

# ICIMOD and Hindu Kush Himalayan (HKH) Assessment

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*Koshi Disaster Risk Reduction (DRR) Knowledge Hub country consultation*

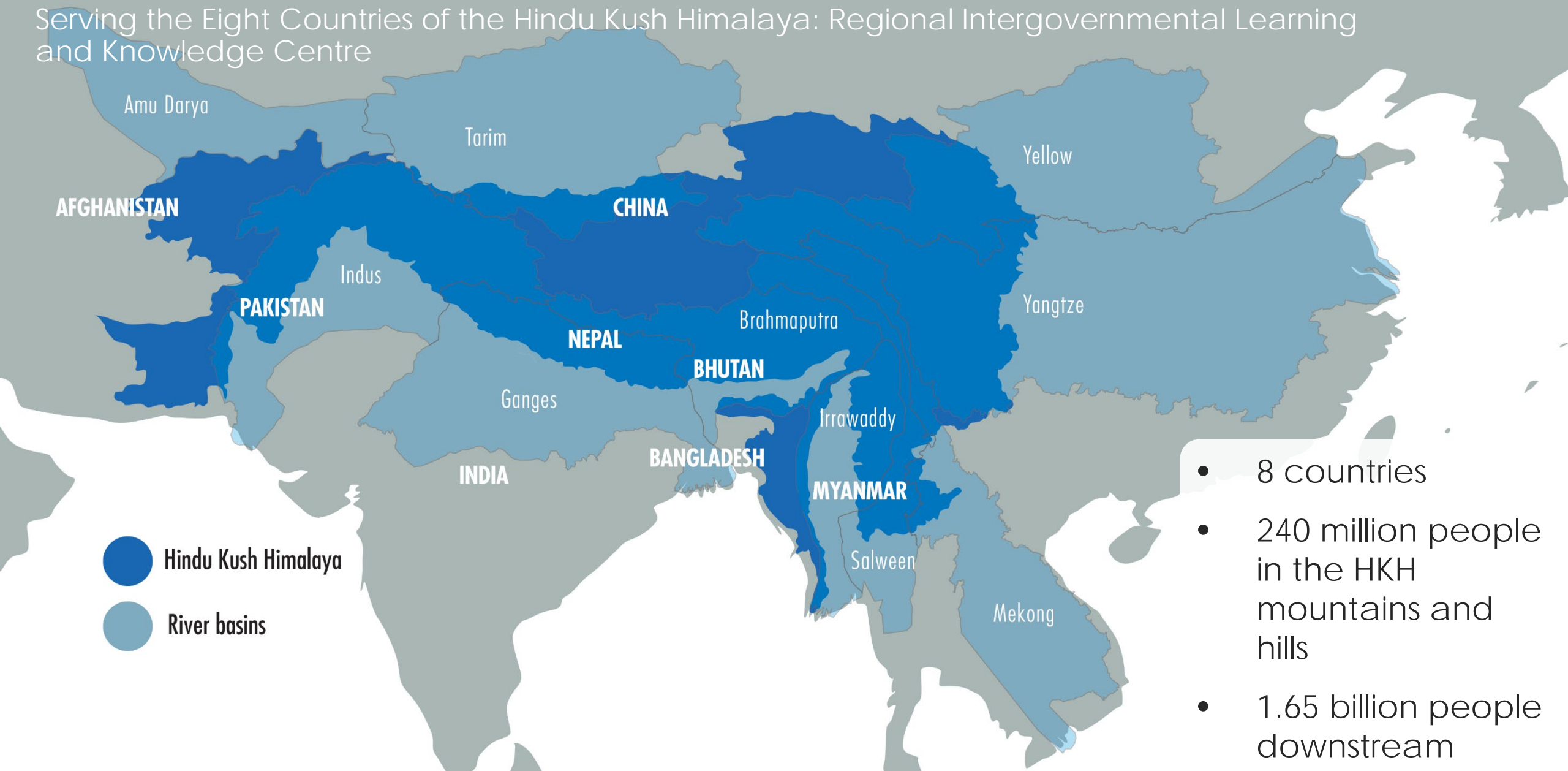
*30 July, 2019, Patna, Bihar, India*

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International Centre for Integrated Mountain Development

Kathmandu, Nepal

# Serving the Eight Countries of the Hindu Kush Himalaya: Regional Intergovernmental Learning and Knowledge Centre



- 8 countries
- 240 million people in the HKH mountains and hills
- 1.65 billion people downstream



## The Hindu Kush Himalaya

Global asset for food, energy, water, carbon, and cultural and biological diversity

Source: Arun Bhakta, SWARMA-IRBM module, ICIMOD

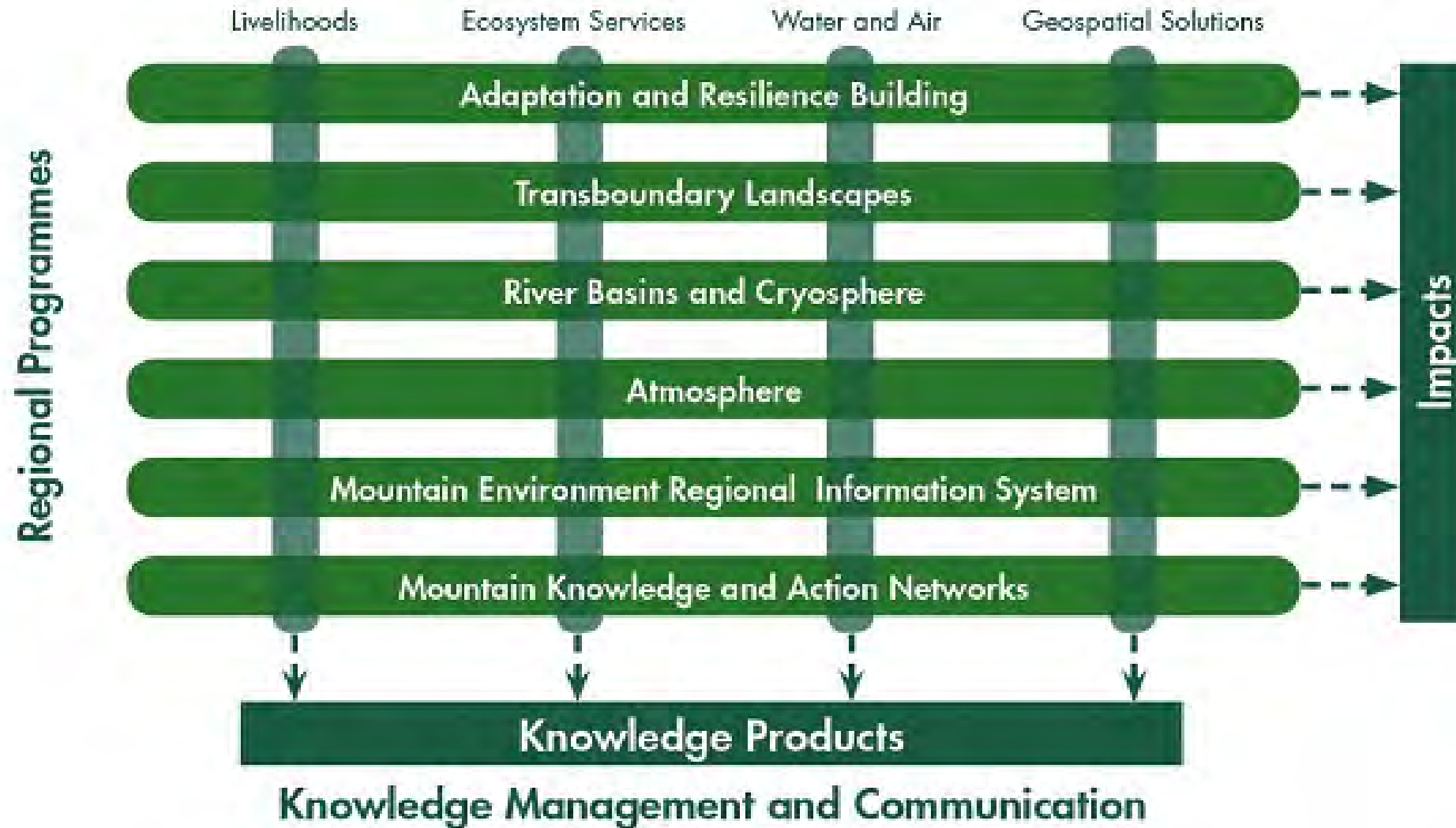
# Vision

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Men, women,  
and children of  
the Hindu Kush  
Himalaya  
enjoy  
improved  
wellbeing in a  
healthy  
mountain  
environment



## Thematic Core Competencies



# Governance

- Board of Governors
  - Representatives of 8 Regional Member Countries plus
- Programme Advisory Committee
  - 7 independent Board Members
- ICIMOD Support Group
  - Made up of financial contributors



# The Hindu Kush Himalaya Assessment



















Mountains, Climate Change, Sustainability and  
People



*Powerpoint Design Credit: Debabrat Sukla*

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## LINK TO THE FULL HKH ASSESSMENT REPORT

P. Wester, A. Mishra, A. Mukherji, A. B. Shrestha (eds) (2019) *The Hindu Kush Himalaya Assessment—Mountains, Climate Change, Sustainability and People*, Springer Nature Switzerland AG, Cham.

Download the full assessment at  
<https://doi.org/10.1007/978-3-319-92288-1>





# Poverty

**1/3 in mountains compared to 1/4 national average**

Blanket approaches to country-level poverty not sufficient

Acute shortage of mountain specific poverty data

Drivers of vulnerability and poverty in the HKH region overlap substantially

Conflict and ethnicity-based discrimination are major drivers of poverty in the region, with a distinct gender dimension

## Even 1.5 Degrees is Too Hot for the HKH

and amplified by Elevation Dependent Warming

Source: HIMAP climate change chapter and Kraaijenbrink et al. 2017, Nature

HKH will warm more compared to global mean and warm more rapidly at higher elevations




—  $2.1 \pm 0.1^{\circ}\text{C}$  (PI) in a 1.5 degree world

—  $2.5 \pm 1.5^{\circ}\text{C}$  by 2100 relative to 1976-2005 (RCP 4.5)

—  $5.5 \pm 1.5^{\circ}\text{C}$  by 2100 relative to 1976-2005 at current emission trends

For areas above 2,000m, if  $1.5^{\circ}\text{C}$  EOC then:

- Karakoram  $2.2 \pm 0.4^{\circ}\text{C}$
- Central Himalayas  $2.0 \pm 0.5^{\circ}\text{C}$
- Southeast Himalayas  $2.0 \pm 0.5^{\circ}\text{C}$

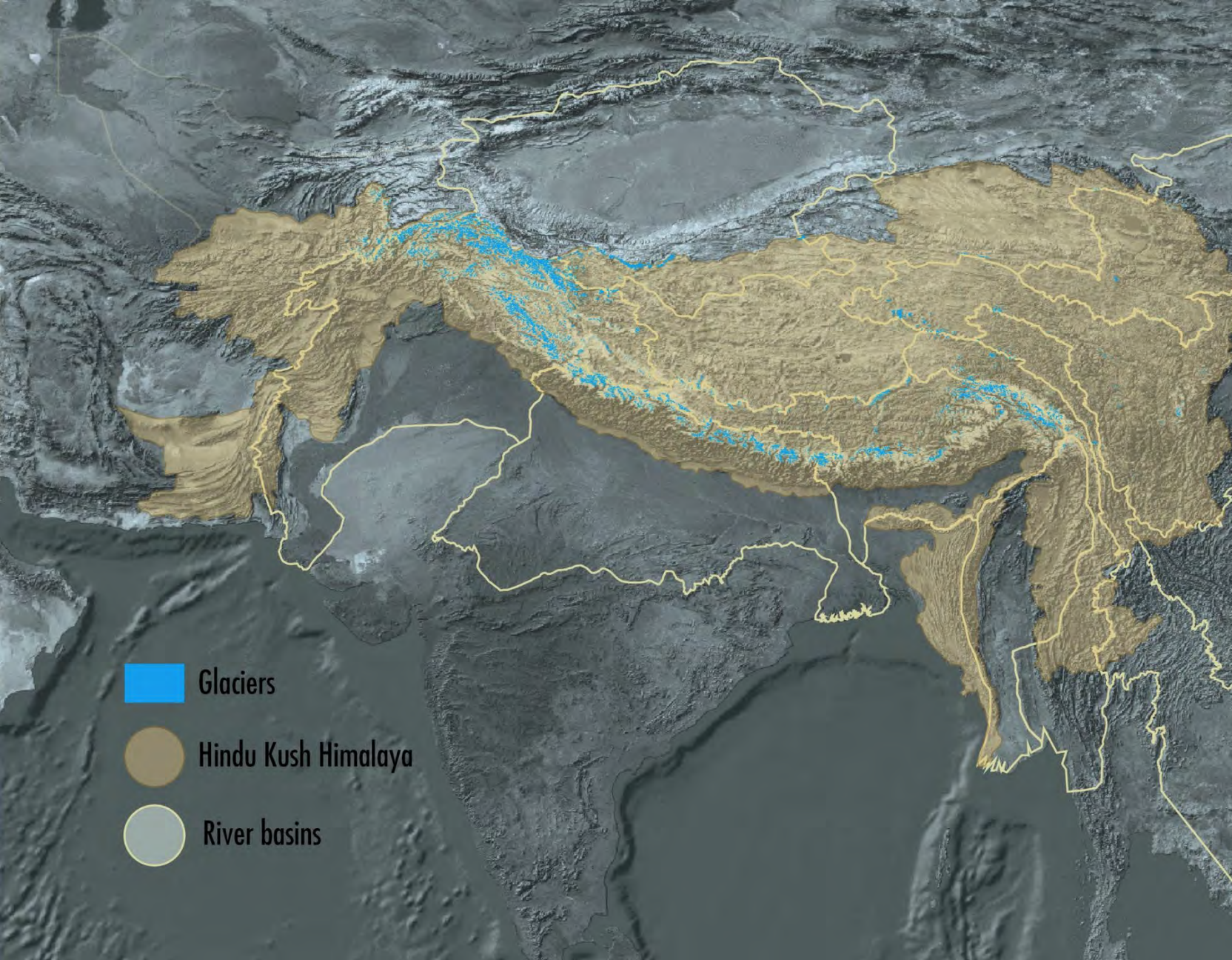


In a 1.5°C world, glaciers in the HKH will lose 1/3 of their volume by 2100

And 2/3 of their volume under current emission trends

Snow covered areas and snow volumes will decrease and snowline elevations will rise;

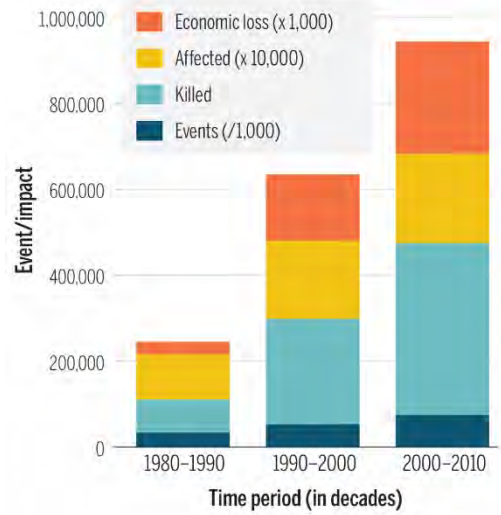
Snow melt induced run-off peak will be stronger and occur earlier in the year



- Glaciers
- Hindu Kush Himalaya
- River basins

## Climate change impacts on water resources

- Loss of storage in the form of ice
- Greater impact for those living closer to glaciers
- Changing precipitation and flow patterns – more floods and droughts; high uncertainty
- CC also likely to affect springs in the mid-hills of the HKH, but limited evidence.
- Indus: increased glacier melt, then declines after mid-century  
Ganges/Brahmaputra: increased runoff mainly due to precipitation



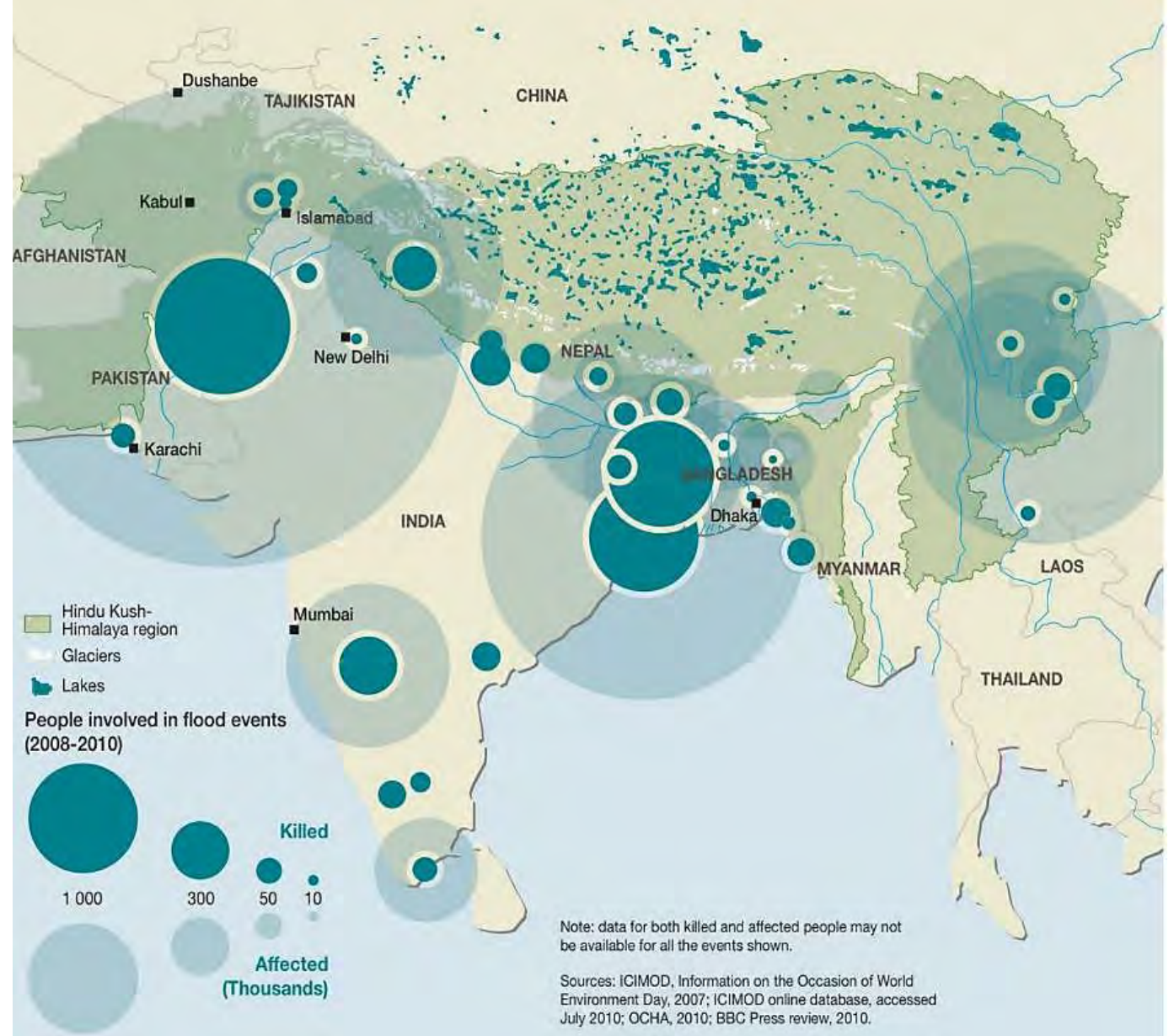
## Disaster risk is increasing

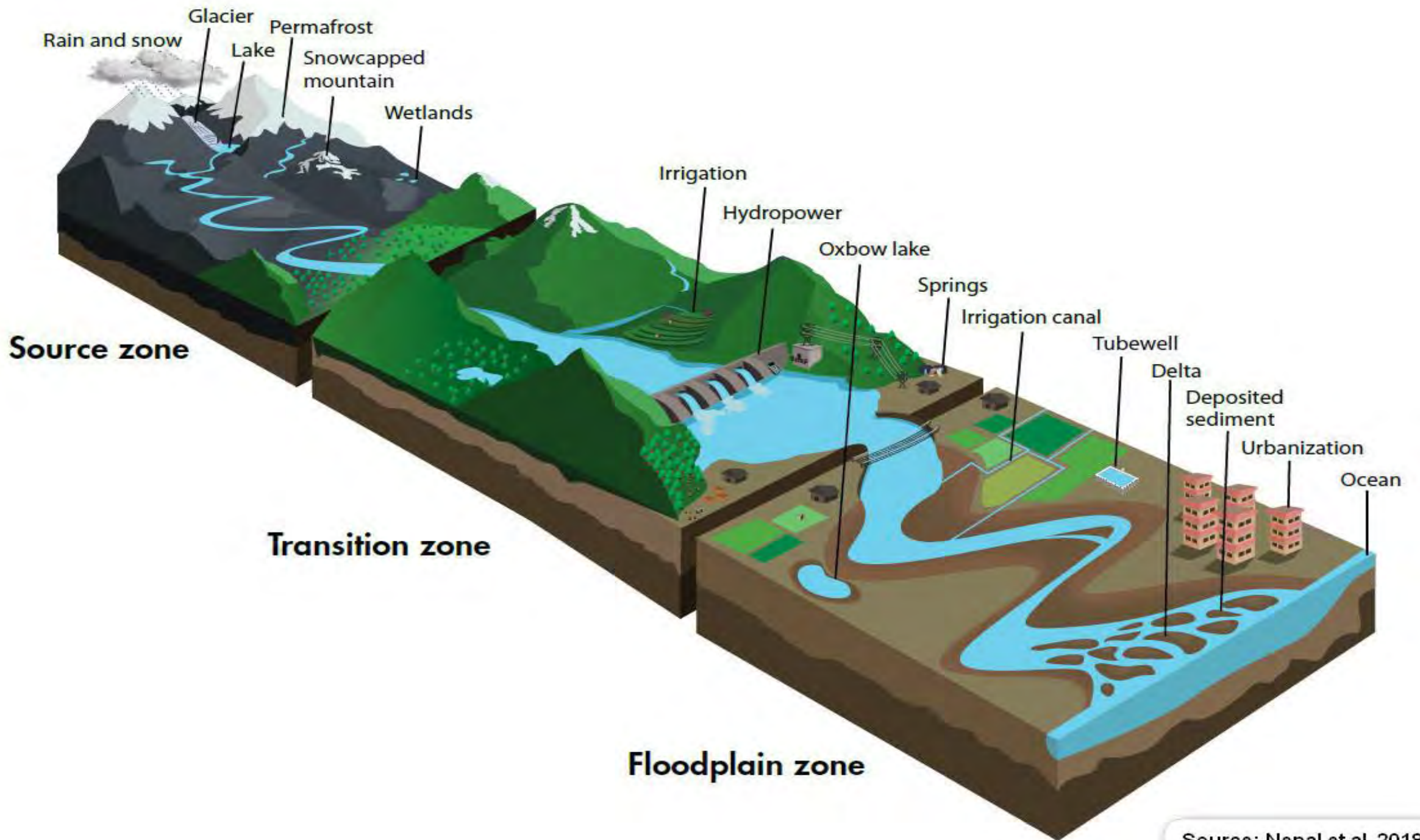
Floods, droughts, landslides, glacial lake outburst floods

One-third of disasters are floods, many crossing national borders

More than 1 billion people at risk of exposure to increasing frequency and intensity of natural hazards

Women more susceptible to natural disasters than men

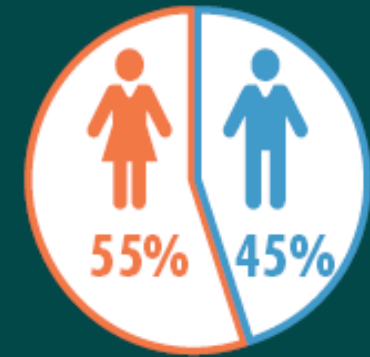




# Need for gender responsive and socially inclusive strategies and actions

## WOMEN IN THE HINDU KUSH HIMALAYA ARE MORE SUSCEPTIBLE TO NATURAL DISASTERS THAN MEN

The pre-existing social structures and norms create greater stress on women and marginalized groups further exacerbating their vulnerability. More women than men die when disasters strike. Gender inequities are evident in a lack of, or inadequate, early warning information and evacuation procedures and arrangements targeting women. In some cases, women may be ill-informed about natural hazards and not allowed to make the decision to evacuate. This situation is compounded by high rates of male outmigration.



**MORE WOMEN DIED  
IN THE 2015 NEPAL  
EARTHQUAKE**

Thank you

