

## **What risks are associated with climate change and what should we be doing about it?**

Climate change: a term which is a common part of our vocabulary. But what actually is it? WWF defines it as the “large-scale, long-term shift in the planet's weather patterns and average temperatures” (WWF). These changing conditions occur due to natural factors (such as orbital changes, volcanic activity and solar output variations) and human factors, like burning fossil fuels, deforestation and farming. However, vast amounts of evidence (from a range of sources, including sediment cores, melting glaciers and pollen analysis) point towards the fact that climate change is a manifestation of human activities.

The list of risks associated with climate change seems to be ever-growing as new research is released, the most obvious being the changing weather patterns and more severe weather hazards. For example, due to warmer global temperatures, there are more frequent tropical storms as waters are over 27°C at higher latitudes and for longer periods each year. (CGP)

Rising global temperatures (due to the higher proportion of greenhouse gases in the atmosphere) are causing many problems; one such is that thermal expansion coupled with melting ice is contributing to rising sea levels, leading to increased coastal erosion. This results in habitat loss, threatening endemic species and reducing biodiversity. In addition, due to the interaction of the global hydrological and carbon cycles, as the concentration of CO<sub>2</sub> increases, the water cycle is affected and there are changing precipitation patterns - plant growth is impacted and vegetation cover changes as well as consequences on humans, since our lives are dependent on water.

Other severe human consequences include more deaths due to heat, loss of low lying coastal areas like the Maldives (CGP) due to flooding (causing overcrowding elsewhere), high financial costs of managing climate change, lower crop yields (due to changing weather conditions) which can lead to hunger and even political tensions, eg. over water distribution.

However, the consequences of climate change aren't solely environmental and human ones, rather an interaction of social, political, economic and historical effects too and the most severe risks are those that have interactions between different factors.

Another consequence of climate change is that racial injustice has been emphasised as POCs and ethnic minorities have been found to be more vulnerable to the impacts of climate change, such as Black communities who live in more deprived areas with higher levels of air pollution (TedCountdown). We can't change our environment without addressing the socio-economic injustices of our society.

It is apparent that as climate change becomes increasingly more of an issue, the environment can't return to a state of dynamic equilibrium via negative feedback. Climate scientists have been cautious about interfering with the environment and have promoted leaving nature alone (for example by managed retreat and river restoration). But as the Earth approaches its irreversible tipping point, perhaps more drastic approaches are needed.

Climate change cannot be solved by a single solution, rather must be tackled by multiple methods of both mitigation and adaptation. Whilst mitigation focuses on preventing climate change from worsening, adaptation looks at how we need to change alongside the changing climate.

Adaptation strategies (CGP) include managing water supply, managing rising sea levels and changing agricultural practices; however, these methods focus on adjusting to climate change; therefore mitigation ought to be prioritised over adaptation as we still have time to reverse some of the damage done.

Some mitigation strategies tackle climate change on a smaller scale, like afforestation, whilst others address it on a national or global scale, like using renewable energy, carbon capture and storage and international agreements.

Governments have pledged to plant “633 million hectares” of trees to sequester CO<sub>2</sub> (Heal) using afforestation as a mitigation strategy. However, this is unlikely to happen due to the unrealistic practicalities; eg. India’s pledge involves changing the land use of about  $\frac{2}{3}$  of its land. These ideas are not necessarily practical in reality. Furthermore, restoring forests is another debate since mass restoration could release huge quantities of biochemicals leading to unintended consequences (TedClimate). Afforestation may be an option, but like other strategies, it has its problems.

Mitigation strategies come with economic challenges, from implementing solar panels to building CCS plants, and people aren’t necessarily prepared for these costs. Even after the UK government launched the ground source heat pump subsidy scheme in 2022, there was only an uptake of 8771 heat pumps (FT), demonstrating how government policy only goes so far.

Then there’s the political problem: politicians only have so much power and every decision is faced with pushback. After the expansion of ULEZ in London, the government experienced backlash for introducing a policy which cost people money, yet they also met backlash for not doing enough. The climate situation is a political issue, as governments are cautious about making unpopular policies which could cost them their power (Fisher) and hence politics could “derail the green transition” (Rachman).

Perhaps the most important thing which should be done is changing our attitudes. What if we stopped calling it the ‘climate crisis’ but rather the ‘climate opportunity’? What if we were not consumed by ‘climate doomism’ but rather saw this as a chance to right our wrongs? In Brazil, the finance minister argued that decarbonisation is not a cost, but rather “an opportunity for creating jobs, raising income and improving the lives of millions” (Haddad). This illustrates how climate change, although challenging, can be seen in a positive light and, if tackled with such a mentality, could have positive effects.

In conclusion, there is no one-size-fits-all solution to climate change, for there are several aspects to be considered. What might work in an HIC may not be economically viable in an LIC and hence strategies, policies and ideas must be used in different combinations to suit the context of that particular place. Mahatma Gandhi once said, "be the change you wish to see in the world". The climate is changing, and so must our actions.

So, what is climate change? If we fail, it's a threat. If we try our best, it could be an opportunity.

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