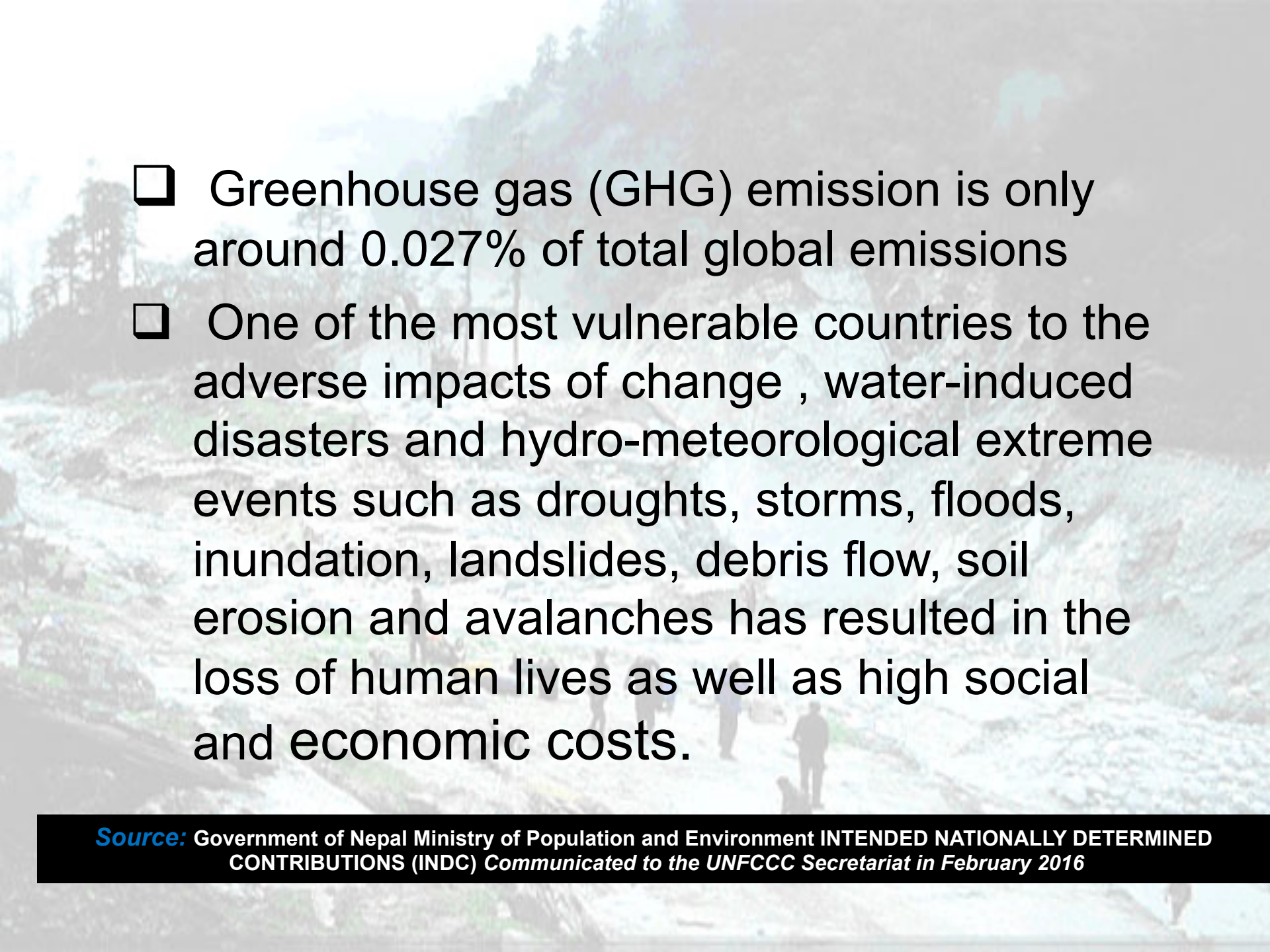


Climate Change and Its Impact in Nepal

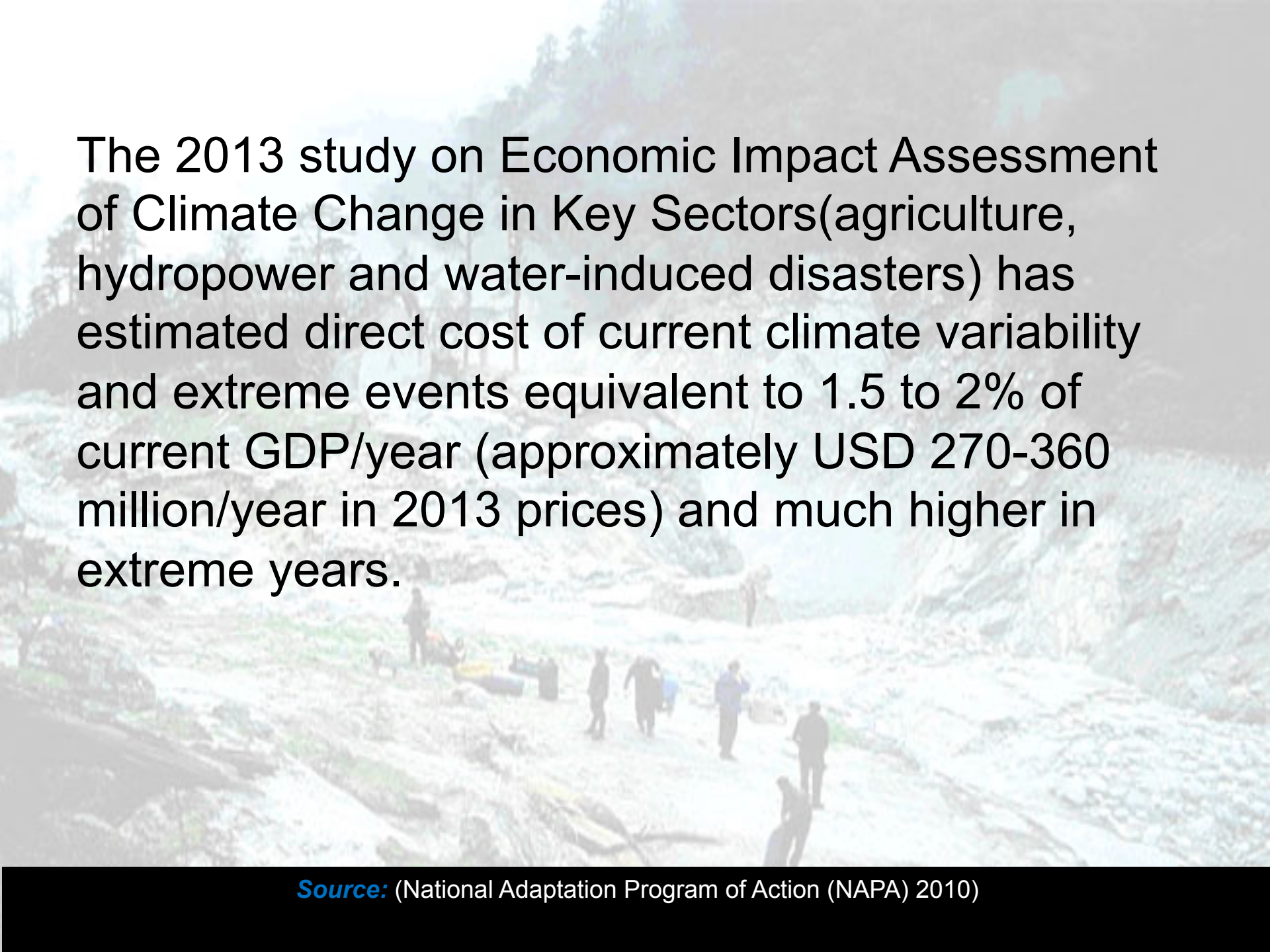


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- 
- ❑ Greenhouse gas (GHG) emission is only around 0.027% of total global emissions
 - ❑ One of the most vulnerable countries to the adverse impacts of change , water-induced disasters and hydro-meteorological extreme events such as droughts, storms, floods, inundation, landslides, debris flow, soil erosion and avalanches has resulted in the loss of human lives as well as high social and economic costs.

Source: Government of Nepal Ministry of Population and Environment INTENDED NATIONALLY DETERMINED CONTRIBUTIONS (INDC) *Communicated to the UNFCCC Secretariat in February 2016*

- Out of 75 districts, 29 districts are highly vulnerable to landslides, 22 districts to drought, 12 districts to GLOFs, and 9 districts to flooding.



The 2013 study on Economic Impact Assessment of Climate Change in Key Sectors (agriculture, hydropower and water-induced disasters) has estimated direct cost of current climate variability and extreme events equivalent to 1.5 to 2% of current GDP/year (approximately USD 270-360 million/year in 2013 prices) and much higher in extreme years.

Source: (National Adaptation Program of Action (NAPA) 2010)

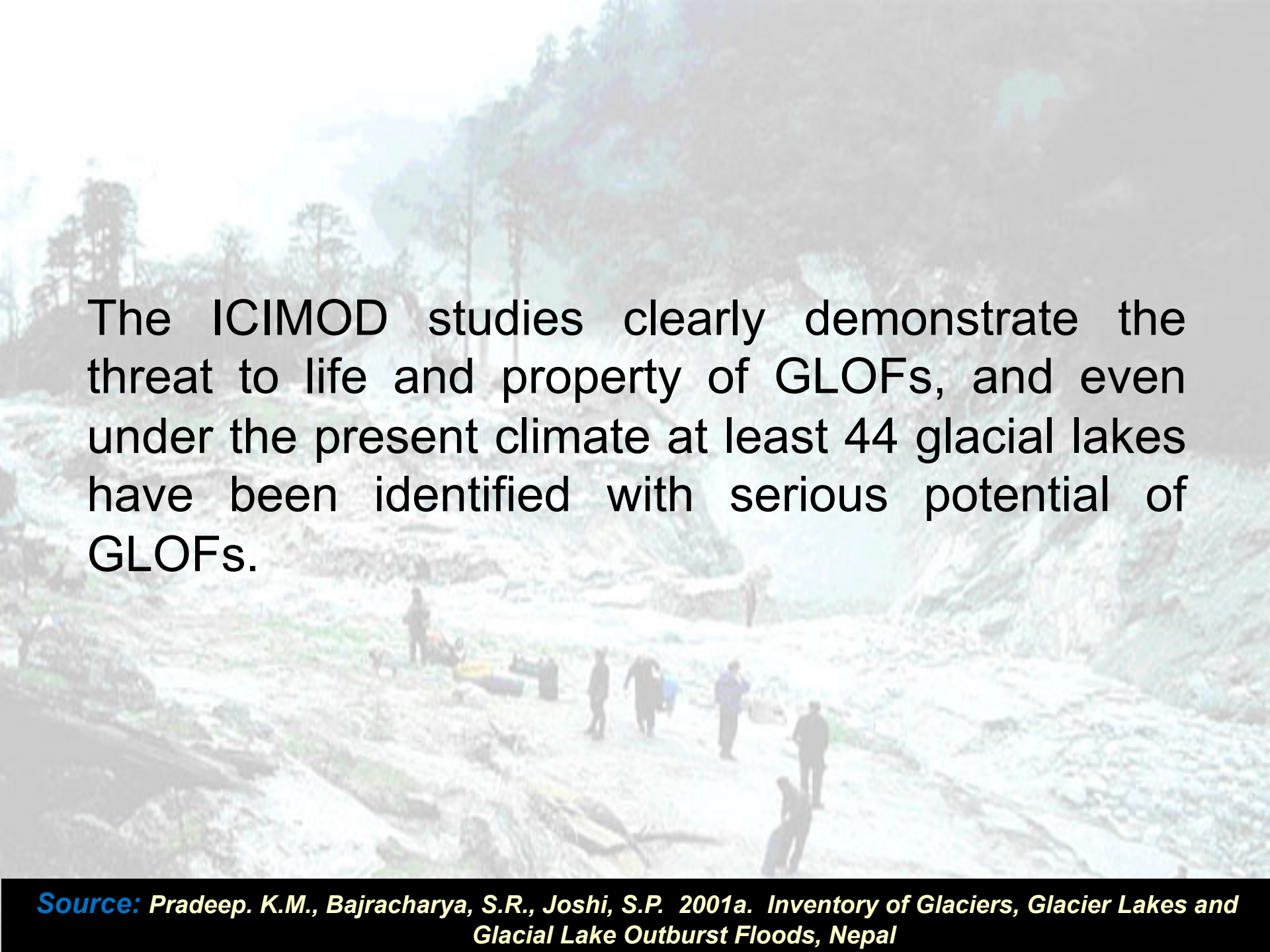
The background image shows a high-altitude mountain landscape. In the foreground, a group of people are walking along a path that appears to be covered in snow or ice. The path is flanked by rocky terrain. In the background, there are steep, snow-covered mountain slopes and some evergreen trees. The overall scene is bright and somewhat hazy, suggesting a high-altitude environment.

In Nepal's Himalaya, total estimated ice reserve between 1977 and 2010 decreased by 29% (129 km³).

The number of glacier lakes increased by 11% and glaciers recede on an average by 38 km² per year during the same period. The substantial impacts on snows and glaciers that are likely to increase the possibilities of Glacier Lake Outburst Floods (GLOFs).

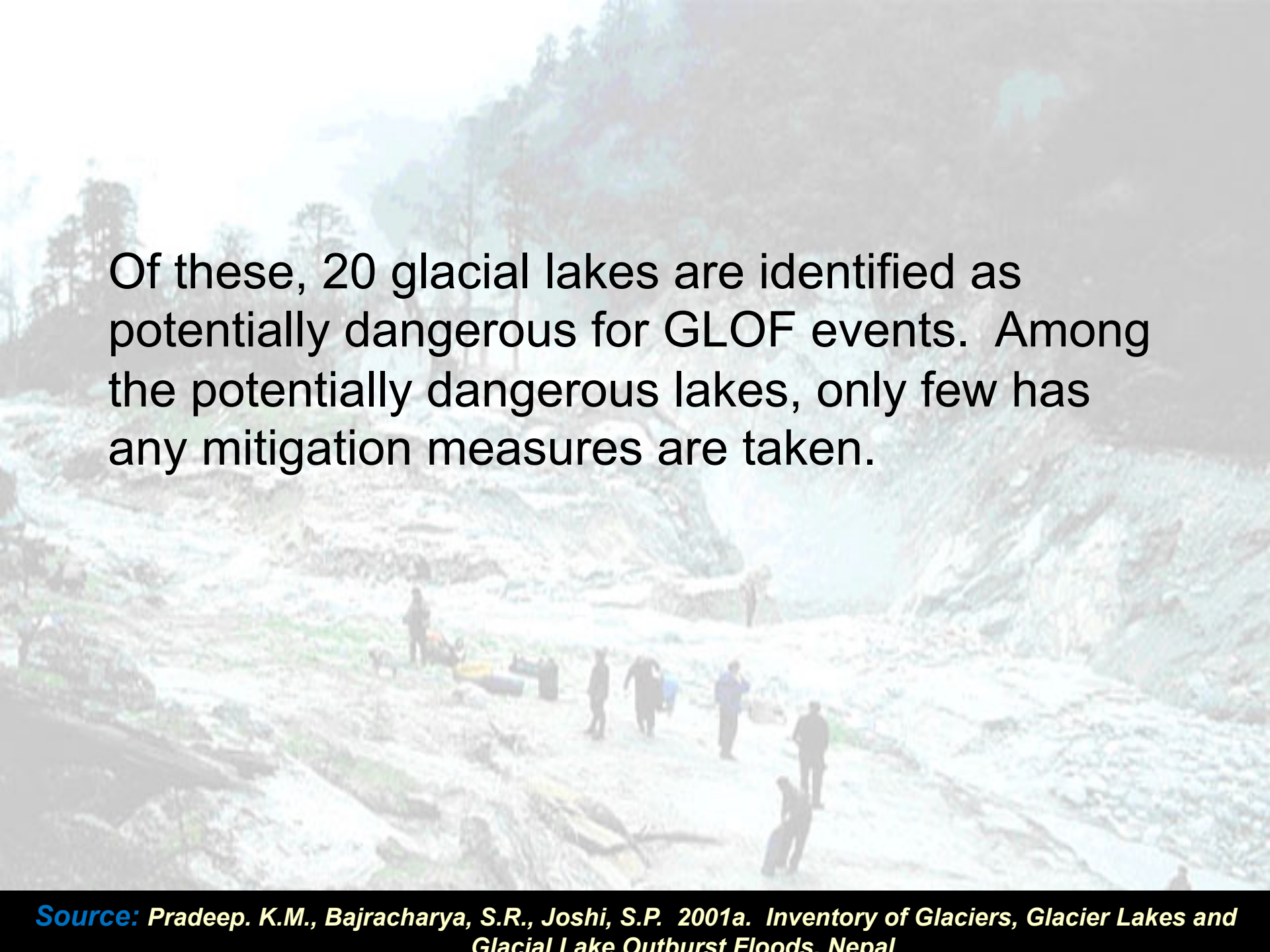
UNIPCC Report 2007

- The United Nations' Intergovernmental Panel on Climate Change, issued a report in 2007 that claimed Himalayan glaciers could completely melt away by 2035.
- The other scientists believe that by the time global temperatures increase by just 2 degrees Celsius, more than half of the Himalayan glaciers will have vanished

The background image is a faded photograph of a mountainous region. In the foreground, a river flows through a rocky, scree-covered valley. Several people are visible on a path or bridge crossing the river. The background shows steep, forested mountains under a hazy sky. The overall tone is light and desaturated.

The ICIMOD studies clearly demonstrate the threat to life and property of GLOFs, and even under the present climate at least 44 glacial lakes have been identified with serious potential of GLOFs.


Source: Pradeep. K.M., Bajracharya, S.R., Joshi, S.P. 2001a. *Inventory of Glaciers, Glacier Lakes and Glacial Lake Outburst Floods, Nepal*

The background image is a faded photograph of a mountainous region. In the foreground, a wide, light-colored river or glacial outwash fan flows through a valley. Several people are visible walking along a path or the edge of the river. The middle ground shows steep, rocky slopes. In the background, dense evergreen forests cover the upper slopes of the mountains under a hazy sky.

Of these, 20 glacial lakes are identified as potentially dangerous for GLOF events. Among the potentially dangerous lakes, only few has any mitigation measures are taken.

Glacier Lake Outburst Flood (GLOF)

Several GLOF events have occurred over the past few decades incurring extensive damage to roads, bridges, trekking trails, villages as well as incurring loss of human life and other property and infrastructure.

The background image is a faded photograph of a mountainous region. In the foreground, a wide, light-colored river or glacial outflow is visible, with several people standing in it. The middle ground shows steep, rocky slopes with some sparse vegetation. In the background, more mountains are visible under a hazy sky.

At least 12 GLOF events have been reported to date. These have caused extensive damage and with continued regional warming GLOFs are likely become more common.

The Imja Tsho lake has been filling with glacial melt water at an alarming rate. Melting at an average rate of almost 10 meters per year over the past several decades. Since the 1960s, the lake has increased 2,000 percent.



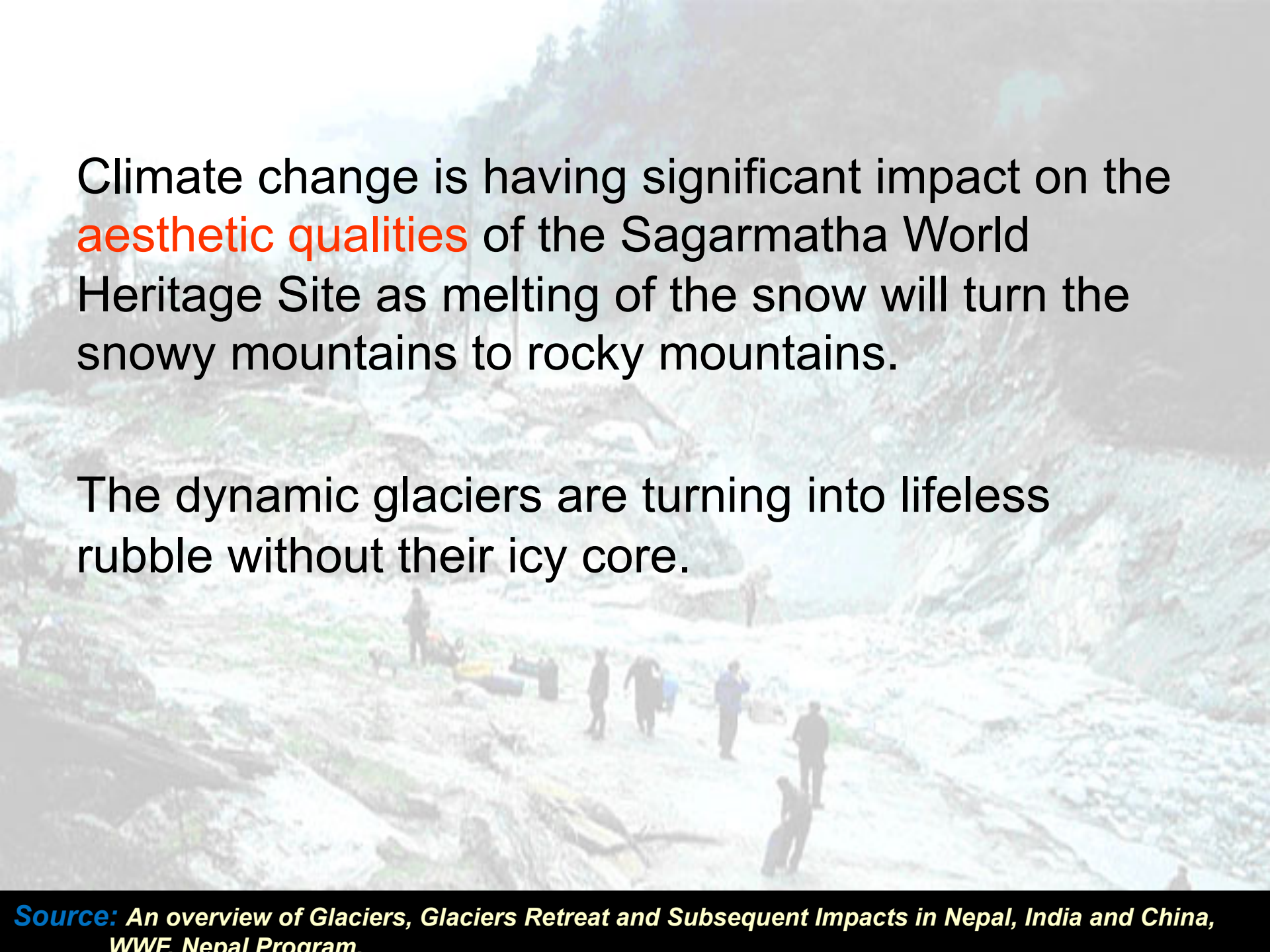
Source : [Matt Westoby/Flickr](#)

Imja Lake Threat

- The Mountain Institute scientists who studied the Imja lake in 2011 concluded that the lake does pose a potential threat to local communities. They estimated that melting ice under the moraine could trigger a huge flood, and that melt water could seep through the hills around the lake, potentially causing a hill to collapse. They also warned that as melting continues, ice avalanches could tumble into the lake, causing a giant wave to deluge downstream communities.

Villages like this one in the valleys below Imja Tse face a constant risk of glacial lake outburst floods.





Climate change is having significant impact on the **aesthetic qualities** of the Sagarmatha World Heritage Site as melting of the snow will turn the snowy mountains to rocky mountains.

The dynamic glaciers are turning into lifeless rubble without their icy core.

The background of the slide is a photograph of a massive landslide. A large, light-colored, rocky and earthy slope has collapsed, creating a wide, chaotic path of debris. In the upper left, some trees and a small structure are visible on the remaining part of the hill. In the lower right, a few small figures of people can be seen standing on the debris field, highlighting the scale of the disaster. The overall tone is somber and urgent.

**Time is running, let's work
together for our own survival**

Thank You