Social Dimensions of Climate Change

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Abstract

Climate change has affected the mankind in numerous ways. Human induced climate change is causing dangerous and widespread changes in nature and effecting lives of billions of people around the world. As the climate continues to change there are droughts, water scarcity, severe fires, rising sea levels, flooding, melting polar ice, catastrophic storms, declining biodiversity and million of people around the world face challenges in terms of health, livelihood security, migration, cultural identity and other related risk. People are affected across the world even more irrespective of their contribution to the cause of global warming and climate change. Climate change is not just a scientific issue; it is just as much a social issue. To avoid mounting loss of life, biodiversity and infrastructure, urgent, ambitious, and accelerated action is required to adapt to climate change, at the same time as making rapid, deep cuts in greenhouse gas emissions. This paper briefly discusses the climate change and its effects on society.

Keywords

Climate Change, global warming, impact, society.

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Introduction

Climate change probably represents the most globalize impact of humanity on nature in our history. It is certainly also occurring in a period of unprecedented global awareness and the beginnings of planet-wide attempts at mitigation. To very varying degrees, all human societies contribute to the causes of global warming through emissions, industrial practices and deforestation. All will also feel the consequences, and the contributions of all are needed, earlier or later, to prevent catastrophe.

Since all greenhouse gases combine to circulate the whole globe, there is no direct causal link or proportionality between the emissions made by one nation or group and their vulnerability to the consequences. Indeed the contrary is often the case, with the poorest, who are the lowest emitters, likely to be impacted most or to be least prepared.

In the last decade of the twentieth century, governments were alerted by increasingly concerned scientists to the dangers of global warming. [1]

Scientists point out that climate change interacts with global trends such as unsustainable use of natural resources, growing urbanization, social inequalities, losses and damages from extreme events and a pandemic, jeopardizing future development.[2]

Four key climate change indicators – greenhouse gas concentrations, sea level rise, ocean heat and ocean acidification – set new records in 2021. Human activities are causing planetary scale changes on land, in the ocean, and in the atmosphere, with harmful and long-lasting ramifications for sustainable development and ecosystems, according to the World Meteorological Organization's new report. [3]

Without immediate and deep emissions reductions across all sectors, limiting global warming to 1.5°C (2.7°F) is beyond reach. In the scenarios assessed, limiting warming to around 1.5°C requires global greenhouse gas emissions to peak before 2025 at the latest, and be reduced by 43% by 2030; at the same time, methane would also need to be reduced by about a third. According to the report, there is increasing evidence of climate action. In 2010-2019, average annual global greenhouse gas emissions were at their highest levels in human history, but the rate of growth has slowed. An increasing range of policies and laws have enhanced energy efficiency, reduced rates of deforestation and accelerated the deployment of renewable energy. [3]

According to Intergovernmental Panel on Climate Change (IPCC) report Human-induced climate change is causing dangerous and widespread disruption in nature and is affecting the lives of billions of people around the world. People and ecosystems least able to cope are being hardest hit. Increased heat waves, droughts and floods are already exceeding plants and animals' tolerance thresholds, driving mass mortalities in species such as trees and corals. These weather extremes are occurring simultaneously, causing cascading impacts that are increasingly difficult to manage. They have exposed millions of people to acute food and water insecurity, especially in Africa, Asia, Central and South America, on small islands and in the Arctic. [3]

The abundance of heat-trapping greenhouse gases in the atmosphere once again reached a new record in 2020, with the annual rate of increase above the 2011-2020 average. That trend has continued in 2021, according to the latest Greenhouse Gas Bulletin. Concentration of carbon dioxide, the most important greenhouse gas, reached 413.2 parts per million in 2020 and is 149 per cent of the pre-industrial level. Methane is 262 per cent of the level in 1750 when human activities started disrupting the Earth's natural equilibrium. The economic slowdown from COVID-19 did not have any discernible impact on atmospheric levels of greenhouse gases and their growth rates, although there was a temporary decline in new emissions. Roughly half of carbon dioxide emitted by human activities today remains in the atmosphere. The other half is taken up by oceans and land ecosystems, but their ability to act as "sinks" may become less effective in the future. [3]

Rising global temperatures are fuelling extreme weather throughout the world, impacting economies and societies. [3]

The effects of climate change, in combination with the sustained increases in greenhouse gas emissions, have led scientists to characterize it as a "climate emergency" or "climate crisis". [4]

The Intergovernmental Panel on Climate Change (IPCC) identifies eight key risks to the world from climate change:

- Risk of death, injury, ill-health, or disrupted livelihoods in low-lying coastal zones and small island developing states and other small islands, due to storm surges, coastal flooding and sea-level rise
- Risk of severe ill-health and disrupted livelihoods for large urban populations due to inland flooding in some regions
- Systemic risks due to extreme weather events leading to breakdown of infrastructure networks and critical services such as electricity, water supply, and health and emergency services
- Risk of mortality and morbidity during periods of extreme heat, particularly for vulnerable urban populations and those working outdoors in urban or rural areas

- Risk of food insecurity and the breakdown of food systems linked to warming, drought, flooding and precipitation variability and extremes, particularly for poorer populations in urban and rural settings
- Risk of loss of rural livelihoods and income due to insufficient access to drinking and irrigation water and reduced agricultural productivity, particularly for farmers and pastoralists with minimal capital in semi-arid regions
- Risk of loss of marine and coastal ecosystems, biodiversity, and the ecosystem goods, functions, and services they provide for coastal livelihoods, especially for fishing communities in the tropics and the Arctic
- Risk of loss of terrestrial and inland water ecosystems, biodiversity, and the ecosystem goods, functions, and services they provide for livelihoods.

Many key risks constitute particular challenges for the least developed countries and vulnerable communities, given their limited ability to cope. [5]

Social Threats that Climate Change bring

Climate change impacts health, the availability of drinking water and food, inequality and economic growth. The effects of climate change are often interlinked and can exacerbate each other as well as existing vulnerabilities.

As the impacts of climate change mount, millions of vulnerable people face disproportionate challenges in terms of extreme events, health effects, food security, livelihood security, water security, and cultural identity.

Certain social groups are particularly vulnerable to crises, for example, female-headed households, children, persons with disabilities, Indigenous peoples and ethnic minorities, landless tenants, migrant workers, displaced persons, sexual and gender minorities, older people, and other socially marginalized groups. The root causes of their vulnerability lie in a combination of their geographical locations; their financial, socio-economic, cultural, and gender status; and their access to services, decision-making, and justice. [6]

Climate change can impact our society in several ways such as:-

Health

Climate change is a significant threat not only to human health but also to animal and plant health. The most important health effects from future climate change are projected to include:

1. Increases in summer heat-related mortality (deaths) and morbidity (illness);
2. Decreases in winter cold-related mortality (deaths) and morbidity (illness);
3. Increases in the risk of accidents and impacts on wider well-being from extreme weather events (floods, fires and storms);
4. Changes in the impact of diseases e.g. from vector-, rodent-, water- or food-borne disease;
5. Changes in the seasonal distribution of some allergenic pollen species, range of virus, pest and disease distribution;
6. Emerging and re-emerging animal diseases increasing challenges to European animal and human health by viral zoonotic diseases and vector-borne diseases;
7. Emerging and re-emerging plant pests (insect, pathogens and other pests) and diseases affecting forest and crop systems;
8. Risks in relation to change in air quality and ozone.[7]

Employment

The impact of temperature increases, changes in precipitation regimes or sea-level rise will affect – directly or indirectly – the productivity and viability of all economic sectors.

Climate change may affect workforce availability due to a decrease in the health conditions of the population and additional occupational health constraints (higher temperature at work, more frequent and intense natural hazards keeping people from reaching their workplace).

Moreover, several economic sectors are highly vulnerable because of their dependence on regular climate conditions. Sectoral production shifts – in agriculture and tourism for instance – are expected as a consequence of climate change. [8]

Social Inequality

Climate change is deeply intertwined with global patterns of inequality. Climate change is more than an environmental crisis – it is a social crisis and compels us to address issues of inequality on many levels: between wealthy and poor countries; between rich and poor within countries; between men and women, and between generations. The Intergovernmental Panel on Climate Change (IPCC) has highlighted the need for climate solutions that conform to principles of climate justice (i.e., recognition and procedural and distributive justice) for more effective development outcomes. [9]

Impact on Vulnerable Population

The impacts of climate change on humans are not distributed uniformly within communities. Individual and social factors such as gender, age, education, ethnicity, geography and language lead to differential vulnerability and capacity to adapt to the effects of climate change. The following more vulnerable groups have been identified:

People Living in Poverty

Climate change disproportionably affects poor people in low-income communities and developing countries around the world. Those in poverty have a higher chance of experiencing the ill-effects of climate change due to the increased exposure and vulnerability. [10]

In the absence of well-designed and inclusive policies, climate change mitigation measures can place a higher financial burden on poor households; for example, policies that expand public transport or carbon pricing may lead to higher public transport fares which can impact poorer households more. [11]

A 2020 World Bank paper estimated that between 32 million to 132 million additional people will be pushed into extreme poverty by 2030 due to climate change. [12]

People living in low-income urban areas with poor infrastructure, and, generally speaking, population groups with lower incomes and assets, are more exposed to climate impacts but have less capacity to face them.[13]

Women - Climate change increases gender inequality, reduces women's ability to be financially independent, and has an overall negative impact on the social and political rights of women, especially in economies that are heavily based on agriculture.[14] [15]

Women may be disproportionately impacted by climate change and are at a disadvantage when expensive adaptation measures are required. At the same time, women are key actors in adaptation and more generally sustainable practices. [16]

Indigenous peoples- Indigenous communities geographically tend to be located in regions more vulnerable to climate change such as native rainforests, the Arctic, and coastal areas. [17]

Indigenous communities across the globe generally have economic disadvantages that are not as prevalent in non-indigenous communities due to the ongoing oppression they have experienced. These disadvantages include lower education levels and higher rates of poverty and unemployment, which add to their vulnerability to climate change. [18]

Children- The Lancet review on health and climate change lists children as the worst-affected category by climate change. [19]

Children are also 14–44 percent more likely to die from environmental factors, again leaving them the most vulnerable. Those in urban areas will be affected by lower air quality and overcrowding, and will struggle the most to better their situation. [20] [21].

Racial minorities - The environmental justice (EJ) movement and climate justice (CJ) movement address environmental racism in bringing attention and enacting change so that marginalized populations are not disproportionately vulnerable to climate change and pollution. [22] [23]

Unemployed and socially marginalized people are among the most vulnerable to climate risks. [24]

Ageing population is disproportionately affected by reduced mobility or health impediments, it will result in a higher share of the population being vulnerable to climate change impacts. [25]

Displacement and migration - People in some areas may experience internal or long-distance displacement (and thus become climate refugees) triggered by climate change related changes or disasters.

Climate change affects displacement of people in several ways. Firstly, involuntary displacement may increase through the increased number and severity of weather-related disasters which destroy homes and habitats. Effects of climate change such as desertification and rising sea levels gradually erode livelihood and force communities to abandon traditional homelands for more accommodating environments. On the other hand, some households may fall (further) into poverty due to climate change, limiting their ability to move to areas less affected. [26]

According to the Internal Displacement Monitoring Centre in 2020 approximately 30 million people were displaced by extreme weather events while approximately 10 million by violence and wars and climate change significantly contributed to this. [27] [28]

The United Nations says there are already 64 million migrants in the world fleeing wars, hunger, persecution and the effects of global warming. [29]

In 2018, the World Bank estimated that climate change will cause internal migration of between 31 and 143 million people as they escape crop failures, water scarcity, and sea level rise. The study only included Sub-Saharan Africa, South Asia, and Latin America [30] [31].

Slow-onset disasters and gradual environmental erosion such as desertification, reduction of soil fertility, coastal erosion and sea-level rise are likely to induce long-term migration. [32]

Migration related to desertification and reduced soil fertility is likely to be predominantly from rural areas in developing countries to towns and cities. [33]

These are certain impacts that the climate changes have on the society and these have to be tackled in all inclusive planned way to curb down the impact that climate have on humans, animals and nature.

Conclusion

Reducing vulnerability and implementing adaptation measures is not only the task and responsibility of governments. The severity of climate change requires public and private actors to work together in reducing vulnerability and adapting to the impacts. Education and awareness-raising is therefore an important component of the adaptation process to manage the impacts of climate change, enhance adaptive capacity, and reduce overall vulnerability.

To avoid mounting loss of life, biodiversity and infrastructure, ambitious, accelerated action is required to adapt to climate change, at the same time as making rapid, deep cuts in greenhouse gas emissions. So far, progress on adaptation is uneven and there are increasing gaps between action taken and what is needed to deal with increasing risks, the new report finds. These gaps are largest among lower-income populations.

Major climate reversal requires the involvement of governments, the private sector and civil society, who have to work together for climate risk reduction as well as for equity and justice in decision making and investment.

Addressing global warming and tackling climate change require national and international action and policy changes. But individuals, households, and communities have a vital role to play too. Promoting behaviors and actions that reduce carbon emissions, helping people and nature adapt to the impacts of climate change, surfacing, spotlighting, and accelerating solutions to climate change is much needed.

In this way different interest, values and world views can be reconciled. By bringing together scientific and technological know-how as well as indigenous and local knowledge, solutions will be more effective. Failure to achieve climate resilient and sustainable development will result in a sub-optimal future for people and nature.

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