Climate Justice and Capabilities: A Framework for Adaptation Policy

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We are already living with climate change. While the political arguments about causes and responses drag on, the people who are directly affected by its very real and increasing effects are beginning to face the urgent new reality of adaptation. As has been well documented, actual trends for a number of indicators—warming, rising sea levels, and extreme weather, for example—have far exceeded the Intergovernmental Panel on Climate Change's (IPCC) predictions of just a few years ago.[1] At the same time, one of the major political discourses surrounding climate change policy, at both the global and local level, has been that of climate justice. Climate justice theorists, governments of the most vulnerable nations, and activists and organizations in both local and global civil society have articulated a range of frameworks for understanding the relationship between the effects of climate change and conceptions of justice and fairness. These approaches include fairly straightforward polluter pays models (based on historical responsibility), fair share models (based on the equal allocation of emissions), and various rights-based models (such as development rights, human rights, and environmental rights). The strong assumption behind these models is that normative theories of climate justice can ground global climate policies. The question here is how those can be applied to the reality and necessity of adaptation.

This article offers four arguments with regard to the current state of climate justice theory and its relationship to policy-making. First, most well-known approaches

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to climate justice have two important weaknesses, in that they fail to take advantage of two crucial developments in recent justice theory: one, the identification of social and political misrecognition as the key underlying condition of the maldistribution of goods and risks;[2] and two, the influential capabilities approach, which focuses on the specific range of basic needs and capabilities (including recognition) that human beings require to function.[3] These two approaches help us understand the political, social, and cultural conditions—in addition to the physical ones—that create and sustain vulnerability. In addition, the vast majority of the current theories of climate justice are focused on frameworks of prevention or mitigation, or on the distribution of the costs of adaptation to climate change. This leaves a crucial dimension under-addressed: how justice can be applied to the ways we actually adapt to the very real and growing effects of climate change on the ground.

Second, adopting a capabilities approach to climate change justice bridges the gap between ideal and abstract notions of climate justice theory on the one hand and the reality of policy-making for adaptation on the other. A capabilities approach can bring social and political recognition of specific and local vulnerabilities and the effects of climate change on the basic needs of human beings in various places and under different conditions. I argue that the capabilities approach offers a particularly constructive way of understanding issues of vulnerability and impact, and thus helps us better to conceive exactly what adaptation to climate change would consist of. A capabilities approach to climate justice can be used as a normative guideline for climate policies and offers quite concrete standards by which to measure progress.[4]

Third, and against the individualist assumptions of most capabilities approaches (and most liberal conceptions of justice), I argue that capabilities can be used to understand, catalog, and address both individual and community-level needs and vulnerabilities. A capabilities-based approach to adaptation, in other words, offers a way to assess vulnerability as it varies across location and scale, benchmark adaptation needs and goals, and include the affected public in the development of adaptation policy.

Finally, a capabilities approach acknowledges that justice depends on a revised understanding of the relationship between human beings and the nonhuman world. Clearly, human needs and capabilities depend directly on the environment, and our impact on the global climate is creating and/or exacerbating a range of vulnerabilities. Such an approach to climate justice would therefore recognize and seek to encompass the reality of our immersion in, and dependence on, the

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functioning of the natural world. What I propose is, in essence, a framework of justice for the anthropocene.

Current Approaches to Climate Justice

In this section I will simply summarize a few key recent approaches to climate change justice in order to make clear the contrast between distributional and rights-based arguments on the one hand and my proposal for a recognition- and capabilities-based way of thinking about the issue on the other.

One key approach focuses on the historical responsibility that some may bear for the present situation.[5] The central argument is that there are specific states, acting within particular practices of industrial development, that have brought us to our current climate change crisis, and that those parties should now pay the current costs of their past transgressions. Proponents of historical responsibility note that already vulnerable people in the developing world will be more, and more quickly, affected by climate change in their everyday lives than those in developed countries. Turning to the basic fairness of a climate agreement, proponents of historical responsibility argue that those with more responsibility for causing global climate change should have a greater role in preventing or mitigating its impacts. Approaches based on this idea adopt a basic polluter pays principle that puts the burden squarely on long-industrialized nations.

An alternative approach to climate justice is a per capita equity argument, or a "carbon egalitarianism."[6] Rather than focus on past responsibility for emissions, this approach seeks to give everyone an equal "share of the capacity of the atmospheric sink."[7] Proposals based on the equity principle would require a scientific agreement on the total amount of greenhouse gas emissions to be allowed; that amount would be divided by the total world population, and the result would be an equal emissions allowance for each person on the planet. Each country would be allowed to emit the sum of its population times the allowable per person emissions. In addition, Peter Singer adds a cap and trade system, whereby countries with higher emissions could buy allowances from those with lower emissions. In essence, this system would result in both lower emissions overall and compensation to nations that use less than their per capita share. It would require both the equitable consideration of each country and a type of payment scheme that would demand that the more historically responsible pay a greater share of the cost of climate change.

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The per capita approach, however, does not take into account the variation in the needs of people living in different places; rather, in its equal distribution of emission shares, a basic recognition of the differences of place is simply dismissed. 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. To give one example, a unit of carbon allocation will provide a different level of basic need to the person in a mild climate than another in a harsher environment.[8]

Another major approach to climate justice focuses on rights—basic human rights, rights to development, and more specific environmental rights—and the differentiated duties and responsibilities that flow from them. Simon Caney makes the claim that all people have a right not to suffer from climate impacts that undermine their basic interests, and has argued that climate change violates the human rights to life, health, and subsistence.[9] Paul Baer and his colleagues at EcoEquity combine a historical approach with a rights-based perspective to forge a development rights argument. They focus on the preservation of "*the right of all people to reach a dignified level of sustainable human development* free of the privations of poverty."[10] Importantly, neither Caney's basic rights nor the development rights emphasized by Baer and EcoEquity are claimed as *new* rights; rather, climate change is seen as a new threat to these already established rights. Combining these approaches, Steve Vanderheiden has offered a notion of climate justice based on both environmental and development rights.[11] Here, the right to development is rearticulated as a right to have the basic environment in which human flourishing is possible, including a stable climate system. Vanderheiden, following Henry Shue, insists that basic environmental and development rights trump other claims that are less basic to flourishing, and that developed countries are required not only not to impede others from pursuing development but also to pay the full costs of their own current luxury. The innovation here is that this approach is sensitive to the environmental conditions necessary for development and functioning while maintaining that all individuals with these rights *also* have the burden, duty, and responsibility associated with protecting the rights of others.

One of the most promising aspects of the rights-based frameworks is that they move beyond a notion of climate justice based on equity alone to one focused on the environmental and developmental conditions that individuals, communities, and states need to survive, develop, and function. The focus has begun to shift

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from ideal notions of justice and equity to how the reality of climate change makes human lives more vulnerable in specific ways.

This expansion of the human rights framework for climate justice to encompass such basic needs is clearly compatible with the capabilities approach proposed here, yet these rights-based conceptions of climate justice contain two central weaknesses. As noted at the outset, they neglect other important conceptions of justice, in particular those focused on social and political recognition and the more nuanced and extensive conception of needs that the capabilities approach captures. The second weakness is that these approaches are often articulated as ethical arguments for international policies to prevent or mitigate climate change and its various effects on rights. Importantly, however, the focus of climate justice must also move from prevention to adaptation to changing environmental conditions. Most discussions of adaptation in the climate justice literature have focused on equitable distribution of the *costs* of adaptation, rather than the specific vulnerabilities and *needs* experienced by those at risk. Consequently, such approaches remain rather vague about what they assert they protect, and do not adequately address the elements necessary for basic human functioning. While the development rights approach, for example, operationalizes a "development threshold" of individuals having income 25 percent above the global poverty level, like the per capita equity approach it does not pay attention to differences across place in terms of need; neither does it identify exactly what it takes to "develop," other than an increase in cash income.[12] Even broad assertions of a right to a decent environment need more specification to be applicable to adaptation; such a right will differ depending on the nature of environmental harm and the resources available for people to respond. While this flexibility is seemingly implicit in the human and environmental rights frameworks, an approach to climate justice is only usefully applicable to adaptation if it addresses what specific rights are to be protected, how and why they are undermined, why they are a matter of political obligation in just societies, and how, crucially, they can be addressed by governments coming to terms with the effects of climate change on their adapting populations.

The Importance of Recognition

As noted, major frameworks for climate justice do not fully engage with other recent developments in justice theory. Such an engagement is necessary because it improves

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our understanding about issues of vulnerability, basic needs and rights, and human functioning. Here I want to address one of those crucial newer approaches: the non-, mis-, or malrecognition of people, communities, and conditions that is often at the core of injustice. Iris Young, for example, argues that most justice theorists take social goods as static, and tend to ignore the institutional processes and contexts, decision-making structures, divisions of labor, and the reality of social status that determine distributions.[13] The key concern is what *determines* poor distribution—the institutionalized domination and oppression that underlies injustice. Young argues that distributive injustices stem from a lack of recognition; cultural and political exclusions lead to vulnerability and economic inequality.

Likewise, for Nancy Fraser recognition is absolutely key to the problem of injustice, both in itself and as it relates to maldistribution. Fraser specifically describes three key types or processes of misrecognition. The first is a general practice of cultural domination. The second is nonrecognition, or being rendered invisible. And the third is a broad disrespect, or being routinely stereotyped or maligned in public or cultural representations.[14] Indigenous movements, for example, often claim that the stereotyping and denigration of their cultures is both a distinct form of oppression and directly related to distributive injustice.[15] Recognitional justice requires not just an understanding of unjust distribution and a lack of recognition but, crucially, of the way the two are tied together.

There are different ways to understand and emphasize recognition, however. On the one hand, lack of recognition is an injustice in itself; insulting, ignoring, degrading, and devaluing individuals or their communities is a type of harm.[16] More important for climate adaptation, however, is the social and political *status* that comes with recognition or malrecognition. Misrecognition, for Fraser, is an institutionalized relationship of economic, social, and cultural subordination. That may or may not result in a psychological injury to one or more individuals, but it most definitely results in a status injury to a group, identity, or community. As Nik Kompridis argues, the difference in the analysis here is key to the proposed remedy—a form of individual recognition versus "the 'deinstitutionalization' of those patterns of cultural value which foster mis-recognition and status subordination."[17] Ultimately, a status-based conception of recognition helps expose and deconstruct the cultural and political institutions, beliefs, and practices that make some peoples invisible, misinterpreted, or devalued.

Recognition has been used extensively in the environmental justice literature, and it can offer much to our understanding of climate justice as well.[18] We can

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quite easily see the lack of recognition of harmed individuals and cultural ways of life that will come with climate change. Simply using Fraser's typology of misrecognition, a number of peoples and cultures are subject to outright domination, nonrecognition or simple invisibility, and/or stereotyping or other forms of damage. The Alliance of Small Island States (AOSIS), in its attempts to bring attention to its plight at the UN Framework Convention on Climate Change (UNFCCC) meetings, and its consistent failure to be heard, serves as an example. This approach also allows us to see a lack of recognition not only of affected peoples and cultures but also of the way that environmental processes support both those cultures and the basic human needs within them. It is the non- or misrecognition of this relationship—and of the natural world itself—that has led to ignorance and apathy in addressing the "environmental" problem of climate change.[19]

In the context of climate change, recognition is not only about the effects on place and culture but on the *relationship* between the processes of the natural and social worlds. Climate change has had an impact on the natural world—that much is clear and largely accepted. What is less noted is that the same change in climate affects the very basis of cultural practices and identity among a range of peoples. Ironically, while the link between the environment and cultural identity is acknowledged in many UN agreements—such as the Convention on Biological Diversity and the Universal Declaration on the Rights of Indigenous Peoples—recognition of such relationships is largely absent or overshadowed in the UNFCCC process. Many indigenous activists and organizations have expressed concern that neither cultures nor the natural processes that form part of cultural identity and practices are recognized or valued in current official negotiations on climate change.[20] It is the undermining of the relationship between people and place that threatens a number of basic needs and rights, and it is the lack of recognition of that relationship that causes the status injury faced by vulnerable communities. Any thorough notion of climate justice that claims to address the effects of climate change on the most vulnerable must recognize the numerous ways it also changes their everyday lives—individually, socially, and culturally. This type of recognition, as a central concern of climate politics, is just beginning to gain attention in the academic realm. Neil Adger and his colleagues, for example, use the concept to draw attention to the link between the natural processes altered by climate change and the importance of affected places to vulnerable peoples and cultures.[21]

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Following Fraser, a recognition-based conception of justice calls on us to imagine a variety of practices of recognition, both deconstructive and affirmative. On the deconstructive side of climate justice, we have to focus on bringing attention to, critiquing, and taking apart the understandings, social practices, norms, and ideologies that either undermine our dependence on the environment or do not recognize or value the cultures or peoples made most vulnerable by a changed climate. This means bringing attention to the experiences of the vulnerable and the way that their status is, in part, socially, politically, and economically constructed. In addition, a recognitional approach must emphasize, more constructively, the instrumental importance of ecological processes and the way they support the basic needs of human beings, both as individuals and as part of cultural communities.

Recognition, however, can only go so far; justice also requires converting that recognition into practices of political participation. Adger makes this link, arguing that "communities require processes that give them some locus of control over their destinies as part of a recognition of identity and place."[22] For Fraser, the point of recognition is for the previously discriminated against, derided, or ignored to gain participatory parity; recognition is tied to such participation, and to both the eventual achievement of distributional equity and, ultimately, a broad experience of justice.

The Capabilities Approach

The argument here is that a capabilities approach to justice can help address a range of concerns brought by climate change—from distributions of vulnerability; to recognition of peoples, places, and their relationships; to a number of threatened basic rights. In addition, the approach can offer the flexibility necessary for addressing local variability in the effects and experiences of, and responses to, climate change. Amartya Sen and Martha Nussbaum insist that justice should not focus solely on distributive ideals, but instead on the range of capacities necessary for people to develop free and productive lives they design for themselves.[23] The emphasis is not simply on resources but on how those resources enable us to function.[24] Being able to function is what is ethically significant, and injustice is found in the limitation of capabilities necessary for that functioning.

Sen and Nussbaum offer differing accounts of the theory: Sen is more interested in a broadly applicable development strategy that emphasizes a variety of

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economic and social rights, while Nussbaum focuses on how the approach can be used as a foundation for basic constitutional rights. Sen refers to broad political and economic liberties, and suggests the use of public reason and deliberation to develop more specific, contextual, capability lists; Nussbaum offers a detailed and universalizable list of ten basic capabilities that she considers rights.[25] Nonetheless, both incorporate a broad range of justice-related concerns in their capabilities approach, including distributional equity, social recognition, and public participation. Nussbaum, following John Rawls, includes "having the social bases of self-respect and non-humiliation" as a key part of the capability of affiliation. Likewise, political participation and procedural justice—through public reason and deliberation in Sen and "control over one's environment" in Nussbaum[26]—are also clearly understood as capabilities necessary to construct a functioning life. It is, in fact, a basic capability to have the political opportunity to determine the capabilities necessary for our own functioning. Theoretically, a capabilities approach can encompass much in the current framing of climate justice, but in a way that is more comprehensive and specifically applicable to the practice of adaptation and the development of policy. Political opportunity to determine the capabilities necessary for our own functioning, as advocated by Sen, for example, is central to a process of developing adaptation policies in response to local conditions and vulnerabilities.

Capabilities, Environment, and Communities

There are two main ways the capabilities approach can be broadened to encompass the variety of threats and vulnerabilities that come with climate change: we can either develop a clear strategy to recognize the environmental underpinning of existing lists of human capabilities, or we can propose a more broad extension of the capabilities approach to nonhuman nature.[27] I will focus primarily on the former here, and just touch briefly on the more controversial idea of a capabilities-based conception of justice to nature. The crucial point is that, either way, the capabilities approach offers a way to encompass the very real human dependence on, and immersion in, the natural world our actions affect.

Sen's discussion of the environment has been quite limited, but he has directly addressed the question of the environmental bases of existing capabilities. Sen recognizes that "variations in environmental conditions, such as climatic circumstances (temperature ranges, rainfall, flooding, and so on), can influence what a

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person gets out of a given level of income."[28] Thus, environmental circumstances can have a serious impact on our ability to construct functioning lives from the resources we have available. Sen has also suggested a relationship between a capabilities approach and environmental sustainability—that there is an obligation not to denigrate the environment and choices of future generations, in order to preserve their capabilities.[29] For Sen and others, it is a matter of justice that future generations of humans have the benefit of the same environmental capabilities that earlier generations experienced.

Nussbaum's broadening of the capabilities approach to the natural world is not quite as inclusive, as her attempt to apply capabilities to (some) species is more of an argument for animal rights.[30] Extending Nussbaum's approach into a framework for addressing climate change, Edward Page proposes the addition of a capability of a safe and hospitable environment.[31] Breena Holland, on the other hand, highlights the way that the capabilities on Nussbaum's list directly depend on a stable climate system.[32] For example, in addressing the capabilities of "other species," Nussbaum directly acknowledges the instrumental value of the natural world for human beings. As she notes, "being able to live with concern for and in relation to animals, plants, and the world of nature" requires attention to the impact of humans on the global ecological system.[33] More specifically, the ability to live a life of normal length and the capability of bodily health can be threatened by heat-related stresses, the expansion of diseases, and the effects of severe climatic events on agriculture and shelter.[34] Potential effects on mental health, such as emotional grief and loss, the increased stress of those made climate refugees, and the overall anxiety caused by rapid climate change, could be seen as a barrier to Nussbaum's capability of emotional health. Climate change will also affect the ability of many to move freely, making them climate refugees.[35] Such refugees will also have their social affiliations with others—a key capability—wrenched apart (as illustrated, for example, by the impact of Hurricane Katrina on neighborhoods in New Orleans). And, as with all refugees, their rights to political participation will be threatened. Many ecosystems, animals, or natural areas that are linked to the aesthetic or spiritual aspects of cultural perspectives could be lost—all of which are related to Nussbaum's capability of senses, imagination, thought, and emotions.[36]

Indeed, as Holland argues, a sustainable environment is a "meta-capability" that ultimately enables all the others: "As long as ecological systems have the functional capacity to sustain the conditions enabling the minimum threshold level of

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Nussbaum's capabilities for each person, the *ecological* conditions of justice are met."[37] Holland calls this an "environmental justice threshold" and explicitly links it to an understanding of justice under conditions of climate change. Especially as we shift our focus from the ideas of prevention and mitigation to the practicalities of adaptation, the effect on the processes of the natural world must become central to a capabilities-based approach to climate justice. It seems clear, then, that we can broaden our interpretation of a capabilities approach to take into account the environmental factors that enable human functioning and flourishing. This relatively straightforward avenue to a capabilities-based notion of climate justice can help us understand and catalog the very specific ways that climate change creates injustice as it undermines the foundation of human capabilities, offering a vision of climate justice that acknowledges and incorporates the human immersion in the nonhuman world.

The coming impacts of climate change on a stable and safe environment, and so on basic capabilities, will harm not only individuals but communities as well. Unfortunately, climate justice theory is articulated almost exclusively within a liberal individualist conception of justice. Clearly, the rights-based approach to climate justice serves as an obvious example, but even capability theorists attentive to the role of community as a basic capability remain focused on what those collective groupings do for *individual* capabilities. Nussbaum, for example, explicitly argues against consideration of community-level capabilities; communities serve only to support individual needs, and cannot be seen as the subjects of a consideration of justice.[38] Likewise, Page's attempts to apply a capabilities approach to climate justice remain squarely in the individualist frame, simply adding an environmental capability to the list of individual needs.[39] And yet many demands for climate justice coming from social movements and NGOs concern the effects of climate change at the community level; it is not only the ability of individuals to function that matters but also the ability of communities to function and preserve their group identity that is a central concern of climate justice discourse in the public realm.

Recognition and capabilities are community-level concerns. This is particularly urgent for indigenous communities and island states that stand to lose cultures along with environments. Robert Figueroa argues that the primary environmental justice struggle for such communities is the recognition of their environmental identity and heritage, rather than individualistic recognition.[40] But it is not only indigenous or island communities that are threatened *as communities*; many

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localities, and stakeholder groups within those localities, are coming to terms with what climate change will do to various aspects of community functioning—from issues of community health, to the loss of particular local economic practices, to community dissipation through migration and diaspora, to threats to basic existence following sea level rise or devastating storms. Theories of recognition and capabilities can be extended to communities to address such community-level threats and concerns.

As I have argued elsewhere,[41] it may also be possible to extend recognition and a capabilities approach beyond the idea of the environmental needs of *human* functioning to the realm of the functioning of *nature* and, in particular, ecological systems. If we remain tied to a focus on what ecological systems do only for human survival and flourishing, we do not get at the central issue of why human beings are undermining the ability of various ecological systems to function; it is the disruption and increasing vulnerability of the integrity of ecosystems that is at the heart of the injustice of climate change. The main problem with such an ecological justice approach, of course, is that it brings to the fore potential conflicts between the basic needs and capabilities of human beings and those of the rest of the natural world. Fully addressing the range of these conflicts would take an enormous and comprehensive effort—certainly more so than a focus solely on human functioning. But the kind of community-based process for determining and prioritizing threats to individual and community capabilities and functioning for human beings would begin to address the status of the functioning of the nonhuman realm as well. Discussion of human vulnerability due to climate change necessarily forces us to face the effects that we have on the environment and systems that sustain us.

To summarize: If the capabilities approach is about functioning, and we all need particular aspects of the environment to help us function, functioning for human beings means acknowledging the human dependence on environment, and providing for those ecological support systems that make that functioning possible. In addition, if, as Nussbaum argues, capabilities are to be seen as the precursors of constitutional rights, attention to capabilities is compatible with arguments that base climate justice in human, development, and/or environmental rights. And if capabilities are to be negotiable and subject to citizen deliberation, as Sen argues and many climate justice movements demand, then public discourse and deliberation on the subject should be central to their definition and prioritization. That is where a capabilities approach helps

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to bridge the gap between abstract climate justice theory and real-world adaptation policy.

Capabilities, Vulnerabilities, and Adaptation: A Framework for Policy Responses

A broad capabilities approach, encompassing recognition, would begin to address what exactly is needed—in terms of environmental, sociocultural, and developmental conditions—to survive, function, and develop in a climate-changing world. It would aid in the design of substantive policy responses to threats to human and environmental needs; it would focus on how climate change makes lives more vulnerable, in various places and in very specific ways; and it would demonstrate how a notion of climate justice can be used in the policy process to identify and address those vulnerabilities as we adapt to new environmental conditions.

Jonathan Wolff and Avner de-Shalit, in an innovative and grounded examination of disadvantage from a capabilities perspective, illustrate how such a process can be conceived and implemented.[42] Arguing that risk and disadvantages tend to cluster—that populations susceptible to the loss of one capability are also likely to experience loss of others—they posit that the role of governments is to deconstruct such clusters. The idea is to discover elements that lead to what they call "corrosive disadvantages," and then to aim to provide opportunities for "fertile functionings"—a reverse of clustering, where the provision or attainment of one capability leads to the securing of others as well.[43]

Climate change can be seen as an element or instigator of corrosive disadvantage, and climate justice campaigners have long argued that climate change will make those already most vulnerable even more so. The potential on-the-ground impact of climate change on basic capabilities—whether caused by drought, flooding, food insecurity, health risks, or displacement—may not only cluster but are likely to cluster around those individuals and communities that are already disadvantaged. Moreover, climate change will create unique patterns of vulnerability and disadvantage, as it will initially be felt in different ways in different places—in decreased food security on much of the African continent, in drought in the American southwest, in the need for shelter and potential resettlement in deltas subject to sea-level rise, and in the disruption of cultural practices and affiliation in many indigenous communities.

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The goal, as in Wolff and de-Shalit, is for states to interrupt the clustering of disadvantage and look for ways that policy can be "fertile" in preserving or reconstructing a range of capabilities. Such a process begins, they argue, when disadvantages—or vulnerable capabilities—are recognized, indexed, and prioritized by governments. As I have argued above, the capabilities approach can be used to exactly this effect—that is, to identify and physically map vulnerabilities caused by climate change. Policy-makers can use the data developed by climate scientists, health agencies, emergency management agencies, agricultural stations, and others to more clearly understand how and where very specific changes to the physical environment will affect the ability of those environments to sustain specific human capabilities. UN agencies, the World Bank, and private companies are already developing such maps around poverty, food insecurity, and other predicted consequences of climate change.[44] Mapping vulnerability can help us understand the expected environmental impacts and the threats to basic human capabilities that rely on the continued functioning of environmental processes and conditions. The preservation or restoration of capabilities can also be used to benchmark the goals of adaptation policy.

Vulnerability is not simply to be mapped free of local input. A capabilities approach to adaptation cannot authentically be a top-down, expert-driven affair. Democratic participation in and control over one's own environment are central to the understanding of a capabilities approach to justice, and are clearly a constant demand in climate justice movements. Local communities can be engaged in discussions about local vulnerabilities, as understood by a variety of stakeholders. Communities need to be thoroughly involved in both the mapping of their own vulnerabilities and the design of adaptation policies. Such inclusion satisfies both recognition and participatory capabilities. The point here is to be flexible in understanding differences of threats and consequences, and to include those affected by climate change in the understanding and prioritizing of vulnerabilities and the development of adaptation policies in response.

This inclusive vulnerability mapping can be used both to illustrate the specific external climatic and environmental conditions that threaten basic capabilities and to design policies that address those vulnerabilities. An engaged process of reflection that assesses vulnerability can be used to clarify which policy responses are most needed in particular areas, and where resources will be most aptly applied on distinct issues. A capabilities approach, then, offers a method of analyzing the particular needs of communities, of directing adaptation policy toward

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preserving or rebuilding the specific capabilities under threat from climate change, and of measuring the success (or not) of implemented adaptation policies.

We already live in a climate-changed society, and given the political failure to prevent further change, and the current lack of recognition and threats to basic human needs, it is time to turn our attention to the injustices of the actual experience of climate change, and to strategies to preserve the basic capabilities necessary to provide for individual and community functioning in a climate-changed, and adapting, world. A capabilities-based approach to climate justice provides the normative framework for the development of such policies.

NOTES

[1] Climate Commission, *The Critical Decade: Climate Science, Risks and Responses* (Canberra: Climate Commission, 2011); climatecommission.gov.au/topics/the-critical-decade/.

[2] Nancy Fraser, *Justice Interruptus: Critical Reflections on the "Postsocialist" Condition* (New York: Routledge, 1997); and Iris Marion Young, *Justice and the Politics of Difference* (London: Routledge, 1990).

[3] Martha C. Nussbaum, *Creating Capabilities: The Human Development Approach* (Cambridge, Mass.: Harvard University Press, 2011); and Amartya Sen, *The Idea of Justice* (Cambridge, Mass.: Harvard University Press, 2009).

[4] Breena Holland has also developed a capabilities approach to environmental and climate justice, though there are key distinctions between our efforts: Holland's work is more specifically focused on environment as an instrumental support system for human needs, while the current piece more broadly addresses the contrast with other notions of climate justice, the role of recognition, and applications to communities and the nonhuman realm. See Breena Holland, "Justice and the Environment in Nussbaum's 'Capabilities Approach': Why Sustainable Ecological Capacity Is a Meta-Capability," *Political Research Quarterly* 61, no. 2 (2008), pp. 319–32; Breena Holland, "Environment as Meta-Capability: Why a Dignified Human Life Requires a Stable Climate System," in Allen Thompson and Jeremy Bendik-Keymer, eds., *Ethical Adaptation to Climate Change: Human Virtues of the Future* (Cambridge, Mass.: MIT Press, 2012), pp. 145–64.

[5] See, e.g., Anil Agarwal, Sunita Narain, and Anju Sharma, "The Global Commons and Environmental Justice—Climate Change," in John Byrne, Leigh Glover, and Celia Martinez, eds., *Environmental Justice: International Discourses in Political Economy—Energy and Environmental Policy* (Piscataway, N.J.: Transaction Publishers, 2002), pp. 171–202; Sivan Kartha, "Discourses of the Global South," in John Dryzek, Richard Norgaard, and David Schlosberg, eds., *The Oxford Handbook of Climate Change and Society* (Oxford: Oxford University Press, 2011), pp. 504–20; Eric Neumayer, "In Defence of Historical Accountability for Greenhouse Gas Emissions," *Ecological Economics* 33, no. 2 (2000), pp. 185–92; and Henry Shue, "Global Environment and International Inequality," *International Affairs* 75, no. 3 (1999), pp. 533–37.

[6] Dale Jamieson, "Climate Change and Global Environmental Justice," in Clark A. Miller and Paul N. Edwards, eds., *Changing the Atmosphere: Expert Knowledge and Environmental Governance* (Cambridge, Mass.: MIT Press, 2001), pp. 287–307; and Peter Singer, *One World: The Ethics of Globalization* (New Haven: Yale University Press, 2004).

[7] Singer, *One World*, p. 43.

[8] Derek Bell makes a similar argument regarding different needs, and calls the per capita approach an oversimplification; see Derek Bell, "Does Anthropogenic Climate Change Violate Human Rights?" *Critical Review of International Social and Political Philosophy* 14, no. 2 (2011), pp. 99–124.

[9] Simon Caney, "Cosmopolitan Justice, Rights, and Global Climate Change," *Canadian Journal of Law and Jurisprudence* 19, no. 2 (2006), pp. 255–78; and Simon Caney, "Climate Change, Human Rights, and Moral Thresholds," in Stephen Humphreys, ed., *Human Rights and Climate Change* (Cambridge: Cambridge University Press, 2010), pp. 69–90.

[10] EcoEquity, "Greenhouse Development Rights" (2008); Ecoequity.org/GDRs; emphasis in original.

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[11] Steve Vanderheiden, *Atmospheric Justice* (New York: Oxford University Press, 2008).
[12] See David Schlosberg, "Capacity and Capabilities: A Response to the Greenhouse Development Rights Framework," *Ethics, Place and Environment* 12, no. 3 (2009), pp. 287–90.
[13] Young, *Justice and the Politics of Difference*, p. 18.
[14] Fraser, *Justice Interruptus*, p. 14.
[15] Kyle Powys Whyte, "The Recognition Dimensions of Environmental Justice in Indian Country," *Environmental Justice* 4, no. 4 (2011), pp. 199–205.
[16] For discussion of this more psychological approach to recognition, see Axel Honneth, *The Struggle for Recognition: The Moral Grammar of Social Conflicts* (Cambridge, Mass.: MIT Press, 1995); and Charles Taylor, *Multiculturalism* (Princeton, N.J.: Princeton University Press, 1994).
[17] Nikolas Kompridis, "Struggling over the Meaning of Recognition: A Matter of Identity, Justice, or Freedom?" *European Journal of Political Theory* 6, no. 3 (2007), p. 278.
[18] Robert M. Figueroa, "Bivalent Environmental Justice and the Culture of Poverty," *Rutgers University Journal of Law and Urban Policy* 1, no. 1 (2003), pp. 27–42; Devon Peña, "Identity, Place and Communities of Resistance," in Julian Agyeman, Robert D. Bullard, and Bob Evans, eds., *Just Sustainabilities: Development in an Unequal World* (Cambridge, Mass.: MIT Press, 2003), pp. 146–67; David Schlosberg, "The Justice of Environmental Justice: Reconciling Equity, Recognition, and Participation in a Political Movement," in Andrew Light and Avner de-Shalit, eds., *Moral and Political Reasoning in Environmental Practice* (Cambridge, Mass.: MIT Press, 2003), pp. 77–106; David Schlosberg, *Defining Environmental Justice* (Oxford: Oxford University Press, 2007); and Whyte, "The Recognition Dimensions of Environmental Justice in Indian Country."
[19] This is one of the "storms" in Gardiner's metaphor of climate change as a "perfect storm" of tragedy. See Stephen M. Gardiner, *A Perfect Moral Storm: The Ethical Tragedy of Climate Change* (Oxford: Oxford University Press, 2011).
[20] See, e.g., "The Anchorage Declaration" of the Indigenous Peoples' Global Summit on Climate Change. Such a focus is also clearly part of the discourse of affected states, local social movements, and international NGOs—the actual political discourse of climate justice encompasses recognition more so than the academic literature on the concept.
[21] They highlight the "local material and symbolic contexts in which people create their lives, and through which those lives derive meaning" and show that it is those "contexts" that are threatened by climate change. W. Neil Adger et al., "This Must Be the Place: Underrepresentation of Identity and Meaning in Climate Change Decision-Making," *Global Environmental Politics* 11, no. 2 (2011), pp. 1–25.
[22] Ibid., p. 21.
[23] Amartya Sen, *Commodities and Capabilities* (Oxford: Oxford University Press, 1999); Amartya Sen, *Development as Freedom* (New York: Anchor, 1999); Sen, *The Idea of Justice*; Martha C. Nussbaum, *Women and Human Development: The Capabilities Approach* (Oxford: Oxford University Press, 2000); Martha C. Nussbaum, *Frontiers of Justice: Disability, Nationality, Species Membership* (Cambridge, Mass.: Harvard University Press, 2006); and Nussbaum, *Creating Capabilities*.
[24] Nussbaum, *Women and Human Development*, p. 71.
[25] Amartya Sen, "Human Rights and Capabilities," *Journal of Human Development* 6, no. 2 (2005), pp. 151–66; and Nussbaum, *Women and Development*, pp. 78–80.
[26] Defined politically as "being able to participate effectively in political choices that govern one's life; having the right of political participation, protections of free speech and association," in Nussbaum, *Creating Capabilities*, p. 34.
[27] See Holland, "Justice and the Environment in Nussbaum's 'Capabilities Approach,'" and Holland, "Environment as Meta-Capability," for the former, and David Schlosberg, "Justice, Ecological Integrity, and Climate Change," in Allen Thompson and Jeremy Bendik-Keymer, eds., *Ethical Adaptation to Climate Change: Human Virtues of the Future* (Cambridge, Mass.: MIT Press, 2012), pp. 165–84, for the latter.
[28] Sen, *Development as Freedom*, p. 70.
[29] Sudhir Anand and Amartya Sen, "Human Development and Economic Sustainability," *World Development* 28, no. 12 (2000), p. 2038; and Amartya Sen, "Why We Should Preserve the Spotted Owl," *London Review of Books* 26, no. 3 (February 5, 2004), p. 1.
[30] Nussbaum, *Frontiers of Justice*.
[31] Edward Page, *Climate Change, Justice, and Future Generations* (Cheltenham, U.K.: Edward Elgar, 2007); and Edward Page, "Intergenerational Justice of What: Welfare, Resources, or Capabilities?" *Environmental Politics* 16, no. 3 (2007), pp. 453–69.
[32] Holland, "Justice and the Environment in Nussbaum's 'Capabilities Approach'"; and Holland, "Environment as Meta-Capability."
[33] Nussbaum, *Women and Human Development*, p. 80.

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[34] Elizabeth G. Hanna, "Health Hazards," in John S. Dryzek, Richard Norgaard, and David Schlosberg, eds., *The Oxford Handbook of Climate Change and Society* (Oxford: Oxford University Press, 2011), pp. 217–23.
[35] Scott Leckie, Ezekiel Simperingham, and Jordan Bakker, eds., *Climate Change and Displacement Reader* (London: Routledge, 2012).
[36] Holland, "Environment as Meta-Capability."
[37] Holland, "Justice and the Environment in Nussbaum's 'Capabilities Approach,'" p. 328.
[38] Nussbaum, *Women and Human Development*, p. 74.
[39] Page, *Climate Change, Justice, and Future Generations*; and Page, "Intergenerational Justice of What."
[40] Robert M. Figueroa, "Indigenous Peoples and Cultural Loss," in John Dryzek, Richard Norgaard, and David Schlosberg, eds., *The Oxford Handbook of Climate Change and Society* (Oxford: Oxford University Press, 2011), pp. 232–50. For another discussion of a community-level approach to capabilities, in particular as applied to indigenous environmental justice, see David Schlosberg and David Carruthers, "Indigenous Struggles, Environmental Justice, and Community Capabilities," *Global Environmental Politics* 10, no. 4 (2010), pp. 12–35.
[41] Schlosberg, "Justice, Ecological Integrity, and Climate Change."
[42] Jonathan Wolff and Avner de-Shalit, *Disadvantage* (Oxford: Oxford University Press, 2007).
[43] Ibid., p. 10.
[44] See, e.g., Rasmus Heltberg and Misha Bonch-Osmolovskiy, "Mapping Vulnerability to Climate Change," World Bank Policy Research Paper 5554 (2011); Climate Commission, *The Critical Decade*; the Food Insecurity and Vulnerability Information and Mapping System (fivims.net); and Maplecroft's Climate Change Vulnerability Index (maplecroft.com/about/news/ccvi.html).

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