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Taking values seriously for transformational climate change adaptation

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ABSTRACT

Climate change is causing extensive and unprecedented impacts on individuals, societies, and ecosystems. Transformational efforts are increasingly advocated to overcome limits to climate change adaptation, but they can entail difficult and potentially disruptive decisions that depend on the goals that individuals and societies decide to pursue, and thus on the values they wish to prioritise, reconfigure or leave behind in response to radical changes. The call for transformational adaptation revives the impetus for placing values centre stage but also poses key challenges for adaptation research and practice. This perspective outlines three challenges for taking values seriously: understanding what values are, by acknowledging both their descriptive and normative dimensions; accounting for the multiplicity of value holders across space and time; and designing processes through which value conflicts are made explicit and can be legitimately resolved. We outline how ethics can help in determining the relation between what people *find valuable* and normatively well-grounded values; propose 'value mapping' exercises to elicit the values of actors involved in the adaptation process; and stress the potential of deliberative approaches in supporting efforts for more transformative adaptation. These challenges are exemplified through planned relocation, a radical and potentially transformative adaptation response. This paper outlines the distinction between descriptive and normative conceptions of values, a distinction often overlooked in environmental social sciences, and demonstrates its significance for addressing the multiplicity of values and conflicts in transformational adaptation. Rather than prescribing a definitive method for closing the gap between these descriptive and normative conceptions on values, it traces an initial pathway for integrating empirical and ethical perspectives and calls for renewed collaborations across the social sciences and humanities to advance values-based adaptation research and practice.

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1. Introduction

Limits to adaptation are being reached in many human systems, meaning that individuals and societies are no longer able to achieve their goals in the face of intolerable risks of climate change (Pörtner et al., 2022). Transformational adaptation – which implies changes to the fundamental attributes of a system in response to climate impacts – is increasingly advocated to overcome soft limits and prevent them from becoming hard limits (IPCC 2018). Transformational adaptation involves difficult and potentially disruptive decisions, that can lead to significant shifts at the cognitive, relational, functional and structural level (Fazey et al. 2018). These decisions will ultimately depend on the goals that individuals and societies decide to pursue, and thus on the values they wish to prioritise, reconfigure or leave behind when pursuing radical changes.

The key role values play in planning for climate change adaptation has been long emphasised by social scientists, with calls for values-based approaches dating from more than a decade ago (O'Brien and Wolf 2010). However, current policy debates still tend to frame adaptation as a purely technical problem which can be fixed through standardised, technical, risk reduction techniques and procedures (Thomas et al. 2019; Quinn et al. 2023) and to marginalise alternative framings that focus on values, normative commitments and experiential ways of knowing (Nightingale, Gonda, and Eriksen 2022). The increasing call for transformational adaptation not only revives the impetus for making values take centre stage but also raises new questions about how to do so in the context of difficult choices that imply radical changes, have long-term implications and that may be difficult to reverse.

Here we outline three challenges for adaptation research and practice in order to take values seriously in the context of transformational responses to climate change impacts: understanding what values are, by acknowledging both their descriptive and normative dimensions; accounting for the multiplicity of values holders across space and time; and designing processes through which value conflicts are made explicit and legitimately resolved. We discuss these challenges by considering how ethics can help in determining the relationship between what people *find valuable* and normatively well-grounded values; by proposing 'value mapping' exercises to elicit the different values held by the actors involved in the adaptation process; and by stressing the potential of deliberative approaches in supporting efforts towards transformation. We exemplify these challenges through planned relocation, a radical and potentially transformative adaptation response where people and assets are resettled under governments' leadership to avoid climate risk (Siders, Ajibade, and Casagrande 2021).

The contribution of this paper is three-fold. First, it sharpens long standing discourses on values-based approaches to adaptation by explicitly separating 'is' and 'ought' claims and by calling for closer collaboration between empirical social sciences and ethics. Second, it demonstrates the significance of distinguishing between descriptive and normative values when acknowledging the multiplicity of values holders and designing processes to reveal and resolve conflicts among them. Third, while recognising that the wide range of plausible and competing philosophical theories makes it difficult to prescribe a definitive method for bridging the gap between descriptive and normative values, it nevertheless sets an initial pathway for their joint consideration. Renewed partnerships across the social sciences and humanities that contribute to adaptation research and practice, including social and political psychology, ethics, political theory, regulation, public administration, history and political ecology, will be needed to take up this challenge.

2. Values, valuing and climate change adaptation

Within the social sciences and humanities, research on values in climate change adaptation has evolved around two main themes. In the first, social scientists have developed an understanding of 'valuing' – i.e. the complex mental states, including attitudes and beliefs, that reflect people's subjective stances on what matters- and described what is important for people to preserve in a changing climate, including identity, places, social cohesion and knowledge systems (Tschakert et al. 2019; Wolf, Allice, and Bell 2013). Previous research outlined the role of values in social limits to adaptation, creating thresholds that individuals and societies are not willing to cross to respond to climate risks (Adger et al. 2009; O'Brien and Wolf 2010). The second theme, largely informed by philosophers, draws attention to 'values' in a normative sense, by focusing on what we should – or have reason to – value when climate change forces a profound restructuring of our world (Gendreau 2022). The assumption is that some values are better-grounded than others and not solely based on the interests or preferences of the values holders.

Both themes are reflected in the wider discussion about the nature of values, which extends beyond adaptation debates. In sociology, psychology and related empirical disciplines, values are primarily understood descriptively. They are considered as psychological constructs reflecting a 'to be done-ness' for the individual or group holding them and serving as 'guiding principles' in their behaviour (Rokeach 1973; Steinert 2023). People select or evaluate actions, policies and events as good or bad, justified or not, worth pursuing or avoiding, based on their alignment with the values they cherish (Schwartz 2012). Valuing something is not just about what an individual deems desirable but is closely connected to motivation and action-guidance. In adaptation, this means that the perceived success or acceptability of interventions depends on the extent to which their outcomes align with people's values.

Philosophers have outlined the normative dimension of values by highlighting the distinction between what people *in fact* value (as described by social scientists) and what they *should* value. There is a logical gap between the two perspectives: the (descriptive) fact that individuals or groups value something does not conceptually imply the (normative) fact that they should value it. If suddenly most people decided to value the economic benefits that result from recklessly exploiting the environment compared to protecting it, this should not be taken as a normative rationale for prioritising the former.

Planned relocation provides an example of the interplay between the descriptive and normative dimensions of values and its implications for transformational adaptation. A descriptive account of values could find that residents within communities identified for relocation value tradition and cultural heritage, including attachment to their land and ways of living. Valuing tradition may imply

deprioritising other values linked to personal security, including living in a safe and healthy environment, which may be significantly threatened as climate change impacts intensify and would be secured by relocating. Research on voluntary immobility indeed shows that some communities resist relocation by prioritising cultural identity over the perceived climate risks (Farbotko and McMichael, 2019). However, while a descriptive account of values is important for reflecting on the acceptability and potential impact of relocations, the question is whether there are normatively grounded reasons why these values *should* underpin adaptation planning.

This matters as values differ amongst individuals, and within and between groups, and this can generate tensions or conflicts. For example, political ‘conservatives’ tend to emphasise different values in comparison with political ‘liberals’ (Graham, Haidt, and Nosek 2009). This might lead to value conflicts that are relevant in transformational adaptation: those with conservative leanings tend to emphasise the ‘sacredness’ of tradition and will value preservation of the *status quo*, while there will be individuals or groups that are more open to change. This *descriptive* account of a values conflict says nothing about how the conflict *ought to be* resolved. For that, normative reflection about the relevant ethical principles is required (van de Poel 2014).

Hence, the first challenge that we identify for taking values seriously in transformational efforts is to distinguish between their descriptive and normative dimensions. This calls for a deeper engagement of environmental social scientists with philosophy, especially ethics, to better understand the relation between what people value and what philosophers call ‘normatively well-grounded values’. Some pioneering works have applied philosophical reflection and theory to climate adaptation and loss and damage (Cwik et al. 2022; Lusk 2020; Parker and Lusk 2019). For instance, Voisard and Wallimann-Helmer (2023) propose a methodology based on principlism and pragmatism to reflect about value-laden decisions in climate governance that explicitly acknowledges the normative dimension of values. As there are different and competing descriptive accounts of values, so there are competing accounts of how to conceptualise normative values. Recognising their normative dimension, as we advocate here, is the first step to a much-needed deeper engagement with the philosophical literature.

3. Connecting empirical insights with ethical reflection through value mapping

Building on the distinction between descriptive and normative dimensions of values, we take a first step toward integrating these perspectives by encouraging interdisciplinary approaches that connect empirical insights with ethical reflection in adaptation contexts. We propose a two-step approach in which the elicitation of values – through what we call a ‘value mapping’ exercise – both reveals the descriptive dimension of values and provides a foundation for subsequent normative reflections.

The ‘value mapping’ exercise takes the traditional stakeholder analysis employed in adaptation research and practice as a starting point (André et al. 2012) and complements it with value elicitation tools. Scharbillig et al. (2021) identify different questionnaires that can be used to achieve this aim, including Schwartz’s personal values questionnaire (Schwartz et al. 2012), the Materialist/post-materialist survey module (Inglehart 1977), the Moral Foundations survey (Graham et al. 2013) and the Morality-as-Cooperation survey (Curry et al., 2019). Relevant qualitative approaches include focus groups, semi-structured interviews and ethnographic methods.

We suggest structuring the ‘value mapping’ exercise along three scales – micro, meso and macro – and possibly considering a temporal dimension to account for the intergenerational effects of the adaptation choices made today. This responds to the second challenge that we identify for taking values seriously in transformational adaptation, i.e. accounting for the multiplicity of values holders across space and time. The micro scale reflects the values held by individuals. Following the example of planned relocation, this entails eliciting the values of individual members of the community targeted for the intervention, encompassing for instance place attachment, ancestral land rights, cultural continuity, physical safety and secure housing. The meso scale reflects groups and organisations. In the case of planned relocation, this involves the affected community signalling the need for relocation and the host community, as well as various organisations involved in the process, like levels of government, ministries and specialised agencies. This is important as different institutions within society can emphasise value orientations which are compatible with their functions. Values elicited at this level can include public safety, cost-effectiveness and infrastructure reliability for authorities and implementing agencies, and livelihood stability and social cohesion for relocated and receiving communities. The macro scale represents the values held as a society, i.e. cultural values, as orientations to deal with societal problems in terms of what is good, right and desirable (Schwartz 1999). National policy frameworks often highlight equity, intergenerational responsibility and the protection of human rights. As values at the macro scale are widely shared and rarely questioned, they might often be *experienced* as having normative force (Steinert 2023). Nonetheless, this still represents a *descriptive* notion of values and does not mean that they are ‘right’ from a normative perspective.

Value mapping helps illuminate what people descriptively value, but it also provides crucial empirical input for normative reflections. These reflections can draw, for instance, on ethical principles such as non-maleficence (‘do no harm’), respect for autonomy, distributive justice and recognition justice. Applying these principles might show that while place attachment is descriptively significant, relocation processes that impose disproportionate burdens on certain households ignore the principle of distributive justice, and designs that ignore cultural identity fail recognition justice. Conversely, values like physical safety and intergenerational protection may warrant greater normative weight because they align with broadly defensible commitments to avoid serious harm. This step clarifies not only what people value, but which values should guide adaptation choices.

It is worth noting, however, that *meta*-ethical theories about the *nature* of values differ in the significance they assign to values across levels. For example, a (simple) subjectivist account of values will only accord normative significance to – and thus prioritise – values held at the micro scale (Sinclair 2020). Other *meta*-ethical views will instead see values as emerging from collective properties, with moral values being partly defined by their function to render adaptive behaviour likelier (Kitcher 2014). Although this view could not tell us, in isolation, which values we ought to pursue (on pain of the naturalistic fallacy), it would highlight which values elicited

through mapping can be understood as *moral* values (Kitcher 2014).

Moreover, different first-order ethical theories will recognise different descriptively held values as normatively relevant. A consequentialist perspective will recognise the value of 'staying-in-place' that we previously discussed only when its violation leads to negative consequences (e.g. reduced well-being). In contrast, a deontological perspective could regard that value as normatively relevant regardless of the consequences of violating it. Nevertheless, most ethical theories will recognise that, all else being equal, the values held by individuals deserve respect. Value mapping is thus essential for being in an epistemic position to respect people's values in the first place.

An additional consideration concerns the role of differing world views in shaping both descriptive accounts of values and their normative interpretation. Actors may not merely hold different values; they may inhabit different ontological and epistemological worldviews that shape what counts as a value in the first place. For example, for some communities, land is not a fungible asset but a living relative, making place-attachment a relational and spiritual value rather than a preference. Such worldviews influence both what is descriptively elicited through value mapping and how normative principles, pertaining e.g. to doing no harm, autonomy or justice, are interpreted. Recognising these different standpoints is essential to avoid prematurely imposing notions of value or legitimacy during normative screening and to ensure that value conflicts are understood in terms that are meaningful to all actors involved.

Emerging discussions on the promises and limits of using descriptive accounts of values for normative reflection can be found in the work on Schwartz's value survey (Steinert 2023), Moral Foundations theory (May 2018) and ethnographic investigations of values (Klenk 2019). Given the wide range of plausible and competing theories, this paper does not attempt to prescribe a definitive method for bridging the gap between descriptive and normative values. However, value mapping provides important input for a critical, balanced and well-grounded reflection on those values from a normative perspective.

4. Inclusive engagement with values in transformational adaptation policymaking

The third challenge we identify is the systematic inclusion of values in transformational adaptation policymaking. Relevant experiences are emerging across disciplinary fields. For instance, the 'normative turn' in innovation management has placed values at the centre of innovation consulting and education, business modelling and entrepreneurship. Value-based innovation, in particular, explicitly considers the role of individual, organisational and societal values and the management challenges they create (Breuer et al., 2022). In technology design, there has been considerable progress in developing the 'Design for Values' methodology, which 'front-loads' considerations about values – both in the normative and the descriptive sense – in design processes (Kroes and van de Poel 2015). Work by the Joint Research Centre of the European Commission also explores how to account for values in policy design and suggests a 'Various Values View' approach that guides an in-depth reflection on values along the policy process (Scharbillig et al. 2021).

Including values upfront is key to facilitate their consideration in policymaking, but this does not prevent the risk of value conflicts materialising. Research on policy innovations and policy experiments – particularly in the field of public administration, which experienced a 'turn to values' in the last decade (West and Davis 2011) – offers insights on how value opposition is managed in practice. An example is the work by Oldenhof et al. (2022) who focus on conflicting values in policy experiments aimed at co-designing, implementing and evaluating innovative and potentially disruptive policy ideas in healthcare, and identify several strategies stakeholders enact for dealing with value tensions. These strategies should not only be evaluated for their descriptive efficacy (i. e. do they *de facto* resolve a value conflict?), but also for their normative legitimacy. For instance, if strong individual property rights are taken as a first-order normative principle, they would then set the boundaries within which strategies for resolving value conflicts around transformative efforts occur.

Procedural justice is often invoked to deal with value-based opposition to proposed policies in specific domains (e.g. Scharbillig et al. 2021). On a descriptive understanding, it refers to the perceived fairness of rules and decision-making processes used to determine outcomes (Thibaut and Walker 1975) and is typically operationalised in terms of public participation (Adger and Nelson 2010). There has been an exponential rise in research on public participation in adaptation since the 2000s (Hügel and Davies 2020), which showed its role in fostering mutual understanding of different values involved in climate-related policies, supporting compromise, and enhancing policy acceptability by accommodating those values (Bouman, Steg, and Perlaviciute 2021).

Yet, it can be difficult to get public participation 'right' in practice, and research has shown that it can eventually lead to adverse sustainability outcomes (Wamsler et al. 2020). Common pitfalls include power imbalances, exclusion of vulnerable groups, inadequate formats or timing, limited access to information and weak integration of public input into final decisions. The factors affecting procedural justice as descriptively understood are also linked to its normative conception. From a normative perspective, just resolution of value conflicts depends on certain procedural features being respected, some of which include access and meaningful consideration of relevant actors in the process, and what form the process will take. What that concretely means depends on several background assumptions, such as whether procedural justice depends on an aggregation of votes or preferences, or a deliberative process, where, for example, only impersonal reasons are allowed as legitimate contributions in the discussion (Tschentscher 2000).

Within participatory practices, deliberative democracy is gaining attention to strengthen the effectiveness of responses to climate change including adaptation (Willis, Curato, and Smith 2022). Deliberative democracy approaches emphasise reasoned and informed public deliberation, rather than a mere aggregation of preferences, as the basis for legitimate decisions (Bächtiger et al. 2018). It encompasses the involvement of individuals and groups through inclusive participation, along with practices such as mutual justification, attentive listening, respect, reflection and openness to persuasion (Dryzek et al. 2019). The quality of deliberation is a critical concern, and participants are usually restricted to small but representative groups that are given the time and resources to focus on one issue. Citizens' assemblies are the best-known example of deliberative democracy and have been employed in several ethically charged

issues, including same-sex marriages and abortion, and increasingly in the context of climate change (Willis, Curato, and Smith 2022). Deliberative actions are also being undertaken in less formalised settings. For instance, research in the aftermath of cyclone Haiyan in the Philippines showed how informal citizens' councils allowed members of vulnerable communities to deliberate around key elements of their relocation to a new village, including the relocation site and the resources they needed for building resilient houses and infrastructure and fostering sustainable livelihoods (Curato 2019).

Deliberative processes can enable participants to recognise value conflicts, negotiate trade-offs and justify which values should structure final decisions. Citizens' assemblies or facilitated community dialogues can allow participants to articulate the reasons behind their values and examine how these relate to general ethical principles. Verdiesen and Dignum (2023) provide an example of how a combined process of value elicitation and normative assessment can be operationalised in the military domain by applying a value deliberation method to a complex ethical scenario. Their work illustrates how structured discussion, explicit attention to justice criteria and systematic analysis of stakeholder values can support moving from descriptive insights to normatively grounded conclusions, as discussed in Section 3.

While engaging with values in decision-making is still in its early days – and hence a challenge we identify – future research could assess the applicability of the conceptual and methodological innovations underway in fields like management, public administration, science and technology studies and political theory, among others, to the challenges posed by transformational adaptation.

5. Towards value-informed transformations

By taking up the call for a renewed engagement with values in climate change adaptation, we identified three key challenges for taking values seriously in research and practice oriented towards transformation. First, we stressed the need to go beyond a descriptive account of values to include consideration of their normative implications. Second, we took a first step toward integrating these perspectives by encouraging interdisciplinary approaches that connect empirical insights with ethical reflections and outlined the contours of a 'value mapping' approach across the micro, meso and macro scales. Existing approaches in adaptation research and practice, like stakeholder analysis, can promisingly be linked with methods for values elicitation developed in social and political psychology and the wider social sciences. Finally, we considered how to make sense of these values in policymaking, by outlining emerging approaches and highlighting the potential of deliberative democracy practices in overcoming values opposition and allowing individuals and communities to make sound decisions in the context of transformational adaptation.

We acknowledge that the wide range of plausible and competing philosophical theories does not allow us to prescribe, at this stage, a definitive method for bridging the gap between descriptive and normative values and we call for renewed partnerships across environmental social sciences and humanities to take up this (ambitious) task. Still, our discussion traces a pathway to move beyond technocratic understandings of (transformational) adaptation and engage with values in a more comprehensive way. Steps along this pathway include a structured and comprehensive descriptive account of values through value mapping followed by normative screening that applies ethical principles. This can set the boundaries for designing transformational adaptation options that both incorporate technical feasibility and value considerations, and that could be assessed by stakeholders through deliberative methodologies to negotiate trade-offs and build shared understanding. Moving forward, strengthening collaboration across the social sciences and humanities, and philosophy in particular, will be crucial for developing the conceptual and methodological tools that allow for taking values seriously in the difficult decisions that transformations entail.

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Elisa Calliari: Writing – review & editing, Writing – original draft, Project administration, Conceptualization. **Tara Quinn:** Writing – review & editing, Writing – original draft, Conceptualization. **Michael Klenk:** Writing – review & editing, Writing – original draft, Conceptualization. **Lovleen Bhullar:** Writing – review & editing, Writing – original draft, Conceptualization. **Iva Peša:** Writing – review & editing, Writing – original draft, Conceptualization. **Matthew J. Dennis:** Writing – review & editing, Writing – original draft, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Data availability

No data was used for the research described in the article.

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