

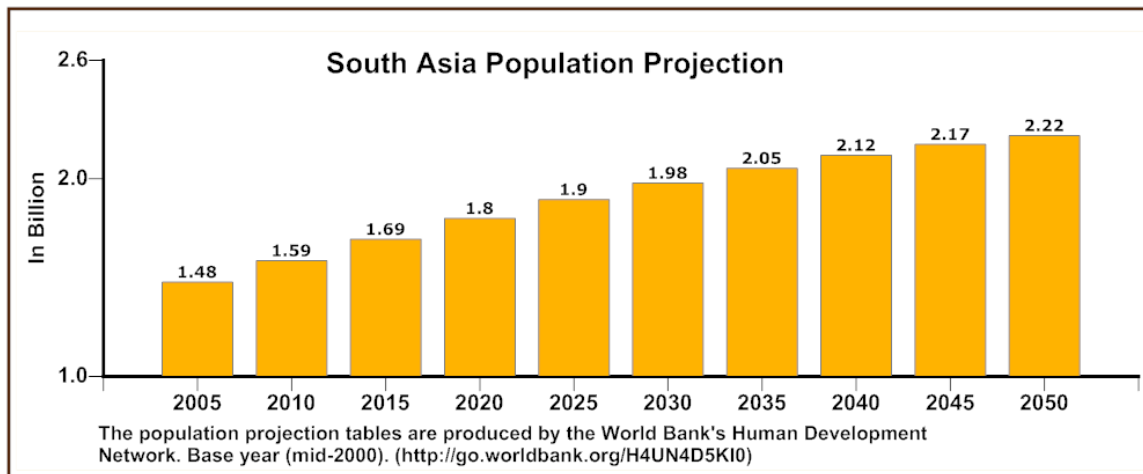
Why is South Asia vulnerable to climate change?

November 25, 2008 - Geography coupled with high levels of poverty and population density has rendered South Asia especially vulnerable to the impacts of climate change.

Speaking ahead of the *United Nations Climate Change Conference in Poznań, Poland* on December 1-12, 2008, **Richard Damania**, World Bank Lead Environmental Economist for the South Asia Region said the region faces daunting climate-related development challenges.

“The impacts of climate change in the form of higher temperatures, more variable precipitation, and more extreme weather events are already felt in South Asia” said **Damania**. *“It has been projected that these will intensify.”*

High population levels translate into increased resource demands on an already stressed natural resource base. By 2050, the South Asia’s population is likely to exceed 2.2 billion from the current level of 1.5 billion. *“With an estimated 600 million people subsisting on less than US\$1.25 a day in South Asia, even small climate shocks can cause irreversible losses and tip a large number of people into destitution,”* said **Damania**.



High reliance on natural resources

About 70 percent of South Asians live in rural areas and account for about 75 percent of the poor. Most of the rural poor depend on agriculture for their livelihoods. **Damania** said agriculture employs about 60 percent of the labor force, but contributes only 22 percent of regional GDP. *“With their rural economies*

closely tied to climate sensitive sectors such as agriculture, the poor are likely to be disproportionately affected by climate change."

The Himalayas

The Himalayan system shapes the critical and often unpredictable monsoon dynamics. It acts as a natural reservoir for sustaining crops and providing groundwater recharge. The Himalayan ecosystem sustains some 1.5 billion people who live directly in the floodplains of its many rivers (e.g. Brahmaputra, Ganges, Indus, and Meghna).

There is general agreement that widespread retreat of the global ice cover has been occurring since at least the early 1800s. *"With rising temperatures the ice mass of the Himalayan-Hindu Kush is retreating more rapidly than the global average in some locations,"* said **Damania**.

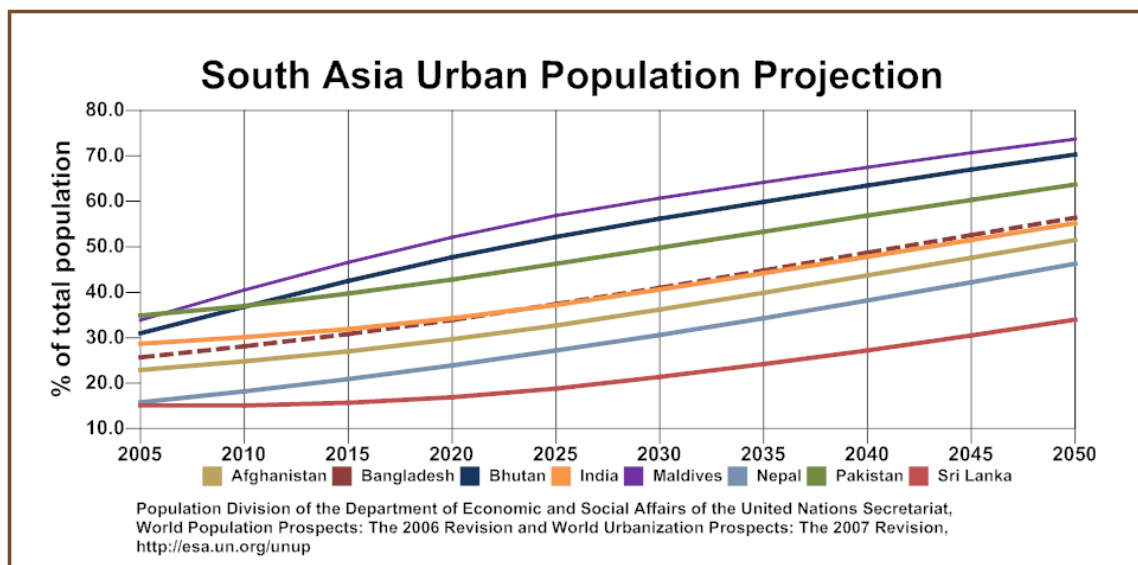
The Gangotri glacier is the source of the Ganges and is one of the largest in the Himalayas. The Gangotri has been receding since 1780 and in recent years the pace of retreat has accelerated. The receding trends of glacier masses threaten water supplies, livelihoods and the economy of the region. With melting glaciers, flood risks would increase in the near future. *"In the long term, there can be no replacement for the water provided by glaciers, and this could result in water shortages at an unparalleled scale,"* warned **Damania**.



The Gangotri Glacier, India: Last 200 Years

Rapid Urbanization

South Asia is home to some of the fastest growing cities in the world. By 2020, Mumbai will be the second largest city in the world, closely followed by Delhi, and Dhaka. With Karachi and Kolkata – five of the world's 11 megacities will then be in South Asia. In Mumbai, more than half the population are crowded into about 2,000 densely populated slums that are at risk from flooding and where settlements lack basic protective infrastructure. There are particular challenges in making cities climate resilient.



“Building urban resilience requires improving infrastructure, governance and finance,” said **Damania**. *“Without a substantial investment in basic amenities and infrastructure in these large cities, climate change will exacerbate existing vulnerabilities.”*

In sum, high population densities, a large concentration of poverty, and climate variability have all combined to make South Asia highly sensitive to the consequences of climate change. *“Climate change will likely compound the pressures on key resources associated with growth, urbanization and industrialization,”* said **Damania**.

For more information:

<http://www.worldbank.org/sar>