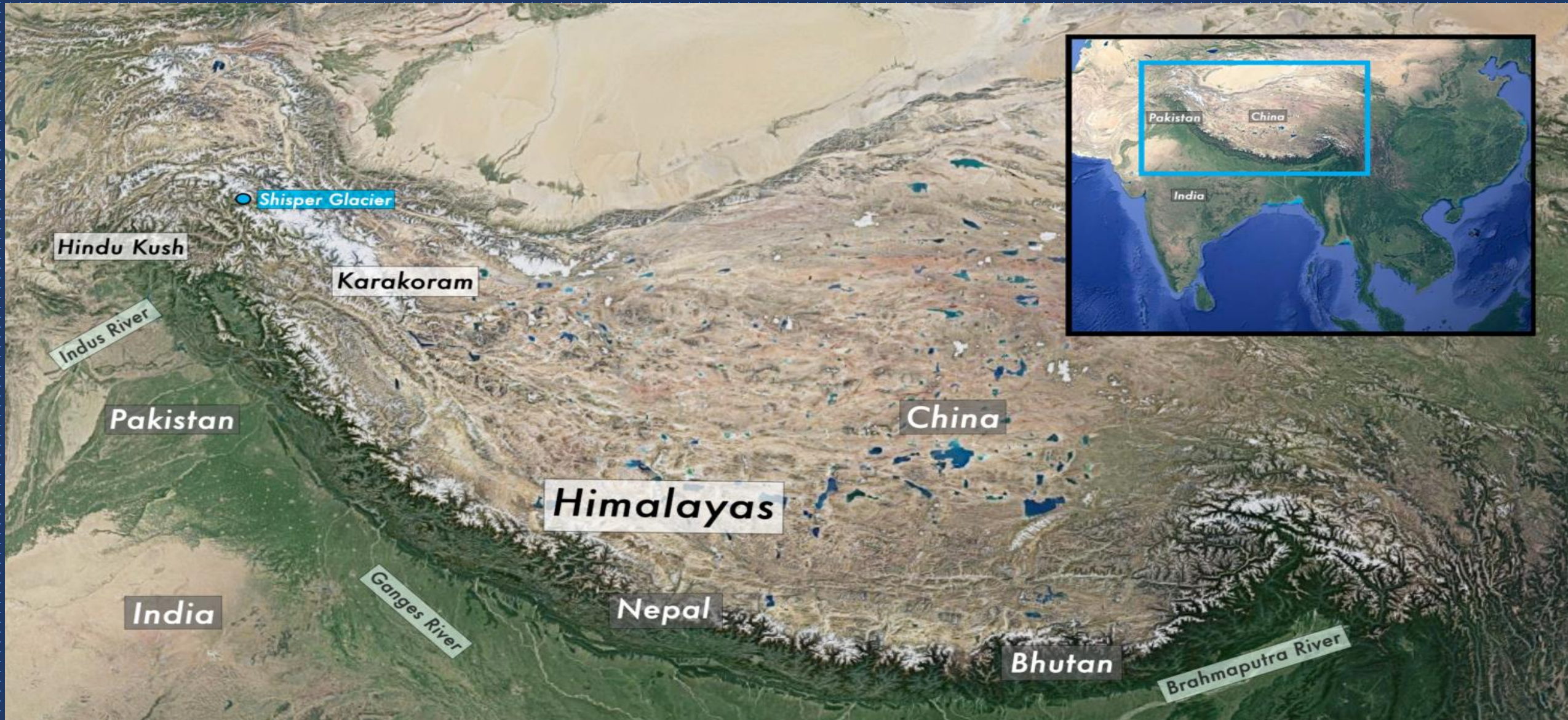


# The Impact of Himalayan Glaciers on Environment and Business

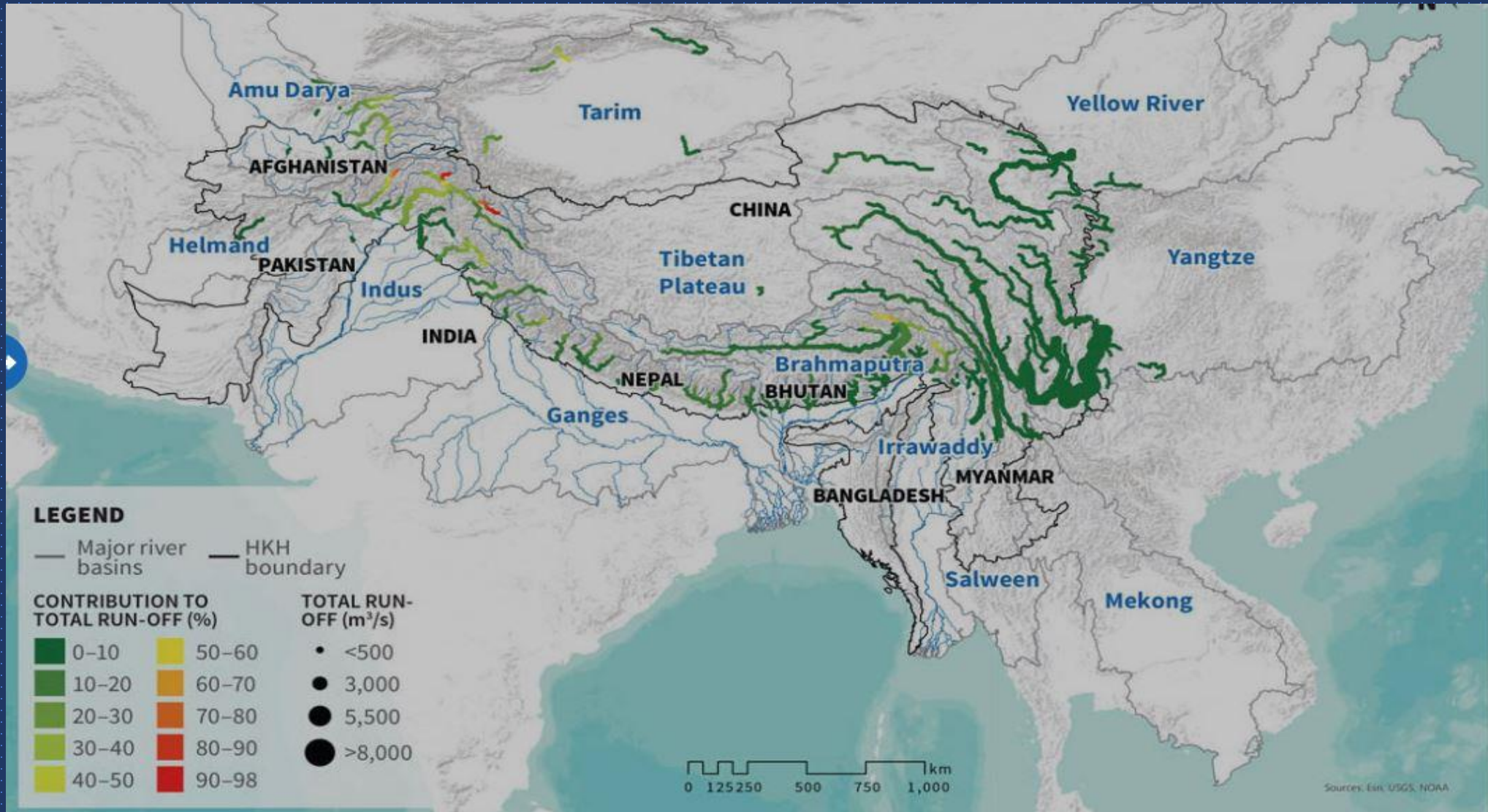
The Melting Ice: A Wake-Up Call for Nepali  
Businesses

Arup Rajouria

# Himalayan Glaciers as the Backbone of 14 Nations: Hindu Kush and Himalayan Region



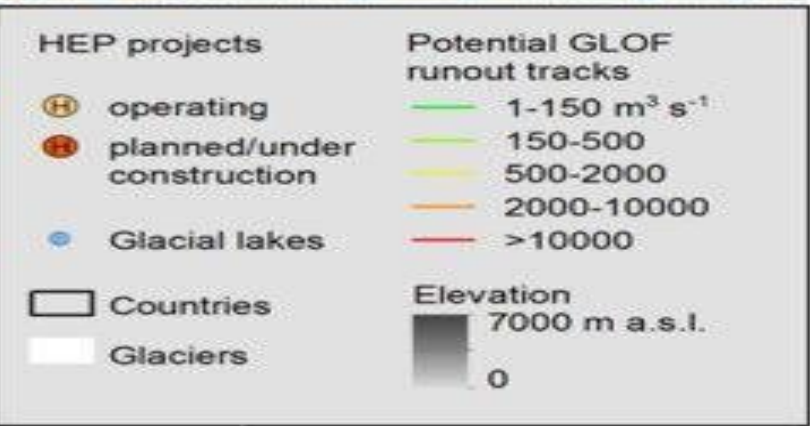
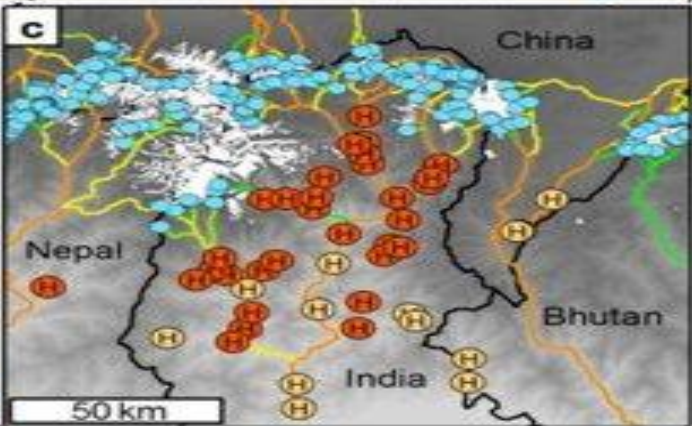
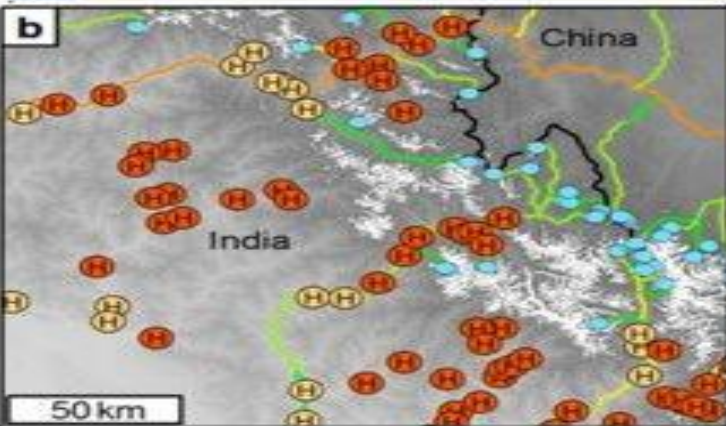
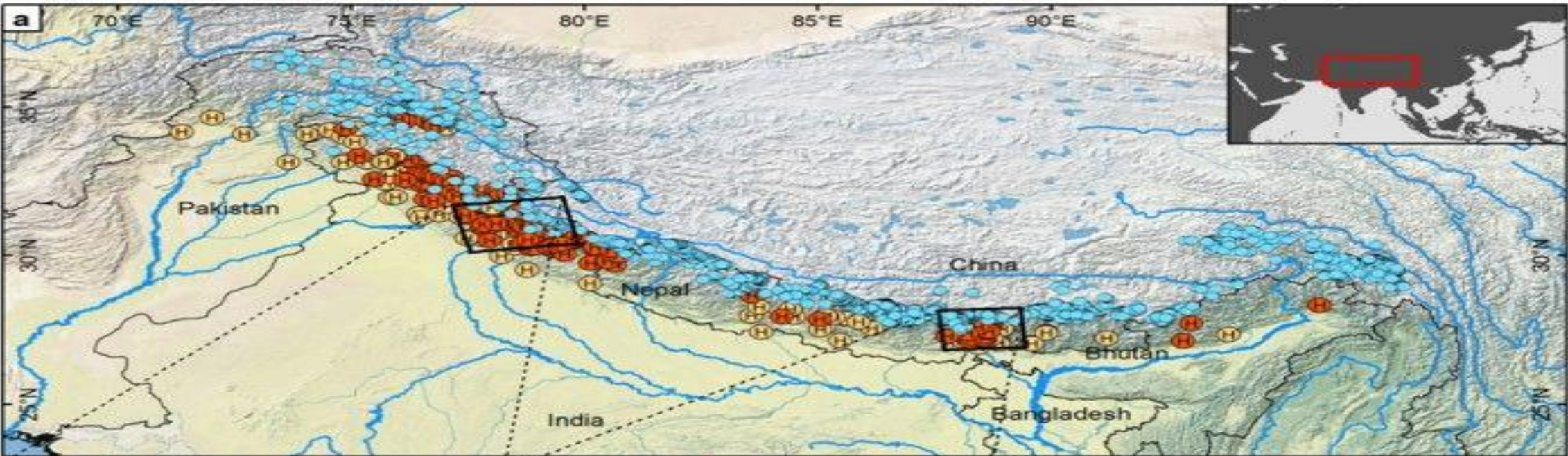
# From Mountains to Plains: Himalayan Glaciers as the Backbone of 12 Nations



# Nepal's Reliance on Himalayan Glaciers



# Glacial Lakes and Hydro Power Stations



# Glaciers Recede in the Region

A: Rikha Samba Glacier, Nepal

B: Yala Glacier, Nepal

C: Glacier AX010, Nepal

D: Ganju La Glacier, Bhutan

E: Tsho Rolpa, Nepal

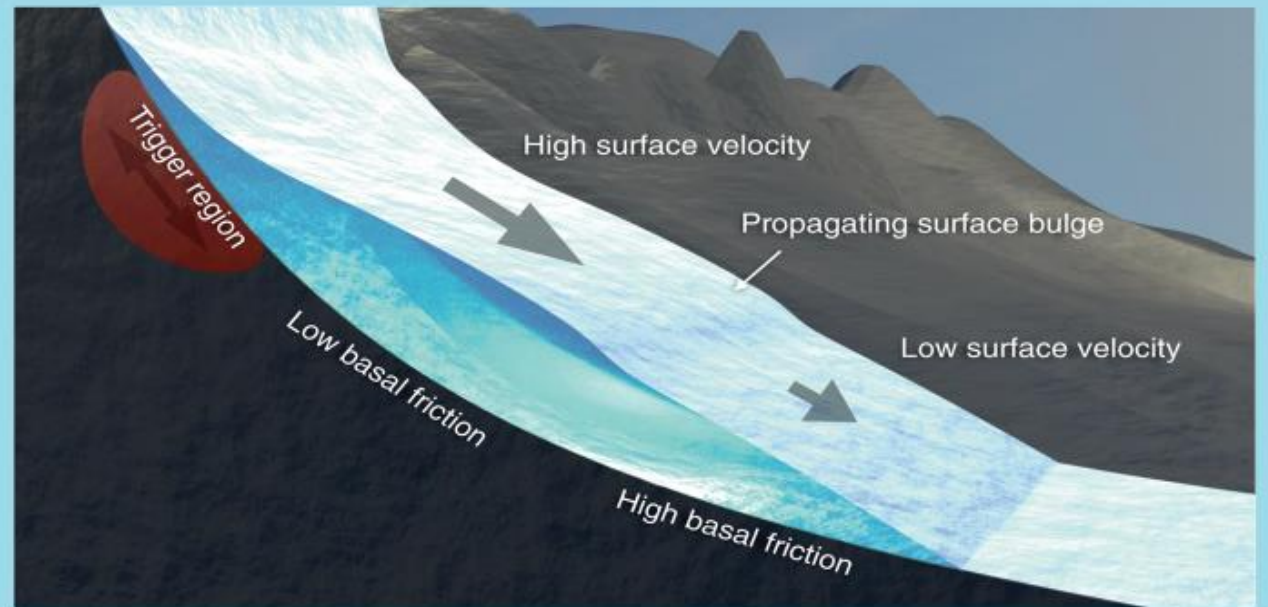


# Khumbhu Glacier

Largest ticking time bomb



## Glacier Internal Surge

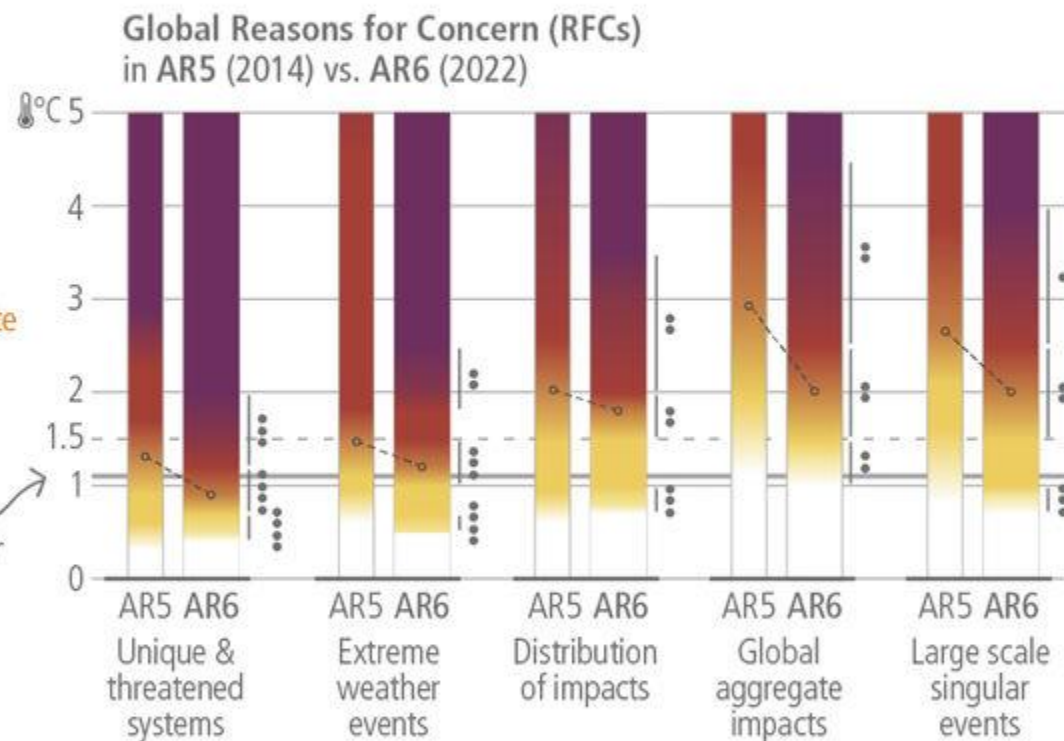
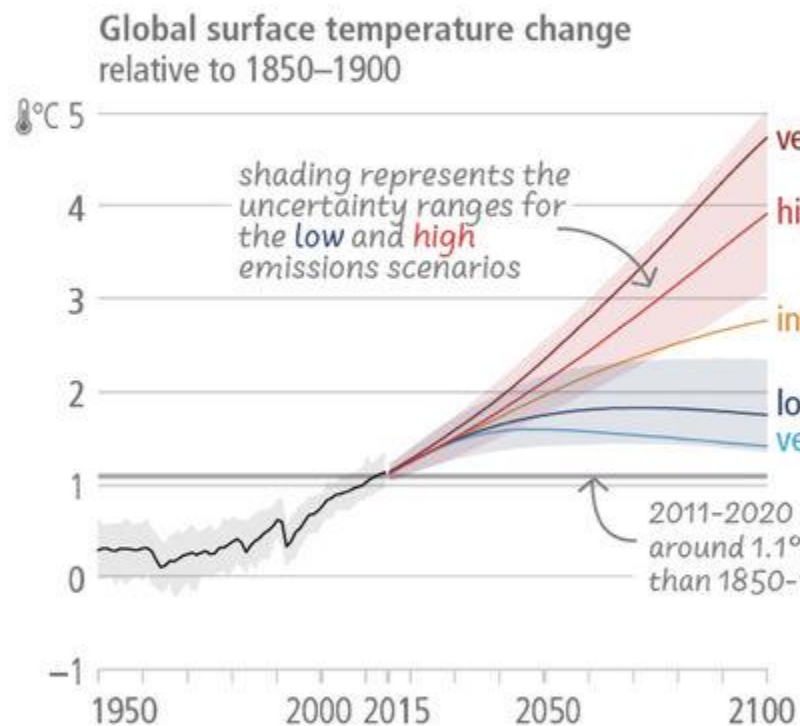




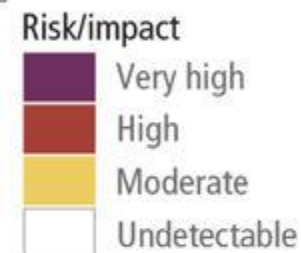
Sharma et al., 2021

# Risks are increasing with every increment of warming

## High risks are now assessed to occur at lower global warming levels



risk is the potential for adverse consequences



Transition range

Confidence level assigned to transition range



midpoint of transition range

IPCC AR6 SYR Figure SPM 4a

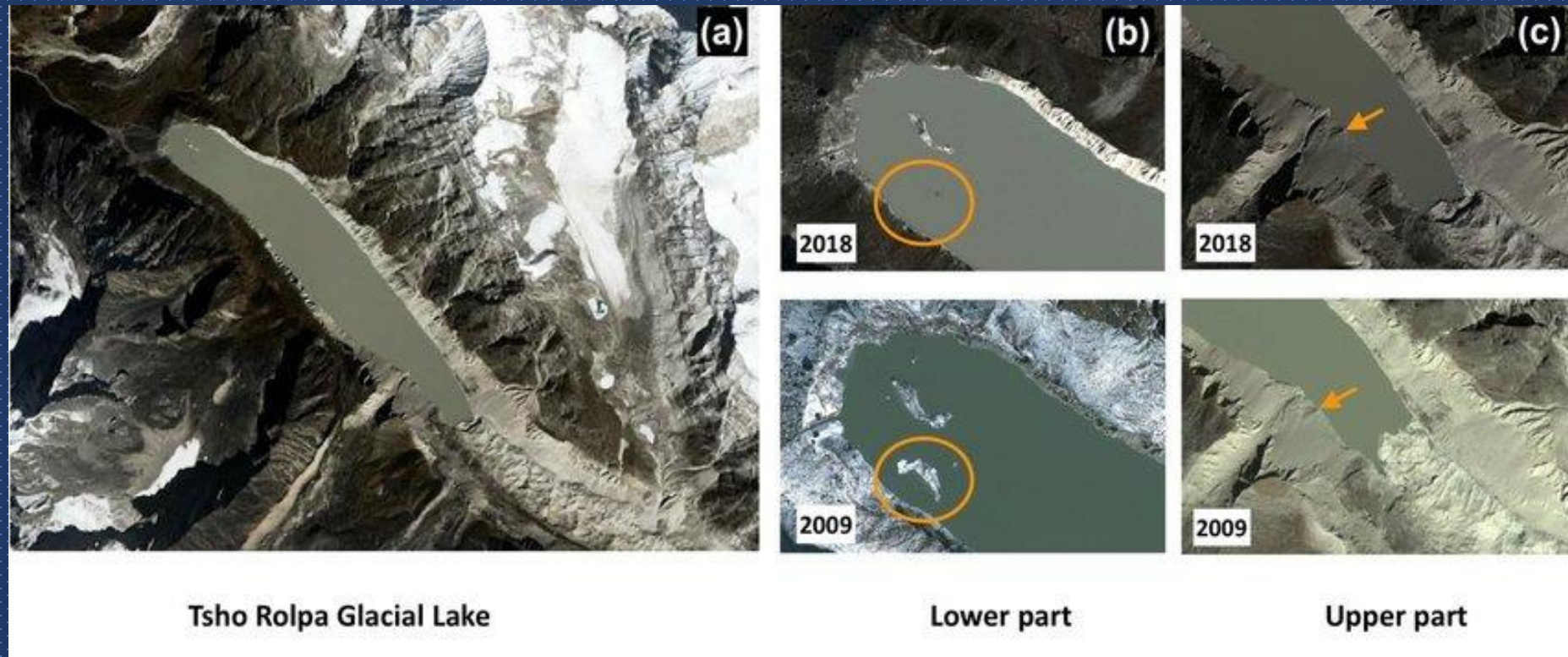
# Proposed Hydros with Indian Investments

Source: Nepali Times

## HYDRO FUTURES



# The Glaciers are Retreating but Businesses Don't Have To



(Source: Google Earth, 2020)

- a) Tsho Rolpa Glacial Lake
- b) Comparison of lower part of the lake, showing that the lake elevation has increased in recent year. Small permanent islands in the middle of the lake are submerged under the water, and
- c) The lake is expanding toward the northeast by melting the glacier ice



# Impacts of Climate Change



# The Business Landscape is Changing: What's at Stake ?

## Not just Hydro-Power but the Ripple On Nepali Enterprises

**Hydro Power:** The reduction in glacial meltwater is threatening hydropower generation, a crucial source of energy for Nepal.

**Tourism:** The retreat of glaciers is impacting the beauty and accessibility of popular tourist destinations, potentially affecting tourism revenue.

**Agriculture:** The decline in water availability is affecting agricultural production, leading to crop failures and food insecurity.

**Construction:** Landslides and floods are increasing risks to infrastructure : No Longer  
Business as usual

# The Wake-Up Call for Nepali Businesses

Nepali businesses must recognize the urgent need to adapt to the changing climate and mitigate the impacts of melting glaciers

- 1. Invest in Water Conservation:** Businesses should adopt water-efficient practices and invest in water storage and management systems.
- 2. Develop Climate-Resilient Strategies:** Businesses should implement climate-resilient strategies in their operations to mitigate risks and ensure sustainable growth.
- 3. Support Climate Change Mitigation Efforts:** Businesses should support initiatives that promote renewable energy and sustainable development.

# Next Steps

1. Need for a Climate Strategy to address the impact of human induced climate change for the private sector
2. Encourage businesses and communities to adopt sustainable practices to reduce their environmental footprint
3. Promote investments in water conservation and management
4. Advocate for climate-resilient infrastructure and development strategies
5. Initiate international collaboration to climate change
6. Capacity building: Enhance the capacity of the business community in climate resilient technology and access to climate finance



# Major Stakeholders

- Business and Industry
- Children and youth
- Farmers
- Indigenous people and their communities
- Government
- Women
- Most importantly the Future Generation who do not have a voice

**Thank you!**

