

This article was downloaded by: [University of Kent]

On: 09 November 2014, At: 15:09

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Journal of the Indian Ocean Region

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/rrior20>

Geopolitics of fear and the emergence of 'climate refugees': imaginative geographies of climate change and displacements in Bangladesh

Sanjay Chaturvedi^a & Timothy Doyle^{b c}

^a Panjab University , Chandigarh, India

^b Keele University , Keele, UK

^c Adelaide University , Australia

Published online: 17 Dec 2010.

To cite this article: Sanjay Chaturvedi & Timothy Doyle (2010) Geopolitics of fear and the emergence of 'climate refugees': imaginative geographies of climate change and displacements in Bangladesh, *Journal of the Indian Ocean Region*, 6:2, 206-222, DOI: [10.1080/19480881.2010.536665](https://doi.org/10.1080/19480881.2010.536665)

To link to this article: <http://dx.doi.org/10.1080/19480881.2010.536665>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms &

Geopolitics of fear and the emergence of ‘climate refugees’: imaginative geographies of climate change and displacements in Bangladesh

Sanjay Chaturvedi^{a*} and Timothy Doyle^b

^a*Panjab University, Chandigarh, India;* ^b*Keele University, Keele,
UK and Adelaide University, Australia*

(Received 23 September 2010; final version received 20 October 2010)

This paper is based on the premise that the science of climate change is fast becoming a powerful orthodoxy amongst many intellectuals, governments, corporations and non-government organisations, particularly in the global North. In recognising this dominant category in scholarly and political discourses, our key intention in this paper is not to deny or validate the premises and conclusions of climate change scientists in any essentialist manner, but to build on and develop the insights offered by number of recent studies by political geographers exploring the *how* and *why* of the discursive production of geographical knowledge (in plural) of climate change by various actors/agencies, in support of certain domestic as well as foreign policy agendas. We argue that it is the geopolitics of fear that appears to be dictating and driving the dominant climate change discourse both *in* and *about* Bangladesh. The paper first develops a theoretical perspective through which to analyse the imaginative geographies of climate change-induced displacements and their implications for Bangladesh, and its Indian Oceanic neighbourhood. Next, we focus on various facets of the geopolitics of fear and on some of the key sites where climate change knowledge production about Bangladesh is taking place. One of the ways in which climate change is folded into a discourse of fear (that, in turn, requires a geopolitical response) is by referencing the ‘problem’ of refugees. Penultimately, then, we then move on to deconstruct the official discourses and political speeches both within Bangladesh and its immediate neighbourhood in India, in order to reveal the underlying geopolitics of fear and boundary-reinforcing cartographic anxieties about climate change-induced displacements and migrations. We conclude the article by examining the prospects for counter-imaginative geographies of hope and the role they could possibly play in approaching the issue of climate change-induced migrations from the angle of human security and human rights of the socially disadvantaged, dispossessed and displaced in the global South.

Keywords: Bangladesh; climate change; climate refugees; fear; geopolitics; imaginative geographies; IPCC

We as a nation are most vulnerable to climate change and consequently adaptation is our priority ... We believe that if we can implement the Action Plan in an integrated way and other countries join in similar efforts we will be free of the ‘terror of climate’ to build Bangladesh into a prosperous nation by the life-time of our grandchildren. (Sheikh Hasina, Government of Bangladesh 2009)

*Corresponding author. Email: csgiorg@gmail.com

Terror only kills hundreds or thousands of people. Global warming could kill millions. We should have a war on global warming rather than the war on terror. (Stephen Hawking, quoted in Hulme 2008, p. 11)

1. Introduction

In the vortex of alarmist imaginative geographies of ‘catastrophic’ anthropogenic climate change, Bangladesh is being increasingly implicated as a ‘black hole’. These reports occur at multiple sites: in many think tanks engaged in strategic forecasts and planning (CNA Corporation 2007), official discourses and speeches, non-governmental organisations NGOs and the media. At the heart of this geopolitics of fear is the widely circulated image of a densely populated (in 2006, 140 million people lived in an area of 144,000 km² at a density of over 950 persons/km²), low-lying (two-thirds of the country is less than five metres below sea level), natural disaster-prone (e.g. six severe floods in the last 25 years) country, situated in the Bay of Bengal, becoming the source and site of millions of displaced and dispossessed ‘climate migrants’ and ‘climate refugees’. Both the manner in which Bangladesh has come to embody the abstract notion of ‘climate’ (and ‘dangerous climate change’) against the backdrop of its long standing history of ecologically unsustainable ‘development’ and ‘natural disasters’, and the ways in which the so-called ‘climate refugees’ are being discursively transformed into unwanted, threatening internal and external ‘Others’, demands attention of a critical social science of climate change.

One of the key ways in which dominant views of climate change are imagined and understood falls clearly within a traditional North–South geopolitical frame. The case of Bangladesh is welcome grist to climate-millers here. Let us make it clear from the start of this paper, that Bangladesh *begins* as a climate problem, simply by being *perceived* as a nation-state which *exists* in the global South. In this vein, Simon Dalby (2007), in his intriguing writings on ‘antropocene geopolitics’ states: ‘It is also important to recognise how persistent colonial modes of thought are in geopolitical reasoning and how Northern specifications of the global continue to reproduce the South as inferior; subject to surveillance, development and management in Northern terms’ (Dalby 2007, p. 104).

There appears to be a growing ‘consensus’ that the science of climate change is now ‘settled’ and thus irrefutable. Indeed, if anything else, using the precautionary principle as a guiding light, we all must accept that climate change is a serious problem for the globe, if not the *only* serious problem. Our task then, as social scientists, includes the investigation of the imaginative geographies and discursive categories – the agendas, debates, theoretical frameworks, narratives, and discourses – which at once organise the many strands of ideas surrounding the climate issue, and, even more importantly, shape our understanding of a *climate change reality*, as these constructed ideas intersect with an essential nature. Another political geographer, Mike Hulme (2009, p. 43), has persuasively argued in his seminal study on the inherently contested nature of ‘climate change’ discourse that, ‘Climate cannot be experienced directly through our senses ... Climate is an idea that carries a much richer tradition of meaning than is captured by the unimaginative convention that defines it as being “the average course or condition of the weather of a place usually over a period of years as exhibited by temperature, wind velocity and precipitation” ... Climate has both physical and cultural connotations ... Climate can change physically, but climates can also change ideologically.’

2. Geopolitics of fear and imaginative geographies: theoretical reflections

Critically approached and analysed, 'geopolitics is a discourse concerned between power-knowledge and social and political relations' (Dodds 2000, p. 33). According to Tuathail (1992, p. 439):

The focus of critical geopolitics is on exposing the plays of power involved in grand geopolitical scheme ... Fundamental to this process is the power of certain national security elites to represent the nature and defining of dilemmas of international politics in particular ways ... These representational practices of national security intellectuals generate particular scripts in international politics concerning places, peoples and issues. Such 'scripts' then become part of the means by which [great power] hegemony is exercised in the international system.

A critical geopolitics of climate change, in our view, enables us to expose various scripts and narratives of climate change in terms of a knowledge–power nexus, and to explore how they frame various places on selectively drawn regional and global maps of threats and insecurities. What provides an extraordinary complexity to such scripts and their imaginative geographies of fear is that all of them, despite political–ideological agendas of their own, claim to derive their respective authority, legitimacy and efficacy from the natural science evidence of global warming and climate change; a point to which we shall return shortly in the section to follow.

Dominique Moïsi in his book entitled, *The Geopolitics of Emotion: How Cultures of Fear, Humiliations and Hope are Reshaping the World* (2009) makes a number of thought-provoking observations. His argument is that geopolitics is not only about materiality and resources but also about emotions; 'one cannot comprehend the world in which we live without examining the emotions that help to shape it' (Moïsi 2009, p. xi). According to him, the reason that he has chosen 'fear', 'hope' and 'humiliation' as the key emotions for analysing contemporary global geopolitics is because all three are related in one way or another to the notion of *confidence*: 'which is the defining factor in how nations and people address the challenges they face [e.g. climate change] as well as how they relate to one another' (Moïsi 2009, p. 5). According to Moïsi (2009, p. 5):

Fear is the absence of confidence. If your life is dominated by fear, you are apprehensive about the present and expect the future to become more dangerous. Hope, by contrast, is an expression of confidence; it is based on the conviction that today is better than yesterday and that tomorrow will be better than today. And humiliation is the injured confidence of those who have lost hope in the future; your lack of hope is the fault of others, who have treated you badly in the past.

Moïsi's argument is that after having dominated the Westphalia state system for almost two centuries, the West is now in the grip of acute cartographic anxiety, feeling increasingly vulnerable and insecure due to perceived loss of control over fast multiplying forces emanating from the global South, including immigration. In his view, in its most dominant variant, 'fear is an emotional response to the perception, real or imagined, of an impending danger' (Moïsi 2009, p. 92). Moreover:

In the last few years a new cycle of fear, one that shares many common features in Europe and the United States, has invaded our consciousness. I do not think it actually

began with 9/11, which only confirmed and deepened it. In both regions of the West, this new cycle includes fear of the Other, the outsider who is coming to invade the homeland, threaten our identity, and steal our jobs. In both regions, it includes fear of terrorism and fear of weapons of mass destruction, the two being easily linked. It includes fear of economic uncertainty or collapse. It includes fear of natural, environmental, and organic disasters, from global warming to disease pandemics. In sum, it involves fear of an uncertain and menacing future, over which there is little, if any, possible human control. (Moïsi 2009, p. 94)

It may be that the writings of Moïsi (however attractive to our purposes here) are, in part, problematic. His ascription of characteristics to countries and regions is often contrary to the emphasis on contingency and aversion from time-transcendent essences that characterise so much of our argument. Regardless of these foibles and partial logical inconsistencies, it can be said, however, that the geopolitics of fear is fundamentally conservative. It *draws upon* and, in turn, *feeds into* various alarmist imaginative geographies and sits too easily alongside realist schools of thought within the most hide-bound and archaic traditions of international relations scholarship. With world spheres constructed within this tradition as an anarchic system of mercantilist nation-states engaged in zero-sum political and economic games, the fear of *chaos* lies at the heart of Westphalian political dreaming. In turn, this fear of chaos is often used to justify the use of the big Northern ‘stick of reason’, to discipline and to order the global South – to supply the much needed *natural authority* to control the imminent chaos (Doyle and Chaturvedi 2011), whether through agendas of climate change, military intervention, development, or modernisation. According to Derek Gregory (2004, p. 17) ‘We might think of imaginative geographies as fabrications, a word that usefully combines “something fictionalized” and “something made real,” because they are imaginations given substance.’ Imaginative geographies at the same time imply, ‘Representations of other places – of peoples and landscapes, cultures and “natures” – that articulate the desires, fantasies and fears of their authors and the grids of power between them and their “Others”’ (Gregory 2009, p. 369). As we will argue and illustrate in the following section dealing with the written geographies of climate change science, imaginative geographies, therefore, legitimise and create ‘worlds’.

3. Scientific framings of climate change and their implications for Bangladesh: conceptualisation and contestation

At the forefront of the ‘scientific knowledge’ production about climate change is the Intergovernmental Panel on Climate Change (IPCC), the mandate of which, according to the UN General Assembly, is to undertake international assessment of the current state and status of scientific knowledge about climate change, to examine its impacts and the range of possible mitigation and adaptation strategies. As a hybrid agency comprising scientists and bureaucrats ‘it was to be governed by a Bureau consisting of selected government representatives thus ensuring that the Panel’s work was clearly seen to be serving the needs of government and policy. The Panel was not to be a self-governing body of independent scientists.’ In reality, however, ‘...this boundary between science and policy has proved a difficult one to maintain and to police’ (Hulme 2009, p. 96).

It is in the executive summary of Chapter 6 entitled, 'coastal systems and low-lying areas' (see Nicholls *et al.* 2007, pp. 317–318) that Working Group II of the Fourth Assessment Report of the IPCC talks about the following (reproduced verbatim) six important policy-relevant messages: 'Coasts are experiencing the adverse consequences of the hazards related to climate and sea level (very high confidence)'; 'Coasts will be exposed to increasing risks, including coastal erosion, over coming decades due to climate change and sea level rise (very high confidence)'; 'The impact of climate change on coasts is exacerbated by increasing human-induced pressures (very high confidence)'; 'Adaptation for the coasts of developing countries will be more challenging than for coasts of developed countries due to constraints on adaptive capacity (high confidence)'; 'Adaptation costs for vulnerable coasts are much lesser than the costs of inaction (high confidence)'; 'The unavoidability of sea-level rise, even in the longer-term, frequently conflicts with present-day human development and trends (high confidence)'.

The above-mentioned policy-oriented statements, marked by different levels of 'confidence', are backed up by facts and figures. Here are just a few citations from the executive summary (Nicholls *et al.* 2007, pp. 317–318). The number of those 'exposed' to tropical cyclone hazards annually in different parts of the globe is about 120 million, out of which 250,000 people were killed between 1980 and 2000. We are told that, 'The anticipated climate-related changes include: an accelerated rise in sea level of up to 0.6 m or more by 2100; a further rise in sea surface temperatures by up to 3 degrees centigrade; and intensification of tropical and extra-tropical cyclones; larger extreme waves and storm surges; altered precipitation/run off; and ocean acidification. The phenomena will vary considerably at regional and local scales, but the impacts are virtually certain to be overwhelmingly negative'. Furthermore:

Increased flooding and the degradation of freshwater, fisheries and other resources could impact hundreds of millions of people, and socio-economic costs on coasts will escalate as a result of climate change . . . Populated deltas (especially Asian megadeltas), low lying coastal urban areas and atolls are key societal hotspots of coastal vulnerability, occurring where the stresses on natural systems coincide with low human adaptive capacity and high exposure. Regionally, South, South-east and East Asia, Africa and small islands are most vulnerable . . . Without adaptation, the high-end sea-level rise scenarios, combined with other climate changes (e.g. increased storm intensity), are as likely as not to render some islands and low lying areas unviable by 2100 . . . Sea level rise has substantial inertia and will continue beyond 2100 for many centuries. Irreversible breakdown of the West Antarctica and/or Greenland ice sheets, if triggered by rising temperatures, would make this long-term rise significantly larger, ultimately questioning the viability of many coastal settlements across the globe. (Nicholls *et al.* 2007, p. 317)

The IPCC has its critics and many criticisms relate to the politics of both knowledge production about climate change and related scenario building. 'The IPCC likes to present itself as the international authoritative body pronouncing scientific expertise on the issue. However, some "contrarian" scientists and other critics think that the IPCC misrepresents the state of knowledge and exaggerates the size and urgency of the problem. While the sceptics accuse IPCC scientists of being environmentalists in disguise, others point to the processes of exclusion of specific social groups representing different knowledge claims' (Grundmann 2007, p. 416). Whereas James Lovelock (2010, p. 23) would say, 'I know and respect the scientist of the IPCC and several of them are my personal friends but I was shocked to hear that

they had reached a consensus on a matter of science; it is a good and useful word but it belongs to the world of politics and the courtroom, where reaching a consensus is a way of solving human differences. Scientists are concerned with probabilities, never with certainties or consensual agreement.'

All said and done, Bangladesh, largely by virtue of its *geographical/geopolitical location*, is widely perceived and reported as one of the most vulnerable countries to climate change-induced sea level rise (Brown 2009; Dodds *et al.* 2009; Faris 2009; Giddens 2009). Yet it is only by combining imaginative geographies of fear and hope that one of the leading and widely cited climate scientists like James Hansen (2009, p. 258), is able to convey the 'catastrophic' effects of climate change and sea level rise for 'developing' countries like Bangladesh:

The consequences for a nation like Bangladesh, with 100 million people living within several meters of sea level, are too overwhelming, so I leave it to your *imagination*. No doubt you have seen images of the effects of tropical storms on Bangladesh with today's sea level and today's storms. You can imagine too the consequences for island nations that are near sea level. *We can only hope that those nations responsible for the changing atmosphere and climate will provide immigration rights and property for the people displaced by the resulting chaos.* (emphasis supplied)

It is difficult to deny that for coastal states such as Bangladesh, tropical cyclones, with major economic, social and environmental consequences, have always been a major challenge. Countries that are most exposed – for example, China, India, the Philippines, Japan, Bangladesh – have densely populated coastal areas, often comprising deltas and mega deltas (UNDP 2004). Every year, up to 119 million people are on average exposed to tropical cyclone hazard (UNDP 2004). From 1980 to 2000, out of a total of more than 250,000 deaths caused by tropical cyclones worldwide, nearly 60% occurred in Bangladesh alone. Even this figure is less than the 300,000 killed in Bangladesh in 1970 by a single cyclone. Although 'The death toll has been reduced in the past decade due largely to improvements in warnings and preparedness, wider public awareness and a stronger sense of community responsibility' (ISDR 2004), as pointed out by the IPCC (see Nicholls *et al.* 2007, p. 337), Bangladesh remains one of the 'key hotspots of societal vulnerability in coastal zones' due to 'highly sensitive coastal systems where the scope for inland migration is limited.' 'Most of the land area of Bangladesh consists of the deltaic plains of the Ganges, Brahmaputra and Meghna rivers. Accelerated global sea level rise and higher extreme water levels may have acute effects on the human population of Bangladesh (and parts of West Bengal, India) because of the complex relationships between observed trends in SST over the Bay of Bengal and monsoon rains, subsidence and human activity that has converted natural coastal defences (mangroves) to aquaculture' (Nicholls *et al.* 2007, p. 326).

Among the most reported natural disasters in Africa, Asia and Europe, floods have affected nearly 140 million a year on average (Kundzewicz *et al.* 2007). In Bangladesh, three extreme floods have occurred in the last two decades, and in 1998 about 70% of the country's area was inundated (Kundzewicz *et al.* 2007). In the case the global temperature were to rise by 2°C, the flooded area in Bangladesh is likely to increase at least by 23–29% (Kundzewicz *et al.* 2007, p. 187). So far, the efforts made by Bangladesh to put into place a sizeable infrastructure to prevent flooding have fallen short of desired results.

Against the backdrop of growing trends to securitise climate change-induced migrations in different parts of the world (Smith 2007), Barnett is quite right in pointing out that, 'The crux of the problem is that national security discourse and practice tends to appropriate all alternative security discourses no matter how antithetical' (Barnett 2003, p. 14). He also proposes that the IPCC scientists should downplay such climate change militarist discourses – being 'cautious on the issue of violent conflict and refugees' – and, instead, focus on climate justice issues. This approach, he argues, 'might helpfully integrate science and policy and usefully elucidate the nature of the "danger" that the UNFCCC ultimately seeks to avoid' (Barnett 2003, p. 14).

Quite in agreement with Barnett that the IPCC scientists should be extremely cautious while speculating over the geopolitical, strategic 'consequences' of climate, we would like to point out how a speech made by R. K. Pachauri, Chairman of the IPCC, and Director General, The Tata Energy and Resource Institute (TERI), New Delhi, at the convocation of the Military college of Telecommunication Engineering, Mhow, on 26 June 2009, has been reported in the media under sensational headlines such as 'Global warming and how it encourages terrorism in India' and 'Climate change your biggest enemy'. The press release of the Tata Energy Research Institute (TERI 2009) says:

In his Valedictory Address, Dr Pachauri ... stressed on the global issue of climate change. 'Climate change poses new threats to India.' 'Melting snows in the north open up passages for terrorists, just as melting glaciers affect water supply in the subcontinent's northern part, sharpening possibility of conflict with our neighbours. Changing rainfall patterns affect rain fed agriculture, worsening poverty which can be exploited by others.' He added, 'Our defence forces might find themselves torn between humanitarian relief operations and guarding our borders against climate refugees, as rising sea-levels swamp low-lying areas, forcing millions of "climate refugees" across India's border.'

The science–geopolitics interface of climate change, as the above quotation appears to suggest, is rather complex and as David Demeritt (2001, p. 329) points out succinctly, 'given the immensely contentious politics, it is tempting for politicians to argue that climate policy must be based upon scientific certainty. This absolves them of any responsibility to exercise discretion and leadership. This science-led politics is also attractive to some scientists since it enhances their power and prestige. However, this political reliance on the authority of science is deeply flawed: it provides neither a very democratic nor an especially effective basis for crafting a political response to climate change.'

The Synthesis Report, the concluding document of the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (quoted in IPCC 2010, p. 1) had stated: 'Climate change is expected to exacerbate current stresses on water resources from population growth and economic and land-use change, including urbanisation. On a regional scale, mountain snow pack, glaciers and small icecaps play a crucial role in freshwater availability. Widespread mass losses from glaciers and reductions in snow cover over recent decades are projected to accelerate throughout the 21st century, reducing water availability, hydropower potential, and changing seasonality of flows in regions supplied by meltwater from major mountain

ranges (e.g. Hindu-Kush, Himalaya, Andes), where more than one-sixth of the world population currently lives.'

It is important to note that more recently the IPCC has withdrawn one of its major alarmist findings that the Himalayan glaciers 'may completely disappear as early as 2030', acknowledging the error in judgment. We find it useful to reproduce below verbatim the excerpts from the IPCC Statement on Melting Glaciers, issued in Geneva on 20 January 2010. Whereas the IPCC has fully endorsed its overall findings 'robust, appropriate, and entirely consistent with the underlying science and the broader IPCC assessment' (IPCC 2010, p. 1):

It has, however, recently come to our attention that a paragraph in the 938-page Working Group II contribution to the underlying assessment refers to poorly substantiated estimates of rate of recession and date for the disappearance of Himalayan glaciers. In drafting the paragraph in question, the clear and well-established standards of evidence, required by the IPCC procedures, were not applied properly.

The Chair, Vice-Chairs, and Co-chairs of the IPCC regret the poor application of well-established IPCC procedures in this instance. This episode demonstrates that the quality of the assessment depends on absolute adherence to the IPCC standards, including thorough review of 'the quality and validity of each source before incorporating results from the source into an IPCC Report'. We reaffirm our strong commitment to ensuring this level of performance.

4. 'Open borders to climate refugees': official claims and counter-claims in Bangladesh

In a speech delivered at the 64th Session of the United Nations General Assembly, on 26 September 2009, Sheikh Hasina, the Prime Minister of Bangladesh, talked about the implications of climate change for her country. It is worth noting that she not only makes a reference in this speech to millions of 'climate migrants' and 'climate refugees' but also emphasises the need for an international legal regime. The tone and the tenor of her narrative of climate change, ably supported by natural science evidence, are visibly marked by the geopolitics of fear and cartographic anxieties:

Climate change has for some time been adversely impacting our low lying, deltaic, monsoonal country. *Though Bangladesh's contribution to climate change is negligible, it is one of its worst victims.* Erratic floods, cyclones, droughts and earthquakes are interrupting our agriculture, and challenging our water resources, health, energy, urban planning, etc. Cyclones, battering the coastal areas, have particularly been taking countless lives, and sudden floods uprooting families in thousands, year around. *River bank erosion, landslides, soil degradation and deforestation are causing millions of climate change refugees.* They are already all over our thickly populated cities. What is alarming is that a meter rise in sea level would inundate 18% of our land mass, directly impacting 11% of our people. *Scientific estimates indicate, of the billion people expected to be displaced worldwide by 2050 by climate change factors, one in every 45 people in the world, and one in every 7 people in Bangladesh, would be a victim.*

Rapid, unplanned urbanization, occupational dislocations, food, water and land insecurity are some of the consequences of climate change. The affected communities would not only lose their homes, they would also stand to lose their identity, nationality, and their very existence, and in some cases, their countries. In December this year, we would gather in Copenhagen for COP 15, and it is critical, therefore, the outcome of the conference reflects commitment for assured, adequate, and easily accessible funding for

adaptation; and affordable, eco-friendly technology transfer to developing countries, particularly to LDCs; as much as specific commitments for deeper cuts in greenhouse emissions. *Bangladesh would, of course, make a strong call for climate migrants at COP 15 to consider a new legal regime under the UNFCCC Protocol ensuring social, cultural and economic rehabilitation of climate induced displaced migrants.* (United Nations 2009; emphasis supplied)

It was in the same month (that is, September 2009) that the ‘Bangladesh Climate Change Strategy and Action Plan 2009’ was released. In her message to the Action Plan, Prime Minister Sheikh Hasina expressed the resolve of her government to ‘free’ the people of her country from the ‘terror of climate’ and to ensure that ‘people are fully protected from its adverse impacts as promised in our manifesto’ (Government of Bangladesh 2009, p. xi). However, the following excerpt from the report seems to suggest that the government of Bangladesh has not only accepted, rather uncritically, the category of ‘environmental refugees’ but has also embraced the fear-driven geopolitical assumption that ‘more than 20 million’ displaced Bangladeshis will be migrating to other parts of the world:

It has been estimated that there is the impending threat of displacement of more than 20 million people in the event of sea-level change and resulting increase in salinity coupled with impact of increase in cyclones and storm surges, in the near future. The settlement of these environmental refugees will pose a serious problem for the densely populated Bangladesh and migration must be considered as a valid option for the country. Preparations in the meantime will be made to convert this population into trained and useful citizens for any country. (Government of Bangladesh 2009, p. 17; emphasis given)

The quotation above raises a number of intricate and intriguing questions. Who are environmental refugees? (Doyle and Chaturvedi 2011). Who among the imagined millions of displaced Bangladeshis, ‘in the event of sea-level rise’, for example, would qualify to be ‘environmental refugees’ and why? Is there no difference whatsoever between ‘climate refugees’ and ‘environmental refugees’? What are the grounds for assuming that those displaced due to either sudden onset of natural disasters or gradually unfolding climate change or even abrupt climate change would necessarily choose to cross the borders in search of safer and greener pastures? Elizabeth G. Ferris (2008, p. 83), has argued that ‘It is also likely that most of those displaced by these types of events will remain within their country’s borders.’ Who would decide what kinds of preparations are needed to turn the displaced millions ‘into trained and useful citizens for any country’? Why can’t these potential ‘Others’ be trained into useful work force as citizens of Bangladesh; their homeland?

‘UK should open borders to climate refugees’. This is how the *Guardian* newspaper (see Grant *et al.* 2009) reported the first ever alarmist statement by any senior politician of Bangladesh, Mr Abdul Maal Abdul Muhith, the finance minister, just before the Copenhagen climate summit (COP 15). He emphatically pointed out the moral responsibility of Britain, the USA and other countries of the global North to accept climate refugees from Bangladesh. Mr Abdul Muhith is reported to have told the *Guardian*, ‘Twenty million people could be displaced [in Bangladesh] by the middle of the century ... We are asking all our development partners to honor the natural right of persons to migrate. We can’t accommodate all these people – this is already the densest [populated] country in the world’ (Grant *et al.* 2009). Curiously enough, he also underlined the need for the UN to redefine international law in such

a manner that climate refugees are provided with the protection at par with people fleeing political repression. Echoing the assurance provided in the Bangladesh Climate Change Strategy and Action Plan (2008), pointed out by us above, Abdul Muhith expressed the hope that if properly ‘managed’ inter-state migration could be positive for both Bangladesh and the west: ‘We can help in the sense of giving the migrants some training, making them fit for existence in some other country . . . Managed migration is always better – we can then send people who can attune to life more easily . . . Total aid in Bangladesh today is less than 2% of GDP. It is almost the same in China and in India. So we, the most populated, least developed country, get peanuts. This inequity is terribly intolerable’ (Grant *et al.* 2009). Whereas the concept of ‘managed migration’ mentioned above remains alarmingly vague, the response of Rajendra Pachauri, Chairman IPCC, to the statement made by the finance minister of Bangladesh, and quoted by the *Guardian*, also raises a number of intricate issues:

This is clearly a warning signal from Bangladesh and similar countries to the developed countries. And I think it has to be taken very seriously. If you accept that those countries that have really not been responsible for causing the problem, and have a legitimate basis for help from the developed countries, then one form of help would certainly be facilitation of immigration from these countries to the developed world . . . If you had 30 or 40 million migrating to other parts of the world, that’s a sizable problem for which we have to prepare. And if it requires changes to immigration laws and facilitating people settling down and working in the developed countries, then I suppose this will require legislative action in the developed world.

It is to state the obvious, perhaps, that if (and this is a big if) 30 or 40 million climate migrants were to cross international borders, that will be a ‘sizeable problem [but for whom?] for which we [does this ‘we’ imply the host country like the UK or USA, the developed West, or the so-called, geographically undifferentiated international community] have to prepare’, and that would need, among other things, huge sums of money. And in his response, Douglas Alexander, the international development secretary of the UK was quick to point out: ‘As the largest international donor to Bangladesh, Britain has been urging the international community to provide extra money for climate change adaptation’ (Grant *et al.* 2009). The *Guardian* also quoted Jean-Francois Durieux, Deputy Director, Division of Operational Services at the United Nations High Commissioner for Refugees (UNHCR), as having said, ‘The risk of mass migration needs to be managed. It’s absolutely legitimate for Bangladesh and the Maldives to make a lot of noise about the very real risk of climate migration – they hope it will make us come to their rescue. But reopening the 1951 convention would certainly result in a tightening of its protections . . . The climate in Europe, North America and Australia is not conducive to a relaxed debate about increasing migration. There is a worry doors will shut if we start that discussion’ (Grant *et al.* 2009).

The *Guardian* story provides a useful insight into the fact that climate change rhetoric often deploys a calculated politico-legal ambiguity, depending upon the interests of the actors and agencies involved, in order to hide the underlying anxieties and fears. It is to the legal dimensions of the geopolitics of fear that we turn next. However, before we do, it will be instructive to take note of the fact that the imaginative geographies of climate change-induced, trans-border migrations are also creating considerable cartographic anxieties in the immediate neighbourhood of

Bangladesh, especially India. The following quotation from a major contribution to the special issue on climate change of *Himal South Asian* (Chowdhury 2009), a leading and widely read scholarly magazine published from Kathmandu, Nepal, nicely sums up various facets of fast ascending geopolitics of fear about climate refugees in South Asia:

Could India afford to refuse sanctuaries to Hindu [climate change] refugees from Bangladesh, which would certainly be a demand of many Hindu Indians? And if the state were to do so, how would Indian Muslims react? Millions of Muslims, including Bengali Muslims in India, would simultaneously become increasingly susceptible to arguments that the Indian state had chosen one community over the other. Such a scenario would almost certainly work to the benefit of regional and global Islamist propaganda networks. India already has problems with cross border militancy from Pakistan and Bangladesh. If it were to begin to refuse entry to climate-change refugees, the country would suddenly have to face a far larger extremist problem from both – and with a far larger hostile population within, to boot.

On the other hand, if even some refugees were to enter India, this would most likely exacerbate the situation that is already extant in the Indian northeast, where Bangladeshi/Muslim refugees and migrants have become a major cause of social friction. Not only would attacks on refugees increase, but the resident insurgencies would also strengthen, as this would be seen as a failure on the part of the Indian state to protect the communities of the northeast from the new influx of refugees. The echo effect across the border would likely escalate the crisis.

Regardless of the exact details of the doomsday scenario presented above, the fact of the matter is that India simply cannot afford a flood of millions of climate change refugees. Already, the Indian state has limited capacity – and, of course, its broader economic objectives would quickly vanish. As such, New Delhi would find itself in a violent catch-22 situation: it could neither allow entry of new refugees, nor could it counter the result of refusing to do so. Living next door to Bangladesh, can India handle the problems, apart from challenges in the context of climate change? It may not fail but could it prevent itself from being overwhelmed? And if India were to be overwhelmed, could the region survive in any conventional sense?

5. Geopolitical fears and legal hopes: rhetoric and realities

As B.S. Chimni (2000, p. 1) puts it so aptly, ‘the definition of a “refugee” in international law is of critical importance for it can mean the difference between life and death for an individual seeking asylum’. According to the 1951 Protocol and Convention Related to the Status of Refugees (Hathaway 2005), subscribed to by more than 100 states, a refugee is one who, ‘as a result of events occurring before 1 January 1951 and owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it’ (quoted in Chimni 2000, p. 2). It is to state the obvious, perhaps, that unless it is accepted by all concerned that ‘nature’ or ‘environment’ or ‘climate’ can be the persecutor, the term refugee, as subscribed to by the 1951 Convention, is not going to work for those supposedly or actually displaced by natural disasters or climate change (Renaud *et al.* 2007, p. 14).

It is worth noting that even though the temporal and geographical restrictions imposed by the 1951 Convention on the definition of 'refugee', against the Cold War politicking, were removed by the Protocol of 31 January 1967 relating to the Status of Refugees, what remained by and large untouched was fear as the key defining principle along with its Eurocentric bias. According to Chimni (2000, p. 7), 'this meant that most third world refugees continued to remain *de facto* excluded, as their flight is frequently prompted by natural disaster, war or political and economic turmoil rather than by "persecution", at least as that term is understood in the Western context.' It is equally noteworthy that regional instruments such as the 1969 Organization of African Unity (OAU) Convention and the 1984 Cartagena Declaration, besides incorporating region-specific attributes into their expanded definitions, went on to emphasise that the categorical understanding of a refugee should move away from a geopolitically dictated principle of 'well-founded fear' of 'persecution' to address the plight of those fleeing civil unrest, war and violence, irrespective of whether or not they can prove a well-founded fear of persecution.

The point we are trying to drive home is that despite such attempts to broaden and deepen the understanding of the term 'refugee', a categorical approach that is deeply embedded in the notion of 'fear' appears rather overwhelming in this entire enterprise. Be it the 'subjective fear approach' (based on a refugee's own assessment of the risk he or she faces) or the 'objective fear test' (ensuring that refugee's subjecting risk assessment must not be contradicted by the 'objective' circumstances of the case), it is the notion of *fear* that constitutes the fulcrum around which various competing definitions of refugee seem to revolve. What seems to be further magnifying the fear factor is the sheer numbers game, which, depending upon the actor and/or agency citing certain figures, seems in turn to be marked by calculated ambiguity. According to Myers (2002, 2005), as compared to 25 million people who migrated in 1995, there would be around double that figure by 2010, and by the end of the twenty-first century nearly 200 million would migrate due to climate change. What the tyranny of numbers ably hides is the question of who will choose to migrate, when, where and how far?

Our intention here is not to dismiss outright the notion of fear as of no moral or practical value in answering the question as to who is a refugee. What we do intend is to raise the following question: in various imagined or actual encounters between those seeking the refugee status and those who had the authority to grant that status, whose 'fear' is likely to dictate the process and decide the outcome?

'Present legal structures, such as the Refugee Convention and the Framework for Internally Displaced Persons (IDPs), prove largely inadequate having been constructed for different purposes and being limited in their application.' An alternative is a 'regionally oriented regime operating under the auspices of the UN Climate Change Framework'. Although 'the Climate Change Convention and the Kyoto Protocol currently call for regional cooperation regarding adaptation activities, it is argued there should be an explicit recognition of so-called climate change refugees in the post-Kyoto agreement that allows for, and facilitates, the development of regional programmes to address the problem. Such a strategy would remedy the current protection gap that exists within the international legal system, while allowing states to respond and engage with climate change displacement in the most regionally appropriate manner' (Williams 2008).

Moberg (2009), on the other hand, maintains that, although governments could utilise current international and domestic definitions of refugee to protect environmentally displaced persons, 'it is unlikely that any government will do so.' Even if they did 'extend these existing refugee and asylum laws to include environmentally displaced persons', the protection would be inadequate. It would also 'consume judicial resources needed for persons currently receiving protection under refugee and asylum laws'. Instead, Moberg argues, new domestic and international laws should be made in order to give environmentally displaced persons under a more 'protective, cost-sharing approach'.

Moberg also suggests that environmentally displaced persons (EDPs) should be granted protection under their own Environmentally Based Immigration Visa (EBIV) Program: 'Similar to the current refugee program, countries should share the burden of accepting and supporting EDPs, with that burden resting more heavily on wealthier nations' (Moberg 2009, pp. 1, 29).

6. Conclusions

We had no intention in this paper to either deny the science of global warming (although we do feel that expressions such as 'certain' and 'consensus' go against the very nature and purpose of science and scientific pursuits) or to dismiss wide-ranging implications of climate change for the state and society in Bangladesh. What we have questioned with all emphasis at our command, however, is the geopolitics of climate fear and the underlying alarmist imaginative geographies of 'climate migrants' and 'climate refugees'. These imaginative geographies of doom, disaster, and development, framed and flagged at various sites in the service of diverse agendas, are increasingly shaping the world-view *of* and *on* Bangladesh. We have tried to show how fear is aroused and mobilised in the service of various agendas of political, economic and cultural controls. We have also shown how, in the process the national and local priorities becoming skewed, the discourses of mitigation and related structural approaches (with concomitant aid seeking strategies) overshadow adaptive strategies to climate change, especially migration.

Our choice of Bangladesh as a case study in the geopolitics of climate fear in this article also reinforces, in a graphic manner, the argument we have made elsewhere that climate change is being increasingly securitised (see Chaturvedi and Doyle 2009) and re-territorialised (Doyle and Chaturvedi 2010) in number of countries around the Indian Ocean Region. The failure to arrest and reverse such trends might result in what Foster and Clark (2009, p. 260) describes as the 'Fortress World' with its 'protected enclaves'; '... a planetary apartheid system, gated and maintained by force, in which the gap between the global rich and global poor constantly widens and the differential access to environmental resources and amenities increases sharply.'

This paper has further argued that the meaning, nature and scope of 'climate change' discourses need to be broadened and deepened; much beyond the science, ethics and politics of 'global warming' and its various manifestations such as the melting of polar icecaps, glaciers and rising sea levels. There is a need to acknowledge that global warming and its several facets labelled 'climate change' are, no doubt, a compelling, but not the only, issue on the agenda of environmental security in the Indian Ocean Region. Climate change is neither a moment of rupture nor departure

(although it is often made out to be so) in the long-standing history of ecological destruction and deeply entrenched ecological irrationalities in modern-capitalist societies. In the absence of such an acknowledgment, the climate change discourse becomes both limited and limiting.

Our analysis of competing fear-inducing imaginative geographies of climate change at various sites, and the manner in which Bangladesh is being implicated in them, reinforces Gregory's insightful comment that, 'imaginative geographies are spaces of constructed (in)visibility and it is this partiality that implicates them in the play of power' (Gregory 2009, p. 371). What the imaginative geographies of 'coming climate catastrophe' (Hansen 2009) often do is that they make the long history of ecological degradation and ecological irrationalities, perpetuated by the economic growth oriented models of development (and further legitimised by the powers that be in the name of 'national interest' and 'national security') almost invisible. On the other hand, 'diverse environmental problems have essentially been laid at the door of climate change . . . New problems have been grafted onto old ones and given a single cause; an example of a "garbage can anarchy", where once isolated phenomena become systematically interrelated' (Connell 2003, p. 98).

Hope and fear are huge swirling compulsions with enormous implications for the lives and deaths of every living thing on the planet. False hopes and groundless fears can be of dreadful, deadly consequence. And yet justified fears when combined with sensible hopes can open new possibilities and thereby help mobilise change for the better, including both better lives and a better world in which to live. How can geographers help examine such consequences and possibilities? And what specifically can our geographical scholarship enable us to contribute to wider negotiations of hope and fear as they continue to shape our world? . . . one of the most useful contributions we can and do make as geographers involves critically exploring the geographical grounds of fear and hope. Our disciplinary calling demands that, among many other things, we map and study the production and extent of such grounds in all their physical, social, economic, cultural, and political complexity (Sparke 2007, p. 338).

Having noted that, our analysis of the dynamics and dilemmas of climate change in the case of Bangladesh has shown that the geopolitics of climate change will continue to oscillate between various imaginative geographies of fear and those of hope, depending upon their power-political moorings and power-political agendas. Equally important, however, is the geopolitics of humiliation to which those displaced in Bangladesh are being increasingly subjected, both discursively and on the ground.

Again, as pointed out by Gregory (2009, p. 371) 'In response [to the manipulation of geopolitics of fear at various sites], *imaginative counter-geographies* are deliberate attempts to displace, subvert and contest the imaginative geographies installed by the dominant regimes of power, practice and representation.' Usually these are produced from within the objects of representation. 'They seek to give voice and vision to their subjects and to undo the separations between "our space" and "their space"' (Gregory 2009, p. 371). A revealing example of counter-geographies is the concept of 'ecological debt' (Foster 2009; Doyle and Chaturvedi 2010). At the forefront of the 'ecological debt' campaign is *Accion Ecologica*, an organisation based in Peru, that defines the concept as 'the debt accumulation by Northern, industrial countries toward the Third World countries on account of resource

plundering, environmental damages, and the free occupation of environmental space to deposit wastes, such as greenhouse gases, from the industrial countries' (cited in Foster and Clarke 2009, p. 243).

The geopolitics of fear and the alarmist imaginative geographies of climate change-induced displacements will continue to discursively displace the equity-based notion of 'ecological debt' by the consequence-based, neoliberal notion of 'carbon footprint'. We fully agree with the wise contention that the 'fear agenda' should be questioned and challenged so that the media and the governments do not incite unhelpful and inaccurate slogans on immigrants' and the comprehension of the term 'migrant' or 'refugee' should be expanded to that which meets his/her human security (Gupta 2009, p. 77). After all, there are millions, and a vast majority of them in the Indian Ocean Region, who live in fear of their 'human security' but without giving up the hope of a better, just and humane 'world order' *with* or *without* a changing climate.

In this article, we have argued that in relation to climate change-induced displacements and migrations, in the case of Bangladesh and its immediate neighbourhood, fear rather than hope seems to be growing, fuelled by Northern-centric cartographic anxieties. But, as we began this paper with Moïsi's thoughts on the geopolitics of fear, so too, we wish to conclude by revisiting the mirror-opposite of this emotion: hope. For Moïsi (2009, p. 55) if 'hope is confidence' then Asia today, barring a few exceptions like Japan, qualifies as the 'continent of hope'; 'one based not on some grand dream of world peace and freedom but simply on a vision of steadily rising material prosperity'.

Acknowledgements

This paper is part of a much larger on-going project to be published in book form: Sanjay Chaturvedi and Timothy Doyle (2011) *Climate Terror: A Critical Geopolitics of Climate Change* (Palgrave Macmillan). The authors would like to acknowledge their research assistants for this paper, Sonali Narang and Naresh Sharma, research scholars at the Centre for the Study of Geopolitics, Department of Political Science, Panjab University; and Georgia Lawrence-Doyle of the Faculty of Humanities and Social Sciences, University of Adelaide.

References

- Barnett, J. (2003), 'Security and climate change', *Global Environmental Change*, Vol. 13, no. 1, pp. 7–17.
- Barnett, J. (2007), 'The geopolitics of climate change', *Geography Compass*, Vol. 1, no. 6, pp. 1361–1375.
- Brown, L.R. (2009), *Plan B 4.0: Mobilization to Save Civilization*. New York and London: Earth Policy Institute & W.W. Norton & Company.
- Chaturvedi, S. and Doyle, T. (2009), 'Geopolitics of climate change and Australia's "reengagement" with Asia: discourses of fear and cartographic anxieties', *Australian Journal of Political Science*, Vol. 45, no. 1, pp. 95–115.
- Chimni, B. (2000), *International Refugee Law: A Reader*. New Delhi: Sage.
- Chowdhury, A. (2009), 'The coming Crisis: from Bangladesh to India ... and then the rest', *Himal South Asian*, October. Available at http://www.himalmag.com/The-coming-crisis_nw3575.html, accessed 1 September 2010.
- CNA Corporation (2007), 'National Security and Climate Change'. Available at <http://securityandclimate.cna.org/report/National%20Security%20and%20the%20Threat%20of%20Climate%20Change.pdf>, accessed 1 September 2010.

- Connell, J. (2003), 'Losing ground? Tuvalu, the greenhouse effect and the garbage can', *Asia Pacific Viewpoint*, Vol. 44, no. 2, pp. 89–107.
- Dalby, S. (2007), 'Antropocene geopolitics: globalisation, empire, environment and critique', *Geography Compass*, Vol. 1, no. 1, pp. 103–118.
- Demeritt, D. (2001), 'The construction of global warming and the politics of science', *Annals of the Association of American Geographers*, Vol. 91, no. 2, pp.307–337.
- Dodds, F., Higham, A. and Sherman, R. (2009), *Climate Change and Energy Insecurity: The Challenge for Peace, Security and Development*. London: UK: Earthscan Publications.
- Dodds, K.J. (2000), *Geopolitics in a Changing World*. Harlow and New York: Prentice Hall.
- Doyle, T. and Chaturvedi, S. (2010), 'Climate territories: a global soul for global south?', *Geopolitics*, Vol. 15, no. 3, pp. 516–535.
- Doyle, T. and Chaturvedi, S. (2011), 'Securitisating the climate refugee: understanding climate black holes', in J. Dryzek and D. Schlosberg, eds., *Oxford Handbook of Climate Change*. Oxford: Oxford University Press, forthcoming.
- Faris, S. (2009), *Forecast: The Consequences of Climate Change, From the Amazon to the Arctic, from Darfur to Napa Valley*. New York: Henry Holt and Company.
- Ferris, E.G. (2008), 'Making sense of climate change, natural disasters, and displacement: a work in progress', *Refugee Watch*, no. 31, pp. 75–90.
- Foster, J.B. and Clark, B. (2009), 'Ecological imperialism: the curse of capitalism'. Available at http://www.nodo50.org/cubasigloXXI/taller/foster_clark_301104.pdf, accessed 3 September 2010.
- Giddens, A. (2009), *The Politics of Climate Change*. Cambridge: Polity Press.
- Government of Bangladesh (2009), *Bangladesh Climate Change Strategy an Action Plan 2009*. Dhaka: Ministry of Environment and Forests, Government of the People's Republic of Bangladesh.
- Grant, H., Randerson, J. and Vidal, J. (2009), 'UK should open borders to climate refugees, says Bangladeshi minister', *The Guardian*, 4 December. Available at <http://www.guardian.co.uk/environment/2009/nov/30/rich-west-climate-change/print>, accessed 8 September 2010.
- Gregory, D. (2004), *The Colonial Present: Afghanistan, Palestine, Iraq*. Oxford: Blackwell Publishing.
- Gregory, D. (2009), 'Imaginative geographies', in D. Gregory, R. Johnston, G. Pratt, M. J. Watts and S. Whatmore, eds., *The Dictionary of Human Geography*. Chichester: Wiley-Blackwell, pp. 369–371.
- Grundmann, R. (2007), 'Climate change and knowledge politics', *Environmental Politics*, Vol. 16, no. 3, pp. 414–432.
- Gupta, D. (2009), 'Climate of fear: environment, migration and security', in F. Dodds, A. Higham and R. Sherman, eds., *Climate Change and Energy Insecurity*. London: Earthscan, pp. 71–79.
- Hansen, J. (2009), *Storms of My Grandchildren: The Truth About the Coming Climate Catastrophe and Our Last Chance to Save Humanity*. London, Berlin, New York: Bloomsbury.
- Hathaway, J. (2005), *The Rights of Refugees Under International Law*. New York: Cambridge University Press.
- Hulme, M. (2008), 'The conquering of climate: discourses of fear and their dissolution', *The Geographical Journal*, Vol. 174, no. 1, pp. 5–16.
- Hulme, M. (2009), *Why We Disagree About Climate Change: Understanding Controversy, Inaction and Opportunity*. Cambridge: Cambridge University Press.
- IPCC (2010), 'Intergovernmental Panel on Climate Change Statement on the Melting of Himalayan Glaciers', Geneva, 20 January. Available at <http://www.ipcc.ch/pdf/presentations/himalaya-statement-20january2010.pdf>, accessed 15 November 2010.
- ISDR (2004), *Living With Risk: a Global Review of Disaster Reduction Initiatives*. International Strategy for Disaster Reduction (ISDR), Geneva.
- Jasparro, C. and Taylor, J. (2008), 'Climate change and regional vulnerability to transnational security threats in Southeast Asia', *Geopolitics*, Vol. 13, no. 2, pp. 232–256.
- Kundzewicz, Z.W., Mata, L.J., Arnell, N.W., Döll, P., Kabat, P., Jiménez, B., Miller, K.A., Oki, T., Sen, Z. and Shiklomanov, I.A. (2007), 'Freshwater resources and their management', in M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and

- C.E. Hanson, eds., *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, pp. 173–210.
- Lovelock, J. (2010), *The Vanishing Face of Gaia: A Final Warning*. London: Penguin Books.
- Moberg, K.K. (2009), 'Extending Refugee Definitions to Cover Environmentally Displaced Persons Displaces Necessary Protection'. Available at http://www.viowa.edu/~ilr/issues/ILR_94-3_Moberg.pdf, accessed 1 September 2010.
- Moïsi, S. (2009), *The Geopolitics of Emotion: How Cultures of Fear, Humiliation and Hope are Reshaping World*. London: The Bodley Head.
- Myers, N. (2002), 'Environmental refugees: a growing phenomenon of the 21st century', *Philosophical Transactions of The Royal Society B*, Vol. 357, no. 1420, pp. 609–613.
- Myers, N. (2005), *Environmental Refugees: An Emergent Security Issue*. 13th Economic Forum, Prague, 23–27 May.
- Nicholls, R.J., Wong, P.P., Burkett, V.R., Codignotto, J.O., Hay, J.E., McLean, R.F., Ragoonaden, S. and Woodroffe, C.D. (2007), 'Coastal systems and low-lying areas. climate change, impacts, adaptation and vulnerability', in M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, eds., *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge: Cambridge University Press, pp. 315–356.
- Renaud, F., Bogardi, J.J., Dun, O. and Warner, K. (2007), *Control, Adapt or Flee: How to Face Environmental Migration?*. Bonn: United Nations Institute for Environment and Human Security.
- Smith, P.J. (2007), 'Climate change, mass migration and the military response', *Orbis: A Journal of World Affairs*, Vol. 51, no. 4, pp. 617–633.
- Sparke, M. (2007), 'Geopolitical fears, geoeconomic hopes, and the responsibilities of geography', *Annals of the Association of American Geographers*, Vol. 97, no. 2, pp. 338–349.
- TERI (2009), 'Climate change your biggest enemy: Dr Pachauri warns Indian Army', New Delhi, press releases. Available at http://www.teriin.org/index.php?option=com_pressrelease&task=details&sid=156, accessed 6 September 2010.
- Tuathail, G.O. (1992), 'The Bush administration and the "End" of the Cold War: a critical geopolitics of US foreign policy in 1989', *Geoforum*, Vol. 23, no. 4, pp. 437–452.
- United Nations (2009), Address by her Excellency Sheikh Hasina Hon'ble Prime Minister, Government of the People's Republic of Bangladesh, The United Nations, New York, 26 September. Available at http://www.un.org/en/ga/64/generaldebate/pdf/BD_en.pdf, accessed on 15 November 2010.
- UNDP (2004), *Reducing Disaster Risk: A Challenge for Development*, Disaster Reduction Unit, Bureau for Crisis Prevention and Recovery. New York: John S. Swift Co.
- Williams, A. (2008), 'Turning the Tide: Recognizing Climate Change Refugees in International Law', *Law and Policy*, Vol. 30, no. 4, pp. 502–529.