Climate change in South Asia and impact on mental wellbeing

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South Asia is home to one-fourth of the world's population. Between 1990-2008 AD, nearly half of its population -750 million people - were affected by one or more climate-related disasters.[1] Disasters caused by natural hazards in the region caused damages worth $149.27 billion between 2000-2017.[2] Climate changes in the region in forms of extreme weather events such as cyclones, flooding, heat waves, glacial meltdown, drought, water, and food shortage, depleted water reservoirs, and changing weather patterns are frequently observed. South Asia is vulnerable to several climate change issues due to the topography, economy, population patterns, rapid urbanization, deforestation, and industrialization. Without doubt, climate change - a global tragedy - is a harsh reality in South Asia.

From biodiversity to tourism and agricultural production to public health, almost all sectors have remained affected. The relationship between climate change and mental wellbeing is complex. Extreme heat and humidity affect those with impaired thermoregulation, such as those with pre-existing mental illnesses, using substances like alcohol, and psychotropic like lithium and anticholinergic.[3] Economic losses, poverty, socio-environmental disruptions such as displacement, migration, famine, violence, agricultural changes, food and water insecurities, poor medical facilities, etc have indirect effects on mental health. Further, malnutrition, food, and water-borne diseases such as diarrhoea are on the rise.[4] Climate change has altered the distribution of diseases, such as increased incidence of vector-borne diseases such as Chikungunya and dengue in the Hindu Kush Himalayan region. 5 Similarly, it has exacerbated non-communicable diseases such as neurocognitive, cardiovascular, respiratory, injuries and cancer.[5,6] These factors also contribute to worsening mental health with climate change.

Impacts on mental wellbeing

The threats of climate change, the perceived direct experience of climate change, and changes to local environment can lead to various mental health outcomes in public, ranging from distress to illnesses. For many, distresses such as despair, frustration, and guilt about the climate crisis are expressed as eco-anxiety, which is the threat due to climate change resulting in helplessness to improve the situation. Some people, who have been displaced due to extreme weather events, are suffering from "solastalgia," which is defined as distress and isolation caused by the gradual removal of solace from the present state of one's home environment.[3] Increased psychiatric disorders - including but not limited to suicides, post-traumatic stress disorders, depression, acute psychosis, substance use disorders, dissociative and somatoform disorders - are well-recognized consequences of climate change.[3, 5] Increased suicide rate among farmers in the last decade is a heart-wrenching fact in India. Such impacts are more debilitating in populations with pre-existing chronic physical and mental health conditions and lower socioeconomic status. These negative effects are exacerbated among children, elderly, women, ethnic minorities, indigenous and homeless people who rely on the natural environment for a livelihood because they often lack the financial, social and community resilience to cope, handle and recover from the hazards due to climate change.[3]

On the contrary, same disastrous circumstances can also inspire altruism, compassion, and post-traumatic growth among the individuals as they work in unity to resolve the challenges in their societies, rebuild their communities, and console one another to bear the losses.[3] Such positive impacts were visible in Nepal following the 2015 earthquake and in India during frequent floods in Kerala and Mumbai between 2017 and 2018, where local, national and international supports were phenomenal. These collabora-

tions increase acceptance of climate change, engagement with climate mitigation and adaptation, and resilience among the people.

How to tackle the problem?

South Asian countries lack climate justice. Though less responsible for climate change than developed countries, they face higher threats to livelihoods, assets, and security. While among the biggest public health threats of the 21st century, tackling the climate crisis also offers the greatest global health opportunity. So, steps taken to improve climate can bring a giant leap in mental health policies and development of mental health in South Asia. Coordinated and collaborative actions to mitigate and adapt to climate change are required across on national and regional, individual and multisectoral levels to promote mental wellbeing and manage mental health issues in South Asia. Some solutions therefore include:

1. Demand reduction of non-renewable energy and increased supply of renewable energy

All the South Asian countries rely on fossil fuels, mainly coal and gas. These carbon emissions can be mitigated through reduction of energy demand via reduced consumption, such as accessible, well-managed public transportation, promotion of carbon-neutral agroforestry, and an equitable shift to renewable energy. Introducing a carbon tax in Bangladesh, Maldives, Nepal, and Sri Lanka can help these countries shift toward clean, renewable sources and prevent the release of almost 1 billion tons of energy-related greenhouse gas (GHGs) emissions between now and 2030.[7] Total annual GHGs emissions from solid waste for Bangladesh, Bhutan, India, Nepal, and Sri Lanka were estimated to reach 606 million tons by 2030. As a solution, Bangladesh, India, and Sri Lanka provide ideal climatic conditions for the organic decomposition of waste matter that generates methane gas, which converts to clean energy.[7]

2. Increased community participation

Community participation includes awareness about climate change and its effects on health, as early as from schools. Mobilizing youths and women's clubs and their involvement in planning and designing interventions are essential. For instance, "floating gardens for vegetable cultivation'' and "floating classes" for children affected with floods in the Maldives are increasing community resilience.

3. Preparedness

Interventions such as early warning systems for impending weather changes, enhanced disease surveillance, and remodeling urban settlements to make them less vulnerable to extreme climate events are necessary to adapt to climate change. Public health facilities must be prepared. They should be increased and strengthened to handle climate-sensitive diseases and mental health disturbances for early diagnosis and treatment, especially in disaster hit areas.

4. Early diagnosis and management of mental health problems

Importantly, grassroots training on mental health is essential among community health workers for effective screening, referring, and providing psychological first aid. The vulnerable groups must be targeted for mental health evaluation and interventions.

5. Leadership and policies

Countries must aim to make decentralized adaptation strategies for climate change, which are gender-sensitive, regularly monitored, and evaluated in line with global commitments like the Paris Accord, SDGs and COP-26. Stable governance with policies and budgets prioritizing climate change and mental wellbeing are the necessities. If the leaders are themselves sensitive to climate change, they can advocate in local, national and international fronts in a better way!

6. Research

It is challenging to delineate the precise impact of climate change on mental health from other social determinants. There is a dearth of research focused on studying the effect of climate change on mental health targeting vulnerable groups. The mental health professional community should be geared up to understand the relationship between climate change and mental wellbeing, and design interventions to promote mental wellbeing, prevent and manage mental disturbances.

Without global action on climate change, temperatures may rise by 4.6°C. The collective economy of six countries - Bangladesh, Bhutan, India, the Maldives, Nepal, and Sri Lanka – the temperature rise could shrink by up to 1.8% every year by 2050 and 8.8% by 2100, on average.[1] Therefore, all South Asian countries should act in unity! Now is the time; today is the day to start to make a change!

References

1. Ahmed M, Suphachalasai S. Assessing the costs of climate change and adaptation in South Asia. Asian Development Bank; 2014 Jun 30.
2. Fallesen D et al. World Bank Blogs[internet]. Place of publication unknown: World Bank.2019- South Asia needs to act as one to fight climate change; 2019 Nov[cited 2021 Nov 23]; [about 5 screens]. Available from: https://blogs.worldbank.org/endpoverty-insouthasia/south-asia-needs-act-one-fight-climate-change
3. Cianconi P, Betrò S, Janiri L. The impact of climate change on mental health: a systematic descriptive review. Frontiers in psychiatry. 2020 Mar 6;11:74.
4. Hayes K, Blashki G, Wiseman J, Burke S, Reifels L. Climate change and mental health: Risks, impacts and priority actions. International journal of mental health systems. 2018 Dec;12(1):1-2.
5. Dhimal M, Bhandari D, Dhimal ML, Kafle N, Pyakurel P, Mahotra N, Akhtar S, Ismail TI, Dhiman RC, Groneberg DA, Shrestha UB. Impact of Climate Change on Health and well-being of People in Hindu-Kush-Himalayan (HKH) region-A Review. Frontiers in Physiology. 2021 Aug 6:1139.
6. Genc S, Zadeoglulari Z, Fuss SH, Genc K. The adverse effects of air pollution on the nervous system. Journal of toxicology. 2012 Oct;2012.
7. Financing Low-Carbon Urban Development in South Asia: A Post-2012 Context. Manila(PHL): Asian Development Bank; 2013