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The Ethical Implications of Sea-Level Rise Due to Climate Change

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Does humanity have a moral obligation toward the estimated millions of individuals who will be displaced from their homes over the course of this century primarily due to sea-level rise (SLR) as the earth's climate warms? If there are indeed sound reasons for the world to act on their behalf, what form should these actions take?

As scientific evidence for the adverse effects of human-induced climate change grows stronger, it is becoming increasingly clear that these questions are of urgent practical interest and require concerted international political action. In the course of this century and the next, the earth's climate will almost surely get warmer as a direct result of the emissions accumulated in the atmosphere from the burning of fossil fuels since the Industrial Revolution. This warming will very likely result in heat waves, heavy precipitation in some areas, extreme droughts in others, increased hurricane intensity, and sea-level rise of about one meter—although recent findings suggest this rise could quite plausibly be greater than that by century's end.[1] Forecasts of how many people will be displaced by 2050 by climate change vary widely, from about 25 million to 1 billion. The difficulty in accurate forecasting lies not only in the uncertainty regarding future climate change impacts and adaptation measures but also in estimating the outcome of the several complex factors driving migration.[2]

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No other form of environmentally induced human migration will likely be as permanent as that caused by climate-induced SLR; and there are special reasons why its victims deserve unique moral consideration. SLR will affect coastal populations in a variety of ways, including inundation, flood and storm damage, erosion, saltwater intrusion, and wetland loss. Together, these will greatly reduce available land for cultivation, water resources, and fodder, causing severe hardship in terms of livelihood and habitat loss. Worst of all, SLR and the associated changes in the coastal zone will add burdens to many who are already poor and vulnerable.

The physical changes associated with SLR may themselves take place in abrupt, nonlinear ways as thresholds are crossed. In turn, the least resilient communities—that is, those dependent on subsistence fishing—will be the first to experience "tipping points" in their life systems, so that the only option available to them would be to abandon their homes and search for better prospects elsewhere. As the average sea level continues to rise, coastal inundation, saltwater intrusion, and storm surges will become more intense and people will find it increasingly difficult to stay in their homes and will look for ways to migrate inland. As ever larger numbers pass thresholds in their ability to cope, more societal tipping points will be crossed, resulting in the sudden mass movements of entire villages, towns, and cities in coastal regions.[3] On small islands and in countries with heavily populated delta regions, the very existence of the nation-state may become jeopardized, so that the extremely vulnerable will no longer have state protection they can rely on.

The extent of vulnerability to sea-level rise in any given country will depend on more than just its terrain and climatic conditions: the fraction of the population living in low-lying regions, the area and proportion of the country inundated, its wealth and economic conditions, and its prevailing political institutions and infrastructure will all be of relevance. Thus, in a large country, such as the United States or China, coastal communities would be able to move inland, given adequate preparation and government response. In the case of small islands in the South Pacific, however, such an option does not exist, since it is expected that most or even the entire land area will sink or become uninhabitable. In such cases as Bangladesh, Egypt, Guyana, and Vietnam, where nearly half or more of the populations live in low-lying deltaic regions that support a major fraction of their economies, SLR will threaten the very functioning of the state.

Moreover, it is increasingly clear that for tens to hundreds of millions of people living in low-lying areas and on small islands, no physical defense is realistically possible or can be fully protective. A recent report by the Dutch Delta

Committee proposes annual investments of about 1.5 billion Euros for the rest of the century just to protect the Netherlands' 200-mile coastline, and indicates that 20–50 percent of coastal land worldwide cannot be protected, especially under conditions where SLR takes place rapidly—as a result, say, of a collapse of major ice sheets in Greenland or Antarctica.[4] Even if greenhouse gases are removed from the atmosphere through some future technology, we are already committed to a certain degree of warming and sea-level rise because of the thermal inertia of the oceans. In addition, most residents of small island nations and other low-lying coastal regions around the world will not be able to avail themselves of the sorts of conventional adaptation remedies that are conceivable for the victims of drought, reduced crop yields, desertification, and so on. Apart from exceptional cases where adequate engineering solutions can be developed to prevent inundation, coastal erosion, saltwater intrusion, and other challenges associated with rising seas, people living in these vulnerable regions will be forced to flee, generally with no possibility of return to their original homes. Indeed, migration and permanent resettlement will be the only possible "adaptation" strategy available to millions. Existing international law provides no solution for these individuals, for whom, we will argue, the only just remedy is in the form of special rights of free global movement and resettlement in regions and countries on higher ground in advance of disaster.

What Needs to Be Done

The issue of climate change and migration has received considerable scholarly attention, primarily in terms of its political and legal implications, but there has been little focus on the ethical aspects.[5] In an earlier paper we suggested that the responsibility of absorbing "climate exiles" should be shared among host countries in a manner that is proportional to a host's cumulative emissions of greenhouse gases.[6] Here, we try to develop the ethical basis for the international community, first, to recognize that displaced persons, and in particular those whose nation-states will have become physically nonexistent or will face an unendurable burden, should have a special right to free movement to other countries; and, second, to formulate institutional means for providing them political, social, and economic rights. We define the victims' unbearable burden in the following terms: they will face a breakdown or total forfeiture of prevailing physical, economic, and social

support systems; and they will have no effective state to endow them with rights and alleviate their pain.

It is not our intention to provide a particular formula for how individual countries should be made responsible for the victims' habitation and citizenship, but to suggest instead that once the basic principle of shared responsibility based on each country's contribution to climate change is accepted, there could be several ways to determine precisely how the costs of policy implementation should be distributed, how rights could be exercised by the climate exiles and migrants, and what other institutional and political mechanisms should be established to avert a massive refugee crisis. The fairest solution, we therefore propose, is for the international community to grant, in the first instance, the individual right to migrate to safe countries for those who will be displaced forcibly by SLR. We then recommend that an international treaty begin to address this issue so that climate migrants and future exiles will be able to find homes well in advance of the actual emergency.[7] Indeed, unlike in the case of natural disasters, such as the Asian tsunami of December 2004, the world is already sufficiently forewarned about the need to prepare for the effects of SLR and has ample time and opportunity to make reasoned judgments about how best to respond.[8]

We contend that the alternative—to ignore potential victims until after they become "environmental refugees"—is morally indefensible as well as impractical. For one thing, the victims in the case of SLR cannot even be classified as "refugees" since there are no legal instruments that give them this option. Notably, the Refugee Convention, designed to protect those forced to flee their homes as a result of war or persecution, in force since 1954, recognizes as a refugee someone who is "unable [or] unwilling to avail himself of the protection" of his country of nationality and is outside that country "owing to well-grounded fear of being persecuted for reasons of race, religion, nationality, membership in a particular social group or political opinion"—a definition that does not extend to those adversely affected by environmental disasters, including climatic change. In this paper and elsewhere we therefore reserve the terms "climate migrants" and "climate exiles" to refer to the victims of SLR attributed to climate change. The former includes all those who are displaced because of the effects of climate change, while the latter refers to a special category of climate migrants who will have lost their ability to remain well-functioning members of political societies in their countries, often through no fault of their own. Further, while most climate migrants will be internally displaced people, or have the opportunity of returning

to their countries or regions of origin if adequate adaptation measures were taken, climate exiles will be forced to become permanently stateless in the absence of other remedies.

Duties to Climate Exiles

Our fundamental argument is that humanity carries a special obligation to present and future generations of people whose homes, means of livelihood, and membership in states will be lost specifically as a result of sea-level rise caused by climate change. We draw upon the principle of intergenerational equity, wherein each generation is collectively responsible for protecting and using natural resources in a sustainable manner so that future generations are not unduly harmed by their present misuse. The recognition of this duty implies, as Joerg Tremmel suggests, that "in spite of the difficulties such as opportunity costs, restricted human ability and foresight, modern collective agents (present governments and leading industrial companies) have to take their responsibility for future generations seriously."[9] This responsibility is carried over to representative agents in the future who share the legacy of causing harm with their forebears but who now have the ability to recognize the suffering that ensues as a result of historical (if not continuing) actions and can therefore make amends to the sufferers who live in their midst. As we discuss later, this is not always equivalent to an argument for making reparations for past injury.

In the context of this paper, the basis for this duty is the harms caused by the accumulation of greenhouse gas concentrations in the atmosphere since the Industrial Revolution. Starting in the late eighteenth century, fossil fuels, such as coal, oil, and natural gas, have been extracted from the earth and burned in engines to feed economic growth. This process has resulted in effluent carbon dioxide, roughly half of which tends to remain in the atmosphere for one or more centuries, some of it for hundreds of thousands of years. Over the past 250 years the concentration of carbon dioxide in the atmosphere has risen by more than a third, concurrent with the increase of other greenhouse gases, such as methane, nitrous oxide, and chlorofluorocarbons. The first half of this increase took place in the course of about two centuries, from the start of the Industrial Revolution to around 1973, but the second half of the increase has occurred much more rapidly, in less than four decades.

Three features of this phenomenon are significant for making ethical arguments about climate change. One is that most of these emissions come from countries that have effectively become wealthy as a result of industrial development. Roughly two-thirds of the airborne concentrations of greenhouse gases are from the United States, Europe, and Japan, which have about one-seventh of the world's population and half its wealth. In per capita terms, these numbers seem even starker. The average income of individuals in wealthier countries is at least ten to twenty times greater than that of individuals in poorer countries, and their contribution to greenhouse gas emissions is correspondingly higher. For example, the average American has an income of about $42,000 and emits about twenty tons of carbon dioxide per year, compared to the average Chinese, whose income is about $4,000 and who emits about four tons per year, or the Bangladeshi, whose annual income is about $1,000 and who is responsible for the emission of only about a half ton of carbon dioxide each year. This generally follows from the countries' consumption patterns: the poor tend to consume far less than the wealthy, but there are also wealthy nations, such as Denmark ($34,000 and nine tons per year) and Norway ($48,000 and eight tons per year), where a combination of national policy, natural resources, and personal lifestyle choices have resulted in relatively low levels of consumption.[10]

Furthermore, as Anil Agarwal and others have pointed out, an ethical distinction needs to be made between "survival" and "luxury" emissions. Therefore, one ought to differentiate between emissions from profligate individuals or societies, whose wasteful lifestyle choices lead to high energy use, and those associated with energy uses for subsistence living. For example, the emissions arising from living in large inefficient houses, flying for frivolous reasons, and driving inefficient vehicles are qualitatively distinct from those associated with using fuelwood cookstoves and kerosene for lighting.[11] As illustrated in the *World Development Report 2010*, the carbon emissions associated with providing electricity to 1.6 billion people currently without access would be equivalent to switching the 40 million SUVs in the United States to cars with European Union fuel economy standards. With very little carbon space left in the atmosphere, what has emerged is the concept of a "limited carbon budget," or an upper limit on the amount of greenhouse gases that can be pumped into the atmosphere while still maintaining a stable climate.[12] This budget has already been largely depleted by a few at the expense of the many.

We call this feature *disproportionate accumulation*, because one set of groups has used up not only a disproportionate amount of the world's limited carbon

budget but has also become vastly richer than the rest of the world as a result. A further complicating element of disproportionate accumulation is that *early emitters* of carbon dioxide have contributed more significantly to temperature increases compared with later emitters. This is because the relationship between carbon dioxide and radiative forcing—the net difference between incoming and outgoing radiation energy—is closer to a logarithmic than linear function such that increased concentrations have a progressively smaller warming effect.[13]

A second feature, which we term *delayed effects*, is that the climate system itself is a slow-moving beast, which means that it will take several decades, if not a century or longer, for the concentrations of greenhouse gases in the atmosphere to manifest themselves fully in terms of their impact: warmer oceans, melting ice, and altered weather systems, which will in turn generate other ecological effects. Indeed, no matter what we do now, it seems likely that the earth will warm by at least another degree Celsius by the end of the century, which implies that we are already "committed" to experiencing further warming due to historic emissions.

Delayed effects has two sets of implications. One is that people living today are only now beginning to experience the harmful effects of greenhouse gases emitted by people generations past, but they have also reaped the cumulative economic benefits of development and growth, even though these losses and gains have been distributed disproportionately. Today's losers and winners can neither claim losses from nor pay debts to those who are no longer alive, but they can potentially transact with states, which at least partially represent legitimate and continuous links with the original actors. The second implication is that since greenhouse gases continue to accrue, actions taken today will have consequences for future generations, either positively or negatively. For instance, unless greenhouse gas emissions are reduced dramatically, future generations cannot hope to live as reasonably well as we do on average. Either way, delayed effects points to an intergenerational asymmetry between the emissions and impacts, which raises a range of complex ethical concerns.[14]

The third feature, *asymmetrical impacts*, relates to the fact that by most accounts the poor, particularly those living in developing countries, will experience far worse consequences from climate change than the wealthy, especially those living in the industrialized North. There is growing evidence that the worst effects of climate change will fall disproportionately on those living in sub-Saharan Africa, small islands in the Pacific and Indian oceans, and deltaic regions of South and Southeast Asia, Egypt, and China.[15] This is a consequence of two factors, one geographic and

the other economic. Many developing countries are on small islands or encompass low-lying coastal areas and other regions that happen to be especially prone to natural disasters, which will be exacerbated by climate change. But perhaps more important, they typically do not have the resources to mitigate the effects of climate change by such protective measures as seawalls and embankments or by extensive insurance arrangements. Indeed, the most vulnerable people will be those who lead subsistence livelihoods in the highly risk-prone areas.[16]

Accompanying these features are at least two kinds of injustice. First, disproportionate accumulation means that the industrialized North has already captured a substantial portion of the earth's available carbon budget; but the poorer South, where the bulk of humanity lives, may never be able to industrialize to the same level if the planet's climate is to stay within sustainable limits. As already mentioned, this is a type of inequality of opportunity about which others have said a great deal, the main argument being that the remaining carbon budget should be divided fairly for future development.[17] Thus, even while countries negotiate means to reduce future greenhouse gas emissions to avoid the extreme effects of climate change, international policy forums are recognizing the need to provide additional time and improved technologies and financing to developing countries so they too can move out of poverty even as they, unlike the industrialized nations before them, try to adopt less carbon-intensive development paths. This is also the idea behind the principle of ''common but differentiated responsibility,'' which has been widely recognized and accepted by the international community and is manifested in the United Nations Framework Convention on Climate Change and the Kyoto Protocol. It is the operationalization of this principle rather than its validity that is the primary site of debate, which is reflected in a wide variety of proposals to allocate future emissions reduction obligations among countries.

The second injustice, which is the primary focus of this paper, is associated directly with asymmetrical impacts, but the unfairness involved can be highlighted on the one hand by disproportionate accumulation and obscured on the other by delayed effects. Asymmetrical impacts by itself implies that there is an unequal burden on the poor, who tend to live in regions that are especially vulnerable to climate change, but it is a burden that is all the more unfair because the poor played only a minor role, if any, in causing the climate problem, and certainly did not reap the benefits of economic expansion during the past two centuries or so. More than 2 billion people continue to rely on traditional biomass for their energy and suffer greatly in human development terms as a result, while accounting for

nearly zero emissions. Moreover, since many climate impacts will only become patent in the future, the actual unfairness of disproportionate accumulation may quite easily become obscured, especially if wealthier countries begin to reduce their future emissions aggressively.

For instance, one can imagine a point in the near future when Europeans and North Americans have reduced their annual emissions rates substantially, which they then use as the basis to argue that they have thereby absolved themselves of any further responsibility for climate impacts taking place elsewhere in the world. Yet, as we have seen, disproportionate accumulation and delayed effects imply that it is the *cumulative* effects of greenhouse gas emissions, manifested as increased concentrations of these gases in the atmosphere, which constitute the relevant object of concern. In other words, even if the future *annual* rate of emissions from Europe and North America were to be zero, their obligations will be non-zero because of the delayed effect of their historic emissions. Furthermore, the fact that disproportionate accumulation is also associated with early emitters—that is, the industrialized countries—provides additional reasons for assigning them special responsibilities for mitigation.

Assessing Responsibility

We later discuss briefly why it is reasonable to assign obligations to countries rather than to individuals or other entities, but an important consideration to be addressed at this point is whether these obligations ought to be assigned on the basis of historical emissions going back more than a hundred years despite the fact that the science of climate change, and especially the policy discussions around it, are relatively recent. In other words, can ignorance be a valid reason for exonerating countries from liability for historical emissions? Similarly, if our ancestors did not intend to cause harm because they did not at the time realize that their emissions would cause climate change, why should their descendants now be asked to bear the responsibility?

Henry Shue argues that while ignorance might be a mitigating factor in assigning moral guilt, resulting in punishment, it ought not to matter in assigning responsibility, resulting in making amends.[18] This means that, regardless of the unintentional nature of the initial overuse of the global atmosphere, harm has accrued disproportionately on one group of actors, while another group has benefited disproportionately. This means that major polluters, who were the

major beneficiaries, have the duty to make amends and, incidentally, also have the capability to do so. Regardless of whether one knew one's actions would result in harm, one is accountable for the consequences, and one's capability provides additional reasons to make amends. Steve Vanderheiden makes a further distinction between "reasonable" and "unreasonable" ignorance, arguing that "a defensible starting point" for assigning moral responsibility to countries is 1990, which was the watershed year when the effects of greenhouse gases on the climate were better established through the findings of the Intergovernmental Panel on Climate Change and when international deliberations were initiated at the Earth Summit in Rio to seek cooperation to address global warming.[19]

To be clear, Vanderheiden does not suggest that there is no duty to make amends for actions taken before 1990. He simply points out that these are tied to "causal" rather than "moral" responsibility and that it may be appropriate to use historical emissions for responsibility-based allocations under strict liability, whose standard is immune from knowledge-based problems. Fault-based liability, in contrast, ought to be "reserved for those cases in which reasonable ignorance cannot validly be claimed."[20] That is to say, reasonable ignorance can exonerate one from being at fault and from facing punitive damages but may still imply that one must pay for remedial efforts. The moral argument for strict liability is remedial in nature: the party that caused the actions and potentially benefited from them, rather than the victims, should bear the costs of the consequences. Punitive or retributive action is justified when there is full or even partial knowledge of the actions bearing consequences. As it turns out, the question of whether or not one takes 1990 as the starting point for assigning moral responsibility does not matter, because countries of the North have continued to emit greenhouse gases at very aggressive rates even since 1990. In fact, both the ranks of countries in terms of their cumulative emissions as well as their fraction of global emissions vary only slightly whether 1850 or 1990 is taken as the start for the calculation.[21]

It is useful to consider this second injustice by examining first the simplest case in which people we shall call the extremely vulnerable (EV) live in a group of countries that face asymmetrical impacts, but in a world with proportionate accumulation and immediate effects. We assume that all countries have the same resources and have used up ecological space at the same rate everywhere.[22] Yet, as a result of sheer bad geographical luck, for the EV alone, climate change results in increased drought, a certain degree of coastal erosion associated with SLR, and more frequent tropical storms, which take place nearly instantly, so that all the

actors are still alive when these occur. The EV in this case are also not already "poor" in the conventional sense, except that they will in the future become economically disadvantaged as a result of climate change. For the purposes of argument, we will also ignore the reality that it is the poorest among the EV who will be least equipped to adapt to the consequences of climate change by assuming a fairly uniform initial wealth distribution throughout the globe.

Consider first a situation in which the consequences for the EV are harsh though not intolerable: more drought and fire place croplands and forests at risk, sea-level rise causes frequent storm surges and coastal erosion, fisheries are adversely affected by warmer temperatures, and melting glaciers reduce the amount of available drinking water as well as destabilizing slopes and lessening river runoff. Ought we to treat this as an injustice for which the EV may rightly seek remedies from others? Under proportionate accumulation all countries were equally responsible for the climate impacts and did not place a burden on the EV over and above their own countries' emissions. Why should others have any special ethical obligation to clean up whatever mess results in the EVs' part of the world? The disproportionate impacts on the EV appear, after all, to be largely the result of their location and related physical conditions. It might, moreover, be argued that some of these impacts are due to excessive urbanization or aggressive agricultural policies that destroyed natural systems of climate resilience. That is to say, some of these impacts may have been the result of the EVs' own irresponsibility in managing their lands unsustainably.

In this scenario all countries seem uniformly culpable, and the unequal burden of climate impacts is only due to the EVs' unfortunate geography combined, perhaps, with the poor stewardship of their land. Under proportionate accumulation, the EV have in any case benefited just as much as others from the rewards of industrialization. Thus, they have to find ways to adapt to climate change and also make efforts along with everyone else to prevent even worse impacts from taking place in the future. The damages they face must generally be addressed with their own resources, and it seems that they cannot really make moral claims on anybody else, although they may of course hope that others are generous in providing support.

Consider, now, that climate impacts are so extreme that the EV lose their means of livelihood and shelter, and are compelled to leave their countries. Do people living in other countries now have any additional obligation to help the EV find new homes? There is certainly a universal duty to treat all humans with dignity and

respect, and since the latter attributes have been stripped from the EV as a result of bad luck, they might expect the same level of assistance as victims of severe natural disasters. But would there be a moral responsibility for anyone to be other than modestly charitable? Charity is at best a positive duty to provide assistance to the EV out of one's own volition, but it provides no guarantee that the EV will in fact be given succor.

Yet, there are negative duties, or duties not to cause harm, that have a bearing on this hypothetical scenario.[23] Indeed, the EV, now forced to flee their countries, have not lost their homes because of some tragedy that is wholly unconnected to others' actions, but rather as a direct outcome of the accumulated greenhouse gas emissions from all countries. Since others are also responsible for the harm caused to them, and especially because that harm directly affects the EVs' ability to live their normal lives, we argue that the rest of the world has a duty to help them in their hour of dire need. After all, climate change is not a "natural phenomenon," such as an earthquake, but rather the outcome of human actions—actions for which others (including their industrializing ancestors) have been responsible parties.

How does this logic differ from the first case in which the effects on the EV are not grim enough to cause them to be physically displaced from their homes? There, too, negative duties hold, but since they are uniformly distributed, with the EV also equally responsible, and since their states still have the capacity to help them, the obligations of other countries may be limited. Our argument is derived from the general expectations concerning such climate impacts as flooding, drought, heat waves, and heavy precipitation, as well as coastal erosion, increased frequency of insect-borne disease outbreaks, and loss of biodiversity. Undoubtedly, these will all cause severe hardship, especially for the unfortunate extremely vulnerable. Yet, it seems reasonably certain that the EVs' governments have the capacity themselves to cope with these impacts, albeit at some cost. One can then identify an *ethical threshold*, which we define as follows: as long as the EV do not suffer damage that seriously limits their *functionings*, including health, access to education and knowledge, general safety, self-respect, social recognition, and political participation, and to the extent their states can continue to make possible the necessary institutions of support, their well-being will be compromised but they will not suffer an unendurable burden.[24] In this situation, under proportionate accumulation each person is equally responsible for taking care of whatever harm befalls them resulting from climate impacts. But once the impacts of climate change are so disastrous as to strip people of their functionings

and capabilities and to strip states of their capacity to fulfill their responsibilities, the rest of the world has a moral obligation to provide help, if only because others too have been causal agents for these impacts. To be sure, this is not a rigid threshold, but neither is it arbitrary. In almost any situation where the extremely vulnerable are identifiable, it should be possible to tell whether or not they can cope with resources already available to them, or at least at a cost that does not affect their functioning in too great a way.[25]

It seems, therefore, that in a world in which all have contributed to the problem, and have done so equally, asymmetrical impacts alone provides sufficient reason to require the rest of the world to give forcibly displaced EVs the right to move into other countries. In reality, climate exiles live in a world where disproportionate accumulation is also in play, which only strengthens the basis for the high emitters' collective negative duties toward them. Climate exiles who are deprived of their livelihood and face the risk of their nations being submerged are therefore especially deserving of rights of migration. The rest of the world, especially those living in wealthy countries, may provide support to climate exiles as a positive duty to assist persons in harm's way. But since they also have direct responsibility for creating this condition, and have benefited disproportionately by their historical and continuing actions, they may need to do even more for climate exiles. Moreover, disproportionate accumulation implies that historically high emitters are almost by definition those countries that have not only additional responsibility but also additional capability for addressing the needs of climate exiles.

There are two broad categories of climate exiles and migrants to consider: the small islanders among the extremely vulnerable and those in other types of coastal areas that are vulnerable to sea-level rise. Some might argue that those who used to live in a deltaic region that became submerged could potentially have the opportunity to move inland. But many of the most vulnerable deltas are in countries whose economies are dominated by coastal activities (for example, Bangladesh, Guyana, Vietnam) and where about half their populations reside in coastal areas. In other words, the EV tend to live in vulnerable regions more by economic necessity than by choice.

Consider that the reason the EV live in these areas in the first place, as many civilizations have in the past, is the region's ability to provide them a decent livelihood through fishing and agriculture and its associated services. These coastal residents tend to be small farmers, fisherfolk, and traders who depend on income opportunities created by the deltaic economy for their survival. Upon compulsorily

abandoning their shelters and means of livelihood, and with their states at risk of collapsing, they too—like the small islanders—would suddenly be bereft of their substantive freedoms to choose lives that they have reason to value; they too may not find alternative homes within their own country, and they too may be deprived of their full rights of citizenship. While the small islanders among the EV would be literally at sea and would therefore be seen as the most obvious candidates for relocation, the suffering of others in low-lying delta regions could be just as cruel.[26]

Finally, we consider why we seem to be silent about other victims of climate change who may also be forced into migration or exile. For instance, it is estimated that by 2020, between 75 million and 220 million Africans will suffer from increased water stress due to climate change. In the same period, in some African countries yields from rain-fed agriculture could be halved. Overall, it has been estimated that in the course of just a few decades hundreds of millions of people may be compelled to relocate primarily because of climate-change-induced drought.[27] These climate migrants will face bleak conditions analogous to those forced into exile by sea-level rise, but unlike the latter they will, in principle, have the opportunity to return to their old homes because their land itself will not disappear or their countries become unviable. In the case of SLR we can be *certain* that there will be a loss of land as a consequence of climate change, which gives us the imperative to develop an ethical framework particularly in this instance. The extremely vulnerable groups displaced by SLR, who will be forced into *permanent* exile and will need to seek membership in other political societies as well as rebuild their economic and social lives, are therefore especially deserving of the ethical considerations we are arguing for in this article.[28]

Nonetheless, we do not exclude the possibility that other climate impacts may also lead to climate exiles, and that their identification as such may indeed become easier in the future as and when methods of attribution become clearer. In this paper, we simply treat the SLR victims as being the first and clearest instance of climate exiles.

Policy Options

Climate exiles will be stateless persons, individuals who are stripped of rights, but what is exceptional about them is that this will be a permanent condition, unlike most other types of statelessness, since the original state *and* its territory will either no longer exist or will be rendered unviable for all practical purposes. In order

to protect and sustain all the attributes associated with the exiles' personhood, the global community needs to develop mechanisms to provide climate exiles with a new set of economic, political, and civil rights, even if they were originally members of poorly governed societies where they did not fully enjoy these rights. This is because the duty to provide climate exiles' rights is generic and universal and does not depend on the identity of the person being rehabilitated, while the specific character of the rights being provided may depend on the particular country conferring them in any given instance. At the same time, climate exiles should also have the right to at least a limited menu of options as to where they wish to resettle.

Once the basic principle of providing fair rehabilitation for climate exiles is accepted, there could be several ways to determine *who* should be considered for immigration rights, *which countries* should absorb exiles, *how* the rights could be exercised, *how* and *whether* internal displacement needs to be considered as part of the international agreement, and *what* institutional and political mechanisms should be established to reduce the risk of a massive humanitarian crisis as climate impacts become more severe.

Under the new international treaty that we propose, people living in nation-states that will become physically unviable or will face an unendurable burden will be given special rights under a separate ''climate exile'' status, typically giving them the right to migrate to a particular or previously agreed upon country. It will enable them to migrate in *advance* of actual sea-level rise and, finally, it will prepare climate exiles through skill building and training so that they are able to build new lives elsewhere. In this proposal, historically large emitters will take responsibility for providing immigration rights, based on their shares of cumulative greenhouse gas emissions. Presented as an expression of acknowledgment of their historic contribution to cumulative emissions in the atmosphere, such action may also persuade large developing countries to demonstrate real shifts toward reducing their future production of greenhouse gas emissions and participate more robustly in absorbing future exiles and migrants.

Countries such as India, whose cumulative emissions can be expected to increase over time, will need to set up similar shares in proportionate terms. Others, such as China, may be both the source of large emissions and have vulnerable populations. In such cases, relocation within countries may be included as part of, or in addition to, shares for displaced climate exiles from elsewhere. Advance planning for an influx of climate exiles may be an opportunity for the host country to provide

education and training to the regions where future climate exiles currently reside, thus enabling the host country to ensure that those who arrive are suitably skilled. While the provision of a right to free movement is not fungible but a responsibility of large emitters, such countries as Japan and the Netherlands will themselves face serious SLR effects and a large proportion of their people and landmasses are expected to be under threat. As exceptions, they could discharge their duties by either providing funds for resettlement or absorbing exiles as agreed upon by the international agreement.

In the near term, a dozen or so countries in the Pacific that are currently at greatest risk to SLR would have the option of finding safe haven without having to scrounge in desperation for (possibly nonexistent) higher ground. Subsequently, people living in other low-lying coastal regions would be accorded similar rights as bona fide members of vulnerable populations. The criteria for determining climate exile status would need to be worked out carefully in terms of identifying physical indicators and thresholds, such as levels of saltwater intrusion, attribution of impacts to climate change, levels of storm surge, coastal flooding, and so on. The rights, in turn, could be accorded in a phased manner starting within the next few years so that the most vulnerable groups get early attention.

The "polluter pays" principle already serves as a basis for liability and compensation for transboundary pollution in international law. A further consideration is the "beneficiary pays" principle, according to which countries that undertook and benefited from emissions activities are liable for the costs of combating negative externalities that resulted from them. In proposing that the winners resulting from disproportionate accumulation and asymmetric impacts take the lead in absorbing climate exiles, our proposal takes both these considerations into account and further suggests that capability is at least as relevant as responsibility.[29]

Finally, negative duties with respect to future climate change—that is, duties to cause no further harm through one's actions—should also include efforts to reduce greenhouse gas emissions so that the poor in particular are not adversely affected by continuing actions on the part of those who are already better off. But to the extent that these are duties relating to future effects that are additional to those already expected, they ought to be viewed as being independent of, and supplementary to, existing obligations toward climate exiles, which relate to past actions.

Further Considerations

Our proposal raises several questions. Two in particular stand out—namely, who the agents of burden sharing ought to be (states, corporations, individuals), and why today's people should bear the burden of past actions—that is, how we should account for delayed effects.

Why make countries rather than corporations or other large emitters of greenhouse gases responsible for the problem of resolving the fate of climate exiles? And why should present-day and future citizens in these countries have to share their lands with climate exiles, when it is conceivable that neither they as individuals nor their ancestors were actually responsible for high emissions? Imagine a naturalized citizen in the United States from, say, Ethiopia, who has led a very low-carbon life by taking precautions to consume very little energy based on fossil fuels and has also promoted environmentally-conscious policies in the country and abroad. Why should this person and his descendents be deemed responsible for admitting climate exiles?

It is of course true that one can identify several types of agents responsible for producing greenhouse gas emissions. Governments may be directly responsible for only a relatively small fraction of these emissions, with corporations and individuals collectively contributing the bulk. Yet, as Vanderheiden argues, assigning collective responsibility to countries is justified, in part because doing so identifies a responsible party even when individual contributory acts appear small or faultless and also because it is national policies that have enabled the proliferation of luxury emissions.[30] In addition, states have existed as powerful, sovereign entities at least since the early 1800s, when industrializing powers led by Great Britain and the United States expanded their colonies, consolidated their power, and developed the modern world trade system. In the process, it was precisely those countries that contributed the most to today's carbon dioxide concentrations in the atmosphere and became wealthy in the process, primarily as a result of leading economic expansion through conquest, mercantilism, and dominance in intergovernmental processes. States were by no means passive spectators to the process of economic expansion, which frequently took the form of unsavory practices by corporations and adventurers causing harm to both domestic labor and foreign populations. Rather, they often actively aided and abetted these practices, sometimes in the name of free trade and, paradoxically, at other times citing their national interest.[31]

Moreover, most of these countries have some sort of continuity of institutions to this day, though not of course of individuals, so it is reasonable to hold the states responsible for the consequences of their past actions. Similarly, cumulative economic benefits are typically "banked," and people who live in a country (including the disenfranchised, such as the very poor and children) ultimately *do* reap the rewards of a particular economic path adopted by the country and its decision-makers even if they do not all benefit at the same level.[32] Furthermore, in the present world order, it is only individual countries that have jurisdiction over issues of immigration, the capacity to provide exiles with political membership, and the ability to regulate industrial and other activities. Of course, if a particular state decided that it would distribute its responsibility by holding other parties, such as corporations, responsible, it would be free to do so. Countries have the authority and are in the position to make decisions for their people and they remain the entities that are therefore most appropriate for actions to address the challenge of climate exiles. Finally, while the citizens of any country may be deemed responsible for their government's actions, those in democracies are especially answerable because they are in a position to have a more direct say in their country's policies.

Finally, it is worth taking a brief look at the issue of reparations for historical injustice in anticipation of possible criticisms to our proposal, given that the connection will invariably be made since the weight of historical emissions is relevant in our framework.[33] The longest-standing demand for reparations has been made by the descendents of African-American slaves, for the historical injustice of slavery. The main argument made by opponents of slavery reparations is that (unlike the people we describe here) those who would receive compensation would not be the direct victims of government and private misdeeds. And even if it were deemed that descendants of slaves ought to receive compensation, such individuals would be difficult to identify and the specific levels of victimization extremely difficult to pinpoint.

In the case of sea-level rise associated with climate change, we are indeed speaking of actual present and future victims rather than their descendants or representatives. These individuals are alive and can easily be identified based on where they presently live and the extent of their vulnerability. It is of course possible that there could be some ambiguity as to who counts as a legitimate member of the extremely vulnerable. This is especially the case for those who live in deltaic regions, where it is conceivable that the establishment of a regime

that provides immigration rights to climate exiles could be seen as providing incentives for people to make false claims about where they actually live, or for others to rush to buy homes in vulnerable areas. Nevertheless, we argue that these problems are no more insurmountable than those one might expect with any other large-scale intervention that seeks to provide succor to one group of deserving candidates, such as the provision of social security benefits or programs to provide famine relief. For climate exiles as well, one might imagine the creation of similar institutional mechanisms for monitoring and evaluation with support from nongovernmental watchdog organizations.[34]

The ethical imperative for the world to act on behalf of the victims of sea-level rise seems clear, and the predicted effects of warming indicate the need for an urgent response by the global community. The exact nature of the response will of course be subject to political negotiation, but regardless of the details, two basic principles are evident: the response must attempt to restore, or at least compensate for the loss of, human functionings in all its aspects, and the burden for doing so should be shared in accordance with the responsibility and capacity of the countries of the world.

NOTES

[1] See, for instance, German Advisory Council on Global Change (WBGU), *The Future Oceans—Warming Up, Rising High, Turning Sour* (Berlin: WBGU, 2006), p. 110; and James Hansen, "Scientific Reticence and Sea Level Rise," *Environmental Research Letters* 2 (April–June 2001), pp. 1–6.

[2] Oli Brown, "The Numbers Game," *Forced Migration Review* 31 (October 2008), p. 8. See also note 5 below.

[3] More than a tenth of humanity resides in vulnerable regions of the world that are within ten meters of today's sea level, also known as Low Elevation Coastal Zones (LECZ). They encompass two-thirds of urban settlements with populations greater than 5 million in addition to a disproportionate number of small island nations and least-developed countries. For an example of the dynamics of human response to sea-level rise, see Sheila Gibbons and Robert Nicholls, "Island Abandonment and Sea-Level Rise: An Historical Analog from the Chesapeake Bay, USA," *Global Environmental Change* 16, no. 1 (February 2006), pp. 40–47.

[4] Delta Committee, *Working Together with Water: A Living Land Builds for Its Future* (Deltacommissie, 2008); available at www.deltacommissie.com/en/advies. See also Richard Tol, "Estimates of the Damage Costs of Climate Change. Part 1: Benchmark Estimates," *Environmental and Resource Economics* 21, no. 1 (January 2002), pp. 47–73.

[5] See Mathias Risse, "The Right to Relocation: Disappearing Island Nations and Common Ownership of the Earth," *Ethics & International Affairs* 23, no. 3 (Fall 2009), pp. 281–300. Risse argues, on the basis of collective and egalitarian stewardship of the earth, that the people of Kiribati have the right to relocate to any country. His analysis is complementary to, though distinct from, ours, which does not draw upon cosmopolitan reasoning. A robust debate on the very category of environmental refugees has endured for nearly a decade, since Richard Black challenged Norman Myers's position that there were at least 25 million environmental refugees in the mid-1990s in addition to the then 22 million refugees as officially defined. See Norman Myers, "Environmental Refugees," *Population and Environment* 19, no. 2 (November 1997), pp. 167–82; and Richard Black, "Environmental Refugees: Myth or Reality?" Working Paper No. 34, New Issues in Refugee Research, UNHCR, ISSN 1020-7473. Black argues that the actual link between environmental harm and refugee flows is tenuous at best, although recent work, such as that of Oli Brown and Koko Warner and others, has established the connection more convincingly, especially in the case of climate change. See Oli Brown, "Climate Change and Forced Migration: Observations, Projections and Implications," Background Paper for the 2007 Human Development Report; and Koko

Warner et al., "In Search of Shelter: Mapping the Effects of Climate Change on Human Migration and Displacement," Cooperative for Assistance and Relief Everywhere, Inc. (CARE), 2009. On the legal and political dimensions, with emphasis on climate migrants affected by sea-level rise in particular, see Selma Oliver, "A New Challenge to International Law: The Disappearance of the Entire Territory of a State," *International Journal on Minority and Group Rights* 16, no. 2, 2009, pp. 209–43; Jon Barnett and Michael Webber, "Accommodating Migration to Promote Adaptation to Climate Change" (Stockholm: Commission on Climate Change and Development, 2009); and Frank Biermann and Ingrid Boas, "Preparing for a Warmer World: Towards a Global Governance System to Protect Climate Refugees," *Global Environmental Politics* 10, no. 1 (February 2010), pp. 60–88.

[6] Sujatha Byravan and Sudhir Chella Rajan, "Providing New Homes for Climate Change Exiles," *Climate Policy* 6 (2006), pp. 247–52. See also Sujatha Byravan and Sudhir Chella Rajan, "Warming up to Immigrants: A New Option for US Climate Policy," *Economic and Political Weekly* 44, no. 45 (November 2009), pp. 19–23.

[7] The international agreement could be a protocol under the Refugee Convention or the UNFCCC or on the basis of a new treaty altogether. Most experts do not want to change existing treaties under the Refugee Convention, since that would jeopardize an international agreement that has been forged with great difficulty to protect the rights of political refugees.

[8] Another reason to be prepared is that military analysts worry that sudden mass migration will increase the likelihood of conflict or war. "Although climate change may force migrations of workers due to economic conditions, the greatest concern will be movement of asylum seekers and refugees who due to ecological devastation become settlers." CNA Corporation, *National Security and the Threat of Climate Change* (Alexandria, Va.: CNA Corp., 2007), p. 16.

[9] Joerg Tremmel, ed., *Handbook of Intergenerational Justice* (Cheltenham, UK: Edward Elgar, 2006), p. 7.

[10] All the data is taken from cait.wri.org for 2005 and include emissions associated with land use changes and forestry. The appropriate comparison should of course be with cumulative emissions, but it so happens that even current emissions are vastly disparate between rich and poor countries.

[11] Anil Agarwal et al., *Green Politics* (New Delhi: Centre for Science and Environment, 1999). See also Henry Shue, "Subsistence Emissions and Luxury Emissions," *Law & Policy* 15, no. 1 (January 1993), pp. 39–60. Fuelwood cookstoves in particular are associated with the emission of black carbon, which is very short-lived in the atmosphere but is estimated to have a substantial radiative forcing effect. We do not consider such emissions in our analysis for several reasons: one, because they are indeed subsistence emissions, as we have noted above; two, because they do not accumulate in the atmosphere and therefore do not cause delayed effects; and, three, because the science on their actual radiative forcing impact is still in question, as noted most recently by Kristin Aunan et al., "Radiative Forcing from Household Fuel Burning in Asia," *Atmospheric Environment* 43, no. 35 (November 2009), pp. 5674–81.

[12] Global average temperatures have risen by about 0.8 degrees Celsius since preindustrial times, and given thermal inertia of the atmosphere, current concentrations could well cause another degree of warming. In this context, there is widespread acknowledgment that even at present levels, greenhouse gases in the atmosphere will cause "unacceptable" harm; but there is nevertheless a great deal of analysis to find ways to limit future emissions rapidly enough to limit warming to about 2 degrees Celsius. See German Advisory Council on Global Climate Change (WBGU), *Solving the Climate Dilemma: The Budget Approach* (Berlin: WBGU, 2009).

[13] A simplified first-order approximation is:

$$\Delta F = 5.35 \ln (C/Co)$$

where C is the carbon dioxide concentration in parts per million by volume in any given year and Co is the reference concentration, which we can take for this argument to be preindustrial levels of 280 parts per million. ΔF is the change in radiative forcing in watts per square meter and expresses the additional warming caused by the extra carbon dioxide in the atmosphere.

[14] See, for instance, Derek Parfit, *Reasons and Persons* (New York: Oxford University Press, 1984); and Ernest Partridge, "On the Rights of Future Generations," in Donald Scherer, ed., *Upstream/Downstream: Issues in Environmental Ethics* (Philadelphia: Temple University Press, 1993), pp. 40–66.

[15] See Intergovernmental Panel on Climate Change, "Summary for Policymakers," in *Climate Change 2007: Impacts, Adaptation and Vulnerability*, Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (Cambridge: Cambridge University Press, 2007), pp. 7–22. For the disproportionate impacts of sea-level rise in particular, see Gordon McGranahan et al., "The Rising Tide: Assessing the Risks of Climate Change and Human Settlements in Low Elevation Coastal Zones," *Environment & Urbanization* 19, no. 1 (November 2007), pp. 17–37.

[16] No doubt, many of the world's wealthy regions also face significant vulnerabilities from climate change. Indeed, low-lying regions are also found in developed nations, such as the Netherlands, the United States, and Japan. Nevertheless, weather-related disasters are experienced in substantially different ways by poor and rich regions having similar vulnerabilities. For instance, while the southeastern United

States faces weather-related risks comparable to Central America and the Caribbean, far greater numbers of people are affected in the latter region. In terms of financial damage, however, the picture is reversed. Thus, the United States experiences financial damage from these disasters that is usually many times larger, reflecting its greater levels of physical development, higher valuations, and, by implication, more secure infrastructure for protecting human health and livelihoods. See, for instance, www.em-dat.net.

[17] See, for instance, Henry Shue, "Global Environment and International Inequality," *International Affairs* 75, no. 3 (July 1999), pp. 531–45; Stephen Gardiner, "Ethics and Global Climate Change," *Ethics* 114, no. 3 (April 2004), pp. 555–600; and Steve Vanderheiden, *Atmospheric Justice: A Political Theory of Climate Change* (New York: Oxford University Press, 2008).

[18] Shue, "Global Environment and International Equality," p. 535.

[19] Vanderheiden, *Atmospheric Justice*, p. 190.

[20] Ibid., p. 192.

[21] For instance, the United States, EU-25, Russia, China, Japan, and India remain in the same relative positions as the top cumulative emitters in both cases. In terms of global fractions, only the EU-25 drops significantly from about 27 percent to 18 percent in the shift of the base year from 1850 to 1990, while China rises from about 7 percent to 13 percent. The United States remains in first place, but its contribution to total emissions reduces from about 30 percent to 23 percent. See also Vanderheiden, *Atmospheric Justice*, pp. 190, 213; and Paul Baer, "Adaptation: Who Pays Whom," in Neil Adger et al., eds., *Fairness in Adaptation to Climate Change* (Cambridge, Mass.: MIT Press, 2006), pp. 131–54.

[22] One way to stipulate this is that there have been equal per capita emissions across the globe and throughout history.

[23] More precisely, as Thomas Pogge has suggested, these might be considered "intermediate duties"—that is, duties to avert harms that one's past conduct may cause in the future. If some harm is inevitable, then one has a duty to make amends so as to mitigate its impacts in the future. Thomas Pogge, "World Poverty and Human Rights," *Ethics & International Affairs* 19, no. 1 (Spring 2005), pp. 1–7.

[24] As Amartya Sen suggests in his definition, a functioning is "an achievement of a person, what he or she manages to do or be. It has to be distinguished from the commodities that are used to achieve those functionings." Amartya Sen, *Commodities and Capabilities* (New York: Oxford University Press, 1987), p. 7. Yet, the achievement of functionings is certainly tied to the state's ability to mobilize resources—infrastructure, goods, and services—for its people. While the state will of course be short of these even in less than extreme cases, it may still be able to act on behalf of the EV and attempt to acquire them until and unless it is itself hampered from doing so.

[25] The question of compensation for cases where this threshold has not been crossed should not generally arise under proportionate accumulation, but can arguably be relevant under disproportionate accumulation. We do not discuss this situation here, but see Shue's case for doing so in "Global Environment and International Inequality" and Simon Caney's counterarguments in "Cosmopolitan Justice, Responsibility, and Global Climate Change," *Leiden Journal of International Law* 18, no. 4 (2005), pp. 747–75.

[26] The disappearance of land in many of the most vulnerable countries will result in the impossibility for their states to continue functioning given of the high density of population in delta regions, the high fraction of income accruing from them, and the high proportion of land that these areas represent. As an illustration, in Bangladesh, where some 70 million people live and work along the rugged deltaic coastline, hurricanes, coastal surges, and saltwater inundation into vast areas of the country have already affected livelihoods and destroyed many villages and lives. In the last thirty years alone, some thirty square miles of the Sundarbans, a complex network of tidal waterways, mudflats, and small islands of mangrove forests in the river delta of the Ganges, have vanished entirely. In 2000, 45 percent of the population lived in the ten-meter LECZ, which also comprised nearly half of the total land area. In comparison, about 6 percent of India's population in 2000 (roughly equaling Bangladesh's vulnerable population) lived in the ten-meter LECZ, occupying 6 percent of the total land area. The Bangladeshi state clearly is far more likely to face collapse and long-term immobilization than is India.

[27] Intergovernmental Panel on Climate Change, *Climate Change 2007: Synthesis Report. Summary for Policymakers* (Cambridge: Cambridge University Press, 2007), p. 11.

[28] Forced migration can result from several direct and indirect factors, and SLR associated with climate change is one among these. Nevertheless, SLR can be attributed with relative clarity to climate change, even though land subsidence or siltation can confound the causative factors. In cases of drought, desertification, changes in food production, and increases in death and disease burden associated with heat waves and vectors, there are many other human-induced as well as natural factors of influence apart from climate change.

[29] Edward Page, "Distributing the Burdens of Climate Change," *Environmental Politics* 17, no. 4 (August 2008), pp. 556–75. The Association of Small Island States (AOSIS) has drawn up an insurance proposal along these lines; see AOSIS, "Multi-Window Mechanism to Address Loss and Damage

from Climate Change Impacts,'' Proposal to the Ad-hoc Working Group on Long-term Cooperative Action of the United Nations Framework Convention on Climate Change; available at unfccc.int/files/kyoto_protocol/application/pdf/aosisinsurance061208.pdf.

[30] See Vanderheiden, *Atmospheric Justice*, pp. 143–80.

[31] Evidence for this argument can be found, for instance, in Carl Trocki, *Opium, Empire and the Global Political Economy: A Study of the Asian Opium Trade, 1750–1950* (London: Routledge, 1999); and in Prasannan Parthasarathi, *Why Europe Grew Rich and Asia Did Not* (Cambridge: Cambridge University Press, forthcoming).

[32] Shue, in ''Global Environment and International Inequality,'' makes this case quite compellingly. As he points out, the difference between being born in 1975 in Belgium as opposed to Bangladesh is in large part associated with the difference in accumulated benefits of economic activity in the two countries going all the way back to the Industrial Revolution. Childhood nutrition, educational opportunities, and lifelong standards of living are likely to differ enormously precisely because current generations are, and future generations will likely be, the differential beneficiaries of earlier industrial activity.

[33] For a useful summary of the legal and ethical considerations concerning reparations, see Eric Posner and Adrian Vermeule, ''Reparations for Slavery and Other Historical Injustices,'' *Columbia Law Review* 103, no. 3 (April 2003), p. 689. Reparations for historical malefactions are not as unusual as some may believe. In 1988, the U.S. Congress passed the Civil Liberties Act, which explicitly recognized that ''a grave injustice was done to both citizens and permanent residents of Japanese ancestry by the evacuation, relocation, and internment of civilians during World War II.'' The act issued an apology, set up a public education fund to finance efforts to inform the public about the internment, and provided survivors a symbolic payment of $20,000 each. Further back in history, many Native American tribes have received compensation for lands that were ceded to the United States by various treaties. Other countries have also paid reparations for past grievances. In 1952, the West German government began paying Israel 3 billion deutsche marks for slave labor and the persecution of Jews during the Holocaust, as well as for confiscation of property. The state of Israel was paid on behalf of victims who were no longer alive or had no surviving family.

[34] Climate exiles will truly have lost everything; and the right to start anew in another country, while a welcome rescue, might not even be what they desire. They may wish that their homes had never been destroyed in the first place; and a few may even decide not to leave their homes until long after conditions have turned intolerable, but that can hardly be an argument to deny them the *right* to immigrate.