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# Anti-racist reorientations to land through gardening with newcomer youth of color

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Our paper seeks to dis/orient normative scholarship on climate migration and climate refugees that reify misleading claims about the relationship between mass migration and climate change, which have been shown to further marginalization of people from the Global South. We orient our attention to a topic that has received considerably less attention in the literature on critical environmental studies: how newcomer (refugee) youth of color (re)establish relationships with more-than-human life, land, air, and water in their newly adopted home in the Global North. Drawing from a three-year-long, community gardening project co-created with the youth, we offer a qualitative analysis of the youths' participatory, embodied, and discursive work over the first 2 years of creating and caring for the community garden. From a pragmatic perspective, our work arises from the concern that families and youth of color in North America are intersectionally disadvantaged in terms of accessing city resources and public spaces during their resettlement, as noted by critical sociologists of race, migration and gender. Our study reveals how the youths' participation was centered in the garden through adopting an anti-racist praxis, while also offering an expansive vision of how race and climate are implicated in migration.

## KEYWORDS

community gardening, anti-racism, newcomer youth of color, forced migration, climate migrants

## 1 Introduction

Critical environmental scholars have argued that the hegemonic discourse of climate-induced migration (i.e., climate refugees) is characterized by euphemizing systems of global racial capitalism that create uninhabitable conditions in the Global South (Ahuja, 2021; Ferdinand, 2022). For example, in tracing 'the invention of the figure of the climate migrant' in the past 30 years, Ahuja (2021) noted:

*...the climate migrant has emerged as a media icon not because the nature of the weather or of ecological destruction has fundamentally changed the nature of human mobility but because it offers a rhetoric about migration that appeals to a set of racialized presumptions about human conflict and population dynamics that fit into increasingly apocalyptic and conservative northern political imaginaries of climate change's destructive social effects.* (Ahuja, 2021, p. 38)

Our paper arises from the concern that normative scholarship on climate migration and climate refugees reifies misleading claims about the relationship between mass migration and climate change, and such claims have been shown to further marginalize

people from the Global South (Boas et al., 2019; Bettini and Andersson, 2014). From an environmental perspective, such claims offer erroneous and dehistoricized accounts that may invisibilize the complexity of biophysical, social, geopolitical and economic dimensions of human movement (Wiegel et al., 2019). They also advance superficial claims that position migration from the Global South as a “real threat” to countries in the Global North (European Commission, 2015), effectively resulting in policies designed to prevent migration to the Global North (Boas et al., 2019). In contrast, critical environmental scholars have argued that such claims about climate migration must be seen as hypothetical at best (Bernstein et al., 2008), and that they are reflective of institutional and national ideologies, rather than lived realities of the people who are faced with forced migration (Bettini and Andersson, 2014).

Critical migration scholars have also argued against reducing migrating peoples and the causes of their migration to bureaucratic categories that rely on and reproduce statist, hegemonic narratives of migration (Ahuja, 2016; Alvarez, 2020; Banerjee, 2022; Purkayastha, 2018; Simpson, 2017). Instead, adopting such a perspective also necessitates us to develop a deeper understanding of “how legacies of colonialism, imperialism, and capitalism co-produce and exacerbate the climate crisis, create disproportionate impacts on those who contributed the least to climate change, and influence global and local responses” (Sultana, 2025, p. iii). For example, critical environmental scholars have detailed the extent to which land use and resource extraction under European classic or franchise colonialism (Roy and Hanaček, 2023), settler-colonialism (Kashyap, 2020; Simpson, 2017), and the resultant systems of global capitalism “have created widespread conditions for human displacement and racial disposability” (Ahuja, 2021, p. 15).

In this paper, we orient our attention to a topic that has received considerably less attention in the literature on critical environmental studies: how newcomer (refugee) youth of color (re)establish relationships with more-than-human life, land, air, and water in their newly adopted home in the Global North. Drawing from a three-year-long, community gardening project co-created with the youth, we offer a qualitative analysis of the youths’ participatory, embodied, and discursive work over the first 2 years of creating and caring for the community garden. From a pragmatic perspective, our work arises from the concern that families and youth of color in North America are *particularly* disadvantaged in terms of accessing city resources and public spaces during their resettlement, as noted by critical sociologists of race, migration and gender (Banerjee et al., 2024; Embrick and Moore, 2020; Tuttle, 2022). The framing of being “particularly disadvantaged” is decidedly intersectional (Banerjee and Thomas, 2023; Crenshaw, 1991), i.e., it highlights the intensification of marginalization of newcomer youth and their families due to both their race and migration status. Our study reveals how newcomer youths’ participation can be centered in the garden through adopting an anti-racist praxis, while also offering an expansive vision of how race and climate are implicated in migration.

We ask the following questions:

RQ1: What are the structural barriers faced by the youth in the context of engaging in community gardening?

RQ2: How can an anti-racist, youth-centered, co-design based approach help address these challenges and support youths’ engagement with community gardening?

## 2 Theoretical background

### 2.1 Immigrants as national and ecological threats

Being labeled as a refugee in their new society also automatically assigns material and symbolic societal value (Amelina, 2021; Zetter, 2007; Banerjee et al., 2022). Newcomers of color in the Global North are often constructed as either detrimental toward or disinterested in local ecologies, especially in settler-colonial countries (Amelina, 2021; Zetter, 2007). This positioning stands in contrast to arguments by Indigenous scholars that colonial matrices of domination – ranging from destruction, extraction and erasures of local ecologies, languages and histories, in addition to the violent genocide of Indigenous communities – have defined modern urban spaces, environmental cultures and public education in the Global North (McGregor et al., 2020). Yet, as we explain next, responsibility for the fallout is placed upon racialized newcomers through presumed superiority of white land stewardship (Hickcox 2017), and the racializing myth of overpopulation (Campion, 2023; Fernández and Hart, 2023; Turner and Bailey, 2022).

Hickcox (2017) analyzed the construction of a white environmental subjectivity in opposition to that of Latinx immigrants (and non-immigrants) in Boulder, Colorado. Her interviews with white residents of Boulder, who volunteered as English tutors for adult immigrants, revealed that they adhered to ‘wilderness and pristine nature’ as core characteristics of an ‘environmental’ city (p. 504). Her interviewees considered certain activities, which Hickcox (2017) associates with a white environmental subjectivity (hiking, recycling, voting for green policies, recreation in green spaces outside the city), as evidence of Boulder’s environmental character. As such, ‘Latinos, who walk or run in the city were not seen as doing so in accordance with an environmental ethic’ (p. 511).

Historical analyses of eco-bordering (Turner and Bailey, 2022) and eco-fascism (Campion, 2023; Fernández and Hart, 2023) illustrate the Global North’s tendencies to blame immigrants from the Global South for environmental degradation and justify further securitizing borders. Nativists in settler-colonial states tend to locate migrants as exacerbators of climate crises (Turner and Bailey 2022). For example, the shooter responsible for the deadly 2019 attack in El Paso, Texas, which killed 22 people and injured 23 others, was motivated by eco-fascist ideologies rooted in white nativism, as evident in their manifesto, which claimed that mass murder is an environmentally guided response to a “Hispanic invasion” in Texas (Abutaleb, 2019; Cagle, 2019; Dixit, 2022). Similarly, the Christchurch, New Zealand shooter responsible for killing 51 Muslims in 2 mosques (lauded in the El Paso shooter’s manifesto) self-identified as an “eco-fascist” (Fernández and Hart, 2023). It is also noteworthy that environmental organizations such as Sierra Club have also popularized the racialized myth of overpopulation as the primary cause for environmental degradation since the late 1960s (Cagle, 2019). Right-wing environmental lobbies further weaponised this narrative against immigrants, in particular, immigrant women of color from the Global South, who have been positioned as key players facilitating

reproduction and thus Great Replacement in the Northern nations (Bhatia, 2004; Gutiérrez and Fuentes, 2009; Huang, 2008; Larios, 2020). For example, Larios (2020) demonstrates how the reproductive rights of migrants are positioned against national sovereignty in Canada. Similarly, in her analysis of public consultations conducted to reform Canadian immigration policies in mid-90s, Thobani (2000) found immigrant women were constructed as threats to the “national way of life” (Thobani, 2000, p. 44).

## 2.2 Colonial and hegemonic figures of the “climate migrant”

Along the ideological continuum of the interlocking images of environmentalism and nativism that shape how migrants of color are positioned in the Global North, it is also noteworthy that critical environmental scholars have argued land use and resource extraction under European classic or franchise colonialism (Bhattacharyya, 2018; Roy and Hanaček, 2023), settler-colonialism (Kashyap, 2020; Simpson, 2017), and the resultant systems of global capitalism ‘have created widespread conditions for human displacement and racial disposability’ (Ahuja, 2021, p. 15). Rural-to-urban, internal national, and international migration are in direct response to colonial machineries of human development (Ahuja, 2021; Guha and Martinez-Alier, 1997; Sultana, 2022) and racial domination (Collins, 1990). Furthermore, class-marginalized and racialized folks in the Global South are disproportionately affected by these interlocking mechanisms of climate displacement (Simpson, 2017; Ahuja, 2016; Ferdinand, 2022; Sultana, 2022).

Yet, these matrices of domination are erased from mainstream discussions of climate migrants and environmental refugees. Originating in development studies and international policy discourse, environmental or climate migration has been primarily understood as a humanitarian issue and a security threat since the 1990s (Bhatta et al., 2015; Ghosh and Orchiston, 2022; Khanom et al., 2022; Rosignoli, 2022). Here we irrevocably acknowledge that environmental factors in fact instigate human (and multispecies) mobility (Abebe, 2014; Ferdinand, 2022; Maharjan et al., 2020). Environmental governance and development literature expends sufficient scholarly attention toward conceptualizing such migrations as: temporary or permanent; internal or international; slow-onset or rapid-onset; and voluntary or involuntary (Abebe, 2014; Bhatta et al., 2015; Khanom et al., 2022; Maharjan et al., 2020; Rosignoli, 2022). Much of this literature contributes to framing the climate migrant figure as simultaneously agentless and resilient, configuring possibilities of migration as adaptation to climate events (Bettini, 2014).

To summarize: The migration of Black and Brown bodies to the Global North is considered to threaten the national security of northern nations (Ahuja, 2021; Ayeb-Karlsson et al., 2022), as we have also discussed in the previous section. Our work, therefore, is premised on the fundamental recognition that these congruent racialized and necropolitical imaginations of the “climate migrant” needs to be dis/oriented (Ahmed, 2006) through Southern perspectives. In this paper, we outline an anti-racist, co-design-based approach for centering newcomer (refugee and immigrant) youth of colors’ voices in the context of growing and caring for a community garden. However, rather than theorizing about anti-racism, in the next two sections, we offer a contextualized account of how we adopted an anti-racist stance in our study design and analysis.

## 2.3 More-than-human kinship, knowing and place-making in urban gardens

In the context of environmental education research, Indigenous scholars remind us that our senses of place develop within the colonial panopticon of settler-colonial erasure of Indigenous knowledge and histories of the place (Bang et al., 2014; Donald, 2021; McDaid Barry et al., 2023; Tuck and Haptom, 2019). Pedagogies of walking, gardening, and co-design enact ethical reciprocity and unsettle colonial geographies (Bang et al., 2014; Bellino and Adams, 2017; Donald, 2021). Indigenous and critical scholars have both argued for centering embodied, relational, place-based, and justice-oriented practices across diverse, urban contexts, while also centering more-than-human kinship (Bang et al., 2013; Donald, 2021; Marin, 2020; Vossoughi et al., 2023). Centering Indigenous ways of knowing can in turn decenter colonial approaches to learning about nature that are fundamentally rooted in the denial of personhood of more-than-human life, which in turn signals an epistemological and axiological position that “humans are entitled to turn all non-human life into natural resources for human-entitled use and consumption” (McDaid Barry et al., 2023, p. 383). Beyond the Global North, education scholars have also argued for centering embodiment and affect through community-based, multimodal, sensorimotor experiences through expanding their sphere of environmental action in urban community gardens in India (Dutta and Chandrasekharan, 2025) and China (Laffitte et al., 2024).

Overall, there is a clear consensus in the literature that urban gardens—whether soil-based or aeroponic—can indeed become spaces for sensing, caring for, and more generally, engaging with ethics and design within the broader context of interspecies collaboration (Battaglia, 2017; Dutta and Chandrasekharan, 2025; Myers, 2017; Strunk and Richardson, 2019). Lognon (2024) further argued that working in urban gardens is intimately tied to heterogeneous forms of knowing, especially for newcomers (immigrants and refugees). The usefulness of newcomers’ agricultural knowledges and skills in urban gardens can contribute to their feelings of comfort and capability (Malberg et al., 2020). And, while adjusting and adapting to the agricultural practices and conventions of their host community can also lead to “ecological knowledge translation” (Jean, 2015), working in urban gardens post-migration can also support the preservation of newcomers’ traditional ecological knowledges (Nesheim et al., 2006; Tsu, 2021). Tsu (2021) poignantly argued that in fact, centering newcomers’ traditional ecological knowledges can orient agricultural practices in North America away from a culture of mass consumption and toward a culture of subsistence. Along similar lines, based on survey responses with over 550 individuals in the UK, Katz-Gerro et al. (2025) showed that immigrants from Global South do not differ in terms of pro-environmental behaviors from UK-born respondents.

However, while urban gardens can indeed become places for “home-making” (Hondagneu-Sotelo, 2017, p. 13) for immigrants of colour, positioning them as sites of integration and assimilation can reproduce oppressive, neo-liberal logics that reify the immigrant-native binary (Lapina, 2017). For example, such informal spaces can also become hierarchical where researchers and members of host communities are positioned as experts (Gonsalves et al., 2013; Tsu, 2021). Gonsalves et al. (2013) noted that the positioning of researchers in host communities as knowledge experts can lead to marginalizing newcomer youth of color. Tsu (2021) found that even when farmers in their host community in the US lauded their agricultural



knowledge, Asian refugees feared being ridiculed by their hosts. This sense of fear can be understood as a form of racialized emotion (Bonilla-Silva, 2019). It can then be argued that the question of whose knowledge is deemed valuable can directly shape newcomers' sense of belonging in such spaces, and it is also intimately tied to their racialized emotions. Centering voices and participation of migrant youth of color therefore is of central importance in such spaces (Bellino and Adams, 2017; Rahm, 2002). To this end, Bellino and Adams (2017) argued for a critical urban environmental pedagogy, which focuses on critical pedagogical approaches that foreground the use of participatory methodologies to investigate local places from a political-ecological perspective.

A key distinction here is our work is not an educational research project: we do not focus on *learning outcomes* or *learning experiences* that can be supported through structured activities, and/or as emergent from the participants' work (e.g., learning about the food cycle; learning about connections between growing food and urban economies; see: Rahm, 2002). While we draw upon from this essential literature that collectively foreground the importance of centering linguistically and racially minoritized, newcomer youths' educational dignity (see also next section), our focus is on identifying structural constraints that newcomer youth of color were faced with in the context of locating, growing and caring for the garden. In particular, we are interested in how some of these constraints were addressed through a co-design approach, which we explain in the next section.

### 3 The YARI co-design framework

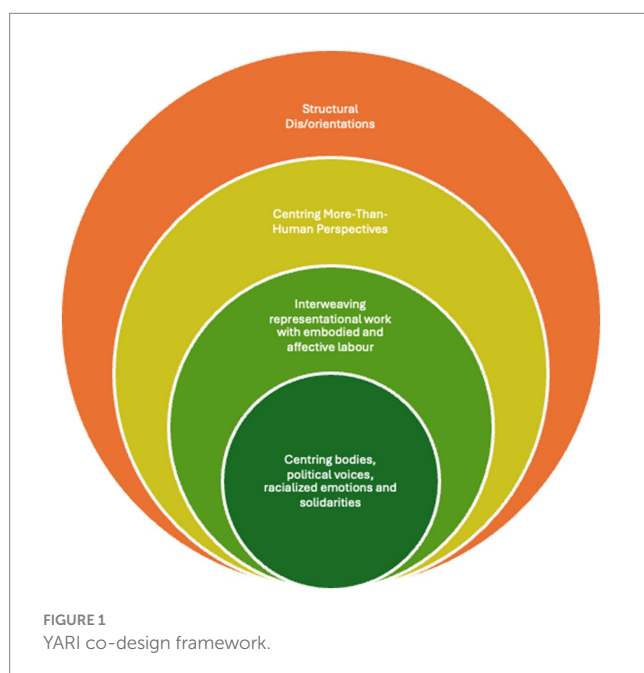
Figure 1 illustrates the YARI co-design framework for an anti-racist praxis for centering voices, histories, and dignities of newcomer youth of color, albeit in the context of growing a community garden. The acronym YARI stands for "Youth and Anti-Racism Integration," and the word *yari* also means friendship and solidarity in several languages (Hindi, Urdu, Persian, Punjabi, Arabic, Farsi, etc.) spoken by majority of the youth participants and researchers. In our context,

enacting a praxis of deep care (Banerjee et al., 2024) meant continually re-orienting toward the youth's narratives and experiences of forced migration and transnational displacement (Banerjee and Sengupta, 2025; Rahm, 2002; Sengupta and Banerjee, 2024). Accomplishing this objective, in turn, necessitates a simultaneous focus on: centering participants' embodied and affective knowledges (Sengupta et al., 2021; Kayumova and Sengupta, 2022), which includes their political voices (Vakil, 2018); interweaving representational work (e.g., creating animations, simulations, etc.) with their embodied and affective labor; centering care for human-nonhuman relationships (Bang et al., 2015; de La Bellacasa, 2017; Marin, 2020); and structural dis/orientations offering alternate visions and counter-spaces for challenging and disrupting hegemonic structures (Ahmed, 2006; Gagliardi, 2022; Sengupta et al., 2023).

Justice-oriented approaches are not merely methodological in nature; they are also axiological and epistemological approaches, because they are focused on *centering* voices of participants (Espinoza et al., 2020), both from micro-interactional and interpersonal perspectives, and structural perspectives. From micro-interactional and interpersonal perspectives, this in turn necessitates positioning youth as historical actors (Gutiérrez 2008), centering community and solidarity (Banerjee and Connell, 2018) rather than technocentrism and individualism through participatory and collaborative work (Bang et al., 2014), and center participants' embodied interactions, emotions, and educational dignities (Espinoza et al., 2020; Sengupta et al., 2022a). In our case, this meant engaging in iterative and participatory work as participant researchers – including both our interactions with the youth, as well as our analysis of these interactions – that center embodied, affective and cultural-historical ways of being and knowing of the youth participants.

From structural perspectives, this involves rethinking the commons (McPhearson et al., 2021) beyond private-public and state-market binaries (Kratzwald, 2015). This in turn includes the creation and improvement of new and existing public urban spaces, while simultaneously rethinking and dis/orienting the rigid separation between the public and the private, both in terms of ownership and governance (Gilligan and Vandeburgh, 2020; Ortiz, 2015). In our case, this meant addressing structural barriers such as non-availability of public community gardens for the youth (due to residence-based city by-laws and policies, as well as where the youths' families were resettled in the city) through leveraging privately owned land for the YARI community garden. In addition, a commitment to praxis dis/orienting the solutionist gaze of short-lived interventions, especially in the context of anti-racist, community-centered research (Banerjee and Sengupta, 2025). In our case, the permanence of the YARI community garden is an essential element of this long-term commitment in establishing a youth-led counter-space.

Any design-based approach necessarily intertwines knowing and doing (Schön, 1992). In our case, this means our commitment to anti-racism must also be rooted deeply in praxis. Here again, we must recognize that the micro-interactional and the structural levels are also necessarily implicated and intertwined in the *praxis* of anti-racism. A superficial definition of antiracism that emerged in the early 2000s framed antiracism as 'forms of thought and/or practice that seek to confront, eradicate and/or ameliorate racism' (Bonnett, 2000 p. 4) and as 'ideologies and practices that affirm and seek to enable the equality of races and ethnic groups' (Bonnett, 2006). However, since the Black Lives Matter uprising and renewed calls for centering anti-racist practices in society and our institutions, race scholars across



disciplines responded to approaches to antiracism in two ways — macrocosmically and microcosmically. At the macro level, anti-racism work is projected to be creating conditions for racial equity by interrogating and dismantling policies and practices that implicitly and explicitly subjugate and marginalize racialized peoples (Ray and Fuentes, 2020). At the micro level, anti-racism takes on a design-based character, offering educational opportunities for institutional members to learn about histories of societal, interpersonal, and institutional racism and simultaneously work toward advocating for racial equity (Ray and Fuentes, 2020). Along similar lines, race scholars in education have also argued that disorienting racialized structures, narratives and ideologies needs to simultaneously center “meaningful participation (i.e., substantive involvement in socially vital activities) and educational dignity (i.e., the multifaceted sense of a person’s value generated via substantive intra- and inter-personal learning experiences that recognize and cultivate [the] mind, humanity, and potential)” of marginalized learners of color (Espinoza et al., 2020, p. 325). Similarly, the Southern feminist ethics of deep care (Banerjee et al., 2024) also orients us to recognizing racialized emotions (Bonilla-Silva, 2019) and the emotional and care labor undertaken by historically marginalized peoples necessitated and invisibilized by historically and structurally mandated inequities and systems of oppression. Our commitment to anti-racism is rooted in these perspectives.

And last, but not the least, our work also arises from a growing recognition of the interdependence of researchers’ and participants’ work in participatory research designs (which includes co-design). For example, Penuel et al. (2015) poignantly noted that research-practice partnerships that seek to serve marginalized students must be construed in terms of joint-work at boundaries, which can take the form of doing each other’s work. In a similar sense, the structural barriers faced by the youth in our project necessitated actions on the part of researchers, which are represented as structural disorientations in Figure 1, and discussed in Themes 1 and 2 in the Findings section. This in turn necessitates an epistemological dis/orientation: notions of agency of participants that rely on simplistic binaries between “participant voice” and “researcher voice” do not suffice in capturing the intertwined nature of co-design. That is, the participatory nature of co-design should not indicate an “equal” distribution of design work; rather, the orientation toward justice necessitates researchers at times doing additional and necessary work so that the participants’ voices can be centered. This is particularly essential in contexts where structural and systemic constraints need to be addressed.

## 4 Methods

### 4.1 Context and data

This research is part of a larger community-engaged research project that seeks to re-imagine resettlement and migration processes in Canada from the perspectives of recently arrived newcomer youth of color (Banerjee and Sengupta, 2025). The specific objectives of the project are to render visible, and offer necessary dis/orientations of experiences of intersectional forms of racialization endured by the youth. The participants in our study are 26 newcomer youth of color, who were recruited in partnership with four immigrant and refugee resettlement service providing organizations in Calgary. The participants’ countries of origin are as follows: Angola, Ivory Coast,

Pakistan, Azad Kashmir, India, Syria, Nigeria, Mexico, and Eritrea. This is a multi-year, participatory project which began in 2022, and the community gardening project started in 2023 and has continued every year since then.

The participatory nature of the project indicates that researchers partner with the participating youth in co-designing creative work and community gardening during weekly workshops, typically held on weekends. The workshops are of two kinds, and held in two locations: on university campus, and in the community garden. Workshops at the University campus focus on multimodal storytelling, including stop motion and digital animations, computer simulations, murals and performance art. The workshops held in the community garden focus on growing and caring for a community garden. Each workshop session typically lasted 2–4 hours and included between one and six youth and at least two researcher-facilitators.

The data presented in this paper is from the summers (May–August) of 2023 and 2024. The data for this project includes video and audio recorded interviews with youth participants conducted by the partnering researchers during these workshops, as well as the various artifacts created by the youth. In addition, at the end of every workshop session, the researchers present wrote field notes with reflective memos, and these were also analyzed alongside the youth participants’ interviews and artifacts.

### 4.2 Coding and analysis

Data analysis overlapped with data collection and was a collaborative process as the research team gathered to discuss observations that would shape the co-design work. Our analysis interwove both social design-based research methods (Gutiérrez and Jurow 2018; Sandoval, 2014) and constant comparison, which in turn is part of the constructivist grounded theoretical method (Charmaz, 2006).

Rather than positioning empirical work as an application of theories generated in the literature, social design-based research urges us to fundamentally ground our design conjectures in participants’ experiences, through positioning them and their communities as *co-designers* (Bang et al., 2015; Vossoughi et al., 2020). This implies a recursive relationship between theory, data and practice, as well as (re) creating theoretical constructs (i.e., ontological innovations; diSessa and Cobb, 2004) rooted in the participants’ and their communities’ experiences (i.e., axiological innovations; Bang et al., 2015). This means that through ongoing analysis, our interactions with youth during a workshop inform how we interact with them and collect data during subsequent workshops.

Herein lies a deep alignment between design-based research (including social design experiments) and constructivist grounded theoretical approaches (Charmaz, 2006; Corbin and Strauss, 1990). Constructivist grounded theoretical analysis proceeds in stages of collecting rich data, coding and memo-writing, theoretical sampling, and reconstructing theory (Charmaz, 2006; Corbin and Strauss, 1990). This involves a constant comparison between theory and data (Charmaz, 2006). For example, our commitment to centering participants’ affect, bodies and dignities (Espinoza et al., 2020) is reflected in our interactions with the participants, the design of the workshop activities, and our analysis. Grounded theoretical approaches such as the constant comparative method focusing on the emergence of constructed meanings is thus conducive to our co-design based approach (Charmaz, 2006).

In order to answer RQ1, we focused on identifying the structural challenges in securing a location for the community garden. The data for this analysis was a combination of researchers' field notes during multiple site visits to identify possible locations for the garden throughout the city, data visualizations based on publicly available, open data on Calgary's tree coverage, and youth participants' interview responses during the process of finding the location, as well as during the community gardening workshops (Themes 1 and 2). Here the use of grounded theory as a method was critical in orienting our attention to the notion of access to greenspaces in the city, which became a persistent theme in our interviews with them during the process of securing a location for the garden.

In order to answer RQ2, we focused on: (a) identifying specific actions taken by the research team to address structural challenges faced by the youth in gaining access to a community garden (Themes 1 and 2), and (b) identifying how participants' emotional and embodied experiences, as well as their political voices were expressed in their interviews and representational work (Themes 3 and 4).

## 5 Findings

### 5.1 Theme 1: identifying and addressing structural constraints for setting up a community garden

Nearly all the youth live and go to school in areas that are far away from the downtown core. A majority of the youth live in the northeast quadrant of the city, which has >81% visible minority population. This is also an environmentally disadvantaged part of the city, both in terms of access to greenspaces and community gardens. All youth participants informed us that none of them were able to access greenspaces during their daily rounds in their neighborhood and school. These areas of the city are notably distant from the lush river valleys in central Calgary and have far fewer parks and greenspaces.

Figures 2, 3 offer an illustrative account of inequity in terms of access to greenspaces. The Tree Equity Score (TES) is a numerical score representing a community's equitable access to trees and canopy cover

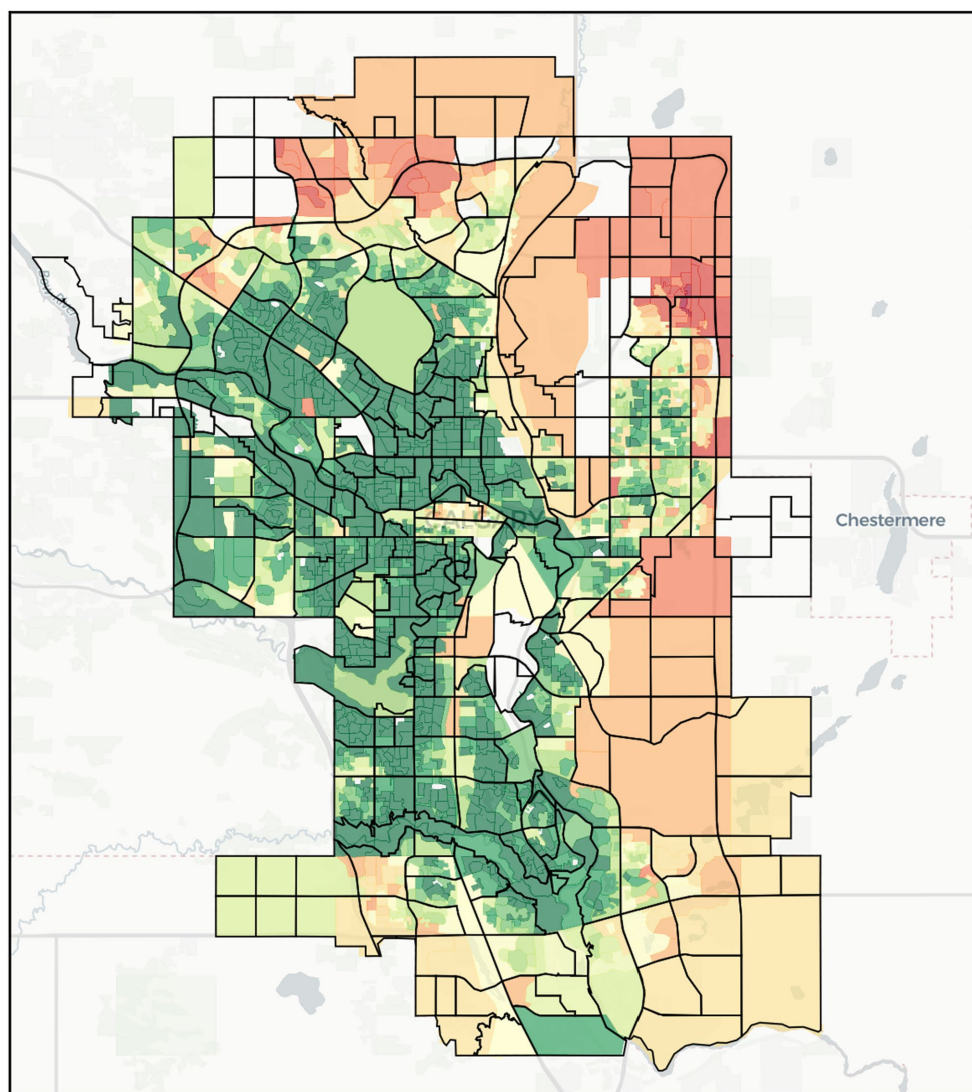


FIGURE 2

Calgary tree equity map for all census block groups of the city. Source: <https://calgarytreeequity.ca/>.



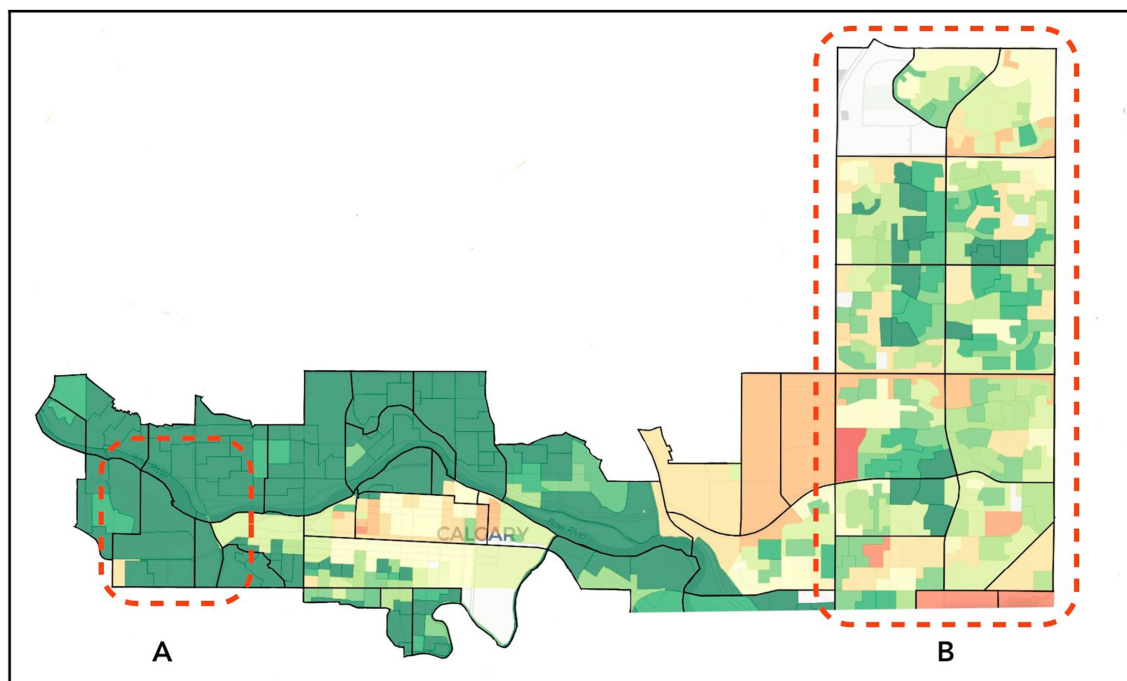


FIGURE 3

A zoomed-in image of canopy cover and TES. The highlighted part of (A) focuses on the areas where the researchers live, and the highlighted part of (B) focuses on the areas where the youth live. Source: <https://calgarytreeequity.ca/>.

as a critical urban infrastructure for public health, climate and community wellbeing. Developed by the nonprofit organization American Forests, the Score indicates a community/neighborhood's prioritization of tree planting. Based on this method, The Calgary Tree Equity map (<https://calgarytreeequity.ca/>), an undertaking of the non-partisan, environmental justice focused non-profit Calgary Climate Hub, was generated taking into account urban datasets on: (a) canopy coverage (i.e., the percentage of a neighborhood covered by trees); (b) land surface temperatures; and (c) census data that aggregates indicators such as proportion of seniors and children, visible minorities, language isolation, low-income households and unemployment rate (Mohiuddin, 2025).

Figure 2 shows the Calgary Tree Equity map for all census block groups of the city. Figure 3 highlights two specific areas in the city. Area A designates an approximate location of the community garden located in the south-west quadrant of the city close to downtown Calgary, with the community neighborhood having an equity score of 100 with 27.47% canopy cover in 2022. Area B encircles the north-east Calgary districts where the residences and schools of most of the newcomer youth of the Collective are located. City districts in Area B are adjacent to the international airport and ancillary industrial pockets and mark significantly less canopy coverage, ranging between 2.73 to 10.42% of canopy cover in 2022.

The number of community gardens in the city jumped from just 11 in 2008 to over 200 in 2022 (Calgary Horticultural Society, 2022). However, the disparity in the number and quality of community gardens in lower versus higher-income communities became apparent when we visited eight different community associations in the northeast and southeast quadrants to see which ones had established community gardens we could potentially join. In both these quadrants, we observed that multiple community associations throughout the city did not have any garden, and the few that did, hosted only a handful of

raised garden beds. In comparison, when we visited numerous community gardens in the northwest and southwest quadrant (within and adjacent to the city center), we found that these gardens typically have a couple dozen raised garden beds built with treated cedar boards, long waitlists to gain access to one of these garden beds, and often accompanying perennial gardens, food forests or permaculture gardens.

Only two of the youth participants' families had the opportunity to garden in their homes (in their backyards) since arriving in Canada. The majority of the youth lived in rental properties that did not allow access to a community garden or a backyard garden. In addition, the city's regulations for memberships in a community garden were based on residential memberships in community associations (City of Calgary, n.d.). This effectively results in a structural exclusion of communities of racialized newcomer families from community gardening in the city of Calgary. Furthermore, sharing a single bed in a community garden for all our participants would also mean that the youth may not be able to feel a sense of belongingness and ownership in that space, and the city's residential restrictions would make it extremely difficult for any one community garden to accommodate all the youth. Furthermore, from an anti-racist perspective, it was important to us that this community garden belong to the youth as much as possible, with their visions, stories, and imaginations guiding how the garden came to be in a Southern feminist ethical praxis of centering their voices (Banerjee et al., 2024).

Ultimately, choosing to plant this garden in the front yard of the home owned by two of the authors, who were also the project leaders, can therefore be seen as an expression of the axiological commitments of the YARI-Collective research team toward deep care (Banerjee et al., 2024). This was a necessary blurring of the line between private and public land: the project leaders, along with the team, decided to turn over all the decision-making about the garden over to the youth, while the researchers agreed to organize and offer logistical support. For

example, the number of beds for growing, the types of plants, and the placement of beds, were all decisions taken by the youth, in consultation with the researchers.

Hosting the garden at the project leaders' home was also significant to the youth in how it contrasted with their experiences of being received by the broader Canadian society up until that point. One participant, Quetzal, who recently arrived from Mexico, noted: "I do not like it when we have to share our lives with the counselors and people who help us; because we never get to know them, and they are only interested in our stories. But you are opening your home and lives to us. Your home is our garden, and we get to see who you are, how you live. We feel connected." Many of the youth expressed how the garden was a place they loved to be because they could join their friends there. One participant, Gloria, who recently arrived from Angola, said that Canada is a "closed environment" compared to her home in Angola. For example, she noted that in Angola, she could walk into her neighbors' homes anytime, asking what they were doing, and even sharing their food. However, she said that if she were to approach her neighbors in Calgary to say hi or to share food without a prior appointment, "they gonna find me so freaking weird, like 'what the heck are you doing here?'" For Moon and her sisters, who grew up in Pakistan for several years before they moved to Calgary, it was very uncommon for them to be invited into one's home in such a welcoming way in Canada. As Moon put it, "Yeh koi usually karta nahi hai, dekha jaay toh. Yeh ek alag cheez thi, voh bhi Canada mein" ("Nobody usually does this. This was a different thing, especially in Canada"). Although the community garden was hosted on private land, the collaboration engendered through our axiological approach to centering the youth's voices meant that the garden became a collective space, challenging a conventional understanding of the divide between public and private land.

## 5.2 Theme 2: urban commons and more-than-private care in climate crisis

Due to severe drought and a major water main burst, the City of Calgary imposed restrictions on outdoor water usage in the spring and summer seasons during 2023 and 2024 (City of Calgary Newsroom, 2023, 2024). There were exceptions for community gardens, but the YARI garden could not qualify as one because it was not on land owned by the city administration and it was not managed by a community or neighborhood association. During the 2024 season, the repair work for damage in the city's water distribution system led to various levels of water usage restrictions at different times between late June and late September (Dupuis, 2024). Watering the garden under these constraints rendered visible the possibilities of the urban garden as a participatory "commons," both among the YARI youth, and within the local neighborhood.

In response to the water restrictions in both 2023 and 2024, we collected rainwater in a rain barrel. This was labor-intensive, requiring multiple people to fill watering cans, multiple times during the week. The rain barrel was located in the backyard, while the garden was in the front. Carrying buckets filled with water throughout the garden required both a complex set of logistics negotiated through online signup sheets and WhatsApp chats, as well as significant physical effort. We also ran out of water in the rain barrel quickly (usually within a couple of days), since in addition to the infrastructure breakdown restricting water-use city-wide, the July and August months were exceedingly dry (temperatures exceeded 35–40 °C several times during these months) with very little

precipitation. The research team was constantly monitoring weather radar websites to see whether rain would be falling in the part of the city where the garden was located. Logistics of organizing youths' travel to and from the garden (most of them lived far from the city center) was also critical to maintaining a regular watering schedule, the only relief being the occasional showers during this restriction period.

During the 2024 water crisis, as watering restrictions and severe heat began to visibly affect the health of the plants, neighbors who had been uninvolved thus far started contributing to the YARI garden. For example, one neighbor arranged for water and an electrical pump for the garden which they had secured from their construction business. They set up an electrically powered watering station on a truck bed along the garden for several weeks. Another neighbor who just started a composting business, supplied us compost. In addition, several other residents of the neighborhood began visiting the garden, offering help and introducing themselves to the researchers and the YARI youth.

The impact of the water crisis due to the drought and the city-imposed water restrictions for two successive growing seasons led to community driven, participatory innovations in the YARI garden on an ongoing basis. One of the women youth, Afsoon, grew up in a semi-urban area in Afghanistan and had an interest in gardening. During a reflection session at the end of the 2024 growing season, Afsoon brought up the possibility of installing a drip irrigation system in the garden beds, should there be another water crisis in the subsequent growing seasons. Based on this suggestion, another community member (a family member of the first author, who lives in a different neighborhood in the same city) who had previous experience with installing a similar system in their home, helped with installing the irrigation system in the YARI garden in the 2025 growing season. During this season, the research team also welcomed new members with expertise in composting with a desire to produce our own compost in the light of the neighbor's compost that turned out to be expensive (after the free trial period).

To summarize: Overall, our analysis shows that the care that emerged both in the technical innovations of irrigation, the (ongoing) research on composting, and a public discourse around caring for the garden, gave rise to what we call *more-than-private* care. The power implicit in private ownership of land – which as Foucault (2016) reminds us, is central to the punitive underpinnings of colonial governance – was dissipated through the emergence of the YARI garden as the urban commons. This was evident not only in emergence of the community-driven, innovative projects, but also in the engagement from neighbors who initially were not involved with the garden until the water crisis. While it is unclear whether our neighbors saw the garden as public land, they nevertheless made contributions that helped sustain our community work and blurred the line between public and private. We see these forms of participation as proleptic possibilities in the urban commons that can emerge in the face of a largely human driven climate crisis.

## 5.3 Theme 3: renewal of transnational more-than-human connections

Whereas typical community gardens become spaces where normative agricultural and cultural practices are reinforced, leading to further exclusion of refugees and immigrants from these spaces (Harwood, 2005), choosing to host the garden at the home of the lead researchers was part of an ethical praxis which sought to center the youth's affective and ethical orientations, rather than dominant ones (Banerjee et al., 2024). This meant that the youth's desires and



curiosities guided decision-making in the garden, even when the work of caring for plants was distributed among the youth and the researchers. DK, for example, expressed a desire to garden through his long-held curiosity about how to grow cucumbers:

*"I only said cucumber because... like I don't know how to explain it. I was very interested into it, like I wanted to know how it grew, how it worked. Cause I tried before and then it didn't work. Cucumber was the first... first thing I tried [to grow] when I was a kid, and it didn't work."*

As DK told us in a separate conversation, it was his grandmother who introduced him to growing cucumbers. A desire to "know how [cucumber] grew, how it worked" precipitated DK's interest in joining the YARI garden, and so we planted cucumber plants in the greenhouse. These cucumbers were deeply meaningful to DK, as he eventually began referring to them as his 'children' and felt the need to protect them:

*"The next time I went there [the garden], it literally grew, like the leaves were almost the same height as me. And then [snaps fingers] I saw a spider there trying to eat my [cucumbers] and she [gestures to researcher] told me to not kill it, cause it's defending my flowers, but I'm here supposed to defend it."*

Negotiating the non-human, plant and animal life became part of the carework performed by the youth. The incessant chasing of squirrels and rabbits, putting up fences around specific plants to guard against the deer, and planting flowers to attract bees for pollination became part of the decision-making for the youth. The more-than-human here is not only about centering perceptions of the greater natural world, but also brought back memories of home. For example, digging deep into the soil with her own hands, Moon told us that she could "feel life" as she felt the worms, a feeling that reminded her of gardening at home in Pakistan. Working in the garden with her sisters, Moon told the first author: "Canada is my home country now... I feel as if I am in Pakistan now." Her sense of home was connected to her being with nature. Furthermore, although the initial part of her statement may seem at first to imply that she has been successfully integrated into Canadian society, her follow up, "I feel as if I am in Pakistan now," immediately reframes the initial sentiment: Canada is her home country now because she feels as though she is in Pakistan. The difference is subtle, but it conveys a subversion of refugee subjectivity reduced to one of "uprootedness," as though Moon might be forever 'out of place' unless put back in place through repatriation or naturalization (Brun, 2001). Instead, what emerges is an image of a multi-temporal and multi-spatial rootedness, where the sense of home is tied to being with nature in the YARI garden, which in turn is tied to memories of home in Pakistan.

Nearly all the youth expressed how such memories had faded until the familiar embodied activities of gardening brought them forth. For Daisy, the garden brought back smells of Jasmine in the streets of Syria. Gloria came to Canada from Angola 4 years back, and she told us this was the first time she had touched the soil since her migration. Being in the garden made her feel at home and brought back memories of playing with neighbors in the garden. She said:

*"Me personally, being far from home now, like there isn't a day that I don't miss it. And the day we did the soil thing, the planting, I felt like I was back home again. Like many years I have never felt like home."*

The garden was also a special place for Taneez, another youth who along with her family had to flee Pakistan overnight due to religious persecution when she was five. Taneez spent the next 9 years in hiding in Malaysia, before she migrated to Canada as a refugee about a year before the YARI project began. While in exile in Malaysia, she was not allowed to leave their apartment due to fear of statist violence and persecution faced by religious refugees. For 9 years, Taneez wasn't even allowed to sit by the window for more than a few minutes at a time, in fear of being seen by the police. Instead, she planted and cared for a rose plant which she put on the windowsill. Caring for the plant embodied hope for Taneez, and when we started working at the YARI garden, she also planted a rose bush at the very entrance of the YARI garden. When draft and severe heat in the summer of 2023 nearly killed the plant, Taneez told the team that she "knew" that the plant would survive, because it reminded her of her rose plant in Malaysia, which also faced difficulty at times but always survived. As the rest of the YARI team learnt about Taneez's story, they all pitched in. When Taneez was unable to come to the garden due to health reasons for several weeks, everyone else would make sure to tend to the plant.

To summarize: For DK, Moon, Daisy and Gloria, working and being in the garden resulted in a re-awakening of their sense of home. For Taneez, the garden was a context for re-creating hope with her rose bush, caring for which, in turn, brought the YARI community together. The youths' emergent sense of home, therefore, should not be reduced to nostalgic laments for a 'lost' and 'inaccessible' home. Neither do we see the notions of ecological grief and anxiety (Cunsolo and Ellis, 2018) as appropriate analytic lenses for understanding the youths' affect. Instead, what emerges through this analysis is that the youths' sense of home is both multi-temporal and multi-spatial: 'home' and 'away' are brought together in the present moment through care-full, embodied, affective and material interactions with land (Dudley, 2011).

## 5.4 Theme 4: anti-colonial representations of more-than-human relationships

During the summer of 2023, two participants (DK and EK), siblings who recently moved from Ivory Coast, collaborated with researchers in our team and co-design animated movie titled "Red Skies and Forests Burning," that used both stop-motion and digital animation. The movie represented their sensory perceptions and feelings of the Canadian wildfires in 2023, as well as potential scientific explanations of wildfires. These wildfires significantly affected the work of community gardening, because all residents in the city were under strict orders for indoor-only activities for over 2 weeks, during which smoke from wildfires from British Columbia completely engulfed much of Southern and Northern Alberta. Figure 4 shows a photo of the downtown area taken by one of the authors during this time.

The idea of creating this animation was suggested by DK, who was particularly concerned by the increase in frequency and intensity of wildfires, even within the few years that he has lived in Canada. He also noted that not being able to work in the garden due to the wildfire also meant that the cucumber plant he was trying to grow would probably not survive. This was a deeply emotional event for DK, because his early efforts in gardening with his family elders in Ivory Coast involved several unsuccessful attempts at growing cucumbers. He referred to the cucumbers he was growing in our community



FIGURE 4

A photo of downtown Calgary on May 16, 2023 showing orange smoke from wildfires engulfing the sky.

garden as “my baby,” and would often seek out the help of others in watering the plant on days that he could not attend. However, during these 2 weeks of dangerous levels of smoke from wildfires in the air, we shifted to working with the youth in weekend workshops on campus, with a focus on representational work (i.e., creating movies, simulations, etc.). We also invited climate scientists and environmental activists to consult with the youth during these workshops. Through conversations with the researchers and activists, DK learnt about the role that local insect populations can play in stemming wildfires. For example, particular kinds of insect infestations can decrease the abundance of live vegetation susceptible to wildfire, and thus dampening subsequent burn severity (Meigs et al., 2016). This became a part of their stop-motion animation depicting potential scientific causes of wildfires (Figure 5).

However, as they began working on the stop-motion animation of the role of insects in wildfires, DK also created a subversive representation of colonial extraction of natural life in Ivory Coast. While histories of coloniality are traditionally excluded from “scientific” narrativization of climate change, DK subverted expectations of depoliticisation in STEM by drawing an imaginary insect for his film, inspired by Ivory Coast’s elephants, that markedly embodied histories of Ivorian ecologies under French colonial rule. DK’s elephant insect, which was named by the group as *Elephantus DK*, became a species born out of resilience against colonial violence inflicted upon elephants in the Republic of Ivory Coast. They are neither mammal, nor insect, rather, they sit squarely outside the ambit of scientific classification. In this sense, *Elephantus DK* – and the movie itself – can be seen as a proleptic imagination (Cole, 1996; Sengupta et al., 2022a), i.e., a representation that is at

once rooted in colonial histories of extinction as well as in visions of a future that resists these oppressive histories. These insects made subliminal appearances in the animation, and were not integrated with the narrative explicitly (Figure 6). They also became part of a larger mural exhibit in a separate space during a public installation organized at the University during December 2023 (Figure 6).

For DK, these are not simply flattened, fictive representations of More-Than-Human relationalities, and his intent in creating them was to put the responsibility of knowing about the insect and what it represents, on part of the audience. During an interview with one of the authors, DK said that he does not see it as his responsibility to teach a largely White, Canadian society the hidden meanings of his representational work through direct instruction. Instead, the fictive nature of his “insect” was meant to encourage audiences of his movie to do their own research into Ivory Coast’s history. To this end, he worked with one of the authors of this paper to create a QR code linked to a set of resources for further exploration of Ivory Coast’s history of violent colonization, and the impact on More-Than-Human lives.

To summarize: Our analysis here illustrates two essential dis/orientations (Ahmed, 2006) that both reveal and resist symbolic violence (Bourdieu and Passeron, 1990) in academic spaces endured by learners of color (Sengupta et al., 2022b). Firstly, the subversive positioning of DK’s fantastical insects challenged normative models of climate change that silence histories of colonization. Secondly, by refusing to take on the sole responsibility of representing his country’s history of violent, European colonialism for an unfamiliar audience in the Global North, DK also offers an account of moral resistance, reminding us that the work of decolonizing the academy should not be rested on the shoulders of erstwhile, forcibly colonized people of color.



FIGURE 5  
Screenshot from the film "Red Skies and Forests Burning" co-designed by DK and EK.

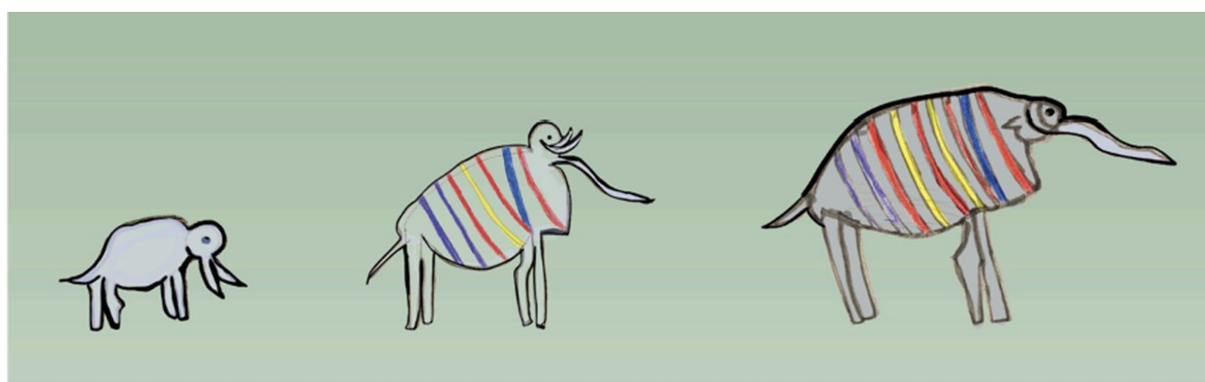


FIGURE 6  
Life cycle of *Elephantus DK* as depicted in DK's mural.

## 6 Summary and discussion

### 6.1 Reflective summary

To summarize: In terms of answering RQ1, the findings presented here offer insights into systemic and structural challenges faced by newcomer youth of color in terms of gaining access to, and/or membership in a city-approved community garden in Calgary. These included racially inequitable residential access to greenspaces, and the city's policies that resulted in us being unable to find a city-approved community garden for *all* the youth, as well as the resettlement policies and practices that situates newcomer families of color in locationally disadvantaged neighborhoods in the city. In terms of answering RQ2, the findings presented here offer two key insights. The first set of findings focus on how we addressed the structural challenges faced by the youth in terms of gaining access to a community garden. We accomplished this by establishing their community garden on the premises of the project

leaders, effectively turning privately owned land into a public, community-oriented space for gardening. Secondly, our findings reveal how the participants' sense of home, political voices, embodied knowledges, and emotions were centered through embodied, participatory and representational work. Their political voices are central to their inevitable double consciousness (Du Bois, 2017) of both being an invited member in a predominantly white, settler-colonial society, and also being a perpetually racialized outsider in the Global North.

Our paper argues for expansive visions for recognizing and potentially dis/orienting how race and climate are implicated in forced migration. Firstly, it raises the question whether contemporary, urban imaginations of community gardening, especially in settler-colonial nations of the Global North, may be rooted in a *settled gaze* (Bang et al., 2014). For example, critical sociologists have argued that racialized people experience exclusion and marginalization in urban, public spaces in the Global North (Embrick and Moore, 2020; Tuttle, 2022). Our study shows that at least in the context of our participants, as



regulated by city bylaws, community gardens may be structurally positioned as racially hegemonic spaces, effectively limiting and excluding participation of recently arrived racialized immigrants and refugees. Our work here suggests that one way in which such structural barriers can be dis/oriented is through the creation of liminal, public-private spaces that invite participation of all youth living in different neighborhoods with minimal access to greenspaces. Secondly, we argue that interweaving representational work with land-based approaches can position newcomer and racialized youth as intellectuals, which is essential for centering their educational dignities (Espinoza et al., 2020), that are denied to them in their schools (Banerjee and Sengupta, 2025, p. 34). Thirdly, we argue that we must recognize newcomer youth as historical actors (Gutiérrez, 2008), whose lives have been shaped by legacies of colonialism and imperialism. This is vividly evident in DK's work. To this end, we argue that centering their political voices as well as their emotional participation through both land-based and representational work can offer proleptic and expansive visions of supporting and deepening anti-racist reorientations to land through community-oriented, youth-centered gardening.

Note that these insights are resonant with several educational scholars who have argued for centering the affective, embodied and non-human dimensions of knowing of newcomer learners of color in informal spaces (Bellino and Adams, 2017; Rahm, 2002; Espinoza et al., 2020). The caveat, however, in educational research, the key focus is to support the development of learners' disciplinary expertise and sense of belonging within disciplines of knowledge, especially STEM disciplines. This has certainly been a focus of other YARI projects where we have engaged in long-term co-design projects with the youth in informal makerspaces (Dutta et al., 2024; Sanyal et al., 2024). The YARI Garden, however, offers both different and *différent* possibilities (Derrida, 1978), where disciplinary learning is not the focus. Our goal in this paper is not to address gaps in formal classroom environments; instead we highlight how structural constraints in resettlement policies and city bylaws could be addressed through re-imagining the commons in a liminal, private-public space as an urban commons, and the community-focused, participatory possibilities and youths' political voicings that can emerge in such spaces. As noted earlier, such private-public liminality is now positioned as necessary in the literature on urban sustainability for the design of urban commons. It is essential to remember here that the settler-colonial gaze (Bang et al., 2014) of land ownership is foundational to imperial Western systems of governance, which has also historically resulted in outlawing migratory people and positioning them as undesirable (Foucault, 2016). The new urban commons must be designed with an explicit commitment to dis/orient such colonial ideologies.

## 6.2 Beyond settled binaries of climate migration and indigenous ways of knowing and being

To conclude our paper, we return to the critique of hegemonic images of climate migration that motivated this paper: the hegemonic construction of a "climate migrant" figure grounded in colonial environmental epistemes and white environmentalist practices of eco-bordering (Turner and Bailey, 2022) and eco-fascism (Campion, 2023). Rooted in both 'home' and 'away' (Ahmed, 1999), the connections

with the more-than-human the youth formed through land, water, soil, and air trouble essentializing notions of territorialized homelands (Brun, 2001). In Derridean terms of *différance*, their presence in the YARI garden is incomplete without feelings of what is *absent* (Biesta, 2004) – their homes far away where return is often not possible due to the statist and imperial logics of forced migration. And at the same time, it is also noteworthy that their clearly expressed joy in caring for the garden does not fit the conceptual category of eco-grief (Cunsolo and Ellis, 2018). This is not to deny the deep sense of loss and grief that Indigenous communities feel, but on the contrary, should serve as a warning that Indigenous ways of knowing and being in the world should not be co-opted through a superficial and metaphorical settler-colonial gaze rooted in colonial Whiteness (Bang et al., 2014; Tuck and Yang, 2012), which has also historically failed to recognize and honor refugee subjectivities (Ahmed, 2000; Owens, 2009).

As Ahuja (2021) reminds us, migration is not antithetical to Indigeneity, given that migration due to environmental factors has remained prevalent in Indigenous ways of being across the world. Demonization of such migrant subjectivities has been a fundamentally colonial environmental ethic laced in white-supremacist ideologies (Larios, 2020). Dis/orienting this hegemonic gaze, especially in the context of Treaty 7 land on which the city of Calgary is located, necessitates centering the work of Indigenous scholars (Bang et al., 2014; Donald, 2012, 2021; Tuck and Haptom, 2019). However, this is only one aspect of the essential work of centering Indigenous ways of knowing. As newcomer settlers ourselves, we are mindful not to make demands for Indigenous solidarity in the form of tokenistic performativity, and instead, we focused this paper on how we have laid the groundwork for establishing an urban commons for centering newcomer youth of color, and attempted to render visible refugee subjectivities that offer essential foundations for establishing solidarities between newcomers and Indigenous communities.

As Bang et al. (2014) warn us, Indigenous stories, histories and voices are often co-opted by and diffracted through the settled gaze that defines Western settler-colonialism. In the context of our work, the resettlement policies and practices, as well as by-laws that define land rights and ownership rights in the city must also be "read" as hegemonic texts rooted in the settler-colonial gaze (Fabris, 2025), and the establishment of private-public urban commons must also be seen through these lenses. In ongoing work, we are partnering with Indigenous communities and scholars to center violent histories of, and implicit colonist ideologies that undergird Treaty 7 (Fabris, 2025), while also establishing solidarities with Indigenous people across the world who are being faced with Eurocentric, settler-colonial violence and genocide.

## Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

## Ethics statement

The studies involving humans were approved by CFREB (Conjoint Faculties Research Ethics Board), University of Calgary. The studies

were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study. Written informed consent was obtained from the minor(s)' legal guardian/next of kin for the publication of any potentially identifiable images or data included in this article.

## Author contributions

RL: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Resources, Validation, Writing – original draft, Writing – review & editing. CK: Conceptualization, Formal analysis, Investigation, Methodology, Resources, Validation, Visualization, Writing – original draft, Writing – review & editing, Data curation. MS: Conceptualization, Formal analysis, Investigation, Methodology, Resources, Validation, Visualization, Writing – original draft, Writing – review & editing. PB: Conceptualization, Formal analysis, Investigation, Methodology, Resources, Validation, Visualization, Writing – original draft, Writing – review & editing. Funding acquisition, Project administration, Supervision. PS: Conceptualization, Formal analysis, Investigation, Methodology, Resources, Validation, Visualization, Writing – original draft, Writing – review & editing, Funding acquisition, Project administration, Software, Supervision.

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## Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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