

Shortlisted for the Award for Innovative Methods



Understanding cooling poverty from the 'margins'

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Abstract: Increasing temperatures and prolonged heatwaves are a deadly threat in tropical geographies where precarious urban infrastructures, informal urbanisation, and socio-economic and spatial exclusions create new forms of thermal vulnerabilities and deprivations. This project reflects on the concept of 'cooling poverty' in Rio de Janeiro. In this city, there are 1.5 million people, mostly afro-descendants, who live in informal settings (favelas). Cooling poverty may force people to adopt obsolete, inefficient and hazardous cooling appliances such as old air conditioners, which represent a risk for people's health (legionella disease); or water tanks, which facilitate the spread of mosquito-borne diseases (e.g., dengue, chikungunya). Moreover, the pursuit of cooling through energy inefficient air-conditioning in the favelas and other impoverished areas is one of the most common reasons for the occurrence of electricity thefts (Mazzone, 2020), and frequent blackouts.

The project shares the voices, lived experiences and local knowledge of people at the 'margins' who are socially disadvantaged because of race, religion, gender, class, sexuality, age, disabilities, ethnicity and migration status. To do so, it uses qualitative approaches such as in-depth interviews, art-based methods and *online energy forums* (through WhatsApp or Facebook closed-groups). These participatory approaches form a novel and effective method not only to better understand local realities of thermal vulnerabilities, but also as a strategy which includes differentiated needs in the formulation of public policies targeting energy poverty.

Why we need to understand cooling poverty from a people-centric perspective

Cooling represents a critical blind spot in sustainability debates (Khosla et al., 2020). Even the scholarship on fuel poverty tends to focus more on heat rather than cooling (Thomson et al., 2019; Mazzone, 2020) and it is nearly absent in interdisciplinary discourses on energy efficiency from a non-technical perspective (Mazzone and Khosla, 2021). This study contributes to the ongoing research on energy poverty, energy justice and energy vulnerabilities from social sciences and humanities perspectives. From the social science it brings an intersectional feminist approach (Crenshaw, 1991; Osborne, Howlett and Grant-Smith, 2019), and from the humanities, it engages with art-based participatory approaches (McNiff, 2012). Particularly, previous work on energy poverty fails to bring in the knowledge of the

ones who experience first-hand its debilitating disadvantages. In fact, most energy poverty definitions were conceived by academics and international development institutions based in the Global North (Mazzone, 2020). We still need perspectives not only from the Global South, but from the people who actually experience these energy-related issues.

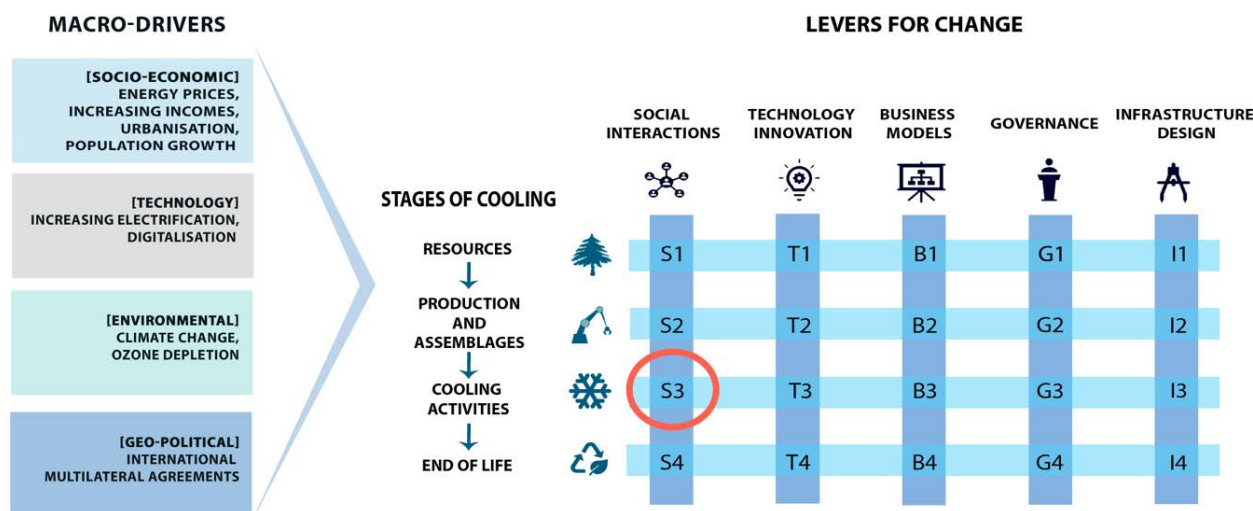
This project is innovative because it brings people's knowledge and experiences to the centre: it addresses the concept of cooling poverty and energy efficiency from a people-centric perspective. The *online energy forums* will be guided partially by semi-structured questions, in which we will discuss, for 9 months, whether measures of energy efficiency for cooling (e.g., purchasing new efficient cooling appliances such as AC, refrigerators and ventilators) affect the participants and, if so, how. From a methodological perspective, this project uses art-based participatory

methods such as drawings, videos and photography (Sletto, 2009) to engage with and co-produce knowledge and lived experiences with people experiencing different socio-economic disadvantages and disabilities (McNiff, 2012). Art-based research has been used by post-colonial intersectional feminists, but is largely ignored in energy research, despite its effectiveness especially in those settings where colonialist structures are still affecting the imaginaries, mental categories and social practices of Afro-descendants, indigenous people, migrants, and non-gender normative people (Meer and Müller, 2021).

The project helps address the Energy Efficiency Priority Question 16: “To what extent can intersectional insights – regarding a person’s social identities (e.g., gender, race, class, sexuality, religion, disability, etc.) – inform the design of energy efficiency solutions, and assist in devising strategies that address their unintended consequences?” Through the participatory methods mentioned above, this project brings

light to the differentiated multi-layered disadvantages and lived experiences of cooling poverty. It co-creates a definition of cooling poverty from people’s perspectives. In doing so, it gives voice to marginalised people who would otherwise be ignored in energy decision-making. In bringing their voices, this project also addresses their differentiated needs, which means understanding cooling poverty through a focus on solutions informed by the participants.

This project is part of the ongoing research with the Future of Cooling Programme at University of Oxford. Within the programme we produced an analytical framework (Fig. 1 below) identifying macro-level drivers, different stages of cooling delivery, and the levers which act on the cooling system to influence the trajectory of the future of cooling. My research within the programme focuses on cooling activities and social interactions (see point S3 in the figure below) in Rio de Janeiro, and has also been recently awarded funding by the Fuel Poverty Research Network (£ 2,500).



Source: Khosla et al. (2020)

Figure 1. Analytical framework for transitioning towards sustainable cooling.

References

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