



# The Right to Climate Adaptation

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## Abstract

The Intergovernmental Panel for Climate Change has over the past decade repeatedly warned that we are heading towards inevitable and irreversible climate change, which will negatively affect the lives, livelihoods, and well-being of millions of people around the world, both at present and in the future. In fact, many people, especially vulnerable and marginalized communities in low- and middle-income countries, already live with the effects of climate change in their daily lives. While adaptation – along with mitigation and compensation for loss and damage as a consequence of climate change – was identified as the central pillars of a just climate policy in the Paris Agreement it is unclear whether this entails a right to adaptation – that some people are owed, as a matter of justice, to have the ability to adapt to climate change – and, if so, what such a right would look like. In this paper, I argue that individuals and communities who are or will be negatively affected by climate change through no fault of their own should have the right to adaptation. I argue that the right to adaptation should be specified through four questions: (i) who has a right to adaptation; (ii) what is it a right to; (iii) how much is it a right to; and (iv) who has the duty to uphold the right to adaptation?

**Keywords** Climate justice · Climate adaptation · Climate responsibility · Right to adaptation · Equality

Inevitable and irreversible climate change threatens the lives, livelihoods, and well-being of millions of people around the world, both at present and in the future. In this paper, I argue that individuals and communities who are or will be negatively affected by climate change through no fault of their own should have the *right to adaptation*. Yet, it remains unanswered exactly who has the right to adaptation and what it is the right to. This paper fills this important lacuna by defining and specifying the right to adaptation. In particular, I argue that the right to adaptation should be specified through four questions: (i) *who* has a

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right to adaptation; (ii) *what* is it a right to; (iii) *how much* is it a right to; and who has the *duty* to uphold the right to adaptation? I begin by providing a general justification for recognizing the right to adaptation to climate-vulnerable and climate-affected individuals and communities, including discussing what exactly is meant by the notion of ‘no fault of their own.’ I then proceed, in the subsequent sections, to discuss the four questions in order to specify the right to adaptation in more detail. In the final section, I consider two approaches to assessing in practice whether someone has a right to adaptive assistance. While I will not be able to answer all of the questions definitively, the paper makes a significant contribution to the literature because it raises a debate about, and identifies and narrows down, what climate-vulnerable and climate-affected are owed as a matter of justice in climate adaptation and what this definition means in practice how to distribute adaptation assistance as a matter of climate policy.

## 1 A Right to Adaptation?

The Intergovernmental Panel for Climate Change has over the past decade repeatedly warned that we are heading towards inevitable and irreversible climate change (IPCC 2013; 2014; 2018; Masson-Delmotte et al. 2021). In fact, many people, especially vulnerable and marginalized communities in low- and middle-income countries, already live with the effects of climate change in their daily lives. While adaptation – along with mitigation and compensation for loss and damage as a consequence of climate change – was identified as the central pillars of a just climate policy in the Paris Agreement (UNFCCC 2015) it is unclear whether this entails a *right to adaptation* – that some people are owed, as a matter of justice, to have the ability to adapt to climate change – and, if so, what such a right would look like. In this section, I provide a preliminary outline of how the right to adaptation should be defined and who has this right. The following section situates the right to adaptation in the literature on climate justice and provides a justification for recognizing this right for climate-affected and climate-vulnerable communities and individuals.

The right to adaptation, I argue, is the right to be able to counter or lessen the negative effects of climate change that one experiences, or will be experiencing, through no fault of oneself. As such, the right to adaptation is the right to demand some kind of assistance with, or freedom to, building resilience and adaptive capacity and adapting to climate change. Consequently, it also binds someone to help with or provide this assistance. Who is owed how much of what by whom, as a matter of just adaptation, will be explored in subsequent sections.

What does the right to climate adaptation look like? According to my definition above, individuals and communities who are or will be negatively affected by climate change through no fault of their own have the right to adaptation. There are three aspects to the right to adaptation, according to this definition. First, it is a right to have the ability to counter the *negative* effects of climate change. That is, someone who already stands to benefit from climate change – the Scandinavian regions, for example, will likely see increased productivity due to longer agricultural seasons, and new plant and animal species that will be able to thrive there (Finnsson 2014) – does not have the right to (and would presumably have little use for) adaptation. The right to adaptation should be reserved for those who stand to become *worse off* as a consequence of climate change. It could be argued that this

is an arbitrary limitation of the right to adaptation: even if someone stands to benefit from climate change, they could possibly be worse off than if they also received assistance with adaptation. That seems to me to be unjustifiable, except for in fringe cases where someone destitute might benefit slightly from climate change, yet still be much worse off than everyone else. In such cases, I contend principles of socioeconomic justice should kick in, since this is a matter of someone being worse-off unrelated to climate change. The right to adaptation would make no difference in such cases.

It should also be clarified that I here take quite a wide view of what counts as the negative effects of climate change. That is, the negative effects of climate change could here mean the immediate loss of, for example, one's property or livelihood, such as in the case of a farmer's loss of crops and arable land due to drought, but also derivative consequences, such as the lack of food security experienced by city dwellers due to the farmer's immediate loss. There are two reasons for taking such a wide view when it comes to assessing the effects of climate change. First, the need to adapt to the derivative consequences are no less real than the need to adapt to the immediate impacts of climate change: because food insecurity can be causally linked to climate change, we should consider the right to alternative sources of food to be derived from the right to adaptation. Second, it can be difficult to distinguish socioeconomic causes from climate causes, even when assessing the immediate impact of climate change: are slum communities affected by climate change because there is a higher risk of heavy rainfall and hurricanes or are they only at risk because they do not have access to climate-resilient housing and infrastructure? As many climate justice theorists recognize, it does not matter – environmental and socioeconomic causes are intrinsically linked and must thus be addressed as such (Shue 1999; Gardiner 2006). As we shall see in Sect. 7, there are various challenges when taking such a wide view, however it allows us to provide a more detailed picture of when someone is worse off as a fault of their own or not.

The second aspect of this definition of the right to adaptation is that one does not necessarily need to, at present, experience the negative effects of climate change: as well as recognizing the right to adaptation of currently climate-affected communities, it also specifies those who are likely to experience these effects should, prospectively, have the right to adapt to them. What this means is that the right to adaptation does not wait around for the negative consequences of climate change to take effect before assisting communities with adaptation. Rather, it holds that even before they experience these effects – as long as they are likely to happen – climate-vulnerable individuals and communities should have the opportunity to build resilience and adaptive capacity. I provide further justification of this aspect in Sect. 3.

The third aspect of the right to adaptation holds that someone's right to climate adaptation can only be recognized as long as they are not at fault for affected by or vulnerable to climate change. This is obviously the most tricky part of the definition: what does it mean to 'be of no fault' for one's own circumstances. Unfortunately, there is no easy answer to this, but as a general guideline it means that someone is blameless for bringing about the situation that has put them at a disadvantage and should therefore be compensated as a matter of justice (Arneson 2000; Barry 2006; Knight 2013; Lippert-Rasmussen 2001, 2015). (Conversely, in some cases, where someone benefits from a situation that has been brought about through sheer luck, such advantage is unjust because it is undeserved.) Similarly, the right to climate adaptation holds that climate-affected and climate-vulnerable communities have the right to adaptation assistance if they are not affected or vulnerable to climate change because

of a conscious decision, for example, to settle on floodplains that one knows to be prone to flooding as a consequence of increased rainfall or prolonged rainy seasons.

There are obvious caveats to take into account, however, when using the phrase ‘through not fault of one’s own.’ As Anderson argues, not all choices are *real* choices and thus there are cases in which someone has brought about a situation despite not intending to (Anderson 1999). Consider, for example, the case of urban informal settlements in many African cities, which are built in climate prone zones and of poor materials that are not resilient to climate hazards. Since these informal settlements are, most often, a consequence of urban migration, it is obviously a conscious choice on behalf of their inhabitants to settle there. Yet, it is doubtful that this was a real choice due to the fact that their choice was influenced by socioeconomic circumstances, such as lack of job opportunities in rural areas, high cost of formal housing, high cost of resilient building materials, low levels of education, and in many cases poor political representation. All of these instances coalesce to cast doubt on whether inhabitants of informal settlements actually had other opportunities to settle in less climate-vulnerable places.

What this highlights is that when assessing whether someone is at no fault of their own in bringing about a climate-vulnerable situation, we need to take into consideration the historical and socioeconomic context and the presence of reasonable alternatives (Eyal 2006; Hyams 2019). While more work needs to be done in clarifying grey areas, I do contend that at least in the case of the most climate-vulnerable communities in low- and middle-income countries they are blameless for their vulnerability: not only do they have little responsibility for bringing about global warming, since emissions are primarily driven by affluent countries; they are also victims of colonialism and extractive policies that have let them with few opportunities to build the necessary adaptive capacities (Acemoglu and Robinson 2013; Dellink et al. 2009; Grasso 2010; J. T. Roberts and Parks 2006).

In sum, the preliminary and general definition of the right to adaptation that I have introduced in this section considerably narrows down how and when it should be applied. However, it still raises questions about the normative status of this right: where is it derived from and what kind of right is it? In the following section, I spell out in more detail how the right to adaptation is linked to the larger issue of rights in the face of climate change.

## 2 Climate Justice and the Right to Climate Adaptation

Why should the right to climate adaptation be a ‘right’ and where does this right derive from? The right to climate adaptation, I contend, follows from the more general right, found within the climate justice literature, to protection from the adverse consequences of climate change:<sup>1</sup> if human beings, now and in the future, have a right to *protection through mitigation* from climate changes that they have not brought about, or that they have not benefited from, then it would also be unjust to expect those who are and will be negatively affected by climate change to carry the full burden of protecting themselves through *adaptation* to climate impacts that cannot be mitigated and that they have not brought about or benefited from. Consequently, a right to climate adaptation should be recognized as a matter of climate justice.

<sup>1</sup> See, for example, Baatz (2013); Caney (2010a); Dues-Otterström (2014); Shue (1999).

## 2.1 Justifying the Right to Adaptation

It is important to highlight that although the right to climate adaptation is already a part of the general set of rights that are derived from a commitment to climate justice, the focus within the climate justice literature is, and has been, more on how the rights derived from a commitment to climate justice demands greater efforts to *mitigate* climate change (and, less so, *compensations* for loss and damage) than efforts to provide adaptive assistance. By emphasizing the need to recognize rights to climate adaptation, we are bringing attention to how these means of protection from the adverse consequences of climate change are not always sufficient. The argument proceeds in two steps: first, I show that climate justice recognizes the right to protection from the adverse consequences of climate change through mitigation and, second, how such mitigation efforts are not always effective in protecting the most climate-vulnerable and climate-affected communities. (In some cases, moreover, mitigation might also bring about further injustices that are avoided by recognizing the right to adaptation.) The first premise that supports recognizing climate-vulnerable and climate-affected communities' right to climate adaptation is the fact that existing climate justice frameworks *already* recognize the need to protect people from the (unfair distribution of the) adverse consequences of climate change. Some climate justice theorists, such as Caney (2010a), hold that such protection is a fundamental moral right, while other scholars, such as Baatz (2013), Shue (1999), and Duus-Otterström (2014), derive this right from the unjust historical distribution of the benefits and burdens of emissions and subsequent climate change. While I recognize that since everyone is likely to, or will potentially, experience some effects of climate change in the future, including threats to the rights to life, health, and subsistence (Caney 2010a), I shall here follow the latter strand of grounding the right to climate adaptation for at least two reasons.

First, the need for adaptation is situational: some people are more vulnerable to climate change and in need of adaptation, while others might never have the need for such a right. Moreover, someone might be in need for adaptation without necessarily having their life, health, or subsistence threatened. Consider, for example, the loss of cultural heritage as a consequence of the displacement and migration of peoples, including Indigenous communities, and destruction of cultural infrastructures, such as churches, libraries, and museums (Kim 2011). Clearly, the loss of such cultural heritage – although important – does not constitute a threat to people's lives, health, or subsistence (understood literally at least). Yet, it would still fall under the umbrella of a right to adaptation, for example through digitalization of books, texts, and paintings, such that they can continue to be enjoyed by the relevant cultural group(s).

Second, the latter grounding of the right to protection – whether through mitigation or adaptation – crucially highlights how climate-vulnerabilities are intertwined with structural socioeconomic and global injustices: achieving just mitigation requires attention to unjust socioeconomic aspects, taking into account inequalities about (i) who pollutes the most; (ii) who has benefited the most from past emissions; and (iii) who is able to contribute the most. Such inequalities also play a role when addressing injustices in the distribution of climate vulnerabilities and adaptive capacities because a community's climate vulnerability is to a large degree a function of, on the one hand, their exposure to climate change and, on the other hand, their adaptive capacity. In other words, global and local socioeconomic inequalities and injustices make some communities more vulnerable to climate change than

others: not only do vulnerable communities face climate hazards and risks, such as extreme weather events; they are also subject to social marginalization and poverty. Thus, although climate change *is* a global threat, as exposed by the former conceptualization of the right to protection as a fundamental human right, some communities are more in need of adaptive intervention and assistance because of existing structural injustices and socioeconomic inequalities that they have little responsibility for bringing about. The right to adaptation primarily aims to protect particularly vulnerable individuals and communities.

Of course, the fact that existing theories of climate justice recognize the right to protection from the adverse consequences of climate change, does not necessarily imply that such protection should be brought about through adaptation to climate change. Rather, we could hold that communities have the right to such protection through the prevention – that is, mitigation – of the climate threat in the first place. However, there are good reasons to hold that climate adaptation plays an indispensable role in achieving climate justice, conceptualized as the protection from the adverse consequences of climate change brought about through historical global and local injustices. I shall here focus on the primary fact that many communities around the world *already* - while many more *inevitably will* - experience the negative effects of climate change through no fault of their own. If that is the case, then mitigation cannot by itself be a sufficient means to meet the right to protection from climate change. Moreover, insofar as a focus on mitigation might prevent the protection of already climate-affected communities, it could arguably be considered to further entrench climate injustices.

Already we are seeing the consequences of mitigation failures around the world (IPCC 2018). In particular, in many low- and middle-income countries, climate change is already a reality that vulnerable communities must live with in their daily lives (IPCC 2014, Chap. 8). These consequences of climate change cannot be avoided or reversed by mitigation. Hence, these communities need assistance to adapt their lives and livelihoods to these new environmental circumstances. Moreover, despite our best mitigation efforts, the world is rapidly moving towards irreversible changes to the global and local climate at best and complete climate breakdown at worst. This means that in the (near) future many more communities and individuals, especially in low- and middle-income countries, are highly likely to be exposed to changes to the global and local environment with negative impact on their lives, livelihoods, and well-being (Green 2016; Harrington et al. 2016; Masson-Delmotte et al. 2021).

The fact that there are existing and already inevitable climate changes that (will) negatively impact many vulnerable communities around the world means that the right to protection from these damages cannot be met through mitigation efforts that focus on preventing or reducing the threat of climate change in the first place. If, as I have argued above, climate justice theorists recognize that individuals and communities have the right to protection from the adverse consequences of climate change (whether as a fundamental human right or in order to rectify historical injustices), primarily through mitigation, and if some individuals and communities are *already* experiencing (or will inevitably experience) these adverse consequences (through no fault of their own), in ways that cannot be reversed through mitigation, then we should recognize that they have a right to this protection through other means, here in particular through adaptation.<sup>2</sup>

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<sup>2</sup> Moreover, it could be argued that *failing* to recognize the right to adaptation in light of the unequal global distribution of the negative effects of climate change, and how these existing climate-vulnerabilities have been brought about through historical global injustices, could itself be considered an injustice.

## 2.2 Adaptation as a Duty or Right

Now, it could be argued that rather than being a ‘right’ climate adaptation should be conceptualized merely as a *duty*. In this sense, it is an obligation that someone has to assist directly or indirectly (e.g., through charity) those who are affected by climate change with adapting to the negative changes in, say, their livelihood or standard living. In this way, it is because we recognize that such negative changes to livelihood or standards of living are *morally bad* that a duty to assist with adaptation should be imposed on those who can provide such assistance.<sup>3</sup> However, beyond the more general debate about whether rights and duties are correlative (Feinberg 1966; Lyons 1970), there are at least two issues with conceptualizing climate adaptation merely as a duty and not (also) as a right.

First of all, it ignores the issue mentioned above that some individuals and communities that experience negative consequences of climate change have made free choices that have increased the likelihood of being impacted by climate change. Consider, for example, a hotel owner taking the calculated risk of building on a prime beachfront property and profiting from that decision for years before their hotel is swept away by the waves. As we shall see in Sect. 7, there may even be cases where someone has overall benefitted from climate change despite also experiencing a regrettable loss to their life, livelihood, or well-being. In such cases, even if we accept their losses as morally bad, it is questionable whether we have a duty to assist them with adapting to such climate impacts that are at least partly brought about through their own actions.

Secondly, though, even if we do not think that such losses are morally bad – they are after all themselves at least partly responsible for bringing about a negative impact – and hence not covered by one’s duty to assist, considering the issue of aid (in general or in relation to adaptation) merely as a duty, as Jamieson argues, risk reproducing structures of injustice. That is, because of the one-sided nature of duties, it will tend to ignore the historical and structural inequalities that have brought about the present situation; reproduce power-relations and structures of oppression; and thereby underrecognize the right to self-determination of climate-affected communities when adapting (Jamieson 2005). Consider, for example, the comparison to development aid and how it has been used to maintain structures of injustice (Easterly 2006, 2013; Kohn 2013). In other words, it is only if we also recognize climate adaptation as a right – and not merely as a duty – that we can ensure that the most vulnerable and dependent communities are free to adapt in ways that are self-determined, fair, and flourishing.

## 2.3 The Right to Adaptation as an Interest Right

If, as I have just argued, there is indeed such a right as a right to adaptation, we finally need to ask what *kind* of right that it is. We usually distinguish between *claim rights* and *liberty rights* (Hohfeld 1913). In the first case, the right to adaptation is a right to make demands on someone else, for example for carrying the costs of their adaptation or assisting with their adaptation. In the second case, the right to adaptation is the right to adapt as one chooses – that is, to be free from interference when adapting. I shall here note that the situational nature of the right to adaptation means that claim to this right can be advanced both as a claim right and as a liberty right. That is, the historical global socioeconomic structures of injustice and

<sup>3</sup> Cf. Cripps (2013).



inequality that underpin many climate-vulnerabilities arguably justifies someone to advance a claim-rights claim on those who have historically perpetrated and/or benefitted from these injustices as a form of colonial reparations (Táiwò 2022). For example, slum communities in climate-vulnerable zones could demand access to climate-resilient housing and infrastructures, the costs of which would be carried by those who have benefitted from historic emissions. On the other hand, those selfsame structures of oppression create a liberty-rights claim to be able to adapt freely from such structures of oppression. This could, for example, entail more lenient policies towards climate migrants and climate refugees (Draper 2023).

Rather than conceptualizing the right to adaptation solely as a claim right or a liberty right, I follow Gosseries (2008) in holding that the general right to protection from the adverse consequences from climate change - under which, as I have argued, that the right to adaptation falls - should be conceptualized as an *interest right*. Whereas proponents of the ‘will theory’ of rights hold that rights can only be recognized insofar as someone puts forward a claim to that right, proponents of the ‘interest theory’ of rights argue that such a conception of rights would preclude from having rights many groups, such as infants, disabled, and future generations, that clearly have certain interests in protection from climate change, yet cannot put forward a claim to have those interests respected or fulfilled. That is, according to the interest-theory of rights, a rights claim is justified insofar as someone has sufficiently weighty reasons why we should consider those interests to be inviolable as a matter of rights, such as interests concerning one’s life and well-being. Clearly protection from climate change and adaptation to unmitigated climate change fall under such special and morally weighty interests.

There are at least three benefits to conceptualizing the right to adaptation as an interest right. First of all, it provides a justification of the right to adaptation that recognizes the special interests that individuals and communities subject to the negative impact of climate change on their lives, livelihoods, and well-being have to adapt to these challenges. That is, the interest-theory of adaptation rights recognizes that these special interests have morally weighty reasons stemming from these communities’ lack of responsibility for bringing about climate change and their history of being subject to structures of oppression and global socioeconomic inequalities that have disabled their adaptive capacities.

Second, grounding the right to adaptation in climate-vulnerable and climate-affected communities’ interests, rather than their expressed will and their need to be able to enforce this right, allow us to circumvent and address existing power-relations that keep these interests from being recognized. Many climate-vulnerable and climate-affected communities belong to some of the most political disenfranchised population-groups, such as Indigenous peoples, slum communities, and youth (Byskov and Hyams 2022; Byskov, Hyams, and Oyebode 2021; Satyal, Byskov, and Hyams 2020). As a consequence, the voices of those who are most in need of adaptive assistance are routinely ignored within international and national climate policy and planning. However, if we take an interest approach, it is not necessary these communities are able to make their voices heard; it is sufficient that we recognize that they as a matter of climate justice are owed protection from climate change and that in the face of unmitigated climate change such protection should come in the form of adaptation.

Following from this, third, as we shall see in Sect. 3, it allows us to *prospectively* recognize the right to adaptation of climate-vulnerable-but-not-yet-affected communities as well as future generations, neither of which would be included under the will-theory of rights:



in the former case, climate-vulnerable-but-not-yet-affected communities might not (yet) put forward a claim to adaptive assistance, while in the latter case future generations are not (yet) able to put forward such a claim for obvious reasons. In both cases, though, we can recognize that they have a clear interest in adapting to the impacts of unmitigated climate change on their lives, livelihoods, and well-being. In sum, the right to climate adaptation is more than just a duty to provide adaptive assistance – it is a right that is grounded in the general right to protection from unmitigated climate change that one has little responsibility for bringing about and to have one’s interests recognized, respected, and fulfilled when adapting to these challenges. However, this still leaves several questions open for further specification. In particular, (i) *who* has a right to adaptation; (ii) *what* is it a right to; (iii) *how much* is it a right to; and (iv) *whose duty* is it to uphold it? In the following section, I address in turn these four questions, which can help us spell out the right to adaptation in more detail.

### 3 Who has a Right to Adaptation?

The first way in which the right to adaptation needs to be specified is in terms of *who* that should have this right.<sup>4</sup> In the previous sections, I narrowed this down to individuals and communities who (i) through no fault of their own are (ii) vulnerable to and/or already affected by (iii) the negative effects of climate change. Yet, this still leaves open whether the right to adaptation should be recognized only for those who at present are exposed to climate risks or whether would-be climate-affected individuals, including future generations, also have a right to adaptation. If it is the latter, this raises further complications that will need to be taken into account, including questions of uncertainty about levels of climate change in the future and what standard of living that the right to adaptation should be the right to have (Sect. 5).

#### 3.1 The Right to Adaptation of Climate-vulnerable and Climate-affected Communities

As mentioned in Sect. 1, many communities around the world, especially in low- and middle-income countries in the Global South, already experience the negative effects of climate change. The right to adaptation, I argued, should be recognized for communities who, through no fault of their own, are affected by climate change. This, then, would mean that at least some members of the current generation, who are at present experiencing the negative effects of climate change, have the right to adaptation. While it seems clear that these com-

<sup>4</sup> I here leave aside the question of whether non-human animals and other natural entities, such as forests, rivers, and coral reefs, that are negatively affected by climate change also have the right to climate adaptation. While this is obviously an important question, I note that it poses several unique challenges that require more engagement than can I devote to the issue here. Some challenges that requires addressing are: (i) to what extent can non-human animals and, especially, natural entities be rights-holders; (ii) what kinds of duties would such a right entail, and who would have these duties – only humans or also other animals; and (iii) what would adaptation even look like for, say, a coral reef in ways that are distinct from conservation? Because of these complexities in determining what it would mean for non-human animals and other natural entities to ‘adapt’ to climate change, I focus in the following on what humans are owed as a matter of a right to adaptation and call for more research on how the right to adaptation could be specified in the context of non-human adaptation.

munities would have a clear-cut claim to have their right to adaptation recognized, given the way the right to adaptation has been defined and grounded, it warrants further elaboration why this claim is justified.

Many communities that are already affected by climate change satisfy the necessary conditions for having their right to adaptation recognized. First of all, many of these communities are worse off due to climate change. Coastal communities experience loss of income and food due to storm surges that damage crucial infrastructures and homes (Berman et al. 2020). Inland agricultural communities experience prolonged droughts that affect the quality and quantity of crops and lead to water shortages that kill off livestock and lead to food insecurity for millions of people, such as in the case of the decade long drought in Kenya (UNICEF 2017). Droughts similarly create water shortages for poor urban populations, such as in the case of Cape Town (Muller 2019), while increased rainfall lead to flooded latrines, the contamination of drinking water, and spread of infectious diseases (Ezeh et al. 2017). Meanwhile, among mountain communities, retreating glaciers threaten water supplies that depend on seasonal glacial melt-off (Fountain and Solomon 2019). As argued above, many these consequences cannot be avoided or reversed. Hence, these communities need assistance to adapt their lives and livelihoods to these new environmental circumstances. Second, many climate-affected communities are worse off due to no fault of their own. This is so in two ways. First, global warming through greenhouse gas (GHG) emissions is not driven equally by everyone, but rather is highly correlated with income: the top 10% percent of income-earners, mainly living in affluent countries, are responsible for almost half (49%) of global GHG emissions, while the bottom half are only responsible for 10% of the global total (King 2015). Even *within* affluent countries, the distribution of GHG emissions is unequally divided between rich and poor with emission from the top 10% of income earners in G20 countries far outpacing that of the rest of their populations. Thus, the responsibility for bringing about climate change (as a product of GHG emissions), and continuing to do so, lies not with those who are most vulnerable to and affected by climate change, but rather those who are most protected against it *qua* having benefitted from industrialization and extractivist policies.

Moreover, this inequality in terms of responsibility is compounded by historical socioeconomic inequalities that have undermined these communities' capacities to withstand the effects of climate change. Global and local socioeconomic inequalities continue to be endemic and affect the extent to which individuals and communities are able to adapt to climate change. Moreover, the poor distribution of the benefits of industrialization combined with historical extractivism by colonial powers (Acemoglu and Robinson 2013) has engendered global socioeconomic inequalities that have left the Global South lacking crucial infrastructural and institutional development necessary to build resilience to climate change. Consequently, in the Global South, many individuals and communities have not benefitted from industrialization, while remaining in even more need of implementing measures to counter climate risks (Dellink et al. 2009; Grasso 2010).

If, as argued in Sect. 2, we recognize that the right to protection from the adverse consequences of climate change follows from a commitment to rectify past injustices, it stands to reason that climate-affected communities that have been negatively impacted through no fault of their own has a right to climate adaptation since such protection cannot be provided by mitigating the risk.

This argument can also be extended to the recognition of the right to adaptation of communities who are not yet affected by climate change, but who will in the near future experience the negative consequences of inevitable and irreversible changes to the global and local environment: insofar as these climate-vulnerable communities have little responsibility for bringing about climate change (due to the unequal historical distribution of emissions and their benefits) as well as their vulnerability (as a result of historical colonialist and extractivist practices), and since climate mitigation would not ameliorate their situation, they are owed protection from the adverse consequences of climate change through adaptive means (as long as we recognize the right to adaptation as an interest right, as argued in Sect. 2.3).

### 3.2 The Right of Future Generations to Adaptation

The IPCC projects that global temperatures will rise by 1.5–2 °C above pre-industrial levels by the end of the 21st Century unless current greenhouse gas emissions are greatly reduced (Collins et al. 2014; Masson-Delmotte et al. 2021). The environmental consequences of increased temperatures will be wide-ranging with climate-vulnerable future generations, especially in the Global South, likely to experience worse consequences than current generations (Collins et al. 2014; IPCC 2018). This raises the further question: does the right to adaptation only apply to current generations or do future generations also have a right to assistance? In the following, I advance two arguments to support recognizing the right to adaptation for future generations – namely, first, because climate justice theories are committed to intergenerational justice and because, following the above, we already recognize the right to adaptation for climate-vulnerable-yet-not-affected communities. I further address some complexities of recognizing the rights to adaptation of future generations.

The first argument that can be advanced in support of recognizing the right to adaptation of future generations is the fact that most existing theories of climate justice are already committed to intergenerational climate justice. Intergenerational climate justice has been concerned with what is owed as a matter of climate justice between generations, such as equal access to resources and a clean environment, and how these rights can and should be taken into account within current climate planning (Gardiner 2006; Jagers and Duus-Otterström 2007; McKinnon 2012; Page 1999, 2007; Vanderheiden 2009b). Thus, intergenerational climate justice is concerned with the fair distribution of costs, burdens, and duties between generations past, present, and future. For example, some climate justice theorists hold that the costs of climate action should be carried by those who have benefitted the most from past emissions (Jagers and Duus-Otterström 2007; Duus-Otterström 2014). In other words, it would be unfair to expect current generations who have not benefitted from past emissions to carry the costs of mitigating climate change. Similarly, we can argue that it would be unfair to expect future generations to carry the (full) burden of adapting to environmental changes, which the actions of current generations have brought about. If so, intergenerational climate justice demands that future generations have a claim on current generations to assist with adapting (for example through an adaptation fund) to unmitigated climate changes and their negative socioeconomic effects.

Second, in the previous section, I further argued that the right to adaptation should be prospectively recognized for those who are *likely* to experience these negative effects (again, through no fault of their own). This would imply that some members of the current generation, who are *not* at present affected by climate change, have the right to adaptation.

This last ‘vulnerability-clause’ opens the possibility that future generations should also have the right to adaptation: climate change is overwhelmingly likely to cause even more severe climate risks in the future. Consequently, even more communities, who might not be particularly vulnerable to climate change at present, are likely to be affected by – that is, are vulnerable to – these increased climate risks in the future. In addition, these communities are even less at fault than current generations for bringing about climate change as well as their own climate-vulnerability. If we hold, as I did in Sect. 2, that the right to protection from the adverse consequences of climate change is derived from a commitment of climate justice to rectify past injustices, then that right to protection should similarly be recognized for future generations who will suffer from past actions. For these reasons, it would be unjustifiable to limit the right to adaptation to only current generations. Just as currently vulnerable communities should have the right to assistance with building adaptive capacities, such assistance should also be extended to climate-vulnerable communities in the future.

A further challenge, though, concerns whether it is at all plausible to recognize the rights (to adaptation or otherwise) of future generations given that there is no subject, at least as of yet, that can lay claim to that right. Since the language of rights calls for a rights-holder, it is necessary that address this challenge. (Beckerman and Pasek 2001). As mentioned in Sect. 2.3, however, Gosseries (2008) proposes adopting an interest-rights approach to recognizing the rights-claims of future generations: in the same way as we hold that infants have the right to have their interests respected, even if they cannot themselves lay claim to this right, we can recognize that future generations have right to have their interest in adapting to inevitable climate change respected by current generations. Recognizing the interest rights of future generations, he argues, tells us something about the importance and purpose of the duties that they correlate to. Arguably ensuring that future generations have the opportunity to adapt to inevitable climate change is something that we would consider morally important to the extent that it warrants recognition as a right.

That said, recognizing the right to adaptation of future generation does pose challenges concerning how exactly to enforce it. For example, do future generations have the right to the same level of adaptation as current generations even if the ecological limits are lower in the future than they are today because of continued emissions and depletion of Earth’s resources – the so-called ‘baseline problem’? What duties do current generations have to assist future generations with adaptation and how can these duties be enforced? These are important questions to ask when fleshing out the right to adaptation for future generations. At present, though, it would be sufficient to hold that the right to climate adaptation should be extended to members of future generations who are vulnerable to and/or affected by climate change through no fault of their own.<sup>5</sup>

<sup>5</sup> I shall not here engage with the non-identity problem and whether we can have duties towards people who do not yet exist. For an overview of the non-identity problem, see (Parfit 1984) The reasons for this are, first, that there are already people suffering from climate change and who make claim to the right to adaptation and, second, that regardless of *who* the members of future generations are, we know with overwhelming certainty that they will face climate challenges caused by current actions. For a discussion of the non-identity problem in climate change and climate adaptation, see Broome (2012), Davidson (2008), and Heyward (2008) For general overviews of the problem, see Roberts (2021) and Meyer (2016).

## 4 What is the Right to Adaptation a Right to?

The second specification to the right to adaptation that we need to make concerns *what* it is a right to. Sure, it is the right to have the adaptive capacity to withstand or ameliorate the negative effects of climate change on one's life, livelihood, or well-being. Yet, that does not tell us much about *how* such adaptive capacity is achieved in the first place. Thus, the more appropriate question would be: what do people need to build adaptive capacity? In the following, I assess three ways in which this question can be answered, namely resources, public goods, and capabilities (Daniels 1990).

### 4.1 Resources and Primary Social Goods

The first, most tangible thing that the right to adaptation could be the right to are the *resources* needed to build resilience and adaptive capacities. Resourcism as a concept of well-being holds that individuals are better off the more or better resources they have because it allows them the resources to pursue what they value in life. (Dworkin 1981) Resources as a measure of well-being is often associated with financial means, such as GDP – that is, a country's inhabitants are often said to be better off the higher the GDP – however, other transactional means, such as in-kind goods, and natural resources may also be used as a measure. In the context of climate adaptation, land erosion and soil degradation as a consequence of climate change can be seen both as a depletion of a natural resource (i.e., arable land) that affects a community's access to in kind goods (i.e., crops) and financial resources (i.e., income from the sale of crops).

While resourcism is thus concerned with the material basis of well-being, Rawls (1999, 78–81) has argued that well-being, in addition to income and wealth, also depends on *primary social goods* – immaterial goods, such as civil and political rights and freedoms, and the social bases for self-respect (Rawls 1999, § 67). Several authors have shown how the impact of climate change is exacerbated by the lack of access to primary social goods, such as institutional protections and social security (Adger 1999, 2003; Adger and Kelly 1999). Procedural justice – the ability of climate-vulnerable communities to be recognized and represented within climate adaptation planning and policy processes – is essential to ensuring successful climate adaptation and is often undermined by epistemic injustices (Schlosberg 2012; Byskov, Hyams, and Oyebode 2021; Byskov and Hyams 2022). Satyal et al. (2018; 2020), for example, show how Indigenous peoples (here focusing on the Batwa people of Uganda) often lack political status that leave their adaptive needs unmet and in many cases worse.

Although both resources and primary social goods are essential aspects of successful adaptation to climate change, the question is whether these are the correct ways to conceptualize what people are owed as a matter of a right to climate adaptation. The main problem with the resourcist and primary social goods approaches to adaptation is that the kind of adaptation that different communities would need varies drastically according to the climate threat faced as well as the socioeconomic context. Climate change can affect people's lives, livelihoods, and well-being in many different ways (Kronlid 2010, 2014). For example, extreme weather conditions may make a region uninhabitable so as to force climate migration, undermining local inhabitants' ability to live in that region. Or droughts might make a plot of land unsuitable for agricultural cultivation, thereby undermining the landowner's

capability of supporting his family. Melting ice glaciers leave mountain communities with lack of access to water reservoirs. There are few ways in which a list of resources and primary social goods necessary for adaptation could meaningfully cover all of these climate threats and socioeconomic contexts. Moreover, it fails to take into account the different ways in which someone might want to adapt, including migration and changing of livelihood – that is, how they are actually able to adapt given a set of resources and goods.

## 4.2 Capabilities for Adaptation

While both resources, such as building materials for climate resilient housing, and primary social goods, such as access to clean drinking water, are indeed important for adapting to climate change, they cannot be the end-all of a right to adaptation because of the different needs that different individuals and communities have, including the need to be able to choose between alternative adaptation options. Consequently, we need a flexible concept of adaptation that abstracts from the particular needs and values of the individual or community adapting, yet which is still able to take these into account. I propose that such a flexible concept can be provided by the notion of capabilities for adaptation.

In general, the capability approach is a normative framework that holds that human well-being should be conceptualized in terms of capabilities and functionings (Robeyns and Byskov 2020; Robeyns 2017). Capabilities are the real, or substantive, freedoms that someone has to do or be certain things, such as getting an education or being well-nourished. Functionings denote capabilities that have been realized: one can have the capability – that is, substantive opportunity – to eat yet choose not to exercise this opportunity, and thus one does not have the realized functioning of having eaten. In terms of climate adaptation, the capability approach measures climate impact in terms of how climate change affects the substantive opportunities that people have in life, such as travelling, being healthy, feeling secure, getting an education, having children, and so on.

Consider, for example, how ocean acidification affects human capabilities, both locally and globally. Ocean acidification occurs when oceans absorb carbon dioxide from the atmosphere, disrupting the chemical balance in ocean and coastal waters and putting stress on marine ecosystems by creating “conditions that eat away at the minerals used by oysters, clams, lobsters, shrimp, coral reefs, and other marine life to build shells and skeletons” (Fisheries 2023). Such loss of marine ecosystems will negatively affect the livelihoods of communities that depend on fishing or marine tourism for their income and sustenance. Often the loss of these livelihoods cannot be replaced as these communities are primarily situated in the poorest and least developed countries with little access to agricultural alternatives. More wide-ranging, the loss of marine biodiversity will affect the access to nutrition and food security of the more than a billion people around the world who rely on food from the ocean. In short, ocean acidification threatens several capabilities, including the immediate loss of livelihood and nutrition, but also derivative capabilities, such as being healthy (because health depends on adequate nutrition); education (because education often depends on adequate health and income); and future opportunities in life, such as being sheltered and having adequate income (because buying or renting a house requires adequate income and having an income depends on being able to live in an area where there are adequate job-opportunities). Combine this with the additional climate threats for coastal communities, such as rising sea levels and increased risk of storm surges that are likely to

damage or destroy crucial infrastructures, affecting capabilities to be sheltered and to move around, and we can see how just one aspect of climate change – here in the context of coastal communities – can have wide-ranging consequences for the capabilities of human beings.

In this ways, the notion of capabilities highlights that the right to adaptation should not merely supply people with the necessary goods and resources to adapt, but rather provide adaptive *opportunities* that someone can choose from, including helping migration to a less climate-affected area or more resilient housing or providing education in order to change to a more climate-resilient livelihood, for example from the farming or fishery industry to the service industry. There are two main benefits to adopting the capability approach to conceptualize what it is that people are owed as part of a right to climate adaptation.

The first benefit is the *conceptual framework* that is provided by the notion of capabilities (Schlosberg 2012). Capabilities are what we refer to as *substantive opportunities* (Byskov, Kramm, and Östlund 2020). A substantive opportunity is distinct from a mere opportunity because it emphasizes that in order for someone to exercise that opportunity, they are subject to certain conversion factors that enable or disable this opportunity. These factors can be categorized as personal (e.g., one's physical and mental health and capacities), social (e.g., social norms and political rights, access to crucial services), and environmental (e.g., access to physical infrastructures). A girl can, for example, turn the resource of a bicycle into the capability of biking if she knows how to bike and has two legs (personal conversion factors); lives in a society where women are allowed to bike (a social conversion factor); and has access to decent roads to bike on and clean air to breathe (environmental conversion factors) (Crocker and Robeyns 2010).

To illustrate in the context of adaptation, recall the example of a coastal community exposed to ocean acidification, rising sea levels, and/or increased risks of storm surges due to climate change and how these threats negatively affect their capabilities. Consider, now, how the inhabitants of this community might notionally have the opportunity to adapt: for example, they can move to the city to pursue jobs in the service industry; they can migrate to more prosperous or less climate-affected regions; or they can adapt to a different income source, such as tourism, in the same place. However, the notion of capabilities as substantive opportunities might reveal how these adaptation alternatives are not realistic – or, that is, substantive – insofar as the necessary enabling and disabling conversion factors are not present or absent: moving to the city to pursue a service industry job might not be feasible if they cannot afford the more expensive accommodation there or if they do not have the necessary level of education to work in the service industry (personal conversion factors); migrating might not be realistic if the migration route is dangerous or if there are strict immigration laws in the recipient country (environmental and social conversion factors); while tourism might not be a feasible alternative if the area does not have the necessary infrastructure or is not attractive to visitors (environmental and social conversion factors). What this means is that in order for someone to have the substantive opportunity to adapt to climate change, they cannot merely be provided with certain resources, services, and rights. On this view, resources and goods are merely means to an end, namely the substantive opportunity to adapt. The notion of capabilities can help us identify what someone needs in order to have the substantive opportunity to adapt, taking into account the different circumstances (i.e., conversion factors) that they are subject to which might be diverse and dependent on the personal, social, and environmental context.



In addition, from a conceptual perspective, the notion of substantive opportunity can help us see that someone's capability to adapt to climate change can be more or less *robust* (Byskov, Kramm, and Östlund 2020). Consider, for example, how someone might have the capabilities to migrate to either of two different countries *A* or *B*. These opportunities might both be substantive in the sense that the person in question has the means to get there, they are likely to survive the travels, there are laws permitting climate migrants to settle there, and the current political environment is welcoming to climate migrants. However, we can imagine that the political climate of country *A* is much more volatile than in country *B* and that after the upcoming elections country *A* is likely to see a more nationalist government with an agenda to curb immigration. Insofar as such a political change puts the migrant-friendly laws and social discourse in country *A* at risk, we should say that our would-be climate migrant has a less robust capability of adapting through migration to country *A* than to country *B*. When determining what someone has the right to as part of the right to adaptation, it thus becomes essential to take account of the robustness of the adaptive opportunities that someone is provided with in order to avoid temporary fixes in place of more robust adaptation measures.

The second benefit of conceptualizing the right to adaptation through the notion of capabilities is the *normative commitments* that follow. This is so in two ways. First, a capability approach to climate adaptation entails a normative commitment to ensure that climate-affected individuals and communities have the substantive opportunity to adapt. In other words, the right to adaptation is the right to have the necessary means and conversion factors that allows one to adapt in a particular way if one so chooses.<sup>6</sup> While providing the necessary resources and primary social goods that enable adaptation is crucial, these are insufficient to fulfill the right to adaptation insofar as, as we have just seen, there are other necessary enabling factors missing or disabling factors present. Western countries would hardly have fulfilled their duty to provide adaptive assistance by providing climate migrants with the means to migrate if they do not also ensure that there are laws in place that recognize climate migrants as a form of climate refugees. In this way, a capability approach to adaptation is normatively more demanding than resourcist or primary social goods approaches.

Second, it entails a normative commitment to recognize and, within reason, accommodate the agency of climate-vulnerable and climate-affected communities when adapting. The capability approach is committed to human agency as a matter of justice: it recognizes that people have different needs and values, and that people should have the freedom to pursue different goals in life (within reason) (Crocker and Robeyns 2010). That is, the capability approach holds that there are many legitimate ends that people may have in life, some of which are more fundamental than others, and that people are owed a range of capabilities from which they can choose (Nussbaum 2011). Applied to the right to climate adaptation, this entails a normative commitment to – within reason<sup>7</sup> – accommodate different adaptive choices. Taking, again, the coastal fishing community hit by climate change as an example, recognizing the rights to adaptation of its inhabitants requires providing education and hous-

<sup>6</sup> That said, one could adopt an incremental view of 'substantiveness' according to which one is owed more or less of the capability to adapt. One of the main distinguishing features of the capability approach, though, is how capabilities are binary: either someone is able to exercise this opportunity or not. For a discussion of the distinction between the incremental and binary views of capabilities, see Byskov, Kramm, and Östlund (2020, 19–21).

<sup>7</sup> What is considered 'reasonable' and how this should be decided, though, is disputed within the capability literature. For an overview of this debate, see for example Byskov (2018) and Khader and Kosko (2019).

ing for those adapting by pursuing service industry jobs in the city; implementing laws that recognize the refugee-status of climate migrants for those adapting through migration; and building the necessary infrastructure that would allow those staying in place to pursue different livelihoods.

In sum, the capability approach is both conceptually and normatively better able to accommodate the complex nature of what it is that climate-affected individuals need when adapting to climate change than alternative approaches, such as resources and primary social goods. This includes attention to the various contextual conversion factors that affects one's adaptive capacity as well as recognition of the various agential adaptation goals of adapters. Accordingly, when answering what it is that the right to adaptation is a right to, I argue that it should be the right to have the capabilities (i.e., the substantive opportunities) to adapt, within reason, in various ways according to one's needs, goals, and interests.

## 5 How much Adaptation is the Right to Adaptation a Right to?

The third specification to the right to adaptation that needs to made is *how much* adaptation they have a right to. What threshold of adaptive capacity are people owed as a matter of justice?

There are two primary conditions that a justifiable threshold for adaptation should be able to meet. First, it should obviously be able to ensure that individuals and communities are sufficiently able to adapt to the climate challenges that they face. Second, a threshold for adaptation should not exceed ecological limits, at least in the aggregate (Green 2021; Pinto 2021). Every year, we are currently consuming 1.5 times more of the Earth's resources than it can replenish, while production and consumption emit more carbon into the atmosphere than it can absorb. This is obviously unsustainable and the right to adaptation should accordingly be limited to providing only what is necessary *within* the ecological limits, for example through the implementation of personal carbon allowances (Caney 2010c, 2012; Caney and Hepburn 2011; Vanderheiden 2019.) That is not to say, though, that *individual* and *short-term* excess should not be allowed where it is needed for adaptation as long as this excess is compensated for by a similar decrease in someone else's ecological consumption and carbon emissions (Hyams and Fawcett 2013).

I propose that the right to adaptation should provide the minimally sufficient means for climate-vulnerable and climate-affected individuals and communities to adapt such that they are not significantly worse off. This is so in two regards. First, the right to adaptation ensures that people are not worse off than they would have been had they not been affected, through no fault of their own, by climate change. It *does not*, conversely, entail the right to more than they need for adaptation. For example, if the need for food can be met by providing either cereal or caviar, the less expensive option – all other things, such as nutritional value, being equal – is preferred.

Yet, this minimal, sufficientarian threshold ignores that the climate-vulnerability of many communities are brought about in the first place by local and global socioeconomic inequalities and injustices. In other words, it ignores *why* climate-vulnerable communities need more adaptive assistance than more resilient communities. Climate-vulnerability is largely a function of socioeconomic inequality in which poor and marginalized communities lack resources to build climate resilience, rights to influence climate policy, and opportunities to

adapt. Historically, this situation is a legacy of colonialism and extractive policies, which saw colonial powers removing, and in turn benefitting themselves from through industrialization (and, hence, emissions), resources from their colonies without reinvesting them in resilient infrastructures and democratic institutions – all of which are necessary to create climate resistance (Acemoglu et al. 2001; Acemoglu and Robinson 2013; J. T. Roberts and Parks 2006; Táiwò 2022).

Hence, more demandingly, stating that the threshold to adaptation should not make someone ‘significantly worse off’ should be interpreted such that the right to adaptation should ensure that climate-affected communities are not significantly worse off than less vulnerable individuals and communities that have contributed to and/or benefitted from extractive policies and excess emissions. This would require prioritizing the needs of the already worst-off and even addressing *existing* socioeconomic inequalities and injustices and not only inequalities arising from the asymmetrical impact of climate change. It would also allow for the most climate-vulnerable communities to consume excess emissions until they reach the acceptable adaptation threshold,<sup>8</sup> imposing a duty on less vulnerable communities and more affluent communities to reduce their emissions in order ensure aggregate ecological sustainability. (See Sect. 5 for a discussion on who has the duty to uphold the right to adaptation.)

In this formulation of the threshold for how much one is owed as a matter of the right to adaptation, I follow Casal (2007) in holding that a sufficiency threshold is not (always) sufficient to satisfy the right to adaptation. Rather, it requires a combination of distributive principles, including sufficientarian principles (that they have *enough* to adapt) with prioritarian principles (that the worst-off should be prioritized), egalitarian principles (that they should be compensated such that they are not significantly worse off), and limitarian principles (excess to ensure adaptation should come at the expense of limiting excesses of more resilient and less vulnerable communities).<sup>9</sup>

Crucially, this threshold for the right to climate adaptation satisfies the two conditions set out above. First, it ensures that climate-affected communities are not worse off as a result of climate change, but that they are sufficiently compensated both for their (expected) losses due to climate change as well as for historical extractive policies bringing about global inequality and climate-vulnerability. Second, the threshold respects ecological limits. The threshold for the right to adaptation does not provide a right to achieve a standard of living as part of adaptation that is equal to current unsustainable standards. Rather, raising the standard of living through adaptation for climate-vulnerable and climate-affected communities should be accompanied by a reduction of the living standards of more affluent communities in order to ensure ecological sustainability.<sup>10</sup> Even where excess emissions are required to build adaptation, the threshold holds that this should be short-term only until sufficient adaptation has been achieved and be outweighed by an equal reduction of emissions of less vulnerable communities.

<sup>8</sup> Do note, however, that some researchers are working on ‘reviving’ more sustainable pre-industrial adaptation practices, such as Indigenous crops or raised fields. See, for example, IIED (2016), Mukerjee et al. (2013), Swiderska et al. (2016), Erickson (1988), Lombardo et al. (2011), and Stab and Arce (2000).

<sup>9</sup> For an exploration of how these different principles can be combined, see Casal (2007).

<sup>10</sup> I shall not here provide an in-depth argument for why it is justified to limit how much people have and what they can do out of a concern for ecological sustainability. For examples of such an argument for ecological limits, and how they can be applied in practice, see Dobson (2016); Hayward (2013); Holland (2008, 2014); Green (2021); Robeyns (2019); Pinto (2021); Vanderheiden (2009a, 2019).

## 6 Who has the Duty to Uphold the Right to Adaptation?

Finally, a right is scarcely a right unless someone has the duty to uphold that right. (Carens 1986) As Lyons argues, “[i]t is commonly held that rights “correlate” with duties. By this is usually meant that rights imply duties (even if not all duties imply rights) and also that claims of individual rights need not be recognized unless backed by proof that corresponding obligations obtain” (Lyons 1970, 45). Thus, the third way in which the right to adaptation needs to be specified asks: if people have a right to adaptation, who has the corresponding duty, or obligation, to protect and uphold that right? On a superficial level, we should of course insist that this is the duty of national and international governance bodies, especially as pertaining to developmental and environmental matters. We usually entrust governments and international governance bodies, such as the United Nations, with enacting and enforcing policies that protect their citizens by upholding their (human) rights. Similarly, we should expect governance bodies with implementing adaptive policies and plans that uphold the right to adaptation for climate-vulnerable communities.

Yet, institutional responsibilities like these do not necessarily ensure that the distribution of duties is *just*. In other words, what is it that makes someone morally responsible for upholding the right to adaptation? In the previous section, I briefly mentioned that a threshold for adaptation needs to take into account *why* some individuals and communities are more vulnerable to climate change. I argued that in order for climate-vulnerable and climate-affected communities to adapt without violating ecological limits, their excess emissions should be accompanied by corresponding reductions to the emissions of those who have historically benefitted from and/or contributed to climate change (Batz 2013; Caney 2010b, 2011a, 2020, Sect. 5; Dues-Otterström 2014; Jagers and Dues-Otterström 2007; Gosseries 2004; Knight 2011; Neumayer 2000; Page 2008; Shue 1999, 10). In other words, when setting out duties for climate adaptation, we need to take into account historical responsibilities for bringing about (i) climate change, through excess emission, and (ii) climate-vulnerability, through extractive policies.<sup>11</sup>

In the first regard, not everyone is equally responsible for bringing about climate-vulnerabilities. Inequalities in terms of climate vulnerability are often the product of local and global socioeconomic inequalities and injustices. The poor distribution of the benefits of industrialization combined with historical extractivism by colonial powers has engendered global socioeconomic inequalities that have left the Global South lacking crucial infrastructural and institutional development necessary to build resilience to climate change (Acemoglu and Robinson 2013; J. T. Roberts and Parks 2006; Táiwò 2022). Consequently, in the Global South, many individuals and communities have not benefitted from industrialization, while remaining in even more need of implementing measures to counter climate risks, while more affluent countries are more resilient to climate change (Dellink et al. 2009; Grasso 2010). Even *within* countries, high-income households and individuals are more likely to be able to withstand the negative consequences of climate change.

<sup>11</sup> Although this section takes inspiration from the polluters pay principle and its amendments – the inherited debt principle, the beneficiary pays principle, and the ability to pay principle – more research needs to be done on whether, and how, these principles can be directly applied to the distribution of burdens, costs, and duties of climate adaptation, and not just mitigation. One addition to these principles that I allude to here is the responsibility for bringing about, or having benefitted from, the global socioeconomic inequalities that underlie climate-vulnerability.

In the second regard, not everyone is equally responsible for climate change. As shown in Sect. 2.1, GHG emissions are highly correlated with income both at the global and local levels. Accordingly, Thus, the responsibility for bringing about climate change (as a product of GHG emissions), and continuing to do so, lies not with those who are most vulnerable to and affected by climate change, but rather those who are most protected against it *qua* having benefitted from industrialization and extractive policies. Thus, when we say that governments and international governance bodies have the duty to uphold the right to climate adaptation, what we mean is that they have the duty to distribute in a just manner the burdens and costs of ensuring that climate-vulnerable and climate-affected communities can adapt. Accordingly, this would impose limits to the standards of living of those who are morally responsible for climate change by having historically benefitted from it through excess emission, and contributed to creating climate-vulnerability, through global inequality (Robeyns 2019). These limits would redistribute excess wealth and emissions rights up to the point that adaptation needs are met.<sup>12</sup>

This does raise the question, however, whether such an institutional responsibility is non-reducible and must be held by the community or society as a whole or whether it entails responsibilities or duties for the individual members of this community or society (Vanderheiden 2011). While fully addressing this question is beyond the scope of this paper, I propose, following Gardiner, that the problem can be overcome through a *delegated responsibility model* (Gardiner 2017). According to this model, responsibilities are delegated on two levels. On the ‘origin level’ individuals who have benefited from or contributed to climate change, and is able to exercise this responsibility, *do* have a duty to provide adaptive assistance. However, it is necessary to recognize that individual actions are likely to be ineffective unless they are exercised as a collective. Consider, for example, how requiring individual actors to provide aid to climate-affected individuals and communities would likely lead to disparate efforts that are insufficient at ensuring their substantive opportunities for adaptation, while this lacks mechanism for enforcing individual actors to exercise their duties. Thus, according to the delegated responsibility model, there is a second level of responsibility, namely the *delegated (or discharged) level*. Responsibilities, Gardiner argues, should be delegated to a collectively-sanctioned agent, such as a national, international, or supra-national governance body who can fulfill the right to adaptation of climate-affected communities on behalf individual agents. Discharging this delegated responsibility might come in the form of establishing an adaptation fund and distributing its resources according to the right to adaptation as defined and specified in this paper.

In sum, individuals and governments that have benefitted from, or contributed to, climate change also have a duty to provide assistance to the individuals and communities that suffer the negative consequences of climate change. In this section, I have argued that we can adopt a delegated model of distributing these duties: whereas individuals do have a duty to provide adaptive aid, such aid is best administered at the collective and institutional level and according to the principles of the right to adaptation. However, this still leaves the issue of how we should assess someone’s claim to have the right to adaptation. I consider this in the following section.

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<sup>12</sup> It is beyond the scope of the right to adaptation, and thus this paper, to answer whether they will be able to spend as they like their excess wealth and emissions *after* their duties have been discharged as this is a more general distributive justice question.

## 7 Assessing Someone's Right to Adaptation

The above discussion makes clear that there are several considerations that goes into how someone's right to adaptation is assessed and determined, including the extent to which they will be worse off or benefit as a result of climate change; the extent to which they are vulnerable to climate change as a result of their own choices or circumstances out of their hands; the extent to which they have benefitted from past emissions; and the extent to which they are responsible for bringing about climate change through their own emissions. This requires weighing off these different considerations against each other and obviously make any assessment of whether someone has the right to adaptive assistance highly complex.

In the following, I discuss two ways in which such an assessment can be made in practice. The first determines the right to adaptation based on an overall assessment of someone's net gain/loss and responsibility across all climate risks that they face, while the second establishes adaptation rights for each climate risk that will negatively affect them. In this way, someone might have the right to adaptation in one case where they stand to lose through no fault of their own, yet not have the right to adaptation in other cases where they stand to benefit from that particular climate risk (even through no fault of their own) and/or is responsible for bringing the risk about. I shall not here make a determination about which of these ways is the right one, however, as there are benefits and disadvantages to each approach.

Note, in the examples that I provide, the main gains and losses are primarily economic (and binary) in order to make the comparisons more clear-cut to the reader. Losses and gains from climate change can of course be of a different nature, both tangible (e.g., building material, natural resources, inhabitable land) and intangible (e.g., social relations, cultural heritage, livelihood opportunities), which make the assessment of someone's right to adaptation more complex. Moreover, some losses due to climate change might be difficult to impossible to adapt to or compensate for: whereas inhabitants of Pacific islands lost to rising sea levels might have a claim to territory elsewhere (Draper 2023, Chap. 4), the loss of sacred land might be irreplaceable for Indigenous communities. It is plausible to hold that such irreplaceable losses should add more weight to one's claim in the below assessments. However, there is no reason to believe that such loss is no less regrettable than the loss of one's ancestral land in the case of the Pacific Island communities. Rather, I hold, whether and how we can compensate for irreplaceable losses is more a concern for what and how much one is owed as part of loss and damage compensations (Huq et al. 2013; E. A. Page and Heyward 2017). The right to adaptation, in contrast, is concerned with what *can* be replaced, otherwise we would have a claim to adaptation to a loss that cannot be adapted to, which is self-contradictory.

Before we proceed, however, it is necessary to emphasize that the assessment of a rights-claim to adaptation is not necessarily an either/or-proposition: it is not (always and necessarily) the case that someone is fully responsible for bringing about one's own predicament and thus one should therefore not have one's claim to adaptive assistance recognized. Rather, as I hope to have shown and as we will see, assessing a claim to adaptive assistance is a complex matter that involves many different factors and contingencies, some of which can be attributed to the claimant, some to other actors, and some to circumstance, and often only in part to some or all of these. Consequently, the following kinds of assessments should be regarded as *sliding scales* in which one can be more or less at fault for bringing about a negative impact on one's life, livelihood, or well-being. Someone deemed more at fault

would then be entitled to less assistance than someone deemed not at fault, yet still be owed more than someone deemed to be completely at fault.

The first way in which someone's right to adaptation can be assessed is as an *overall* comparison resulting in a net gain/loss assessment. That is, if one stands to lose more than they gain and/or than what they owe as a matter of responsibility for bringing the risk about, then one has a right to be accordingly compensated for one's adaptation costs. The benefit of taking the overall approach is that it will not recognize the right to adaptation assistance to someone who experiences a small loss from climate change in one regard yet stand to gain much more in another such that they experience an overall net gain. In such cases, according to the overall assessment, the gains outweigh the losses to the extent that no adaptation assistance is owed. This approach would thus avoid reproducing existing climate injustices in which those who are responsible for bringing about climate change are also more likely to gain from it, despite experiencing minor losses. Consider, for example, how an industrialized farming corporation in the American Midwest might experience a minor loss of crops due to the increased risk of extreme weather events, such as tornadoes and hailstorms. Despite these losses, however, the farming corporation has been able to take advantage of industrial developments, such as emissions heavy practices and machinery, whereas droughts cause crop shortages in other parts of the world, putting their competition out of business. As a result, the farming corporation is able to increase their prices and make major gains that far outweigh their crop losses. On the overall assessment, this corporation would not be owed assistance for its minor crop loss because of its net gain in terms of increased crop prices, which has come about as a result of existing unfair advantages.

However, the overall approach can obscure great losses that are only marginally outweighed by gains in another area, which would be revealed by taking a more particular approach that focuses on whether someone is owed adaptation assistance in relation to each climate risk that they face. Moreover, because it provides a more granular assessment that distinguishes between the *kinds* of climate risks that are faced, the particular approach can reveal how different kinds of adaptive assistance are needed. Consider, for example, the owner of a water-front hotel in Cape Town who has also inherited some shares in a company that produces high-tech irrigation systems. Rising sea levels are likely to erode the ground that the hotel stands on, eventually leading to the collapse of the building and thus putting his main income at risk. (We could further imagine that at the time of building the hotel, there was little clarity of the risk that climate change would pose on his property, such that the hotel owner is of little fault for this loss.) However, increasing temperatures and periods of drought also leads to a greater demand on high-tech irrigation systems and thus greater returns on his investments in the high-tech irrigation company. On the whole, though, these returns only marginally outweigh the loss in income that the hotel owner will experience from the loss of his hotel, while there is a risk that the market for high-tech irrigation systems will become saturated to the point that he will no longer see any gains from his investments. The particular approach to assessing someone's right to adaptation would – *pace* the overall approach – recognize a right to adaptive assistance to the hotel owner.

The problem with the particular approach, though, is the converse of the disadvantage of the overall approach, namely that it will recognize a right to adaptation for anyone experiencing a loss, however small, in relation to a certain climate risk *even if* they will make a much larger gain somewhere else. Consider, for example, how the hotel owner might see the returns on his inherited shares actually prove much greater and longer lasting than



the loss he will experience from the destruction of his hotel and, consequently, decide to become a full-time investor. In such cases, it seems that the particular approach will result in an unfair double compensation: first, for the relatively minor loss of income from his hotel and, second, by allowing him to keep the full amount of the windfall from his shares that came about through brute luck (i.e., because they were inherited). Why should the hotel owner receive adaptive assistance to rebuild his hotel, or make it more resilient, if he has no interest in continuing to run his hotel business? Even *if* he was interested in making his hotel more resilient to rising sea levels, should we not insist that he uses unearned windfall from his shares to do so?

It would finally be worthwhile to highlight that there might be hard – though, I contend, not impossible – cases to resolve. Consider, for example, coastal inhabitants of the Netherlands, a country which faces catastrophic flooding from rising sea levels and extreme rainfall. Clearly, these communities will likely need to adapt sooner or later. Yet, it is unclear to what extent that they are owed the right to adaptation as I have developed it in this paper, namely as a form of rectification of past injustices that have brought about climate-vulnerabilities and lack of adaptive capacities. On the one hand, many of these communities are not directly at fault for their own predicament; yet, on the other hand, the Netherlands is a former colonial power and these communities have arguably benefitted from the extractivist policies (in addition to emissions) that have created vulnerabilities other places in the world. While a precise determination of what Dutch coastal communities are owed as a matter of the right to adaptation requires more research beyond the scope of this paper, I contend that such situations are not unique and the determination of one's right to adaptation will in most cases require a complex weighting of the factors just mentioned, namely, amongst other factors, contribution to and benefits from emissions; one's own responsibility (e.g., settling in a climate-exposed zone); and (expected) losses and gains from climate change. Assessing someone's claim to have the right to adaptation and what, and how much, that entails is not, unfortunately, meant to be clear-cut and more research needs to be done in regards to how these different factors should be weighed according to normative theories, societal values, and empirical data.

In sum, assessing whether someone has a right to adaptation is not always clear-cut. Crucially, this assessment depends on whether we are willing to compensate someone from each loss they will experience due to climate change, regardless of their socioeconomic status or their responsibility for bringing about climate change, or whether we think that a loss should not be compensated as long as it is outweighed by a greater gain and/or greater responsibility for bringing about climate change. The normative commitments and further implications of taking each of these proposals need to be unpacked and discussed in greater detail than is possible here.

## 8 Concluding Remarks

Inevitable and irreversible climate change call for the introduction of a right to climate adaptation that would allow climate-affected and climate-vulnerable individuals and communities to withstand or ameliorate the negative effects of climate change. In this paper, I have proposed to specify such a right to adaptation by addressing four questions, namely (i) *who* has a right to adaptation; (ii) *what* is it a right to; (iii) *how much* is it a right to; and

(iv) *whose duty* is it to uphold it? I have provided preliminary responses to each of these questions. More research is needed, however, especially in terms of how the right can be extended to future generations; what kind of adaptation that the right provides for animals; whether the right can be extended to non-sentient animals and natural entities; and how the duties to uphold the right to adaptation can be enforced, including through which mechanisms current generations can assist the adaptation of future generations.

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