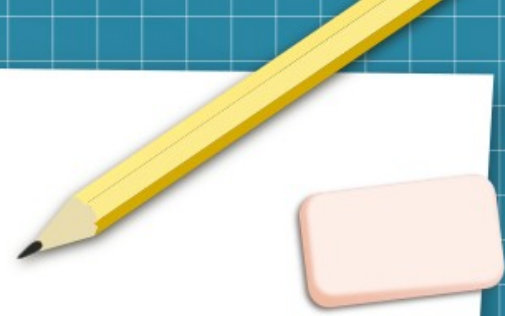




Visualizing Hazard Data in Web (Design Process)

Binabh Devkota
Roll no: 05

Introduction



- Hazard data is sensitive
- Chance of misinterpretation
- Proper symbols and colors are needed
- This work is publicly available at:
<https://pdra.wvnepal.org/#/project-summary/8>
- Thought process behind choosing the elements we chose
- Challenges and limitations

Simple Demographic Data

Socio Economic/Demographic Information

Gender

Total Population
10449



		Male	5345	51%
		Female	5104	49%
		Others	0	0%

Source: 2021, Household survey conducted in the region.

Ethnicity

Total households
1741

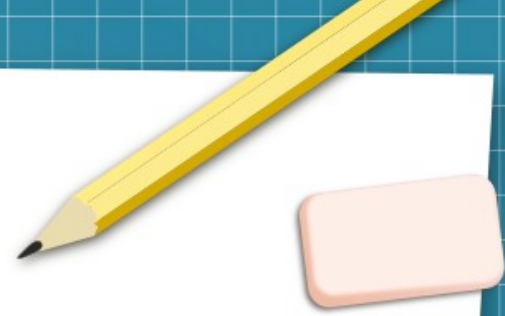


	Janajati	946	54%
	Brahmin Chhetri	439	25%
	Dalit	342	20%
	Muslim	8	0%
	Others	4	0%
	Madhesi	1	0%

Source: 2021, Household survey conducted in the region.

Considerations

- Theme of website
- Space in website
- Type of data

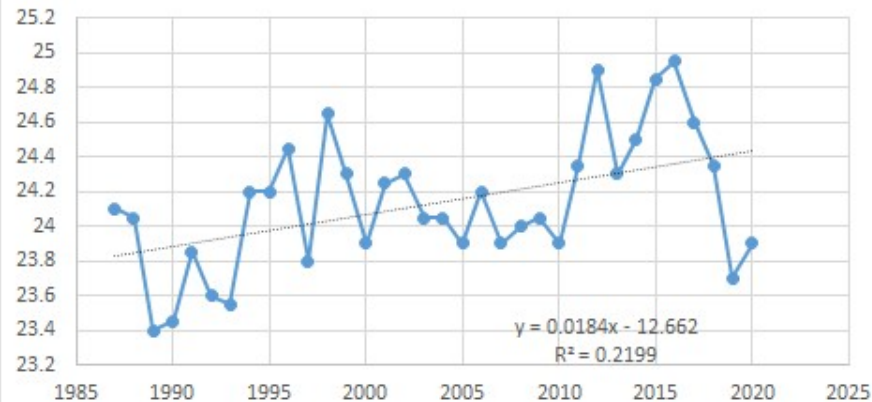


Weather Data



Temperature Pattern

Annual average temperature trend/pattern of last 34 years

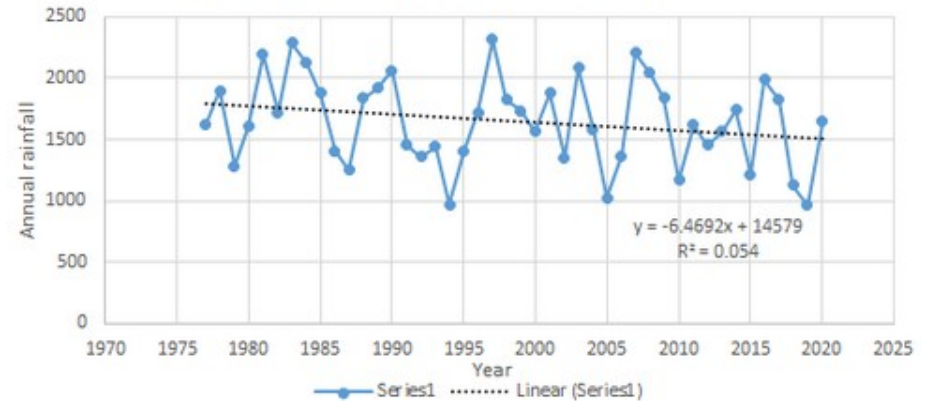


Source: 2020, Department of Hydrology and Metrology.



Rain Fall

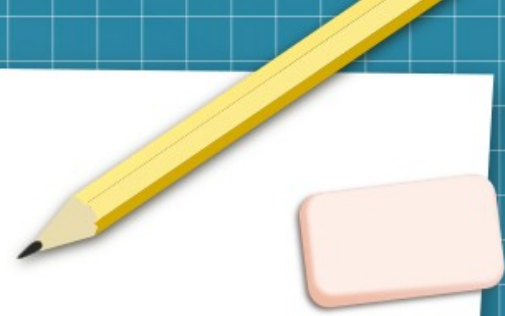
Annual rainfall trend/pattern of last 44 years



Source: 2020, Department of Hydrology and Metrology.

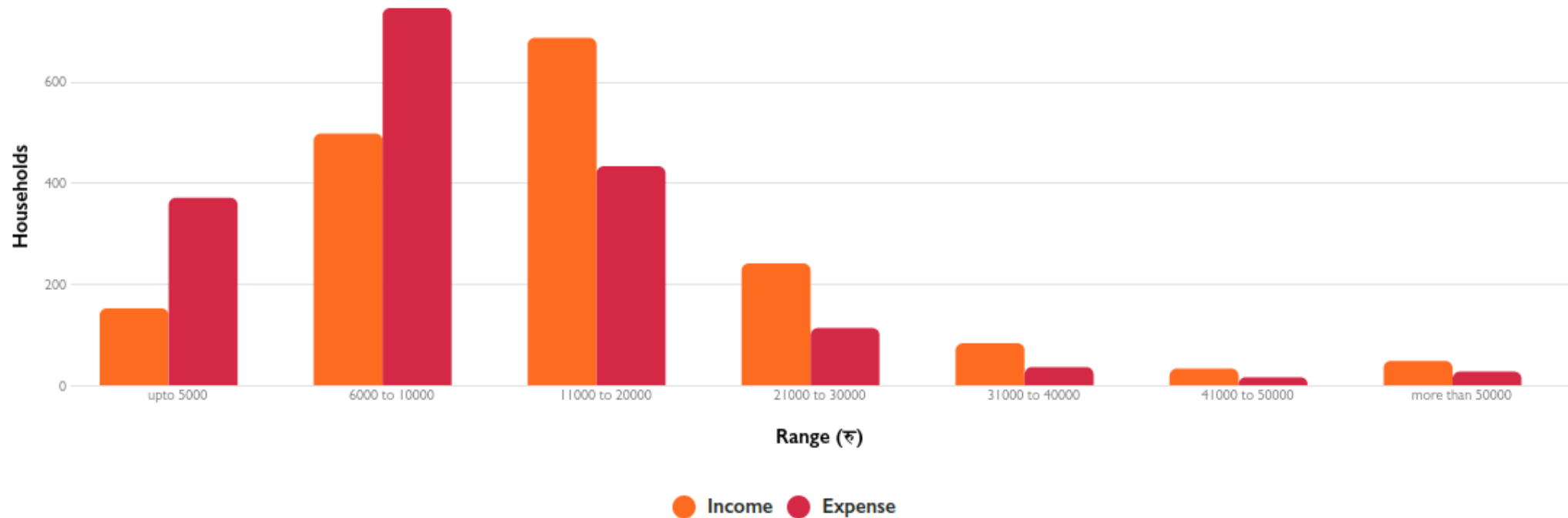
Considerations

- Data Availability
- Secondary Analysis and data



Economic Data

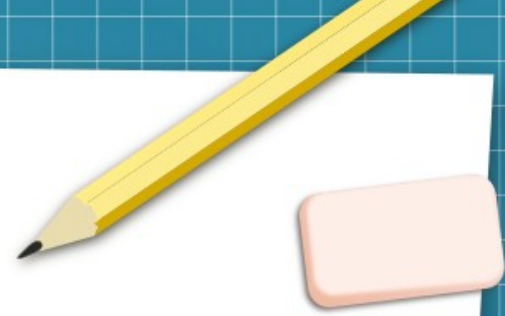
Income Vs Expense



Source: 2021, Household survey conducted in the region.

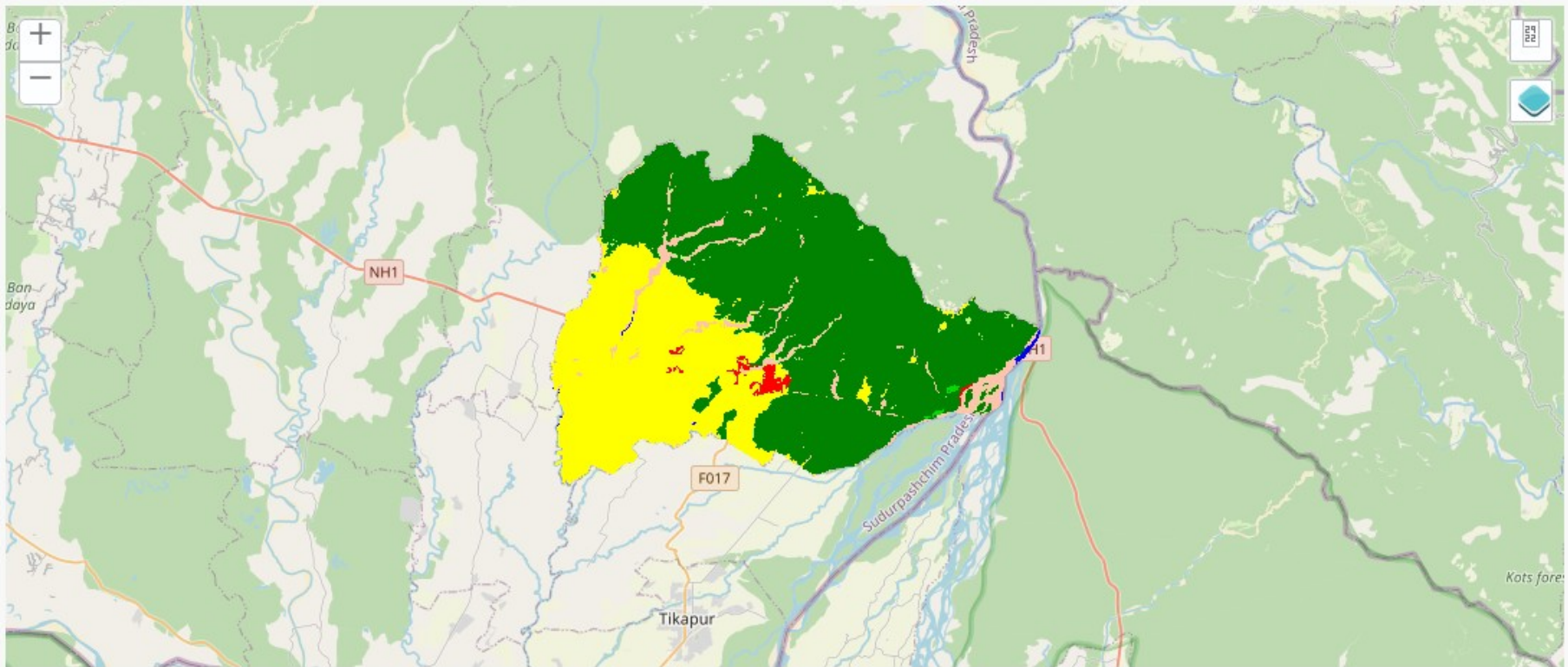
Considerations

- Theme of website
- Ability to compare
- Proper categorical distribution



Spatial Data

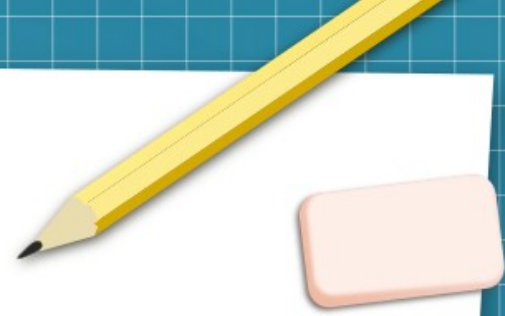
Landcover Map



Source: 2010, ICIMOD.

Considerations

- Use of proper colors
- Use of raster/vector formats
- Projection systems



Numeric Data

Hazard Priority

1st Priority



Flood

2nd Priority



Wind

3rd Priority



Cold Waves

4th Priority



Epidemics

5th Priority



Fire

Source: 2021, Household survey conducted in the region.

Vulnerability Classification

Classification Criteria



High

588 Household



Medium

742 Household



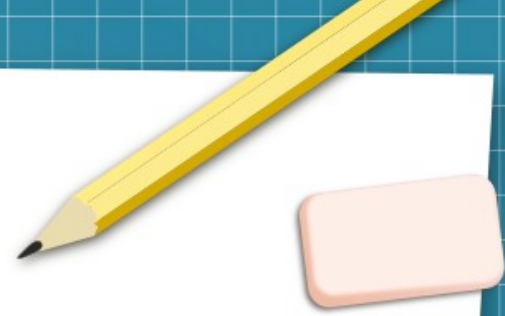
Low

412 Household

Source: 2021, Household survey conducted in the region.

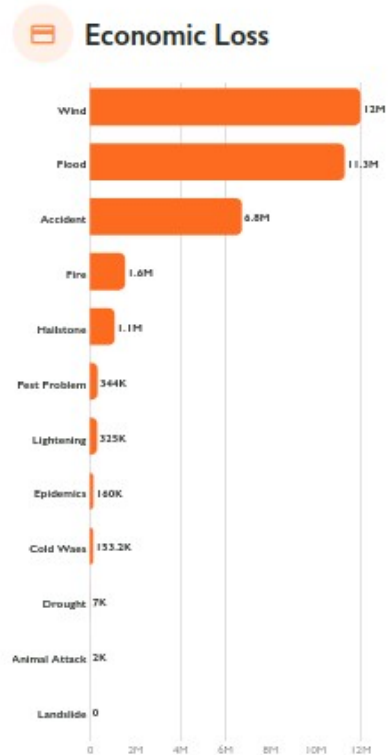
Considerations

- Use of proper colors
- Convey messages through colors
- Convey messages through symbols

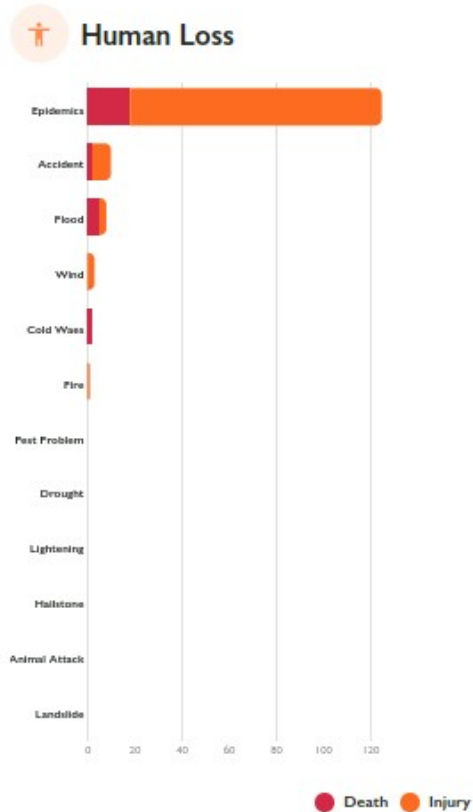


Hazard wise loss data

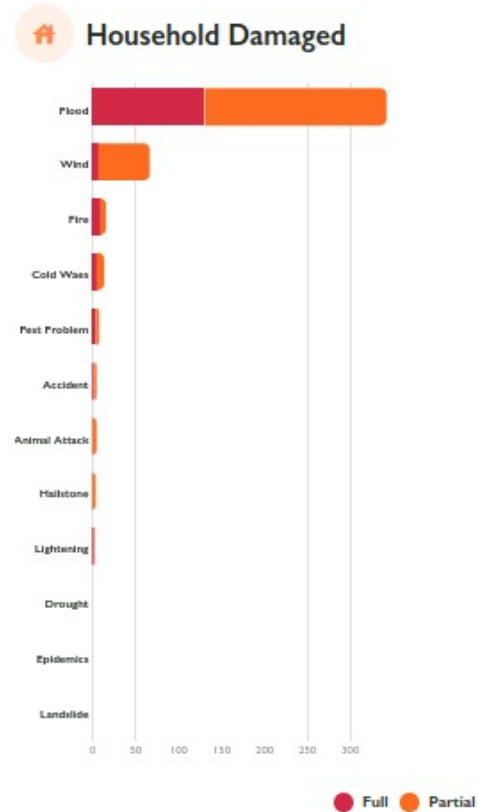
Hazard Wise Damage



Source: 2021, Household survey conducted in the region.



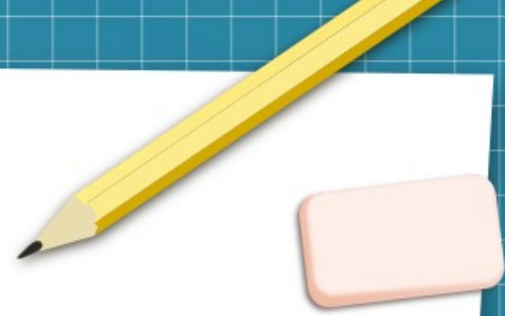
Source: 2021, Household survey conducted in the region.



Source: 2021, Household survey conducted in the region.

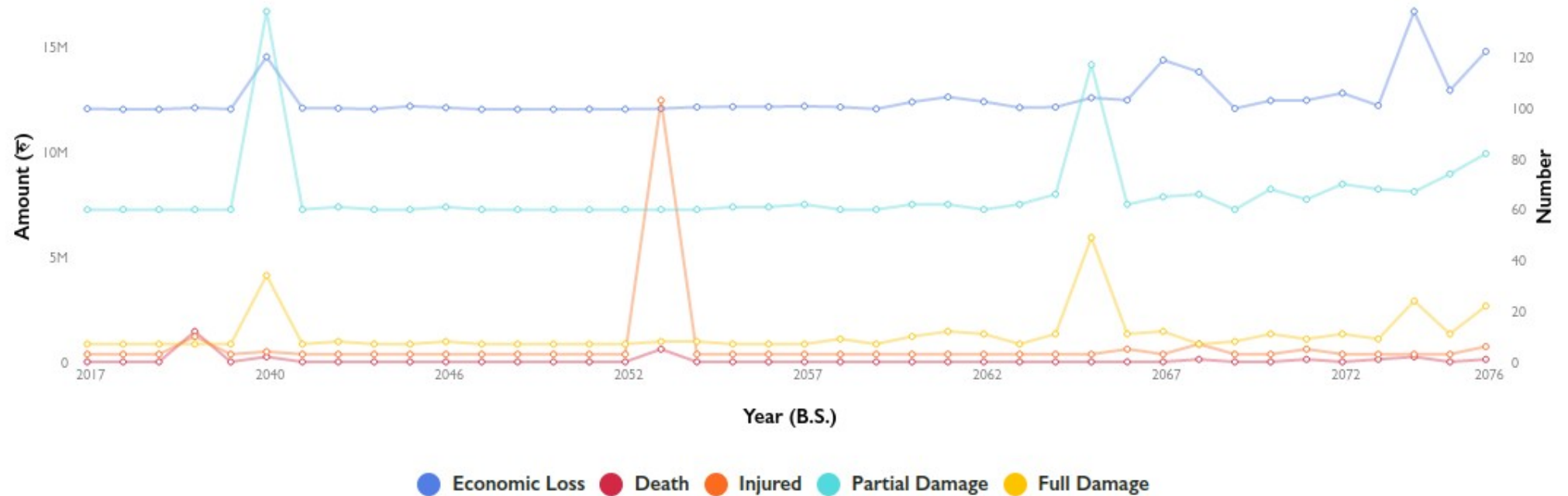
Considerations

- Prioritize higher risk hazards
- Consideration in layouts
- Shacked bar chart for different types of loss



Multi y-axis Line chart

Trend of Loss against Identified Damage



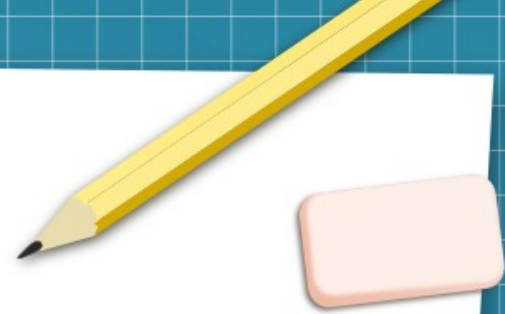
Source: 2021, Household survey conducted in the region.

Considerations

- Show trend of economic and human loss in same chart
- Show multiple types of damage
- Proper scale
- Might be confusing?



Conclusion



- Domain knowledge is required while working on visualizations
- Things to consider: Inclusion, privacy, sensitivity of data, accuracy of data, use of appropriate color, symbols.
- Everything we put out there has a meaning so we must have proper knowledge while choosing colors, chart types etc.

Thank You!

