

# **Climate Justice, the Capabilities Approach, and Potential Policy Implications**

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## INTRODUCTION

The task in this essay is rather straightforward: to explore how a capabilities approach to justice can be applied to a conception of climate justice, and to begin to lay out how such an approach can then frame policy responses on adaptation to climate change. The point is to explore how climate justice, in both theory and practice, can include but exceed primarily distributive frames, and address the broad impacts of climate change on the ability of human communities to function.

The argument here has a number of elements. First, recent climate justice literature has begun to move away from a singular focus on equity-based approaches, and into issues of environmental and development rights. While these rights-based notions are important developments in that they begin to focus on people's everyday lives, I argue that a capabilities approach to justice can both encompass and clarify a range of issues central to this recent literature. Second, a notion of climate justice based in capabilities can accommodate the wide-ranging demands of climate justice movement groups. This is not only about the issues raised by these groups, but also about the subject of justice itself, which is often the community as well as the individuals within it. Third, and finally, the argument here is that a capabilities-based framework for adapting to climate change can better fit the different vulnerabilities diverse communities will face in the coming years.

The essay begins with an overview of current theories of climate justice, ranging from those focusing on historical responsibility, to those based on equitable pollution shares, to those that espouse development and environmental rights. I will then lay out a basic overview of the capabilities approach to justice, as developed by Amartya Sen and Martha Nussbaum. A discussion of the demands of the climate justice movement follows, and those demands are put into a capabilities framework. I then present an argument for how the capabilities approach can be expanded to include concerns for both human and non-human functioning. And, finally, I lay out, in admittedly broad strokes, potential policy implications of this framework.

## RECENT THEORIES OF CLIMATE JUSTICE

It would not be possible to do a thorough overview of the range of theories of climate justice in the space I have here; I simply want to discuss a few key recent approaches and contrast them with a capability-based way of thinking about climate justice.

In his overview of the ethics of climate change, Gardiner (2004: 578) makes clear that the "core ethical issue concerning global warming is that of how to allocate the costs and benefits of greenhouse gas emissions and abatement." Illustrative of this approach, Shue's (1993) contributions very early in the climate justice debate laid out four subcategories of distributive fairness, addressing the allocation of costs of preventing avoidable change, the allocation of the costs of adapting, the allocation of the background wealth that would allow countries to participate in fair bargaining of the issues, and the allocations of greenhouse gases themselves. This ethical outline regarding distribution has been easily translatable into various policy suggestions and legal frameworks.

Many of the early discussions of climate justice focused on historical responsibility. The central argument of this approach is that there are specific actors and development practices that have brought us to our current position, and who should now

pay for their past transgressions. The idea is a basic polluter-pays principle that puts the burden squarely on long-industrialized nations. This is a common approach from not only the south and developing countries (for example, Agarwal, Narain, and Sharma 2002), but also from key philosophers and economists on the issue (for example Shue 1999, Neumayer 2000). Critics have responded that the approach is too backward-looking, or, more substantively, that some of the guilty actors may not have realized the damage they were doing – at least not until relatively recently. Many also criticize the approach for not being very politically pragmatic; clearly, developed countries and those most responsible for GHG emissions do not want to accept such broad responsibility.<sup>1</sup>

An alternative approach to climate justice is a per-capita equity argument, popularized by both Singer (2004) and Jamieson (2001). They each suggest a theory of climate justice based in current equality rather than past responsibility. The argument is to give everyone an equal slice of the greenhouse gas emission pie, or an equal “share of the capacity of the atmospheric sink” (Singer 2004: 43). The concept would require a scientific agreement on the total amount of GHG emissions we can continue to allow. We would then divide that amount by the total world population, and the result would be a per capita emissions allowance for each person on the planet. Each country, then, would be allowed to emit the sum of their population times the allowable emissions per person. Singer supplements this with a cap and trade system, whereby countries that need more than their per capita allowance can buy allowances from those who emit less. In essence, this system would result in both lower emissions overall and compensation to those less developed nations who use less than the per capita share. It would require both equitable consideration and a type of payment scheme that could satisfy those that would like the more historically responsible to pay a greater share of the cost of climate change.

There are a number of critiques of the per capita allowance idea. It could be an incentive to increase population, which would defeat the purpose of the agreement, but that could be dealt with by setting a past date for population, or using a UN projection. It has also been called politically unrealistic, but we might as well admit that, at this point, this is going to be a critique of any proposal. My own particular critique of the per capita approach, however, is that it does not take the different needs of people living in varied places into account; in its equal distribution of emission shares, differences of place are simply dismissed (see Singer 2008). Yet living in unlike places and environments, and with different ways of life with varied needs, means that we might consider differential allocations, more locally defined. The capabilities approach, as I will argue, offers a response to this concern about difference, which will be particularly crucial as we turn toward frameworks of adaptation.

While the per capita equity approach has found some favor in the both the ethics and policy fields, other recent approaches to climate justice focus more on individual rights and differentiated responsibilities. Caney (2006) offers the very important insistence that all people have a right not to suffer from climate impacts that undermine their basic interests. Crucially, all individuals *also* have the burden, duty, and responsibility associated with protecting that right of *others*. Caney’s proposed climate justice model (Caney 2005), like the per capita model, insists that we have a duty not to exceed a particular quota of GHG emissions. That duty, however, is based on our duty

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<sup>1</sup> Hence the Bush administration’s refusal to participate in the Kyoto agreement.

not to violate the rights of others; if we do exceed our quota and, so, violate those rights, we have a duty to compensate those whose rights are violated.

A more specific rights-based approach, the development rights framework, has been offered by Paul Baer, Tom Athanasiou, and Sivan Kartha (EcoEquity 2008a). This framework is designed to stabilize climate change, but also to preserve “*the right of all people to reach a dignified level of sustainable human development free of the privations of poverty*” (EcoEquity 2008b). The idea is to protect the right to a basic level of development, or a “development threshold,” for individuals and nations, while charging countries that develop beyond that level. A climate payment would be made into a global pool to enable both the development of the less developed as well as the capacity of the global system to respond to the climate crisis.

One of the things that is promising about the development rights framework (despite the name of the organization promoting it – EcoEquity) is that it begins a move beyond a notion of climate justice based on equity alone, to one focused on what individuals, communities, and states need to develop and function. The authors do a thorough job determining current energy usage, past responsibility, and current capacity to contribute to mitigation and adaptation. My critique of this approach, however, is that the notion of a “development threshold” is operationalized solely as each individual having 25% above the level of the global poverty income. While such an income level is meant as an indicator, it neither pays attention to differences across place in terms of need, nor more thoroughly identifies exactly what it takes to “develop” other than a cash income. The development rights approach, in particular, could benefit from a much more thorough – and, again, capabilities-based – conception of development.<sup>2</sup>

Combining the approaches of Simon Caney and EcoEquity, Steve Vanderheiden (2008a, 2008b) has offered a notion of climate justice based in both environmental and development rights. Here, the development right is rearticulated as a right to have the basic environment in which human flourishing is possible; this includes a stable climate system. Vanderheiden insists that basic environmental and development rights trump other claims that are less basic to flourishing, and those that have developed are required not only not to impede others, but also to pay the full costs of their own luxury.

My point in laying out this brief history is simply to note that the Caney, EcoEquity, and Vanderheiden approaches begin to conceptualize climate justice beyond a focus on equity or inequity alone. These definitions of climate justice begin to address what exactly is needed – in terms of environmental and developmental conditions – to survive, function, and develop as human beings. The focus is on how climate change makes our lives more vulnerable, and how a notion of climate justice can most directly address that vulnerability. The argument of this essay, however, is that the capabilities approach to justice gives us a much more thorough way to think about these issues of vulnerability and functioning in a conception of climate justice. This conception, I’ll argue, also best fits the climate justice movement’s various demands, definitions, and principles. Let me begin with a description of the capabilities framework.

## THE CAPABILITIES APPROACH TO JUSTICE

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<sup>2</sup> See Schlosberg 2009 for further discussion of this point.

Amartya Sen and Martha Nussbaum have developed a way of thinking about justice that focuses on the capacities necessary for people to lead fully functioning lives (Sen 1985, 1999a, 1999b; Nussbaum and Sen 1992; Nussbaum 2000, 2006). Their central argument is that we should judge just arrangements not simply in distributive terms, but more specifically in how those distributions affect the ultimate well-being and functioning of people's lives. Here, the focus of justice is not simply on distribution, but more specifically on how various goods are transformed into the capacity to flourish. For Sen, the "focus has to be, in this analysis, on the freedoms generated by commodities, rather than on the commodities seen on their own" (1999b: 74). For Nussbaum, the central question of the capabilities approach is not how many resources a person commands, but instead what she is actually able to do and be: "[W]e ask not just about the resources that are sitting around, but about how those do or do not go to work, enabling [her] to function in a fully human way" (Nussbaum 2000: 71). The main task of capability theory is to examine what is needed to transform primary goods into a fully functioning life. Our functioning and flourishing is what is ethically significant, and injustice is found in the limitation of that functioning. A capabilities approach, then, focuses on whether or not people have the various capabilities necessary to transform available goods into a functioning life.

Sen and Nussbaum offer differing accounts of the theory. For Sen, the original focus was on rethinking quality of life assessments in order to improve development programs; his impact is seen in the use of the Human Development Index (HDI) in the *Human Development Reports* of the United Nations Development Programme (UNDP). The point of such an account of development is to focus on the underlying conditions necessary for people to have fully functioning lives, and to allow people to choose those lives for themselves.

Sen has refused to offer a predetermined list of specific capabilities; he only emphasizes a broad list basic individual and social liberties and freedoms: political liberties, freedom of association, economic facilities, social opportunities, transparency guarantees, protective security, and a variety of economic and social rights (Sen 1999b). Sen suggests the use of public deliberation to develop more specific, contextual, capability sets.<sup>3</sup> As Sen argues:

[the] problem is not with listing important capabilities, but with insisting on one pre-determined canonical list of capabilities, chosen by theorists without any general social discussion or public reasoning. To have such a fixed list, emanating entirely from pure theory, is to deny the possibility of fruitful public participation on what should be included and why (2005: 158).

It is, in fact, part of the necessary freedoms that people have is this opportunity to determine the capabilities necessary for functioning in their own communities. Political participation is key both as a capability in itself, and as a tool for determining additional locally-defined capabilities. While this focus on participation and self-determination complicates the policy implementation of a broadly applicable index such as the HDI, such local participation in the definition of needs has become a central issue in climate justice movements.

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<sup>3</sup> See Crocker 2006 on "Sen and Deliberative Democracy."

Nussbaum's use of the capabilities is more directly focused on how the approach can be used "as a foundation for basic political principles that should underwrite constitutional guarantees" (2000: 70-71). Relying more on a conception of universal rights than deliberative democracy, Nussbaum has developed a detailed, basic "capability set" she sees as necessary for the functioning of any human life. Her full capability list (2000: 78-80) includes:

- life, or being able to live a life of normal length;
- bodily health, including food and shelter;
- bodily integrity, which means both being able to move freely and being free from assault and abuse;
- senses, imagination and thought, which includes freedom to express emotion, the right to an adequate education, and ability to seek pleasure and avoid pain;
- emotions, or having attachments to things, "to love, to grieve, to experience longing, gratitude, and justified anger;
- practical reason, or the liberal goal of developing one's own definition of the good life;
- affiliation, or living with others in meaningful social interaction, and "[h]aving the social bases of self-respect and non-humiliation;
- other species, meaning living with, and with a concern for, the natural world;
- play; and
- control over one's environment, in both political and material terms.

Nussbaum argues that these capabilities, based in legal constitutional guarantees rather than community deliberation, would provide the social and political bases for the development of a fully functioning life.<sup>4</sup>

One of the arguments here is that, theoretically, a capabilities approach encompasses the direction much climate justice literature has been moving. It addresses those things that are basic for human life to function and flourish, which will be necessary if we are to implement a notion of climate justice that allows for the basic functioning of human communities and the environment – natural and social – necessary for that functioning. This very pragmatic application has been, in essence, the point of using a capabilities approach in the UN Development Programme. And Nussbaum's interest in linking such basic capabilities with constitutionally-guaranteed rights fits with the move toward both development rights and environmental rights illustrated in Caney, EcoEquity, and Vanderheiden's approaches.

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<sup>4</sup> It is important to note here that the capabilities approach is not simply an alternative to distributional theories of justice. One of the central strengths of the approach is that it can incorporate both equity and a number of issues outside of the distributional paradigm, as raised by other recent theorists of justice. So a concern for recognition as an element of justice, for example, so forcefully developed by Young (1990), Fraser (1997, 1998), and Honneth (1995), can be understood as a central capability – the social bases of self-respect and non-humiliation, as Nussbaum puts it. Likewise, political participation and procedural justice – through public deliberation in Sen and "control over one's environment" in Nussbaum – are also encompassed in a thorough conception of the variety of capabilities necessary to construct a functioning life.

But, crucially, the capabilities approach broadens the focus of justice to include a range of issues not normally addressed in the theoretical literature on climate justice. Many climate justice principles do not address the specific capabilities we need to live, and even the environmental rights approach only broadly touches on the importance of a stable climate system as central to a functioning life. But a capabilities approach to climate justice could also address, for example, specific ways the environment supports human capabilities, the diversity of necessary environmental capabilities depending on place, the political structure of decision-making on climate mitigation and adaptation, and – importantly – the capabilities necessary for natural systems themselves to function.

## ENVIRONMENTAL AND CLIMATE JUSTICE: MOVEMENT DEMANDS

In addition to the capabilities approach making theoretical sense in terms of encompassing and expanding upon many current notions of climate justice, the argument here is that a capabilities-based notion of climate justice can also encompass the demands of environmental and climate justice movements. Now, I would like to turn to the perspective of those movements.

I have previously argued (Schlosberg 2007) that in order to fully understand the conception of environmental justice, one must pay attention to the range of issues and demands movement organizations articulate. Like climate justice, many of the original conceptions of environmental justice focused primarily, if not exclusively, on notions of equity. But the literature of the environmental justice movement illustrates a range of demands, including but moving quickly beyond equity. Like environmental justice, the justice of climate justice, as articulated by movements, includes not only equity, but also conceptions of recognition and authentic political participation. A focus on the demands of movement groups in these movements also illustrates a concern with a wide range of capabilities and the concept of functioning.

Numerous statements of climate justice movements focus on the fact that global climate change will impact everyday life, and reduce “peoples’ ability to sustain themselves” (Miller and Sisco 2002: 1). The Bali Principles of Climate Justice directly link the question of climate change to the ability of local communities to sustain their ways of life. This language of vulnerability appears repeatedly in movement articulations of climate justice. Activists in the movement declare that the key to climate justice is protecting vulnerable communities, and what it takes for them to function. For example, the Indigenous Environmental Network is documenting in detail the impacts of climate change on traditional ways of life and indigenous communities’ ability to sustain and reproduce their cultures. Activists in New Orleans after Katrina have focused on similar themes (Bullard and Wright 2009).

There are a variety of very specific capabilities, at both the individual and community level, that movement groups identify as central to the definition of climate justice. One clear example is the focus on community health. As the International Climate Justice Network puts it, the impacts of climate change will “threaten the health of communities around the world...” (International Climate Justice Network 2002). The health impacts of climate change will most impact vulnerable communities. The issues include the effects of increased heat in many cities, the possible increase in severe weather events, increased diseases, decreased food security, and mental health impacts. Environmental refugees, impacted by any number of these issues, will be a further burden

on community functioning – both in their home communities and those where they are forced to move.

Bodily integrity is another capability that the movement addresses, but at the community level. New Orleans serves as an interesting example here. Before Katrina, environmental justice organizing in Southern Louisiana focused on cancer alley, the oil refineries and petrochemical factories that activists accused of impacting public health. After Katrina, there is an awareness of how the impacts of those carbon-intensive industries came back to impact the integrity of the city itself in the form of the storm. In addition, there is awareness of how the lack of attention to the physical integrity of wetlands made the storm's impact worse.

A lack of recognition of vulnerable and impacted communities, such as indigenous nations and small island states, is already central to activist notions of climate justice. It is not just that some are more vulnerable than others; it is also that this vulnerability is not recognized or respected. Fear of a cultural diaspora, as happened in poor African-American neighborhoods post-Katrina, is also a major concern. Both of these fit with Nussbaum's understanding of social recognition and affiliation as central capabilities, necessary for our functioning and for justice.

Related, demands for authentic and broad public participation in the development of local and global climate policy are clearly put forth in numerous NGO demands for, and principles of, climate justice. All movement-based sets of climate justice principles make clear that public and community participation should be accountable, authentic, and effective at every level of decision-making.<sup>5</sup> Community participation is one of the ten key principles of The Environmental Justice and Climate Change Initiative: "At all levels and in all realms, people must have a say in the decisions that affect their lives. Decision makers must include communities in the policy process" (EJCC 2002). The Bali Principles of Climate Justice clearly demand that climate justice "affirms the right of indigenous peoples and local communities to participate effectively at every level of decision-making, including needs assessment, planning, implementation, enforcement and evaluation, the strict enforcement of principles of prior informed consent, and the right to say 'No'" (International Climate Justice Network 2002). Activists in the climate justice movement declare that the key to climate justice and the protection of vulnerable communities is the expansion of democratic participation. This focus clearly relates to political participation as a key capability.

A final point is crucial here. It is clear that a major concern of climate justice groups is not just individual capabilities, but also community capability and functioning. This is not simply a concern for what a group or community provides for individuals in that community, but is also about the functioning of communities themselves. For movement groups, environmental injustice is seen as a process that takes away the ability of individuals *and their communities* to fully function, through poor health, destruction of

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<sup>5</sup> See, for example, the 10 Principles for Just Climate Change Policies in the U.S. (Environmental Justice and Climate Change Initiative 2002), the Bali Principles of Climate Justice (International Climate Justice Network 2002), the Milan Declaration (International Indigenous Peoples' Forum on Climate Change 2003), and the Environmental Justice Leadership Forum on Climate Change Principles of Climate Justice (2008).

economic and cultural livelihoods, and general and widespread environmental threats. It is the *community* functioning that is at issue *as much as* individual functioning. Community-based arguments for climate justice address the threats to numerous capabilities at both levels, and the particular desire for the continued functioning of communities in the face of climate change.

Overall, in these movement examples of climate justice, capabilities and functioning are incorporated as part of the argument for environmental and climate justice; a major focus is on the capabilities necessary for individuals and communities to fully function. Climate justice movements clearly illustrate the range of concerns central to a capabilities-based notion of justice. Climate justice advocates, in these examples, clarify the types of rights the development and environmental rights frameworks articulate – rights to an environment that will support the functioning and flourishing of vulnerable human communities.

### CAPABILITIES, CLIMATE CHANGE, AND THE NATURAL WORLD

So the argument so far has been that a broadly defined capabilities approach to justice can encompass and clarify recent innovations in climate justice theory and the demands of climate justice movements. But we also need to focus on extending and clarifying the capabilities approach itself, in a way that more fully addresses the capabilities necessary for both human and non-human systems to function and flourish in an era of climate change. The capabilities approach has taken seriously the question of what is necessary for human beings and communities to function, and yet it has, for the most part, left out the necessary connection between those functioning human communities and the functioning of the natural systems that support them. This relationship is key, if we are to apply capabilities to policies of climate adaptation.

A capabilities approach can be extended to address the fact that human capabilities are supported by natural systems. Such an approach would extend and clarify the environmental and development rights definitions of climate justice, and encompass the demands of the climate justice movement, by offering specifics about what is environmentally necessary to develop or have a functioning life. There are two possible strategies here. We can either flesh out the environmental implications of existing lists of capabilities, or propose a new environmental capability.

Both Sen and Nussbaum have addressed the issue of the natural world, and have offered different ways to incorporate nature in a capabilities approach to justice. Sen's contribution has been more limited, but certainly addresses the question of the environmental bases of existing capabilities. In a discussion of various circumstances under which people could have the same level of income, and yet not be equal in terms of their actual well-being, Sen notes that "variations in environmental conditions, such as climatic circumstances (temperature ranges, rainfall, flooding and so on), can influence what a person gets out of a given level of income" (1999b: 70). Here, Sen wants to pay attention not just to the resources we get, but also to how environmental circumstances can have a serious impact on our ability to construct functioning lives.

Sen has also commented on the question of the relationship between capabilities and nature with a focus on providing sustainability for future generations. Anand and Sen (2000: 2035) argue that "we can talk of sustainability only in terms of conserving a capacity to produce well-being" for people in the future. "The moral obligation

underlying sustainability is an injunction to preserve the capacity for future people to be as well off as we are” (p. 2038). Likewise, in discussing the preservation of endangered animals, Sen (2004: 1) focuses on the preservation, and possible expansion, of “the substantive freedoms of people today without compromising the ability of future generations to have similar, or more, freedoms.” Sen’s focus here is on the obligation we are under to extend capabilities that we currently have to others in both our own generation and future generations. He argues for the importance of future generations of humans to have the freedom to enjoy the same environmental benefits – from clean air to rare species – that earlier generations enjoyed.<sup>6</sup>

Ultimately, Sen likens sustaining the ability to meet our needs with sustaining human freedom itself (2009: 251). And Sen gives us two sets of reasons for incorporating attention to environmental conditions and systems into a conception of climate justice based on the capabilities approach. In the first, climatic variations impact what individuals are able to do with the resources that they have. If, in fact, climatic change makes it more difficult to grow food, or if climate-induced flooding uproots us from our homes, then climate change itself limits our capability to convert resources into fully functioning lives. It is climate change that can be seen as a barrier to that functioning, and so is a condition that is an injustice to us. Secondly, while we must pay attention to our obligation not to impose barriers on our contemporaries, we also have that same obligation to future generations. Any system that would limit the freedoms and capabilities of future generations, and limits the environmental possibilities for those generations, would be unjust. Any conception of a capabilities-based notion of climate justice must focus on the way that changes in the climate system, and related ecological systems, will impact the capabilities of other human beings, now and into the future.

Nussbaum’s discussion of the capabilities approach and the natural world is a bit more nuanced, and in some ways limited. Nussbaum has endeavored to extend her capabilities approach to (some) animals; this is more of an argument for individual animal rights that has run into a number of critiques.<sup>7</sup> But there is another way to extend Nussbaum’s version of capabilities to a conception of climate justice. While Sen eschews the development of a specific capabilities list, Nussbaum’s extensive list includes a number of areas where we can highlight the importance of natural systems, including the climate. Climatic changes will have an impact on a number of these capabilities, as illustrated by the discourse of the climate justice movement. Clearly, we can make an argument that many of Nussbaum’s capabilities depend on a stable environment. Holland’s (2008) argument is the most directly relevant here.

As Holland notes, only in addressing the capability of “other species” does Nussbaum discuss the instrumental value of the natural world for human beings. Certainly the capability of other species, or “being able to live with concern for and in relation to animals, plants, and the world of nature” (Nussbaum 2000: 80) requires

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<sup>6</sup> This approach closely mirrors deShalit’s (1995) argument for a version of communitarian intergenerational justice, which includes a duty to preserve the natural conditions necessary for the survival of future generations.

<sup>7</sup> There are a number of critiques of the implications of Nussbaum’s approach; see, for example, Cripps (forthcoming), Ilea 2008, Schlosberg 2007 (chapter 6), and Wissenburg 2008.

attention to human impacts on the global ecological system. Yet other capabilities on Nussbaum's list can be interpreted to include environmental factors that would be impacted by climate change.

Peoples' ability to live a life of normal length, and the capability of bodily health, will be threatened by heat-related stresses, the expansion of diseases, impacts of severe climatic events on agriculture and shelter; such impacts are already a concern in the climate justice literature and movement. The mental health impacts, such as emotional grief and loss, the increased stress of those made climate refugees, and the overall anxiety of rapid climate change, could be seen as a barrier to Nussbaum's capability of emotional health. Climate change will impact the ability of many to move freely, instead making them climate refugees. Such refugees will also have their social affiliations with others wrenched apart – as illustrated by the impact of Hurricane Katrina on neighborhoods. Many ecosystems, animals, or natural areas that are linked to the aesthetic or spiritual aspects of cultural perspectives could be lost (Holland 2008: 323). This impacts Nussbaum's capability of senses, imagination, thought, and emotions. Related, as other species are impacted by climate change, it impacts our ability to have a meaningful concern for, or relationship with, the natural world. Perhaps this is why photos of polar bears on icebergs (whether or not they accurately reflect climate change) have such an emotional impact.

It seems clear, then, that we can broaden our interpretation of the capabilities already laid out by Nussbaum to understand how they are supported by environmental factors. A theory of climate justice can address the impacts of climate change on the natural world as they impact these various human capabilities. That is one relatively straightforward avenue to a capabilities-based notion of climate justice.

But there is another way to extend Nussbaum's approach to a theory of climate justice. Both Page and Holland suggest the development of a new, environmental capability. Page advocates the adoption of a "safe and hospitable environment as a vital ingredient of a decent life rather than a facilitator of the other functionings." Specifically, Page suggests the adoption of the "capability to experience life in an environment devoid of dangerous environmental impacts such as those associated with climate change" (2007: 464).

For Holland (2008), however, simply *adding* a capability misses an important realization. She argues that without an accounting of the importance of functioning ecological systems, and how they enable all of the other capabilities, Nussbaum simply fails to identify what is actually necessary in order to achieve justice (p. 323). Holland recommends a "meta-capability" that, in essence, enables all of the others. This new capability, which she labels "Sustainable Ecological Capacity," would involve "being able to live one's life in the context of ecological conditions that can provide environmental resources and services that enable ... capabilities" (p. 324). Holland offers an argument for an "environmental justice threshold" which represents the level at which ecological systems could sustain not only themselves, but also the other basic capabilities for human beings in the system. "As long as ecological systems have the functional capacity to sustain the conditions enabling the minimum threshold level of Nussbaum's capabilities for each person, the *ecological* conditions of justice are met" (p. 328). Holland explicitly links this new capability to an understanding of climate change.

Both Page and Holland offer reasonable extensions of Nussbaum's theory. If the capabilities approach is about flourishing, and we all flourish in particular environments, flourishing for human beings means providing for those ecological support systems that make our functioning possible. In addition, if, as Nussbaum argues, capabilities are to be seen as the precursors of constitutional principles, these suggestions for additional capabilities – meta or otherwise – would fit with the arguments of those, such as Vanderheiden (2008a, 2008b), who base climate justice in environmental rights. And if capabilities are to be negotiable and subject to citizen deliberation, as Sen argues, then it may be the case that the level of public discourse on the impacts of climate change would justify such a new capability. So while it may be enough to interpret Nussbaum's existing capabilities list to pay attention to the various ways that climate change would create barriers to a number of necessary human capabilities, the addition of another, nature-focused, capability is also a potential strategy.

Importantly, these capabilities – whether bodily health, affiliation, control over one's environment (including political participation), a safe and hospitable environment, or sustainable environmental capacity – help not only individuals to function and flourish, but do so for their communities as well. This extension of the capabilities approach addresses not only the basic idea of environmental rights to a level necessary for human functioning, as Vanderheiden calls for, but also the right of development and functioning for communities as a whole, as demanded by the climate justice movement. Finally, such an approach allows for difference in the way we define needs by locality. Local participation and deliberation can help us to understand and determine the distinct and local environmental needs of various communities. A capabilities approach to climate justice – expanded to encompass the environmental support systems we depend on for our functioning – can help us to be much more attentive to the different needs of both natural and human communities in different places.

A conception of climate justice based on capabilities, then, requires attention to the nature-based capabilities that are directly linked to our ability to fully function as human beings and communities.

## CAPABILITIES, VULNERABILITIES, AND ADAPTATION: A FRAMEWORK FOR POLICY RESPONSES

One of the main arguments here is that approaches to climate justice and policy that focus exclusively on “equity” are inadequate. Instead, the priority must be on the preservation or provision of the variety of capabilities necessary to support human life; this includes, crucially, the preservation of, or adaptation to, the natural environment that provides many of those human capabilities.

To date, the development rights approach, brought to the table by EcoEquity, is the main approach to climate justice that can be applied to adaptation strategies. But as noted above, the focus on defining development and equity in purely monetary terms is limiting. What good is a cash payment above the poverty level if the environmental conditions necessary to support your capabilities do not exist? If your community is flooded, your fields no longer receive rainfall, or the species you depend on for sustenance goes extinct or moves its range, a cash payout is not a substantive policy response. We need more than twenty dollars a day, or even “equity,” in order to have a functioning life. A more thorough notion of capabilities would help tie together the

environmental and social impacts of climate change, and clarify the range of conditions necessary for an environment that can sustain functioning human communities.

A broad capabilities approach is much more applicable to the question of adaptation than one based solely in fiscal equity. Such a definition will also allow for the design of more substantive policy responses to human and environmental needs. Radical climate change is almost certainly coming, with massive impacts on the everyday lives of people everywhere. Any climate policy regime – from the local to the global – is going to have to address adaptation in addition to any attempts at mitigation. And in discussing adaptation, the climate justice discussions should incorporate a recognition of the importance of survival and functioning, and to the role natural systems play in that functioning. Such a model would begin to address what exactly is needed – in terms of environmental and developmental conditions – to survive, function, and develop as human beings. The focus would be on how climate change makes our lives more vulnerable in very specific ways, and how a notion of climate justice can most directly address those vulnerabilities as we adapt to new environmental conditions.

As climate change progresses, we can begin to see that not only will many capabilities be threatened, but that different capabilities will be threatened in different places. A capabilities approach can be used to map various vulnerabilities to climate change. This will be crucial as policymakers begin to realize the importance of shifting to a focus on adaptation, and addressing the various needs of different communities. For example, even in the US, communities are vulnerable in different ways. In the northeast, the concern focuses on public health and severe heat events, as the poor and elderly do not have air conditioning (as they do in the south). The last major Chicago heat wave left 600 dead. Along the southern coasts, the key vulnerability is around flood protection and the growing strength and frequency of storms; the destruction of housing and the resulting cultural diaspora in the wake of Hurricane Katrina stands as an example. In the southwest, the main concern is with water shortages and the impact on agriculture and food production. On many American Indian nations, as with indigenous communities worldwide, the focus is on the impact on cultural practices and the ability of cultures to continue traditional practices based on environmental conditions. Clearly, we can see this wide variety of threats to basic capabilities – health, food, shelter, culture – in numerous communities across the globe.

A capabilities approach can be used to clarify and physically map these varied vulnerabilities. Policymakers can use the data developed by climate scientists, health agencies, emergency management agencies, and more to more clearly understand how and where very specific changes to the physical environment will impact the ability of those environments to sustain specific human capabilities. Such vulnerability maps can clarify which policy responses are most needed in particular areas, and where resources will be most aptly applied on particular issues. A capabilities approach, then, offers a method of analyzing the particular needs of communities, and of directing adaptation policy toward preserving or rebuilding the specific capabilities under threat from climate change. It also requires us to examine the ongoing relationship between the conditions of human individuals and communities, and the environments that provide many of their necessary capabilities.

Crucially, a capabilities approach to adaptation is not simply a top-down, expert-driven affair. Democratic participation and control over one's own environment are

central to the understanding of justice as developed by both Sen and Nussbaum, and are clearly a constant demand in climate justice movements. Communities need to be thoroughly involved in both the mapping of their own vulnerabilities and the design of adaptation policies designed to shield them from changes due to climate shifts decimating their ability to function. Such inclusion satisfies the participatory capabilities, and helps clarify the other substantive needs expressed by both the theory and movement groups.

## CONCLUSIONS

The argument here has been that the capabilities approach to justice can help us rethink and reframe discussions of climate justice and policy responses to the coming necessity of adaptation. It is crucial to note that, with a focus on the ecological and climate systems that support life, the point is to preserve both their own flourishing as well as their production of the capabilities necessary for the survival and flourishing of those that live within them. Climate change impacts a number of crucial human and system interests – a decrease in the availability of fresh water, an increase in the number of violent weather systems, a shift in temperature ranges – all of which threaten the functioning of human individuals, human communities, and ecological systems.

A capabilities approach to climate justice looks more thoroughly at what individuals, and their communities, need to fully function as individuals and communities. Such an approach can encompass existing climate justice frameworks of development and environmental rights, and expand to include the specific types of capabilities necessary for people and their communities to function and thrive. It addresses the articulated needs and demands of climate justice movement groups, who are often quite separate from the consideration of theorists interested in climate justice. The capabilities approach allows for a more pluralistic and place-based understanding of such functioning, which helps us to differentiate among the needs of very different communities in different parts of the world. And, crucially, it remains focused on the essence of the current ecological predicament – providing the conditions necessary for human and non-human natural systems to function, even in an era of climate change.

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