



Environmental justice in education for climate action: Case studies from Perú and Uganda

Rachel Wilder¹ | Expedito Nuwategeka² | Carlos Monge³ | Alithu Bazan Talavera³

¹University of Bath, Bath, UK

²Gulu University, Gulu, Uganda

³Group for the Analysis of Development (GRADE), Lima, Perú

Correspondence

Rachel Wilder, University of Bath, Bath, UK.

Email: rw2031@bath.ac.uk

Funding information

Economic and Social Research Council

Abstract

This paper draws on participatory research with secondary school learners in Perú and Uganda that shows how environmental and social (in) justices are interwoven and embedded in young people's experiences of the natural world. These experiences contrast with learners' accounts of environmental education in secondary schooling, in which the notion of justice is comparatively, and therefore conspicuously, absent. We employ four distinct but overlapping conceptualisations of justice—biocentric and anthropocentric notions of environmental justice, including climate justice, and epistemic justice—to analyse how learners understand responsibilities for climate action, and what change they anticipate and hope for in the future. Observing that ethical frameworks enable learners to make sense of the complexity of human and more-than-human relationships within natural ecosystems, we argue that a multiple justice framework in formal schooling is needed. A multiple justice approach to environmental education could support learners to develop a critical consciousness in and about the natural world, and to imagine and be motivated to act in support of a better future. Our findings are based on accounts from 123 secondary

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school learners in eight schools—four schools in northern Uganda and four in diverse regions of Perú.

KEYWORDS

climate action, environmental education, global south, justice, secondary school

INTRODUCTION

This paper interrogates the claim that education is contributing to environmental justice by changing students' knowledge, attitudes, skills and behaviours, and it explores how environmental education might support learners to take climate action. Competencies in these domains are envisaged as necessary for human societies to transition to low-emission economies. This is seen as necessary to limit future climate change and to protect natural ecosystems by balancing what is required for planetary health with human needs. We find that environmental education in secondary schools in Uganda and Perú is not advancing environmental justice as it fails to foster among learners critical thinking capacities regarding structural causes of global warming and recognition of differential power and capacity, among diverse local and global actors, for reducing climate change and biodiversity loss. In failing to develop this understanding, learners lack knowledge and motivation to engage in collective behavioural change as well as the political action that is needed to hold governments and other major contributors to environmental injustice to account. Environmental education in secondary schools burdens the students with the responsibility of tackling the environmental and climate crisis through individual actions, while failing to foster understanding of an appropriate distribution of responsibilities and the impact of localised actions in relation to a broader menu of potential responses. We define 'environmental education' in secondary schooling to include teaching and learning in the formal curricula (e.g. geography, biology and social science subjects) as well as 'hidden curricula', that is, unofficial and invisible values, social norms and practices communicated to learners indirectly and unintentionally (Alsubaie, 2015) (e.g. school grounds and natural resource use). This paper focuses on formal teaching and learning.

It is relevant to note that international frameworks that identify environmental education as a vehicle for climate action use a range of differently-worded objectives, including

- awareness and 'human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning' (UN Department of Economic and Social Affairs [n.d.](#)) (target 13.3 of Sustainable Development Goal 13 on climate action), to
- access to information and understanding of climate change and its effects (Article 6 of the UN Framework Convention on Climate Change) (UNFCCC¹), and to
- 'empower all members of society to engage in climate action' (the Action for Climate Empowerment work programme (ACE), United Nations, [n.d.-a](#)).

Even governments in low-income countries, and those facing challenges due to socio-economic inequalities, have committed to these objectives in recognition of the urgency of climate and environmental crises. Nonetheless, we recognise that education systems in these contexts face complex challenges, including lack of financial resources, limited human resources, climate

impacts and, as a result, difficulties delivering quality foundational education. In addition, learners, teachers, families and others involved in the provision of education are often experiencing poverty, discrimination and other challenges on a daily basis. These complex contexts highlight in particular the need to focus on climate justice in environmental education: that is, to consider what kinds of outcomes and expectations for environmental education are appropriate for people in these contexts, given their relative assets and contributions to climate and environmental crises.

We bring together and interpret the objectives above with a justice lens, and accordingly use ‘environmental justice’ as a common aim. ‘Environmental justice’ has multiple interpretations, which gives it fluidity and range, and international cooperation for education has established a precedent for using justice frameworks. A justice discourse has been embedded in international agreements for education over the last 40 years (e.g. Global Partnership for Education [n.d.](#); UNESCO, 1990; World Education Forum, 2000), which adds support for using a justice lens to analyse environmental education.

We draw mainly on theories of justice by Nancy Fraser (2009), David Schlosberg (2007) and Miranda Fricker (2007). From an environmental perspective, justice theories bring into question how education is or can contribute to a fair distribution of survival and flourishing, considering human and non-human subjects. This might include whether education is contributing to the collective behaviour changes and political action that are needed to shift towards an environmentally sustainable and low-emission economy with the primary interest in this being environmental benefits (recognising there may be other, human benefits). Reflecting on notions of climate justice (Bacigalupo, 2018; Borràs, 2016; Isch, 2011; Sultana, 2022), we also consider environmental justice to be about equality and fairness in how humans experience, benefit from and are held accountable for the natural environment¹. In analysing learners’ accounts of environmental education through this multidimensional justice lens, we suggest that environmental education in Perú and Uganda is perpetuating social injustices and environmental injustices.

This paper emerges from a large mixed methods study entitled ‘JustEd: Education *as* and *for* environmental, epistemic and transitional justice to enable sustainable development’ (‘JustEd’, hereafter). JustEd explored how learners’ experiences of (in)justice in and outside of school informed their intentions for action related to the Sustainable Development Goals.

THE POLICY CONTEXT

Many countries around the world, including Perú and Uganda, agree education is a vehicle through which to advance environmental protection and sustainable lifestyles, with benefits for both people and the planet, and they have set ambitious targets for this vision.

Perú and Uganda—countries rich in biodiversity and heavily impacted by climate change and environmental degradation—are both signatories to international agreements in which they committed to advancing environmental justice through formal schooling, including the 1992 UNFCCC (United Nations Framework Convention on Climate Change), the Sustainable Development Goals, notably SDG 13 (adopted at the UN Conference on Sustainable Development, 2012), the Paris Agreement (adopted at COP21 in 2015) (Paris Agreement 2015) and the ACE work programme (adopted at COP26 in 2021). Through the SDGs, for example, Perú and Uganda committed to advancing environmental justice through ‘education, awareness-raising and human and institutional capacity on climate change’ (target 13.3, United Nations Environment Programme, [n.d.-a](#)) and ‘ensure that all learners acquire the knowledge and skills needed to

promote... sustainable development and sustainable lifestyles' (target 4.7, United Nations Environment Programme, [n.d.-b](#)). Some parties suggest that the education system is a 'critical social tipping point' for achieving the goals of the Paris Agreement to limit global warming (Otto et al., 2020), a testament to the weight and hope that is being placed in environmental education.

To deliver their commitments, Perú and Uganda have national policies and frameworks to implement environmental education. Perú, for example, has an Environmental Education Policy (2012) and the corresponding National Environmental Education Plan (2016). Uganda's commitment to environmental education is found within more overarching policies, including its Education Act (2008) and the National Environmental Management Act (2015).

These policies set out actions that aim to reduce future global warming and mitigate the impact of environmental crises by changing knowledge, attitudes, skills and behaviour through education. However, the idea that environmental education will contribute to environmental conservation and help reduce future climate change is complex: there are different approaches and responses to the environmental and climate crisis, and relationships across education, behaviour change and environmental protection are not well understood or evidenced.

This paper comes at a timely moment in the global policy landscape. The Greening Education Partnership (GEP)—a global alliance with over 80 country members—has established justice as one of four central pillars of a quality environmental education curriculum (United Nations, [n.d.-b](#)). Following the publication of its curricular guidance in June 2024, it is anticipated that GEP members will accordingly be making strategic investments to accelerate whole school approaches and curricular changes to 'green' education. This paper contributes greater understanding of what constitutes a justice approach to environmental education that is relevant in diverse contexts.

A MULTIPLE JUSTICE APPROACH TO ENVIRONMENTAL EDUCATION

The definition of environmental justice is marked by enormous complexity and imprecision due to its multidisciplinary, contested and multidimensional nature (Carneros, Murillo, and Moreno-Medina, 2018; Schlosberg, 2007; Walker, 2012). Based on our review of the literature around environmental justice, we understand that within the current hegemonic anthropocentric perspective, environmental justice is still predominantly defined by the rights of all humans to access natural resources (Holifield et al., 2018; Horsthemke, 2009). Within anthropocentric manifestations, *climate* justice focuses attention on the uneven, disproportionate and intersectionally distributed impacts of climate change among humans and seeks to redress the resulting injustices in fair and equitable ways (Bacigalupo, 2018; Isch, 2011; Islam & Winkel, 2017; Sultana, 2021, 2022). However, biocentric conceptualisations of environmental justice are gaining support and present a persuasive challenge to the ideas of human exceptionalism and nature as a utility for human development. Biocentric approaches situate human life within larger ecosystems and in doing so recognise the rights of *all* living matter to survive and flourish (Borràs, 2016).

We recognise that there is already a rich body of literature that brings together social and environmental justice (e.g. ecofeminism and socioecological justice), and there are several educational scholars drawing together the anthropocentric and biocentric through more-than-human relational ontologies (e.g. Affrica Taylor and Veronica Pacini-Ketchabow); however, there is little work being done on the theory and practice of education that deepens understanding of how multiple conceptions of justice interact and generate meaning in consideration of human and

more-than-human dimensions in schooling. Such a lens may advance education's contribution to environmental goals.

Starting from Daniel Schlosberg's scholarship (e.g. 2014 and 2007), we suggest that environmental justice in education can help address the multiple, intertwined challenges of environmental injustice by promoting a more just distribution of environmental resources among humans, a more just allocation of responsibilities regarding environmental protection and greater justice for more-than-human living beings. From an environmental perspective, this relates to the extent to which education is or can contribute to the survival and flourishing of the natural environment and is most closely aligned with biocentric approaches to environmental justice (Borràs, 2016). This might include whether education is contributing to the collective behavioural changes and political action that are needed to shift towards an environmentally sustainable and low-emission economy, with the primary interest in this being environmental flourishing (recognising there may be other, human benefits to lower-emission economies).

From a social justice perspective, in line with Nancy Fraser, we consider environmental justice to encompass (re)distributional notions of justice, representation and recognition of diverse actors (Fraser 2009), and we propose that this should include more-than-human natural entities. Distributional notions of justice are embedded in environmental justice because it is about equality and fairness in how humans experience, benefit from and are held accountable for the natural environment¹. This incorporates the anthropocentric definition of environmental justice because it proposes that all humans should have equal access to natural resources. The concept of climate justice deepens this definition by drawing attention to the disproportionate impacts of climate change on different groups around the world—but particularly on lower-income populations in the Global South—which results from a combination of historic social and economic inequalities, including aspects of identity such as gender, race and geopolitics that preserve the power of elite groups (Sultana, 2021, 2022). Proponents of climate justice argue that states with more resources, and those more culpable for climate change, should take on a greater burden in providing resources for climate mitigation and adaptation (Caney, 2014; Chancel & Piketty, 2015; Gardiner, 2011). Kwauk and Wyss write 'addressing climate change must be done through solutions that redress inequalities and transform unequal relations of power' (2022: 2). While notions of climate justice are often limited to anthropocentric concerns, we suggest that biocentric considerations—that is, the rights of nature itself—could be meaningfully integrated in climate justice, in line with other discussions of how justice concerns cut across planetary and human survival and equality (e.g. Kashwan et al., 2020; Sultana 2023). The figure below illustrates how we see multiple conceptualisations of justice currently embedded within environmental justice (Figure 1).

While we see climate justice as limited in scope due to its exclusion of forms of environmental damage unrelated to climate change (e.g. deforestation and loss of biodiversity due to some industrial practices), it does offer new opportunities for analysing and transforming environmental education. First, its focus on power, inequity and redress could be applied to teaching and learning about environmental degradation and exploitation. Second, while climate justice has commonly been used for global campaigning work, it is equally relevant for considering more localised experiences and solutions to climate change and environmental degradation. A climate justice lens could help us to analyse the narratives that are delivered to learners about environmental problems in their local environs, about the responsibilities of themselves, their households and local stakeholders, and how local solutions should be worked out in relation to current and historical land or water use, livelihoods, discrimination, inequalities across socio-economic status and violence.

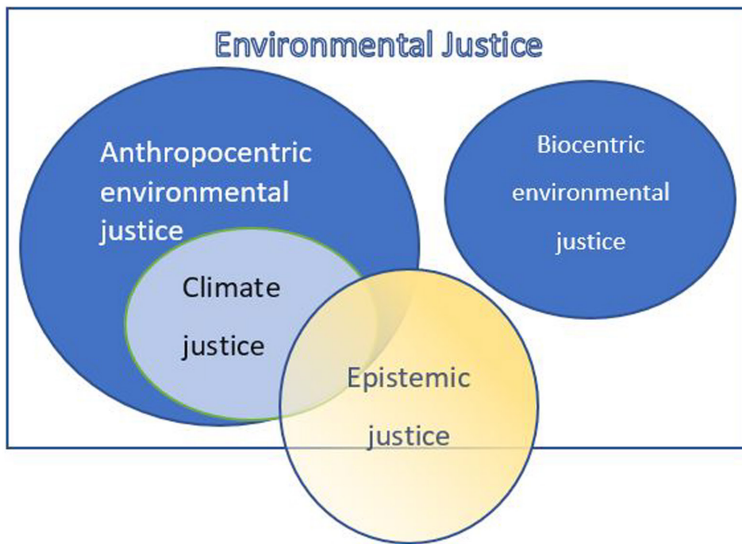


FIGURE 1 Visualising the connections and relationships between multiple conceptualisations of justice within environmental justice.

Finally, the attention that climate justice draws to social inequalities can be elaborated by returning to Fraser's theorising about representation, recognition and participation as justice in education. Fraser pushes us to consider to what extent teaching and learning recognise inequality among diverse communities and countries in their access to the environment, how they explain it, and how it proposes that this can be reconciled (2008). Epistemology is an important manifestation of representation and recognition in schooling, and we use the concept of epistemic justice to analyse how knowledge is represented, consumed and produced, paying attention to how epistemic injustices are inflicted. That is, how and which individuals experience prejudice or discrimination through having their knowledge(s) undervalued (Fricker 2007), including knowledge related to the experience of childhood, indigenous, rural, religious, knowledge and other kinds of knowledge. Epistemic justice in education considers how schools enable students to acquire the epistemic resources to understand themselves and others, their position in the spaces in which they live and their potential contributions to change (Balarin et al., 2021; Hall et al., 2020). Learners' equal capacities to generate knowledge in learning are an oft-overlooked dimension of epistemic justice in education, but we argue that participation in knowledge production is a critical skill that has profound consequences for young people's understanding of and future participation in democratic processes, with implications for young people's capabilities to contribute to lives and societies that they have reason to value (Balarin & Rodriguez, 2024; Sen, 1999). If we consider how epistemic justice and environmental justice overlap, we might also begin to consider how non-human natural entities themselves express knowledge and how this mode of knowledge production might also be recognised in education. We propose that these inextricably linked forms of justice offer a rich palette to deepen understanding of how environmental justice in schooling.

METHODOLOGY

This paper derives from a mixed methods study entitled *JustEd: Education as and for environmental, epistemic and transitional justice to enable Sustainable Development* (2020–2022), which

explored complex trajectories across policy, curricula, education materials, learner experiences and actions in three countries. It examined how notions of justice were embedded in education and considered how a multiple justices framework could enrich understandings of education and of its impacts. All human participants gave their informed consent before participating in the study. The research this paper draws upon was implemented by researchers at the Group for the Analysis of Development (GRADE, Perú), Gulu University (Uganda) and the University of Bath (UK).

We adopt a comprehensive understanding of 'environmental education', including both formal elements of teaching and learning across different school subjects (i.e. biology, agriculture, geography and social science) and the ways that learners learn about the environment through school operations and sites (e.g. how school grounds are managed and how the school uses natural resources, including energy). Globally, there are diverse models of environmental education, and a range of terms used to refer to it (e.g. climate change education, education for sustainable development, green schools and eco-schools). Some models incorporate prescriptive modalities, content and pedagogy, while others are looser and rely on teachers for interpretation.

This paper draws on the results of the qualitative data that we generated with learners. This includes creative and participatory methods in focus group and interview-style settings with young people aged 14–17 years.

Ethics

JustEd was funded by the UK government's Global Challenges Research Fund and received ethical approval from the University of Bath's Social Science Research Ethics Committee (Reference numbers: S21-024, S21-110, S22-025) as well as from the Gulu University Research Ethics Committee (Reference GUREC-2021-60). In Perú and Uganda, all participants, as well as the parents or guardians of learners, were provided with information sheets and assent/consent forms that detailed what their voluntary participation would entail, how their data would be stored and used (e.g. including considerations of confidentiality, privacy and security), and their ability to change their mind and withdraw their data (within a specific period of time before data were amalgated). Ethical protocols were designed to ensure the well-being of researchers and participants, as well as to offer transparency in the research process.

Research sites

- Perú and Uganda are distant, distinct countries which nonetheless share characteristics that made them uniquely interesting for exploring environmental justice in education. Perú and Uganda are both prominently affected by the global climate crisis and environmental degradation, in both ecological terms and the impacts on human development and inequalities. We share valuable common findings across the two countries that suggest these findings may be relevant to other countries. In addition, there were some differences in sample and methods across the two countries and we reflect on the outcomes and implications of these choices.
- The research teams generated qualitative data at four schools in each country. In Uganda, the schools were in Amuru, Kitgum and Gulu in the northern Acholi subregion. In the Acholi region of Uganda, communities are engaged in commercial charcoal production as one of the ways of rebuilding livelihoods following the 20 years of war, during which many

families were forcibly displaced and divested of their assets (Branch & Martiniello, 2018). Charcoal production is creating mass deforestation, which is a key driver for large-scale soil erosion and desertification (Global Environment Facility, 2014; Ministry of Water and Environment, 2017).

In Perú, the four research sites were located in peri-urban locations in Lima (2 schools), the city of Huamanga (1) and in the city of Pucallpa (1). Lima is the political and economic centre of Perú. There are enormous socio-economic inequalities that particularly affect the poor and migrants, which comprise a large proportion of its inhabitants. Huamanga is the capital of the Ayacucho region in the South Andes mountain range, a largely rural, agricultural region which suffered the worst impacts of the Internal Armed Conflict. Huamanga has a large number of Quechua (indigenous) people. Pucallpa, capital of the Ucayali region, is surrounded by the Amazon Forest which is inhabited by indigenous peoples and Andean Quechua migrants.

In both Perú and Uganda, most of the participants came from low-income families.

Participants in qualitative interviews and focus groups

Perú	Uganda
24 students (aged 14–17 years) from four public secondary schools. These learners were in Grades 3, 4 and 5.	95 students (aged 14–16 years) from four secondary schools, two urban and two rural, including two public schools and two private schools. Learners were in school years senior one, senior two and senior three.

Methods

The qualitative research methods were designed collaboratively and agreed by researchers in all four countries involved in the JustEd study, however due to differing national policy responses to the COVID-19 pandemic, and the variable timing of waves of COVID-19, these methods were implemented in line with what was safe and allowable at each research site. At this time, some schools were closed altogether, some were running online lessons and some were still running lessons in person in school.

In Perú, researchers engaged with six learners from each of four schools (24 learners altogether), meeting together in a small group on four occasions at their schools. Learners in Perú were invited to produce photographs, drawings or other art materials to represent their experiences of justice and were asked to bring them to the small group discussions. In Uganda, 95 learners participated in one or two individual interviews, and a small number of them (32 learners, 8 per school) also participated in a focus group discussion. The Ugandan researchers brought a range of images to the interviews and asked learners to choose from among them to initiate conversations about environmental justice. In both countries, all the research with learners was conducted in person.

As this suggests, we gathered data from more learners in Uganda, but we engaged in more depth of conversation around ideas of justice in Perú, where we engaged with fewer learners through multiple encounters over a period of time. These differences are reflected in the richness of the data presented and analysed in this paper, with more saturation in ideas of justice among

Uganda learners and more complex ideas about justice emerging from learners in Perú. While these qualities make the country-specific data distinct, the data from both countries are rich and comparable.

Analytical approach

The research team agreed a common approach to initial data analysis. This featured note-taking during and immediately following data generation with learners and coding data in NVivo 10 using a pre-set coding scheme. Researchers in Uganda and Perú used the same set of codes, which derived from the literature review we conducted prior to commencing data generation, including empirical data and theoretical scholarship around environmental, epistemic, transitional and social forms of justice (considering the expansive focus of the study in its entirety) in schooling in the Global South and specifically in Perú, Nepal and Uganda. In Perú and Uganda, there were multiple researchers coding the data and they worked together closely, making memos (in the NVivo application) to note relevant observations and findings as their work progressed, and having frequent conversations about emergent findings. Once all the data were coded, the research teams in different countries met to share and discuss preliminary findings. The research teams subsequently wrote narrative analytical reports, drawing further on the literature. After this, Wilder (a UK-based researcher) developed a comparative research narrative, drawing on findings from the other countries in the study and conducting more iterative analysis.

RESULTS AND DISCUSSION

We present our results in line with the multiple justices approach to environmental justice that we discussed above. We discuss how and to what extent each of the following four constructs of justice is found in secondary school learners' accounts of environmental education in Perú and Uganda, as well as their accounts of how they encountered environmental (in)justices in their daily lives:

- Environmental justice as the rights of nature (biocentric understanding)
- Environmental justice as equal access for all humans to natural resources (anthropocentric understanding)
- Environmental justice as shared but differentiated impacts and responsibilities regarding climate change, ecological crises and energy transitions (climate justice)
- Epistemic justice as an integral to environmental and climate justice

Environmental justice as the rights of nature

Very few learners in Uganda and Perú expressed an understanding of environmental justice as the rights of nature, that is, few of them articulate a biocentric definition of environmental justice. Some young people recognised the destructive nature of some local practices in nature and spoke about the damage done to natural environments, but none talked about environmental destruction in terms of justice or rights.

Environmental justice as equal access of all humans to natural resources

In the vast majority of young people's accounts of environmental degradation and harm, the primary concern was the impact that this had on humans. From recognising the destruction of a natural environment or entity, young people moved to the consequences for people without commenting on the devastation or impact on climate or natural ecologies.

In Uganda, for example:

Phillipa: In Kitgum town, when you go around River Pager you will find rubbish and faeces near the river. That is not good because people use that water for drinking, bathing and also commercial purposes. Also, in some areas there are grinding machines [for maize] which produce fumes in the air. This affects the people in that area with noise and air pollution.

Jane: Laying bricks... destructs our environment... They make large pits in the land as they dig out the soil. The pits could be water logged and it becomes a home for very many things like mosquitoes that can cause people sickness.

These examples suggest that young people recognise humans as having rights to nature that is clean, productive and healthy. This reflects an anthropocentric view, which regards humans as exceptional and entitled to nature as utility. Implicit in these examples is also recognition that some people or companies have polluted the natural environment—the destruction is man-made—and this is having an unfair impact. Implicit in these young people's discussions was an ethical imperative for what *ought* to be; they brought to the fore understanding that there are some actors causing the pollution and other, often marginalised, people facing the consequences.

Learners from Perú similarly identified inequalities in this anthropocentric interpretation of environmental justice, with some groups benefiting more than others. Learners from San Juan de Lurigancho, a peri-urban area of Lima, suggested children experience a violation of their rights to nature when an outdoor space was dominated by a local resident:

Interviewer: Why would that be a form of environmental injustice?

Learner 1: It would be unfair to the children because they can't play.

Interviewer: They can't play. And the plants?

Learner 1: The lady has her own area over there, it's a big space, like this room, and she can plant there, but I don't know, she just bothers the children. She doesn't want them to play and ruin her plants. She could plant her plants somewhere else because there's plenty of space.

The learner's reading of the gardener's behaviour is not only that she wants to dominate the natural environment, but that she is manifesting her power through nature. We don't have the gardener's perspective, but we can see how young people recognise how nature is implicated in

political agendas. Nature can be appropriated to perpetuate inequality by those who can control physical spaces (adults), and those with less freedom to set their own boundaries and access nature (children).

In another example, a learner from Huaycán observed that in some areas of the city of Lima the natural environment is cared for, and in some areas it is neglected. She argued that these inequalities were indicative of the importance given by the local authority to the respective populations in these areas, with poorer and more marginalised people having more poorly tended natural spaces. Differentiated standards of care for natural spaces—according to wealth and social prestige of locality—is a visible and experiential gesture of the state's view on environmental justice.

These examples of young people's recognition of environmental injustices illustrate their understanding that environmental damages have unequal impacts, with more marginalised people bearing the brunt of pollution, exclusion from natural spaces and less investment in local public green spaces accessed by poorer people. Learners suggest that these environmental injustices are avoidable: those in power can reduce inequalities but they are, at a minimum, complicit in ongoing injustice, neglect and discrimination.

The next dimension of justice we address—climate justice—considers young people's perspectives about how inequalities in power and resources should be considered in allocating responsibility for redress in relation to these injustices.

Climate justice: Responsibilities for responding to environmental and climate crises should be justly distributed

Learners from both countries identified actions that individuals and households could take for environmental protection, but it was only in Perú that learners reflected more widely on the responsibilities and roles of other actors. When learners in Perú consider agents beyond themselves and their families, it was in the context of in-depth participatory methods that introduced different ideas about justice (in contrast to methods used in Uganda). Thus, some of these findings emerge as a result of the participatory research process rather than indicative of learning from environmental education in school.

Learners in San Juan de Lurigancho, a peri-urban area of Lima, highlighted the role of private enterprises in environmental injustices:

Student: The people who cut down trees, those companies seek to cut down trees to generate business, and those individuals don't show any respect because their greed for money and sales of their products blinds them. They don't think about nature, they only think about the money they will earn, and that's why they do it.

Another student added: [Some people] think more about their own benefit and don't give importance to what will happen in the future and the consequences it will have for future generations.

The learners recognised that profit-seeking proprietors lack motivation for environmental justice and do not consider the needs of future generations of humans or nature itself.

Another learner, talking about river pollution by large companies, argued that local government authorities were unlikely to pressure enterprises to fulfil their responsibilities for environmental justice because of entrenched conflicts of interest:

There is no quick reaction from the authorities... mostly it's the authorities who are linked to those large companies, to those individuals who own these companies.

Another learner in this focus group discussion later talked about learners and their families:

I believe it's not solely due to environmental education. If parents set an example that they don't care about the environment and their actions demonstrate littering, burning and engaging in activities that cause pollution, their children will follow that example, and there won't be a change in the future generation. The government that governs us should also impose more discipline when it comes to caring for the environment.

This learner emphasises how family influence can foster pro-environment attitudes and behaviours. They recognise the collective responsibility of society and of the government, suggesting effective policies could incentivise people to protect the environment.

In the data shared above, young people recognise a range of actors responsible for responding to and preventing environmental degradation and climate change, and they put significant emphasis on what parents, families and society at large could be doing to advance environmental protection. Learners in Perú felt that commercial companies should be accountable for environmental protection, but they did not expect it to happen, and they saw industry-government partnerships as barriers to progress. Climate justice guides us to demand that those who are culpable and have greater resources take greater responsibility for climate action, so in this respect the learners in Perú were taking a climate justice perspective, although they did not expect it to be realised. They expressed hopelessness that government authorities or corporations could be compelled to take better care of natural resources, in large part because of their vested, financial interests in environmental exploitation, and so their anticipation for better environmental stewardship was pinned more on those with fewer resources and less culpability—households, individuals.

This raises an important question about how learners relate their learning about environmental problems and solutions to their observations of privilege, power, agency and ethics in their immediate contexts. And further, what does education contribute to learners' anticipations for climate justice when they bring together new knowledge about justice and the environment, with their understanding about the world around them? We ask, does education leave them with a positive sense that justice is possible? In the data above, we see that when learners believe that governments and corporations are responsible for advancing environmental protection due to climate justice, but they do not believe that these actors themselves subscribe to this obligation (and therefore are unlikely to take any action for climate justice), they encounter a barrier to climate justice. In the same group discussion, another learner moved the focus to what they saw as a more feasible sphere for progress towards climate, or environmental, justice—the household level. Perhaps implied in the passage above—about the role of parents to model good environmental protection, and the role of government to incentive households—is the change that may be achievable through collective action involving multiple households. In this way, we see that while climate justice may not be achieved—because those with *most* resources, and *most* culpable, are not taking responsibility and cannot be compelled to do so—learners may still see a way forward for environmental justice—in terms of improved access for people to environmental resources and/or for nature to realise its rights to nature—if parents and households can be

compelled, collectively, to adopt more positive behaviours for environmental protection. We see here that young people shift their expectations when they move from conceptual understandings of climate justice (what *should* happen) to the range of real possibilities (what might be feasible, given the real world), and importantly, ideas about what might be possible (under specific conditions) were still some distance from actual anticipation of change. We also suggest that these learners in Perú did not recognise that as they proposed what they saw as a more feasible strategy for environmental justice, it worked against ideas of *climate* justice as it would increase the burden for upon households, which may find extra demands or regulations of their behaviours and livelihoods difficult. As learners move away from the most just solutions for environmental justice and climate action, they also become less hopeful that it will be realised.

Based on this analysis, we argue that it is critically important that teaching and learning about the environment and climate change incorporates multiple forms of justice that enable young people to consider how power, inequity and socio-economic conditions are caused by, and influence the range of solutions that are considered, and adopted, to tackle environmental problems. Furthermore, this teaching and learning needs to support young people to consider and evaluate these issues in relation to local situations and their own lived experiences to help them to apply issues of justice to their contexts and understand *greater* justice is achievable (Gruenewald, 2003). Learning objectives around understanding and relating environmental and climate crises from global to local, from conceptual to realisable, is, we suggest, an important trajectory that will aid in delivering visions for environmental education that have been envisaged within national and international policies and agreements, such as SDG 13 and Article 12 of the Paris Agreement.

It should be recognised here that the Perú learners reflected on social injustices, and the roles of government and industry, as a result of the in-depth conversations and provocations that they engaged with through research; their suggestions for environmental justice did not derive from school-based environmental education. The research methods used in Perú suggest that a justice approach and critical pedagogy in environmental education may help to advance learners' knowledge and skills with regard to climate-related goals. While the discussions in Uganda were less detailed, there were several learners who explicitly noted that the information, or knowledge, they received in school would not be acceptable or productive for climate action. Nelson, commenting on lessons in Uganda that discouraged cutting down trees for charcoal or to make bricks, said, 'the knowledge you get from school you do not bring home'. Messages in environmental education should be sensitive to local practices and livelihoods, to the socio-economic status of learners, and to histories of place, including geopolitical contexts. Simplified messages that conflict with these local experiences and histories are not only ineffective but unjust.

Learners' accounts suggest that environmental education ignores the responsibilities of companies and of governments and their capacity to effect real change while placing all the burden on learners individual/local actions, it may well be considered an act of epistemic injustice that contributes—by omission—to environmental and climate injustice.

Epistemic justice as an integral part of environmental and climate justice

Drawing on the data and analyses in the paragraphs above, we argue that epistemic justice is an integral part of environmental and climate justice. In the context of environmental education, epistemic justice involves a meaningful consideration of the diverse communities affected by

environmental and climate crises and their respective knowledge, political agency and representation, histories and interests in understanding environmental degradation and climate crises and their solutions (Fricker 2007).

In text above, we noted that planting trees (and preventing cutting trees) was shared by the majority of research participants as a key learning in environmental education, and we argued that learners are unlikely to apply this knowledge outside of school as the research was conducted in areas where an estimated 40% of the learners came from households engaged in small-scale charcoal production. In addition to the failure of environmental education to contribute to environmental justice, teaching to *not* cut trees is an epistemic injustice as it ignores local industries and de-values local knowledge and young people's lived experiences. More broadly, it is not just to teach learners, in particular those who come from low-income households and have few alternatives for generating income, that the means through which their family survives is unethical and unsustainable. This injustice may also prolong environmental injustice, from the perspective of nature's right to survive and flourish, as it means that young people and local communities are not being taught *feasible* actions for addressing environmental degradation and supporting transitions to low-emission economies that are compatible with their livelihoods and which they are likely to put into practice.

In the data and analyses presented above, it is apparent that environmental education in secondary schooling is not enabling young people to understand environmental and climate crises from a justice perspective and this is hindering young people's development of critical analysis skills in relation to the multiple and complex environmental, social, cultural and political problems and challenges emerging from these global and local crises.

We find, however, that young people in Uganda and Perú observe environmental destruction and exploitation in their lives outside of school and they see unequal and unfair consequences for people, which compound existing marginalisation. Learners recognise the harm of these inequalities and when introduced to the idea of 'environmental justice', learners expressed this was a suitable term for their experiences. These findings suggest that a multiple justice perspective may be instrumental in supporting young people to develop critical thinking skills and capacities to evaluate causes of climate change and environmental degradation as well as solutions to these crises in relation to their local contexts, to global socio-economic systems and in relation to their own agency and opportunities.

DISCUSSION: JUSTICE MATTERS

In this discussion section, we revisit our findings and offer direction for overcoming challenges. We suggest that a multiple justice approach is instrumental in environmental education to foster comprehensive understanding of the tensions, challenges and solutions to the multiple social and environmental problems related to environmental and climate crises. This multiple justice approach is aligned with the values and objectives of global agreements for sustainable development, notably the Sustainable Development Goals (e.g. SDG 13 on Climate Action), the UN Framework Convention on Climate Change (Article 6) and the Paris Agreement (Article 12). This alignment will help to advance environmental education policies and programmes.

Firstly, young people failed to demonstrate knowledge of deep-seated political economies that continue to perpetuate large-scale environmental damage. In Uganda, young people recognised large-scale environmental damage, but they did not identify antagonists in this destruction. In Perú, learners recognised that private sector and government partnerships designed for economic

gain were instrumental in environmental destruction; however, they had few ideas about how these powerful actors could be compelled to change their interests. Instead, they turned to their attention to actors who might be incentivised to change—households.

Secondly, while young people identified their potential roles and responsibility in preventing further damage and in helping to remedy the destruction that has been caused (i.e. planting trees), it seems unlikely that this cognitive knowledge is or will lead to behavioural change. The quote above from Nelson in Uganda highlighted a common sentiment in Uganda—that the epistemic basis of environmental education in formal schooling, and in particular tree planting, was not compatible with household livelihoods.

In order for schools to contribute to the global objectives that have been set out for education—in particular, to help limit future emissions and mitigate the impacts of climate change—young people may need to develop the following understandings:

1. Young people may feel greater incentive and hope that they could generate change if they had greater understanding about the complex power dynamics and politics underpinning environmental damage. Young people may need support to learn about the tensions underpinning historical patterns, including colonial, patriarchal, industrial and capitalist regimes. Additional justice concepts (e.g. transitional justice, reparative and feminist pedagogies) may further support education in this way.
2. As part of this, following Baldwin, Pickering and Dale (2023), we argue that young people need to develop a comprehensive understanding of the range of solutions available to combat climate change and environmental destruction. In particular, they should understand that individual and household behavioural change is part of the solution, but changes within industrial and public sector settings are also required to shift patterns of climate change. As noted by Baldwin, Pickering and Dale (2023), people need to be motivated to act and part of this motivation comes from an understanding of the efficacy of potential solutions. Environmental education in Perú and, to a lesser extent, Uganda fails to offer real hope about the commitments of corporations and governments or legal and actionable tasks to hold them to account. This resonates with Hickman et al.'s (2021) study of 10 000 youth, where they found that over 50% of youth felt angry and powerless in relation to climate change. They attributed this to the failure of governments to take action.
3. Young people need to be supported to understand the ethical imperative of supporting natural environmental to survive and thrive, and they should learn about the biocentric definition of environmental justice which recognises the rights of nature. Currently, it is messages about human well-being and survival that are more likely to generate change.

An explicit and multiple justice approach to environmental education may help foster among young people critical thinking and understanding in relation to environmental and climate crises, at both local levels and globally. As the data presented above suggest, there are multiple perspectives that are simultaneously valid and credible, and the solutions to the environmental, social and political problems that we are now facing are complex but not impossible.

ACKNOWLEDGEMENTS

'Education *as* and *for* Environmental, Epistemic and Transitional Justice to enable Sustainable Development' was a collaborative, multi-country project based on the values of kindness, fun, collegiality, creativity, justice, rigour, transparency and respect. All project outputs represent

the collective endeavour of the team. The international JustEd team includes Tina Aciro (Gulu University, Uganda), Patricia Ajok (Gulu University, Uganda), María Balarin (Group for the Analysis of Development (GRADE), Peru), Mrigendra Karki (Tribhuvan University, Nepal), Daniel Komakech (Gulu University, Uganda), Lizzi O. Milligan (University of Bath, UK), Dorica Mirembe (Gulu University, Uganda), Carlos Monge (GRADE, Peru), Ainur Muratkyzy (University of Bristol, UK), Expedito Nuwategeka (Gulu University, Uganda), Alvaro Ordóñez (GRADE, Peru), Mohan Paudel (Tribhuvan University, Nepal), Julia Paulson (University of Bristol, UK), María Fernanda Rodríguez (GRADE, Peru), Paola Sarmiento (University of Bristol), Sushil Sharma (Tribhuvan University, Nepal), Robin Shields (University of Bristol, UK), Ashik Singh (Tribhuvan University, Nepal), Ganesh Singh (Tribhuvan University, Nepal), Nese Soysal (University of Bath), Srijana Ranabhat (Tribhuvan University, Nepal), Alithu Bazan Talavera (GRADE, Peru) and Rachel Wilder (University of Bath, UK). JustEd was funded by the Global Challenges Research Fund through UK Research and Innovation (project code ES/T004851/1). For more information, see our website: www.bath.ac.uk/projects/justed/.

CONFLICT OF INTEREST STATEMENT

There are no evident conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ORCID

Rachel Wilder  <https://orcid.org/0000-0002-2225-6002>

Expedito Nuwategeka  <https://orcid.org/0000-0003-0389-4620>

Carlos Monge  <https://orcid.org/0009-0002-1680-0654>

ENDNOTE

¹ <https://unfccc.int/resource/ccsites/zimbab/conven/text/art06.htm>.

REFERENCES

- Alsubaie, M. A. (2015). Hidden curriculum as one of current issue of curriculum. *Journal of Education and Practice*, 6(33), 125–128.
- Bacigalupo, A. (2018). La política subversive en los lugares “sentientes”: Cambio climático, ética colectiva y justicia ambiental en el norte del Perú. *Scripta Ethnologica*, 40, 9–38. <https://www.redalyc.org/journal/148/14858409001/14858409001.pdf>
- Balarin, M., Paudel, M., Sarmiento, P., Singh, G. B., & Wilder, R. (2021). Exploring epistemic justice in educational research. JustEd. <https://doi.org/10.5281/zenodo.5502143>
- Balarin, M., & Rodríguez, M. F. (2024). Shallow pedagogies as epistemic injustice: How uncritical forms of learning hinder education's contribution to just and sustainable development. *Global Social Challenges Journal*, 20(30), 1–19.
- Baldwin, C., Pickering, G., & Dale, G. (2023). Knowledge and self-efficacy of youth to take action on climate change. *Environmental Education Research*, 29, 1597–1616.
- Borràs, S. (2016). New transitions from human rights to the environment to the rights of nature. *Transnational Environmental Law*, 5(1), 113–143.

- Branch, A., & Martiniello, G. (2018). Charcoal power: The political violence of non-fossil fuel in Uganda. *Geoforum*, 97, 242–252.
- Caney, S. (2014). Two kinds of climate justice: Avoiding harm and sharing burdens. *The Journal of Political Philosophy*, 22(2), 125–149.
- Carneros, M., Murillo, F. J., & Moreno Medina, I. (2018). Una aproximación conceptual a la educación para la justicia social y ambiental. *Revista Internacional de Educación para la Justicia Social*, 7(1), 17–36.
- Chancel, L., & Piketty, T. (2015). *Carbon inequality from Kyoto to Paris*. Paris School of Economics.
- Fraser, N. (2009). *Scales of justice: Reimagining political space in a globalizing world*. Columbia University Press. <http://www.jstor.org/stable/10.7312/fras14680>
- Fricker, M. (2007). *Epistemic injustice: Power and the ethics of knowing*. Oxford University Press.
- Gardiner, S. M. (2011). Climate justice. In J. S. Dysek, R. B. Norgaard, & D. Schlosberg (Eds.), *The Oxford handbook of climate change and society* (pp. 309–318). OUP Oxford.
- Global Environment Facility. (2014). *Addressing barriers to adoption of improved charcoal production technologies and sustainable land management practices through an integrated approach*. Project Report (award 00074620). Republic of Uganda and UNDP.
- Global Partnership for Education. (n.d.). *Transforming education*. Global Partnership for Education.
- Gruenewald, D. A. (2003). Foundations of place: A multidisciplinary framework for place-conscious education. *American Educational Research Journal*, 40, 619–654.
- Hall, B. L., Godrie, B., & Heck, I. (2020). Knowledge democracy and epistemic function in/justice: Reflections on a conversations. *Canadian Journal of Action Research*, 21(1), 27–45.
- Hickman, C., Marks, E., Pihkala, P., Clayton, S., Lewandowski, E., Mayall, E. E., Wray, B., Mellor, C., & van Susteren, L. (2021). Climate anxiety in children and young people and their beliefs about government responses to climate change: a global survey. *The Lancet: Planetary Health*, 5(2), E863–E873.
- Holifield, R., Chakraborty, J., & Walker, G. (2018). *The Routledge handbook of environmental justice*. Taylor and Francis.
- Horsthemke, K. (2009). Rethinking humane education. *Ethics and Education*, 4(2), 201–214. <https://doi.org/10.1080/17449640903326813>
- Isch, E. (2011). La contaminación del agua como proceso de acumulación. In R. Boelens, L. Cremers, & M. Zwarteveen (Eds.), *Justicia Hídrica. Acumulación, conflicto y acción social* (pp. 97–109). Instituto de Estudios Peruanos.
- Islam, S. N., & Winkel, J. (2017). Climate change and social inequality. UN/DESA Working paper No. 152. New York: UN/DESA.
- Kashwan, P., Biermann, F., Gupta, A., & Okereke, C. (2020). Planetary justice: Prioritising the poor in earth system governance. *Earth System Governance*, 6, 100075. <https://doi.org/10.1016/j.esg.2020.100075>
- Ministry of Water and Environment. (2017). *Uganda national REDD+ strategy*. The Republic of Uganda.
- Otto, I. L., Donges, J. F., Cremades, R., Bhowmik, A., Hewitt, R. J., Lucht, W., Rockstrom, J., Allerberger, F., McCaffrey, M., Doe, S. S. P., Lenferna, A., Moran, N., van Vuuren, D. P., & Schellnhuber, H. J. (2020). Social tipping dynamics for stabilizing Earth's climate by 2050. *Social Sciences*, 117(5), 2354–2365. <https://doi.org/10.1073/pnas.1900577117>
- Paris Agreement to the United Nations Framework Convention on Climate Change (Paris Agreement), 2015, T.I.A.S. No. 16–1104.
- Schlosberg, S. (2007). *Defining environmental justice: Movements, theories and nature*. Oxford University Press.
- Sen, A. (1999). *Development as freedom*. OUP.
- Sultana, F. (2021). Critical climate justice. *The Geographical Journal*, 188(1), 118–124. <https://doi.org/10.1111/geoj.12417>
- Sultana, F. (2022). The unbearable heaviness of climate coloniality. *Political Geography*, 99, 102638.
- Sultana, F. (2023). Whose growth in whose planetary boundaries? Decolonising planetary justice in the Anthropocene. *Geo*, 10(2), e00128. <https://doi.org/10.1002/geo2.128>
- UN Department of Economic and Social Affairs. (n.d.). Sustainable development. Goal 13 | Department of economic and social affairs. <https://sdgs.un.org/goals/goal13>
- UNESCO. (1990). World declaration on education for all.
- United Nations. (n.d.-a). Action for Climate Empowerment. Accessed November 18, 2023. <https://unfccc.int/topics/education-and-youth/big-picture/ACE>

- United Nations Environment Programme. (n.d.-a). Goal 13: Climate Action. Accessed April 13, 2023 <https://www.unep.org/explore-topics/sustainable-development-goals/why-do-sustainable-development-goals-matter/goal-13>
- United Nations Environment Programme. (n.d.-b). Goal 4: Quality education. Accessed April 13, 2023 <https://www.unep.org/explore-topics/sustainable-development-goals/why-do-sustainable-development-goals-matter/goal-4>
- United Nations. (n.d.-b). Transforming education to transform the world: Greening Education Partnership. Accessed November 18, 2023. <https://www.un.org/en/transforming-education-summit/transform-the-world>
- Walker, G. P. (2012). *Environmental justice: Concepts, evidence and politics*. Routledge.
- World Education Forum. (2000). The Dakar Framework for Action: Education for All: Meeting our collective commitments (including six regional frameworks for action). <https://unesdoc.unesco.org/ark:/48223/pf0000121147>

How to cite this article: Wilder, R., Nuwategeka, E., Monge, C., & Talavera, A. B. (2024). Environmental justice in education for climate action: Case studies from Perú and Uganda. *Children & Society*, 00, 1–18. <https://doi.org/10.1111/chso.12899>