Climate Crisis is Breaking the Back of South Asian Countries
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Climate Crisis, What Is That?

We are living on a burning planet, which is persistently dealing with sustainability challenges like poverty, gender inequality, biodiversity loss, and so on. Recently, the term 'climate crisis' was brought into play, as climate change had the potential to be perceived as an event likely in the future. The Intergovernmental Panel for Climate Change (IPCC) special report on Global warming of 1.5 C (SR15) has mentioned that in 2018, the carbon dioxide emission level has reached 410 parts per million (ppm) for the first time in 3 million years. According to the same report, the anthropogenic CO_2 emissions should decline upto 25% by 2030 from the 2010 levels and should decline by 100% by 2050, to prevent an overshoot of global average temperature to well below 2^0C. However, consequent to these significant findings, the urgency to address the crashing of climate was lacking both in policy and public commitment. This article draws local and national level solutions and recommends crucial actions that should be achieved through governmental and individual efforts to overcome the vulnerability of South Asian countries due to rising threats of the climate crisis.

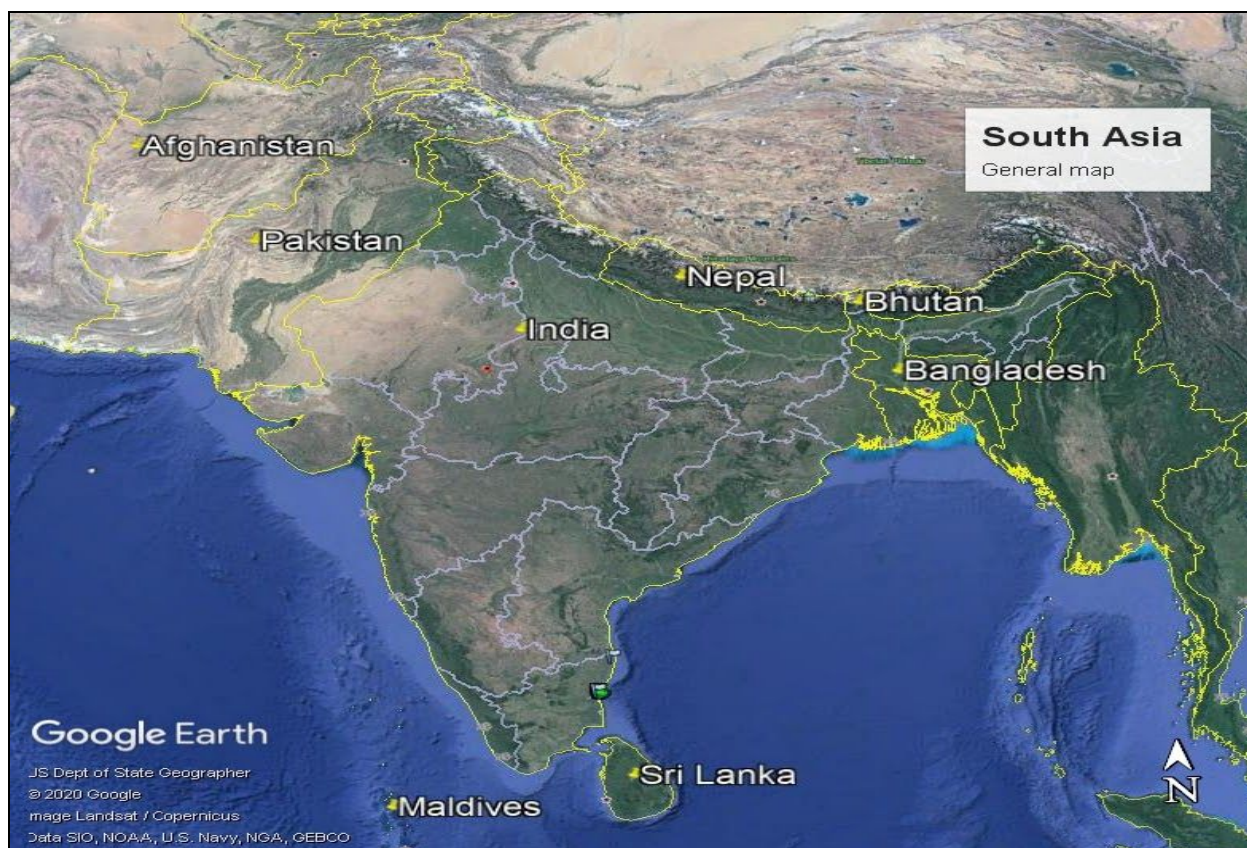**Figure 1:** A general map indicating South Asian countries.Map not to scale.
(Source: Google Earth, 2020)

Why is climate change more damaging to low income countries?

According to the World Bank Report, 2018, 50% of the population in South Asia will reside in areas that are projected as moderate to severe hotspots for climate-related disasters by 2050. These areas are particularly threatened under the carbon intensive scenario. According to the South Asia Subregional Report, 2012, low economic growth can reduce the ecological degradation, however, it would weaken the mitigation efforts of society. A study has suggested that South Asian Countries need to update their National Environmental Policies (NEP) that have existed since the 1990s and should frame collaborative local and national policies to address environment-related issues, as the frequency of natural disasters and their impacts are constantly on the rise. The United Nations Office for Disaster Risk Reduction Report, 2019 showed that in the poor income countries-like Afghanistan, Bangladesh, Pakistan and Nepal-deaths of people that were potentially exposed to disasters were seven times greater than in rich nations. Despite the severity of warnings, South Asian governments remain hopelessly ill-equipped to meet the rising challenges. This was highlighted in the recent UN Climate Change conference COP25.

Names of South Asian Countries	World Factbook (Per cent land use)			Per cent growth in per capita CO2 emission (1990-2018)	Human Development Index Report, 2019 (World Rank)	Global Climate Risk Index report, 2020	
	Agricultural land	Forest	Other			Fatalities due to climate change, (World Rank)	Losses per unit GDP due to climate change (World Rank)
Afghanistan	58.1	2.07	39	1.23	170	NA	NA
Pakistan	35.2	2.1	62.7	1.72	152	11	31
India	60.5	23.1	16.4	3.62	129	3	58
Nepal	28.8	25.4	45.8	16.50	147	17	41
Bangladesh	70.1	11.1	18.8	10.20	135	9	40
Bhutan	13.6	85.5	0.9	13.54	134	134	88
Sri Lanka	43.5	29.4	27.1	3.56	71	36	45
Maldives	23.3	3	73.7	20.89	104	172	163

Table 1: Scenario of destruction due to development in the era of climate change in South Asian countries (Here NA=Not Available)

'Knock-Knock', Challenges due to Changing of Climate!

According to the survey results mentioned in the Global Risks Report in 2020, occurrence of extreme weather events like abnormally high temperatures and precipitation (Figure 2), climate action failure and natural disasters are likely to be among the top five global risks over the last three years. While the poor and marginalised communities are the crucial victims of these disasters and the resulting loss of natural resources, our wealthier societies wear scaffolds of fancy lifestyles that prevent them from realising the severe impacts of climate change.

The major challenges that are likely to overwhelm South Asian nations include:

Challenge 1: Sea-level rise
The thermal expansion of the ocean due to absorption of Greenhouse Gases (GHGs), and melting of glaciers due to heat generated from rising global temperature, may raise the global sea level by 2 meters by 2100. According to the National Oceanic and Atmospheric Administration (NOAA), rising sea temperature will cause loss of corals; this will consequently affect marine food chain and induce coastal flooding enough to sink islands. Thus, rising sea level is causing drastic flooding in Bangladesh, Maldives and Sri Lanka.

Challenge 2: Riverine flooding
It is another destructive event that is caused when an inflow into a river exceeds its capacity due to excessive rainfall. This can flood widespread downstream areas of the river, often breaking dams and swamping nearby areas. These catastrophes severely impact the population of India and Bangladesh, specifically its urban and rural poor.

Challenge 3: Glacial Lake Outburst Floods (GLOF)
The glacial ice in Nepal has decreased by more than a quarter since 1977. Research on the potential damage due to glacial floods in Nepal and the Himalayan regions of India was first done in 1985. The ramifications of these events depends on the strength of the natural dam, the structure of the lake and its surroundings. These lakes have a high cultural and social significance to local populations, magnifying the impact of these events.

Challenge 4: Heat stress and drought
The rise in global temperatures, which causes heat waves leads to epidemics like heat stroke, dehydration, and heat stress nephropathy. The incidence of these appears to be higher in countries such as Sri Lanka, India and Pakistan. In 2018, a shrinking snowpack due to reduced snowfall in Afghanistan has made it face its

worst drought in decades and Pakistan has seen a reduction in its south-west monsoon precipitation levels to zero millimeters (mm) in the last two decades.

Challenge 5: Water scarcity

The World Water Development Report, 2019 has presented a rise in global water demand by 1% every year since the 1980s. Activities in the name of development such as industrialization, mining, township development and agriculture have caused water stress all over South Asia. According to the World Resource Institute (WRI), India is the 13th most water stressed country in the world. The Central Ground Water Board has reported groundwater shortage in 70% of districts of India in 2018.
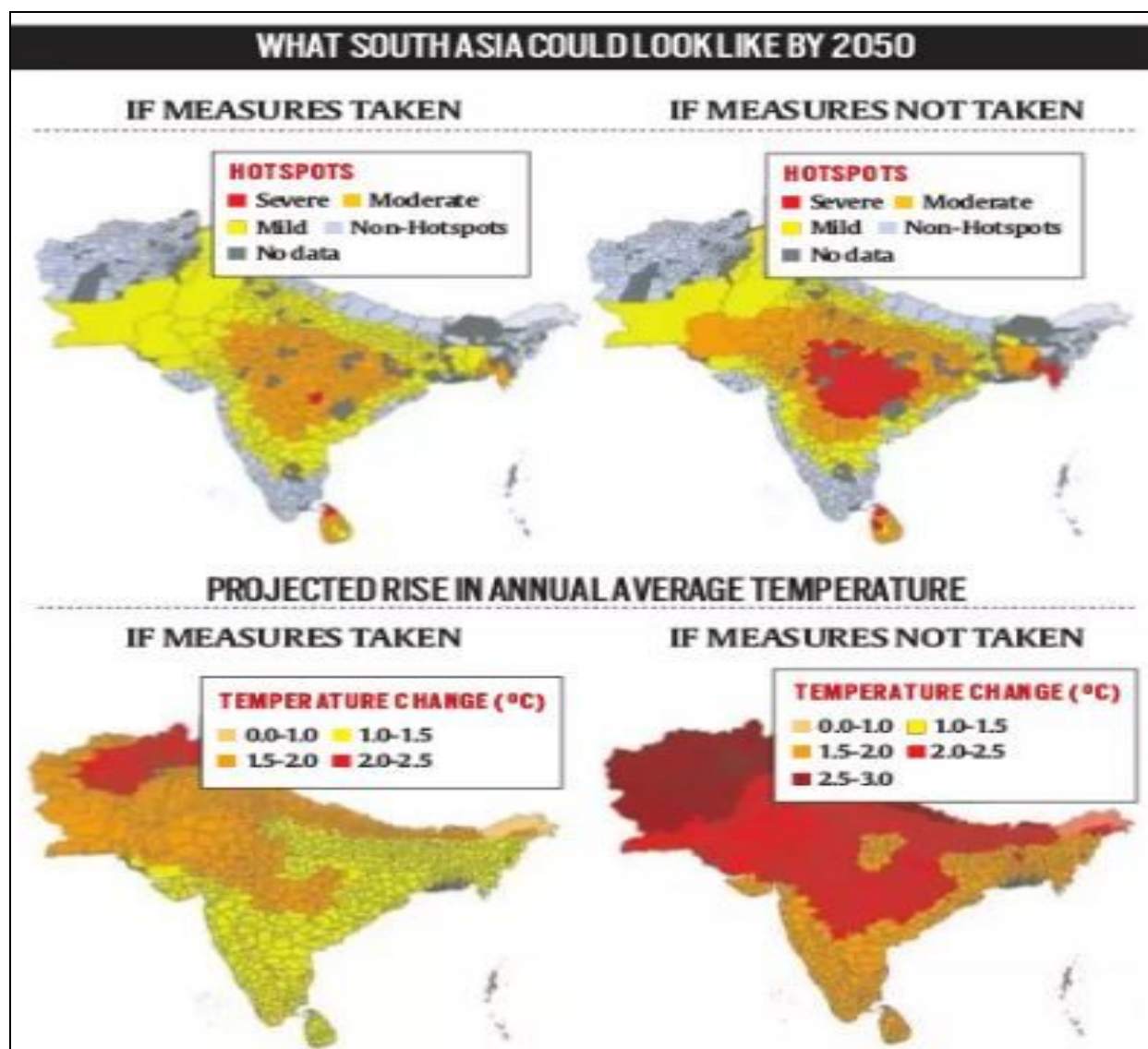

Figure 2: Projected temperature changes in relation to 1981 through 2010 averages (Source: World Bank Report, 2018)

Every Bit of the Climate Action Counts!

The protest led by climate activists like Greta Thunberg, Isra Hirsi, Licypriya Kangujam, Autumn Peltier, Bruno Rodriguez, Helena Gualinga, Mari Copeny, and other young people from every part of our world aims to awaken governments to make a shift from 'Business As Usual' to a realisation that the climate crisis is actually happening, it is not a fairytale and thus the concern and action by the world's governments should be real too.

Figure 3: Placards during Chennai climate strike for climate justice

Following are the actions that should be taken up at both local and national levels:

● **Stop investing in fossil-fuel:** According to a Cost Assessment Report published by the Asian Development Bank in 2014, in the current fossil-fuel intensive scenario, by the year 2050 there will be a 1.8% annual loss in Gross Domestic Product (GDP) due to high degree of suffering and damages in South Asia. The same report has mentioned that by the year 2100, the damage cost will jump to 9% under the business as usual scenario.
● **Prepare and impose firm regulations:** Transparency in data collection and its visualisation for sources of industrial pollution and resource degradation is

necessary. Concrete regulations to minimize human interference through unsustainable activities like deforestation and mining need to be framed and implemented.

- **Maintain adequate green cover:** The World Bank has statistically shown a 6.03% rise in forest cover of South Asia from 1990-2016. The India State of Forest Report 2019 has mentioned a 0.65% expansion of total tree and forest cover in India from 2017-2019. This indeed is very crucial in the present-day scenario. However, a strong legal backup is required to deal with emerging challenges for forest development, such as the timber mafia, poachers and other anti-social elements.

- **Conserve biodiversity:** A study in 2013 has shown that the effectiveness of current conservation efforts to safeguard biodiversity is significantly low in South Asia due to expansion of agriculture land and shrinking of protected areas such as national parks and wildlife sanctuaries.

- **Provide environmental extension services:** Transformation of cities into greener places and shrinking its boundaries to nurture forest and rural spaces is the need of the hour. Dissemination of environmental education will help people try different approaches to cope and come up with viable solutions for conservation of resources.

- **Proper water management:** Groundwater is a key resource for piped drinking water in rural and urban areas of South Asia. Variability in precipitation and over utilization of water in South Asia can be balanced by increasing groundwater recharge, development and management of surface water, grey water recycling, and setting up of water harvesting systems.

- **National-level health policies to cope with the crisis:** From 2009 to 2019, the population has risen significantly in South Asian countries like India, Pakistan, and Bangladesh. Disease burdens such as the emergence and reemergence of zoonotic disease in India creates sink or swim conditions due to poor access to healthcare facilities to populations of these developing nations. Thus, each of the South Asian countries should frame better national-level health policies to resolve local healthcare issues rather than depending on broad strategies mentioned in the annual reports by the OECD/WHO, Commission on Macroeconomics and Health, and the World Bank.

- **Compensation for loss and damage, and support for climate refugees:** Development of early warning systems, sufficient food storage and water availability can build up resilience for potential migrants. Being a very traditional adaptation practice, migration for survival requires robust domestic policies and cooperation among neighbouring countries. Thus, the concerns of a climate-sensitive population should be strategically and unanimously addressed by the stakeholders of all South Asian countries.