Welcome

To my presentation on

Community Vulnerability to Landslides in the Chittagong Hill Districts of Bangladesh

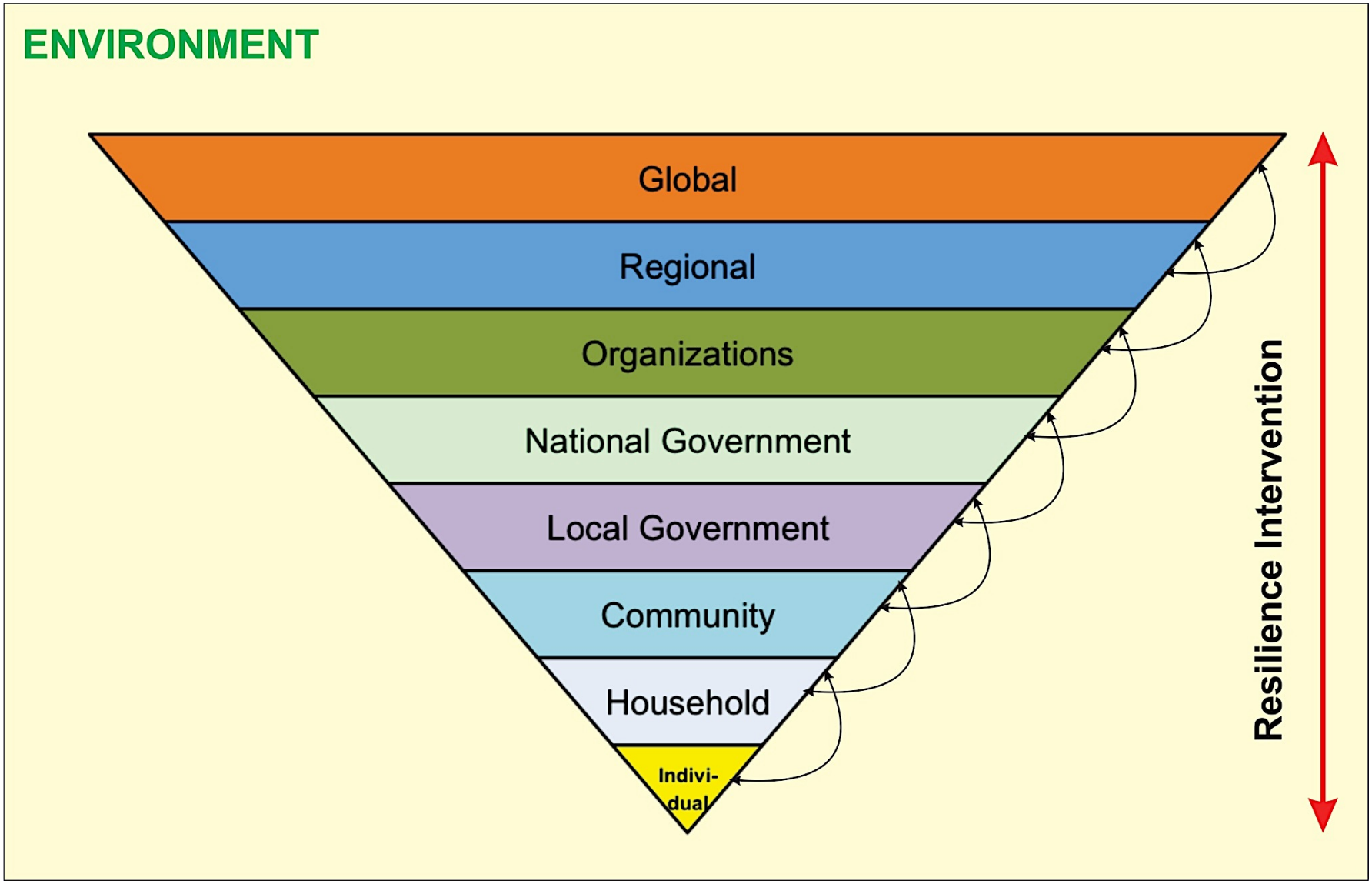
BAYES AHMED

18 January 2017

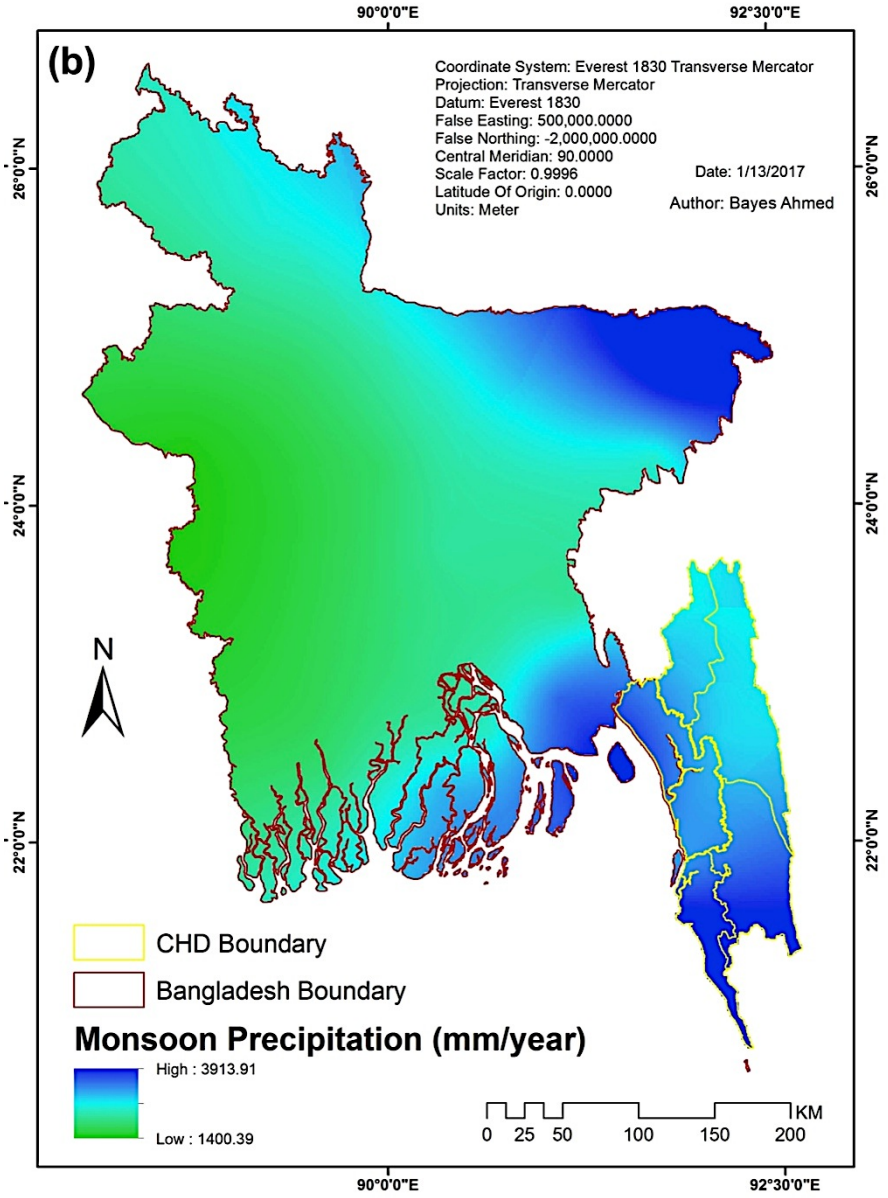
Study Area

Landslides

Vulnerability Levels

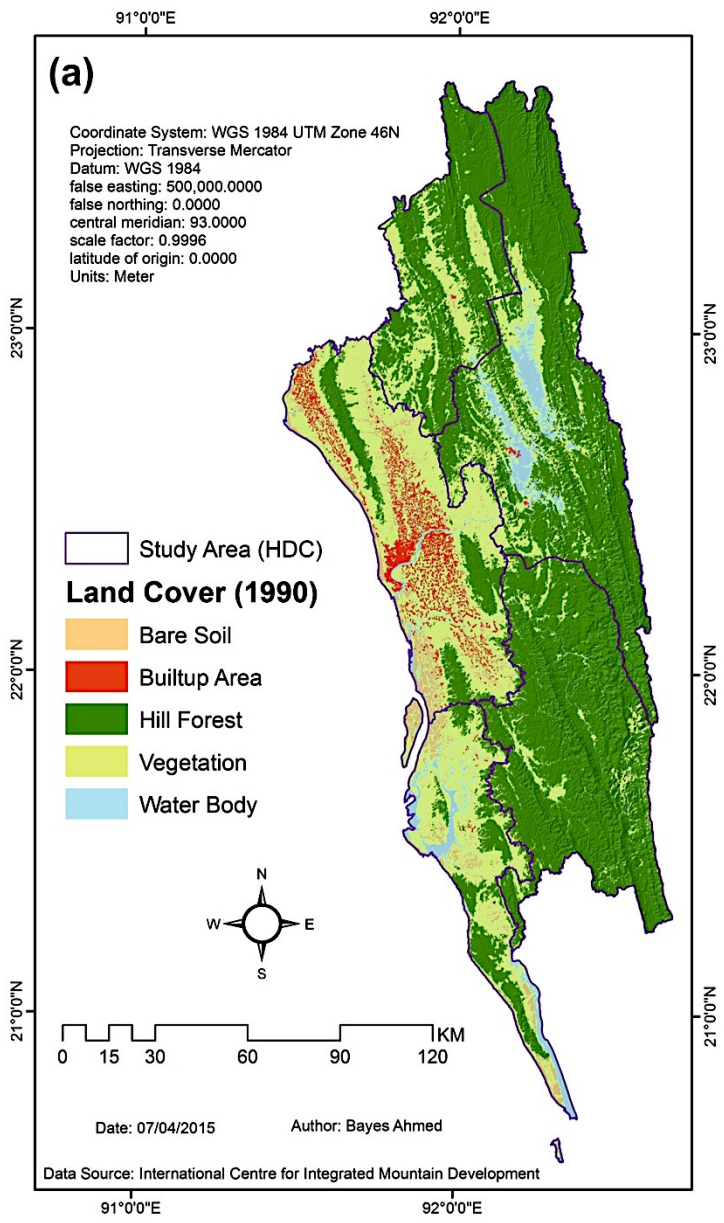


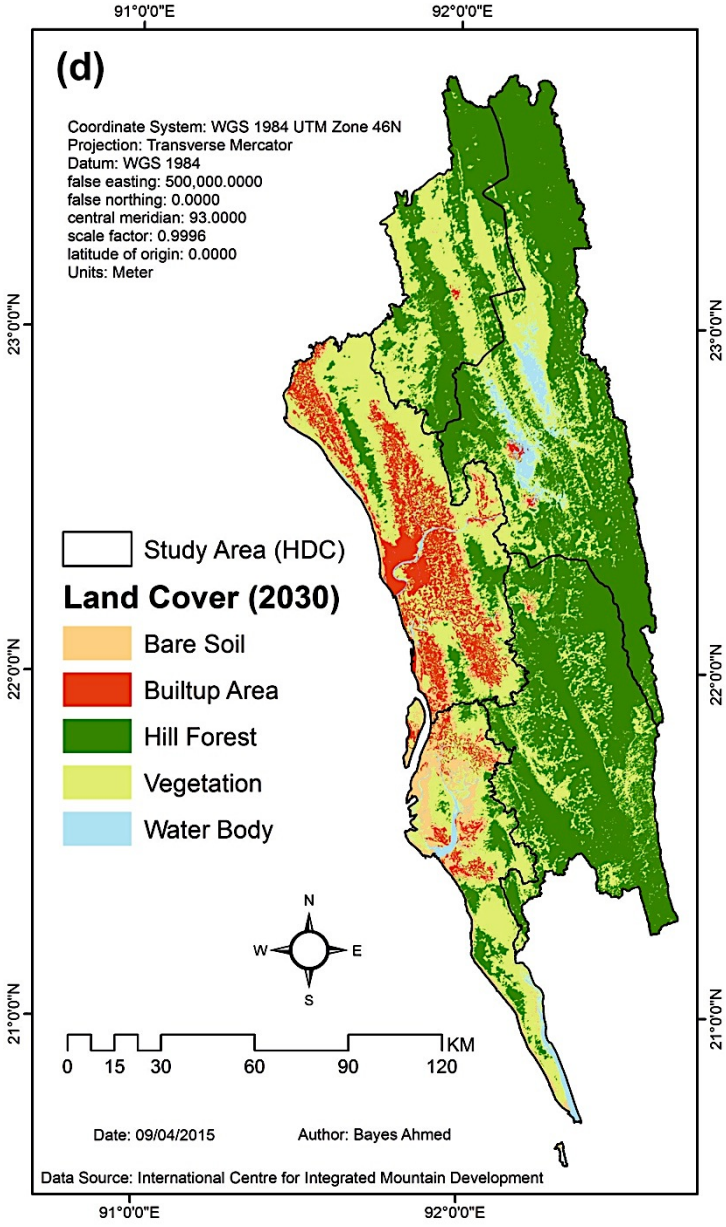
Precipitation Pattern



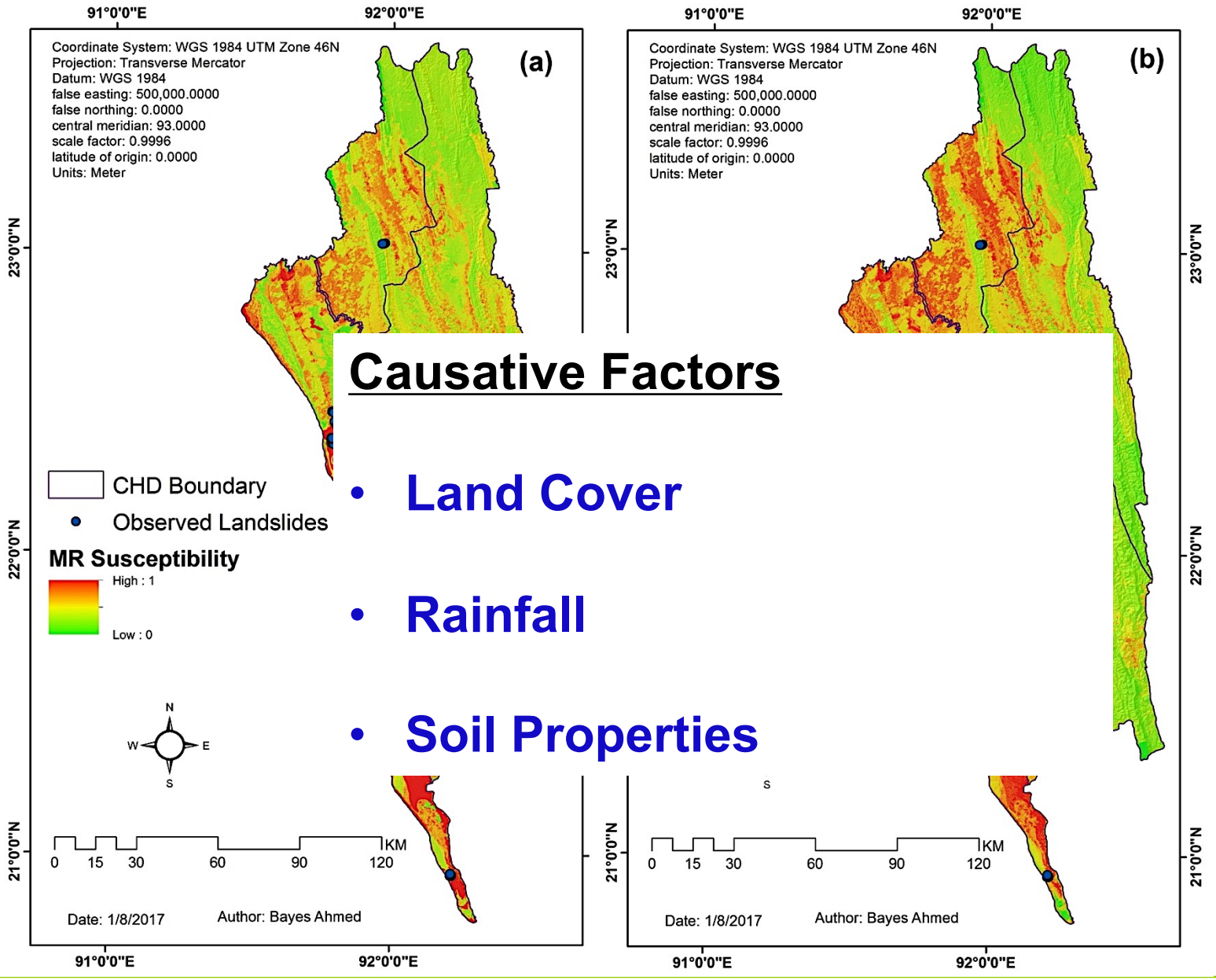
Extreme precipitation events over the wet tropical regions will very likely become more intense and more frequent by the end of 21st century due to climate change (IPCC, 2014).

Land Cover Changes (Urbanization and Deforestation)





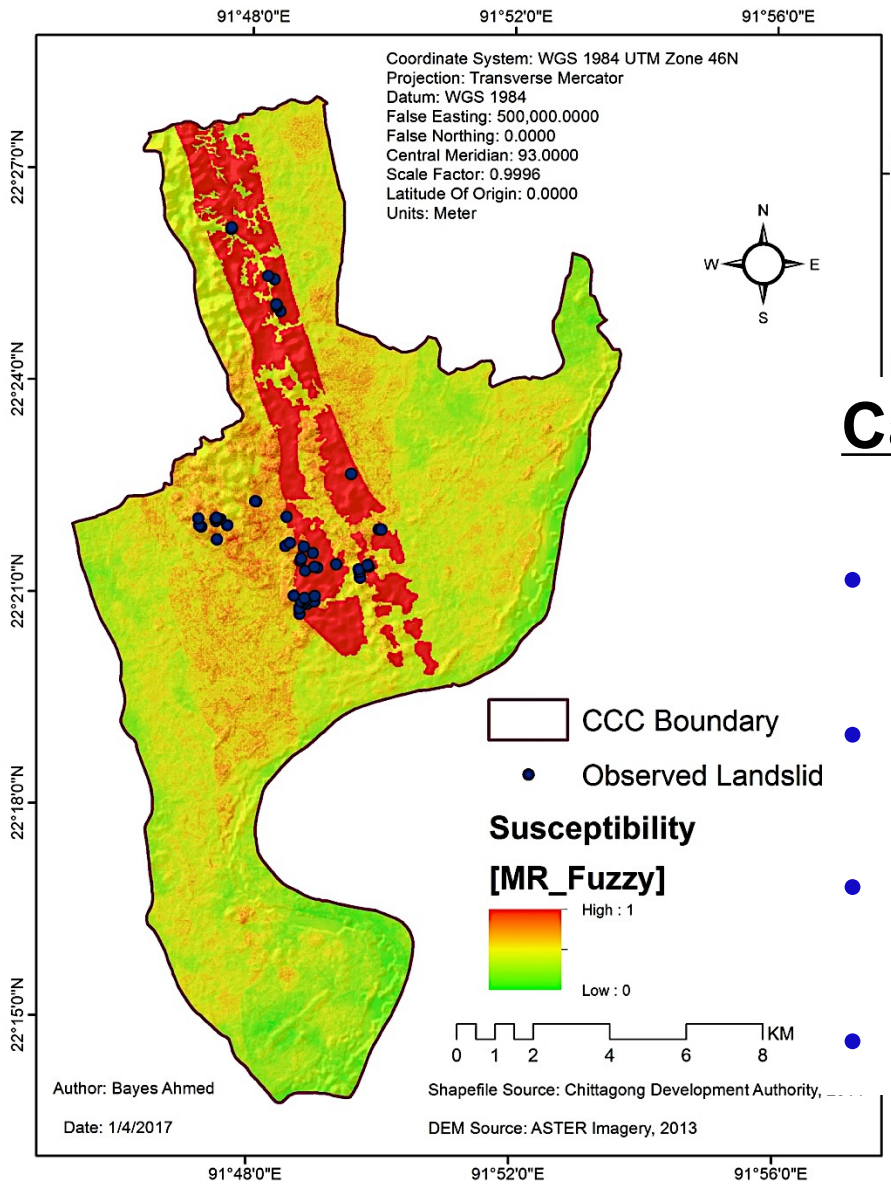
Landslide Susceptibility Mapping (Regional Scale)

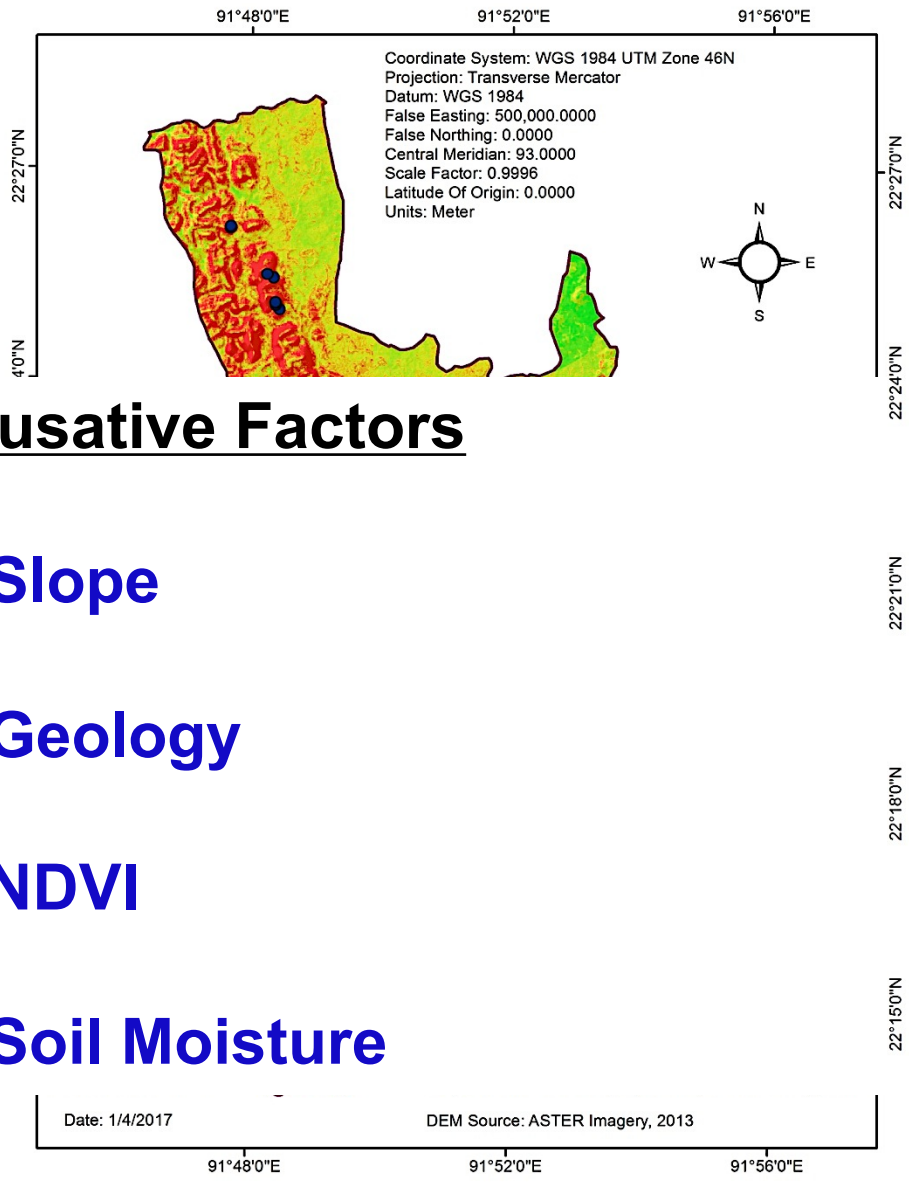


Causative Factors

- **Land Cover**
- **Rainfall**
- **Soil Properties**

Landslide Susceptibility Mapping (Local Scale)





Causative Factors

- Slope
- Geology
- NDVI
- Soil Moisture

Early Warning System

0	35	210	151	142	226
41	67	180	129	111	167
98	105	255	249	250	87
66	170	222	180	200	99
38	119	178	159	199	80
186	20	17	77	45	20

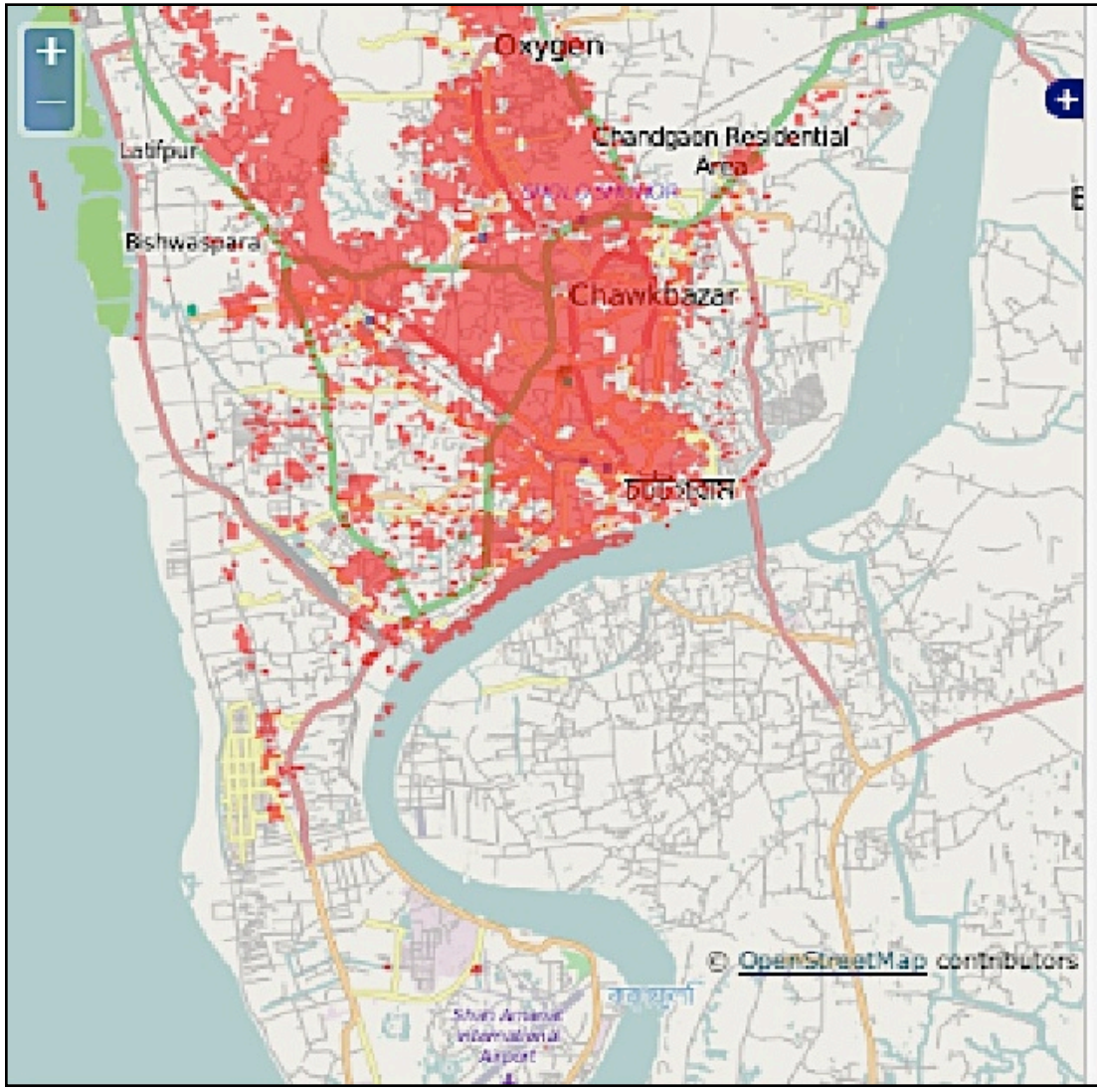
24 hours **70mm** Rainfall

Red Cells: 16 (9)

Yellow Cells: 10 (12)

Green Cells: 10 (15)

Web-GIS Based Early Warning (www.landslidebd.com)



Id	Date	Precipitation(mm)
0	Jun 29, 2015	4.30
1	Jun 28, 2015	16.10
2	Jun 27, 2015	26.20
3	Jun 26, 2015	64.00
4	Jun 25, 2015	90.70
5	Jun 24, 2015	117.00
6	Jun 23, 2015	60.50
7	Jun 22, 2015	55.00
8	Jun 21, 2015	5.70
9	Jun 20, 2015	14.60
10	Jun 19, 2015	0.20
11	Jun 19, 2015	7.10
12	Jun 18, 2015	0.70
13	Jun 17, 2015	0.10
14	Jun 17, 2015	0.30
15	Jun 16, 2015	0.50
16	Jun 16, 2015	1.20
17	Jun 15, 2015	13.20
18	Jun 15, 2015	15.10

Outreach Activities

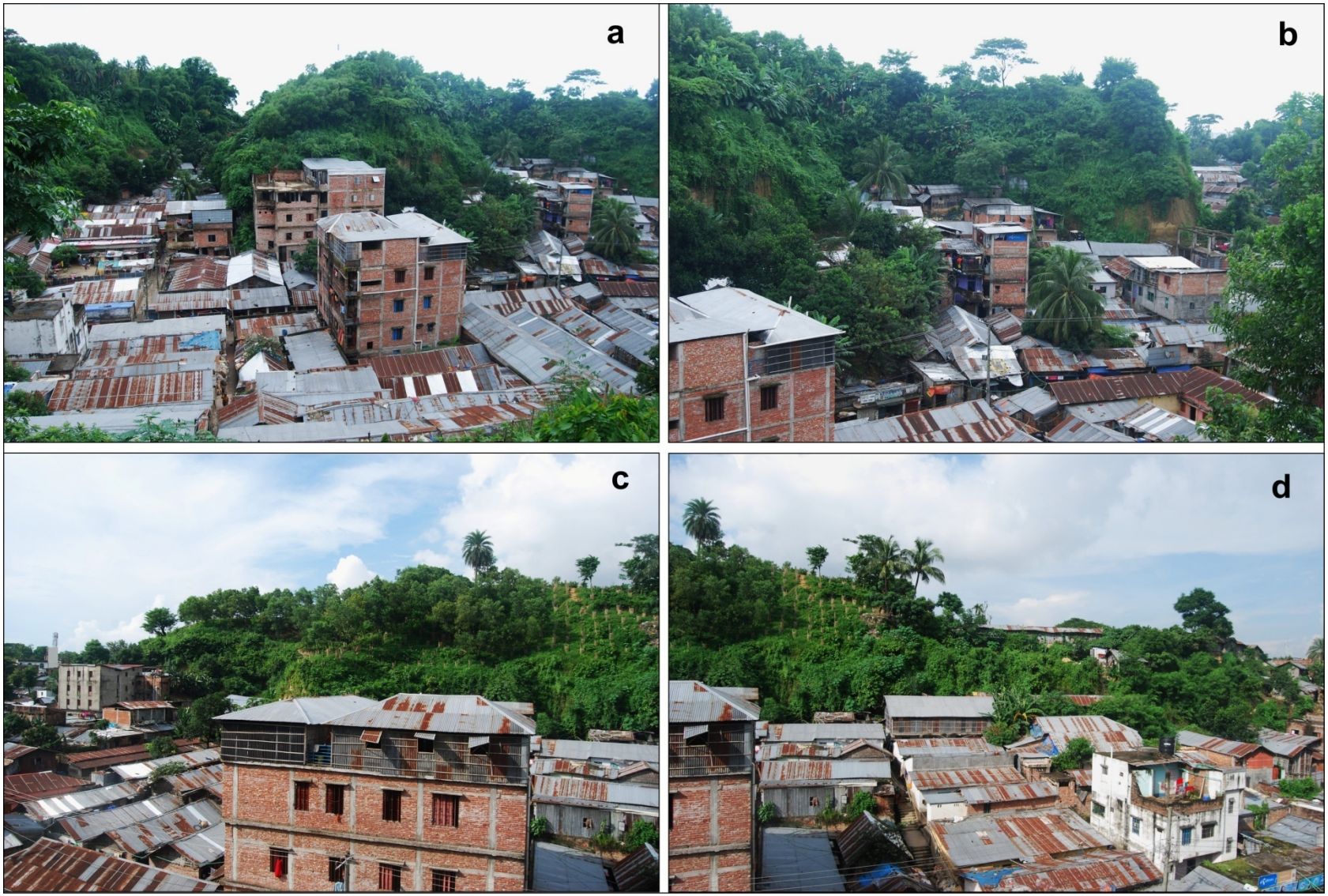
Stakeholder **Meeting**

Community Awareness Building

Expert Knowledge Sharing Meeting

Door to Door Awareness Building

Urbanized Hill Communities



Hill Cutting/ Ecological Degradation

Community Vulnerability Assessment

Household Questionnaire Surveying & 10 different community-based **PRA tools** were implemented:

1. **Time line/ historical profile**
2. **Social and resource mapping**
3. **Transect walk**
4. **Venn diagram**
5. **Mobility mapping**
6. **Vulnerability mapping**
7. **Cause-effect diagram**
8. **Pair-wise problem ranking**
9. **SWOT analysis and**
10. **Dream mapping**

7 Urbanized Communities were surveyed

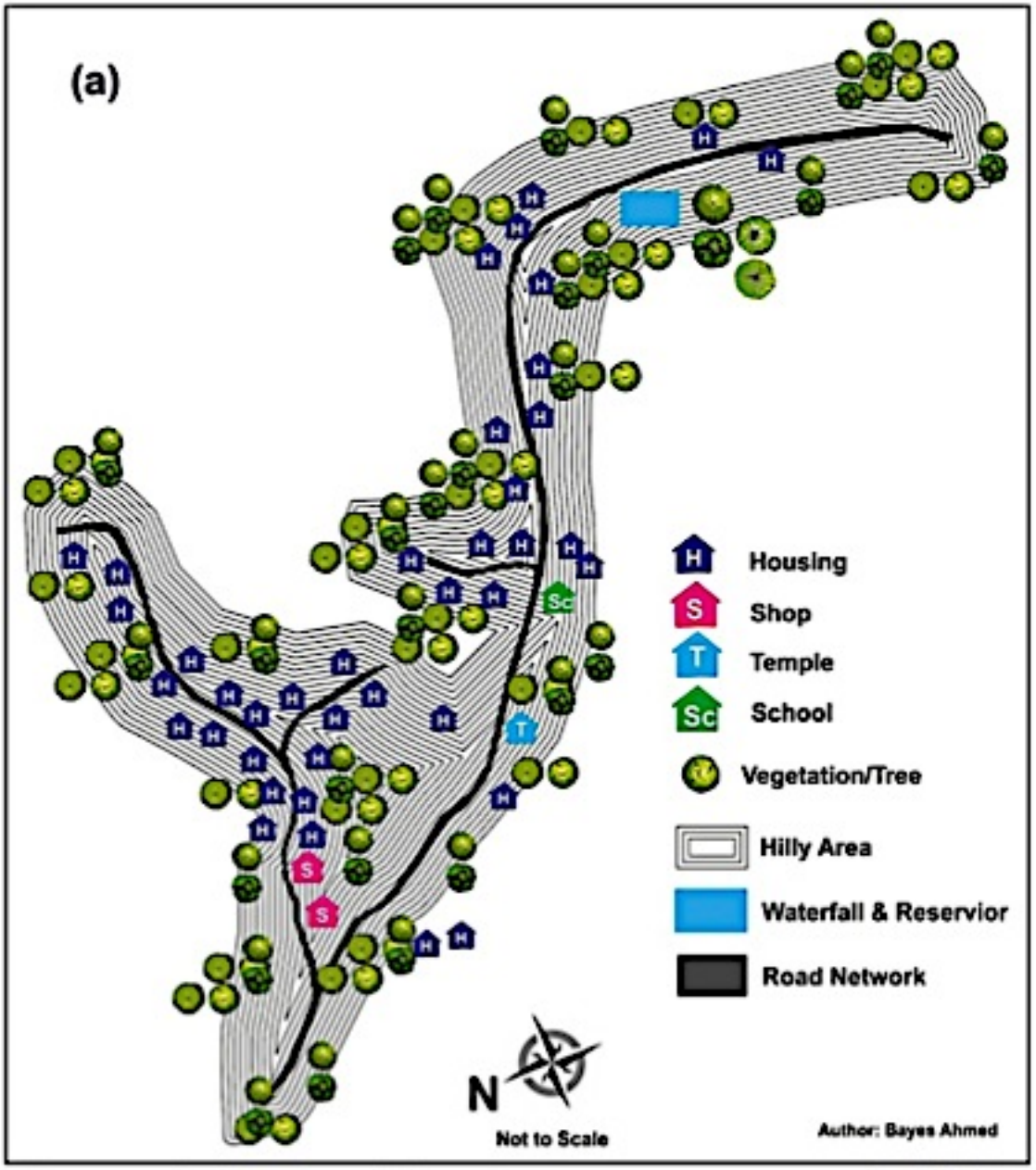
Causative Factors:

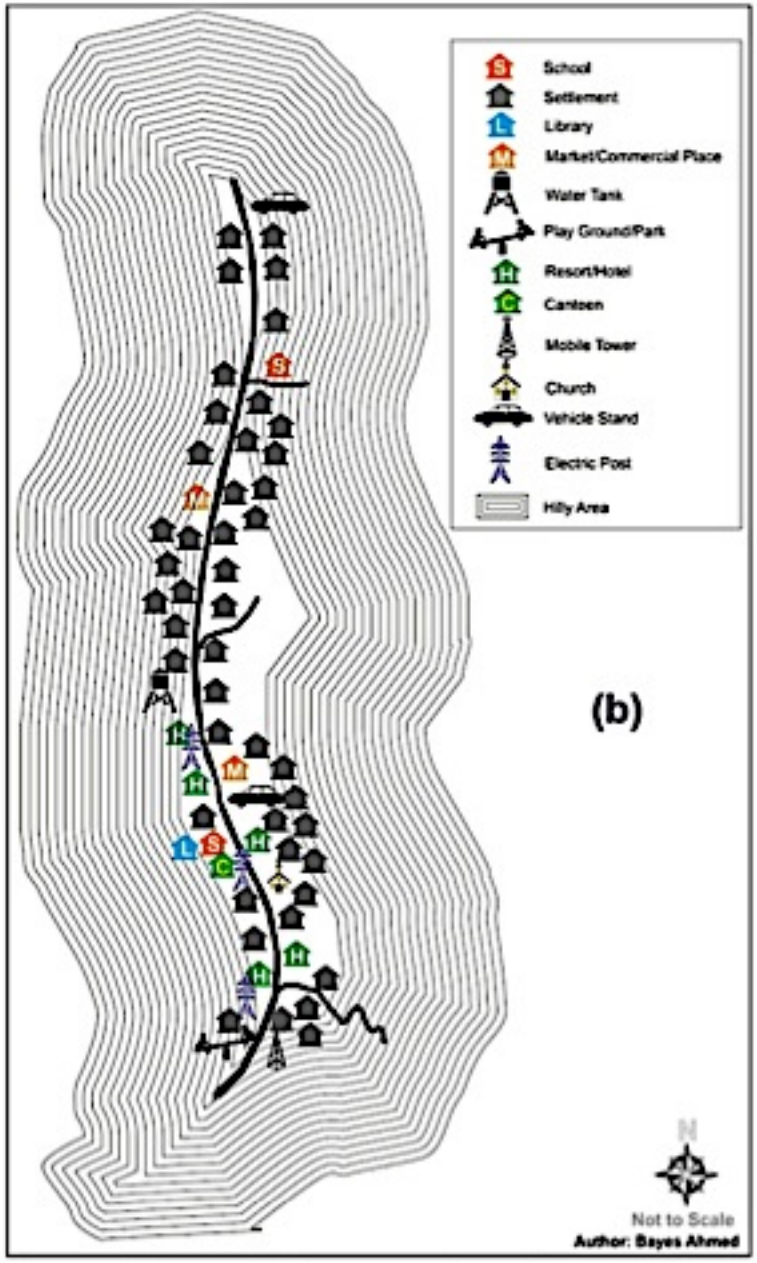
ECONOMIC

INSTITUTIONAL

Indigenous Tribal Communities

PRA Maps and Diagrams





4 Indigenous Tribal Communities were surveyed

Resilience Factors:

CULTURAL HERITAGE

TANGIBLE: HILLS, HOUSING, AGRICULTURAL PRACTICE, ANCESTORS LAND

INTANGIBLE: HISTORY, CUSTOM, TRADITION, SENSE OF BELONGINGNESS

DRR Component

Global Scale: Climate Change ≈ Global Warming

Regional Scale: Land Cover, Rainfall, Soil [Physical]

Local Scale: Slope, Geology, NDVI [Physical]

Administrative Community Scale: Hill Cutting, Economic, Ecological, and Institutional

Cultural Community Scale: CULTURAL HERITAGE

Vulnerability Dimensions:

CULTURAL > Physical, Social, Economic, Ecological, and **Institutional.**