Justice should be at the centre of assessments of climate change impacts on health

Several reports, such as the *Lancet* Countdown on health and climate change,[1,2] analyse and quantify the impacts of a changing climate on human health, bring attention to the compounding effects of climate stressors on health, and call for reducing the use of fossil fuels as an important mitigation measure with health co-benefits. However, the health community should not treat climate change as an equalising threat separate from the historical injustices that affect the differential positions of people in relation to health risks at both global and local levels. There is too little attention given to the underpinning forms of exclusion and oppression that drive unequal health impacts of climate change at local levels. Furthermore, vulnerability analyses are too often restricted to physiological health determinants, such as age, underlying health conditions, or place of residence (eg, urban *vs* rural).[1] Analyses of heat-related risks in relation to physical activity, for example, do not consider physical activity related to labour in domestic care, construction, or agricultural sectors, which mostly employ low-paid and undervalued workers who are racialised and minority ethnic, and usually only consider how heat might negatively affect people's capacity to work, and thus their incomes and the economy.[1]

In Europe, undocumented migrant farm workers face deportation risks and have little political voice while being exposed to labour exploitation, extreme weather, and other climate-related risks (eg, diseases from mosquitos).[3] In India, migrants are exposed to intersecting forms of environmental marginalisation and climate injustice as they have no social networks, do not have their legal rights enforced, and often work in precarious jobs (eg, physically dangerous or at risk of being fired at any time) with restricted access to public and financial services.[4] Labour justice is also health justice and climate justice, but these connections remain understudied.

Underlying and intersectional vulnerabilities affect the extent to which people benefit from climate-protective interventions, an aspect that is also overlooked in many reports. Historically, low-income, racialised, and minority ethnic communities have little access to climate-resilient infrastructure. In 1995, the Chicago heatwave showed a 1·5:1 mortality ratio for Black residents compared with White residents, partly due to deteriorated public spaces in neighbourhoods with a majority of Black residents.[5] Nowadays, similar trends are observed with public green spaces that could be heat refuges, of which there are not enough in most low-income neighbourhoods and neighbourhoods with high numbers of migrants. This is an environmental and health inequity that cities such as Barcelona or Paris are trying to address with the creation of so-called climate shelters.[6]

Vulnerable residents are also affected by climate gentrification, which has further negative effects on health.[7] In Philadelphia, green, climate-resilient infrastructure has been located in areas with wealthy, White residents, displacing poor, racialised, and minority ethnic communities to less climate-protected neighbourhoods by use of land speculation and increased housing costs.[8] Informal settlements, such as the favelas in Brazil, are sometimes directly displaced as part of this so-called resilience building, and luxury real estate is built in those same ecologically fragile and newly protected spaces. This process adversely affects the poorest and most marginalised residents via food, housing, and labour insecurities.[9,10]

We call for a better understanding of risk, vulnerability, and adaptation as deeply political questions. When referring to vulnerable populations in climate and health research, it is important to go beyond the idea of uniform individuals whose only distinctive and relevant characteristics in relation to climate health risks are their age or underlying health conditions, or whose vulnerability is fixed in space or time. Climate health assessments should consider and respond to multiple injustices and their health implications. Historically marginalised and minoritised groups have contributed to climate change the least, are most exposed to its impacts, have the worst access to interventions, and are the most likely to be displaced by poorly conceived climate-resilient infrastructure.[7]

Interdisciplinary research is crucial because climate change is exacerbating existing health inequities, social inequality increases climate vulnerability, and

such vulnerabilities are intersectional and affected by historical processes, such as colonisation and its ongoing legacy. Issues of social and environmental justice and the environmental privileges at the centre of climate and health questions need to be urgently addressed.

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