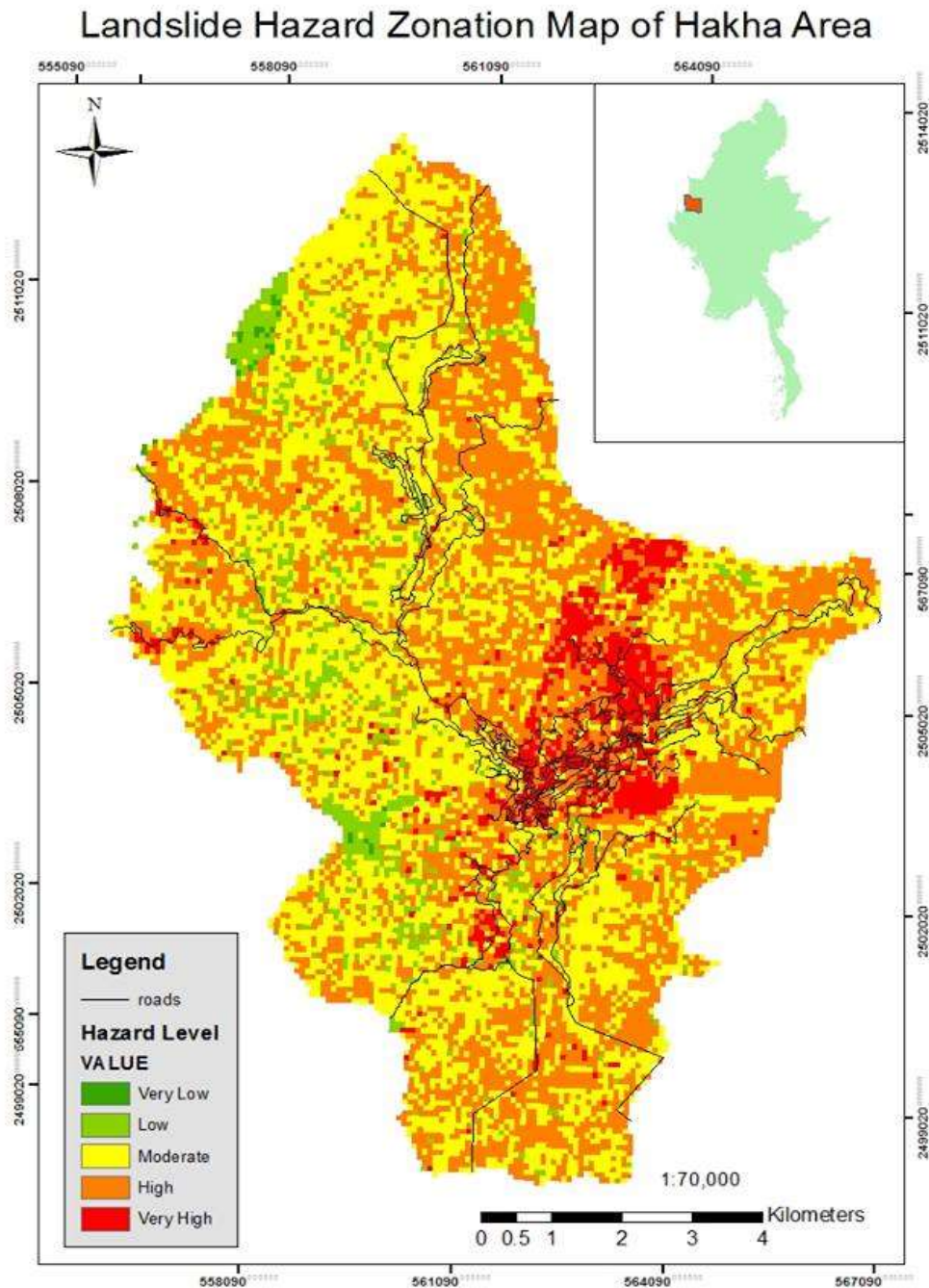
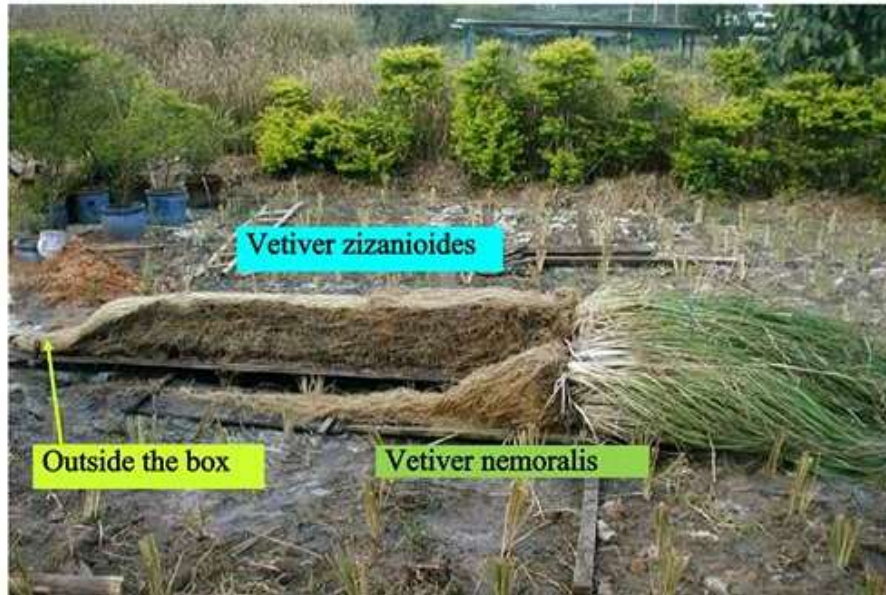


Fig. Landslide Hazard Zonation Map of Hakha Area (Source: Rain triggered Landslide hazard Zonation Mapping in Soft Rock Mountainous Region: a case study in Chin State ,Myanmar by Kyawswar Myint Thein, Asian Institute of Technology 2016)

3. Agricultural Research on cultivation and green cover

Deep, extensive and penetrating root system

One year old: 3.3m deep





**Fig. Vetiver Grass plantation
(Collaboration of Chin state Government, Australia Chin Relief
Committee and Myanmar Vetiver network)**

4. Enhance the rules and regulations of construction in local building practices



5. Capacity Building

- ☐ Emergency relief and recovery**
- ☐ Preparedness/ Mitigation plans**
- ☐ Construction/ House design workmanship**

Thank you

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