INTRODUCTION: SECURITY FOR WHOM IN A TIME OF CLIMATE CRISIS?

Nick Buxton and Ben Hayes

Our challenge has changed. It is no longer about just reducing emissions. We have to work out how to hold on to our humanity as we head to increasingly difficult times.

Tim DeChristopher, environmental activist arrested and imprisoned for disrupting an auction of oil and gas leases in Utah in 2008

The year 2008 will go down in history as the year that the Lehman Brothers filed for bankruptcy, bringing the world within a breath of a global banking meltdown and prompting the world's most serious economic crisis since the 1930s. It was also the year in which two of the world's most powerful forces started planning for a dystopian future in a time of climate crisis. On one side of the Atlantic, in The Hague and London, the oil giant Shell's internal 'scenarios team' were asked to look into their crystal ball to see how their business model would fare in a climate-changed world. On the other side of the Atlantic, in Washington, DC, a powerful group of political elites including former US assistant defence secretaries, the ex-chief of the CIA and a leading Democrat policy advisor gathered to assess the likely impacts of climate change for US national security interests.

Neither group would be considered prime candidates for environmental leadership. The positions adopted by the oil industry and the US military have hitherto been associated with the diversionary tactics of the deniers and gas-guzzling warmongers. Yet here they were taking climate change very seriously and in Shell's case tacitly acknowledging the cost of the world's fossil-fuel addiction.

Shell's team, led by Jeremy Bentham, forecast two scenarios: 'Scramble' and 'Blueprint'.[1] Scramble envisages a future where the growing demand for energy, fuelled by India and China's rapid growth, leads to increasing competition, rivalry and tensions between states, and ensuing conflicts and social and environmental crises. Blueprint imagines that public concern about the environment and the rise of renewable energy leads to significant reduction of carbon emissions, leading by 2050 to a 'world of electrons rather than molecules'. In other words, a world fuelled largely by renewable sources, rather than fossil fuels.

Unusually, Shell, which has published global forecasts for more than forty years without ever publicly stating its energy policy preferences, declared this time that it was

in favour of Blueprint. This was heralded at the time as a sign that oil companies could be part of the solution to climate change rather than the principal cause.

However, a closer look at the Blueprint's small print showed that Shell did not envisage that this scenario would involve curtailing their own fossil fuel production. Instead, their scenario relies heavily on two policy sleights-of-hand: first a cap-and-trade scheme that in 2013 had all but collapsed in ignominy, having both failed to reduce emissions and rewarded the world's worst polluters. Second, it depends on a huge increase in Carbon Capture and Storage technologies that have yet to be proven to work and are unlikely to do so anytime soon. In other words, Shell believed that a renewable world would come into being without requiring any fundamental change in Shell's operations; instead, the problem of carbon dioxide would be magically resolved with the help of a few technofixes and the use of carbon credits to get others to reduce their emissions. Given that the International Energy Agency states that two-thirds of existing fossil fuel reserves will need to stay in the ground to have a chance to keep global temperature rises below the internationally agreed goal of 2°C, Shell's so-called Blueprint was in fact a plan for continuing business-as-usual – even if it leads to a world considered dangerous by many climate scientists.

As if to prove Shell's underlying cynicism, within two years – and in the wake of the collapsed UN climate talks in Copenhagen – Shell admitted that it had effectively joined the 'Scramble' for the resources that could be accessed thanks to the melting ice in the Arctic. Any pretence that the company cared about anything other than profit was laid bare for all to see.[2]

The military strategists, meanwhile, published their scenarios for the future in a book, *Climate Cataclysm: The Foreign Policy and National Security Implications of Climate Change*. The research built on a study released a year before that warned that humankind had now entered the 'Age of Consequences' that would 'increasingly be defined by the intersection of climate change and the security of nations.'[3] In that report (see further Chapter 2), the researchers sketched out three scenarios of possible climate impacts: an 'expected' one based on temperature rise of 1.3°C (2.3°F) by 2040, a 'severe' one (2.6°C/4.7°F) and a 'catastrophic' one' (5.6°C/10.1°F) by 2100.

The authors issued stark warnings about entire populations fleeing or perishing, particularly across Africa, South and Central Asia, Central America, the Caribbean, South America and South East Asia. The report forecast civil unrest, conflicts, millions of migrants on the move, and the growing use of martial law to control unrest. 'As first thousands and then millions and then hundreds of millions of starving people begin flooding toward Europe,' warns the book, 'the EU will try to retreat behind high walls and naval blockades, a containment strategy that will be seen as morally indefensible and will provoke tremendous internal unrest and impoverishment, but also will be seen as a matter of survival.' It concluded laconically, 'Altruism and generosity would likely be blunted.' (Disturbingly the path we are currently on in terms of emissions growth lies closer to the 'severe' than 'expected' scenarios.)

Their report does not provide *concrete* recommendations for US military responses, but the authors were clear that this posed an unprecedented security threat, in their words, to 'our society, our way of life, and our liberty'. They explained that 'In national security planning, it generally can take about 30 years to design a weapons system and bring it to the battlefield, so it is important to anticipate future threat environments. It is no less important to anticipate and prepare for the challenges we may face in the future as a result of climate change.'

This report is now but one of many we could have chosen to introduce this book. And the messages in each of them are being repeated ever more widely in the media and in the corridors of power: that climate change is a 'threat multiplier' that will make current global conflicts and social tensions far worse, leading to a far more insecure world. The immediate call is for more urgent action to tackle climate change, but the obvious subtext is that the military better get ready and be given the resources to deal with a messier and more conflict-ridden world. In the words of a US Department of Defense report, 'We have entered an era of persistent conflict … a security environment much more ambiguous and unpredictable than that faced during the Cold War.'[4]

We believe that when the world's foremost military power and one of the world's most powerful corporations start predicting the future in ways that dovetail, it is worthwhile listening to what they say. For the way they forecast the future also influences how these powerful institutions are now shaping policies to deal with climate impacts, which has huge and still largely undiscussed consequences for the rest of us.

The genesis of this book emerged from our own experiences, working in social movements fighting for justice on issues related to climate change and civil liberties respectively. We are linked to the Transnational Institute (TNI), a progressive international institute based in Amsterdam that has, for four decades, provided research and logistical support for struggles for social and environmental justice. For the past decade, TNI has worked to confront the corporate interests that have sought to stall effective action on climate change by blocking progress or diverting energies into false, ineffective and unjust solutions such as carbon trading.

After the collapse of the Copenhagen talks in 2009, when it became obvious that there was little political will to take the bold steps needed to tackle climate change, we were struck by the potential implications of parallel attempts to recast climate change as a security issue. Clearly this new 'security' agenda will have a growing impact – not just for people involved in environmental or peace and civil liberty movements – but also for everyone concerned with maintaining or creating a livable future. In December 2011, coinciding with the UN climate talks in Durban, South Africa, we convened a workshop bringing together climate scientists, security scholars, social and political scientists and activists. Out of that seminar, a series of working papers were developed and the proposal for a book emerged. In autumn 2013, we organised a crowdfunding campaign[5] that successfully raised €10,000 to fund the production of this book. We have also produced online chapters and a living website to accompany this book (www.climatesecurityagenda.org).

This book poses the same fundamental question that we asked at the seminar in Durban: What are the implications of institutions such as the Pentagon or corporations such as Shell re-framing climate change from an environmental and social justice issue to a security one?

This begs several related questions of a 'what if' nature. First, what does a climate-changed world look like, and what are the social, political and economic implications of 'business as usual'? Second, who are the winners and losers of the new 'climate security' strategies – or, put another way, what is being secured, for whom, from whom, and at what cost?

A small collection like this cannot, of course, hope to provide comprehensive answers to questions that many scholars and researchers have long been asking. What we hope it can do is provide food for thought about how these new security strategies relate to existing concerns about the environment, social justice, adaptation and resilience, and the implications of failing to prevent runaway climate change. We also hope the accompanying website can be a place where this discussion can continue and be enriched.

It is important to stress that this is not a book about how to stop climate change. Climate change is already happening, having an impact particularly on the vulnerable, and it is going to worsen. This does not mean we have given up hope that concerted action can still avert a worsening catastrophe; in fact we believe the opposite. We are actively engaged and fully in support of all movements and communities taking direct action against fossil fuel interests and working to create alternative low-carbon futures. Our actions can still affect how bad climate change will be. However, we think it is crucial to cast a critical eye on the climate change and international security discourse, because we believe that progressives need to engage in these debates and articulate the necessary alternatives. Leaving the planning of a climate-changed future in the hands of corporate and military elites has far too dangerous implications for all of us, as subsequent chapters will testify.

In turning the spotlight on climate-change impacts, the book exposes more clearly the agents that are both causing the climate crisis and seeking to benefit from its consequences – be they states, corporations, or private security companies. It is no coincidence that many of these same entities are engaged in the subversion or repression of precisely the kinds of activism and ideas that are necessary to avert any future climate chaos. Exposing the veil of legitimacy that 'security' can give these efforts is one of the key motivations for our work.

One issue we have constantly had to grapple with, as editors, is that the subject matter in this book can at times be dispiriting. At a time when concerted action to combat climate change is needed more than ever, it may appear counter-intuitive to produce a book that could compound the sense of relative powerlessness that many believe underpins contemporary apathy.

We certainly do not wish to add to the sense of doom, nor give dystopian and catastrophic narratives a legitimacy or sense of inevitability they do not deserve. But we do not wish to self-censor the dangers, either. For if we don't engage critically with

these state-corporate narratives in order to understand how this fear is being exploited to perpetuate injustice, we are not going to be in a position to challenge, confront, or reshape the future as we want it to be.

We therefore asked two things of the contributors to this collection. First, to make these trends and power-plays visible by carefully analysing the political and economic forces that make a militarised and corporatised future possible. Second, to inspire resistance by exposing the cracks in the system, giving voice to progressive alternatives and experiences and recounting the stories of hope and self-determination that are so often overlooked by media commentators. Interestingly, many of the alternatives to a security narrative, outlined in each chapter, provide not only a more just response to climate change impacts but are also solutions that can help to prevent further climate change.

Heating up and no end in sight

If we are to look at how we respond to climate impacts, we need first to look at what the best consensus of science says are the likely consequences of our current trajectory of carbon emissions. We also need to understand why the international community has so far failed to act to curtail emissions and the way this has bolstered a security-led response.

The evidence of rising emissions shows that we are currently on a treacherous one-way slope. Moreover, there is little sign that we are even heading in the right direction. Greenhouse gas emissions grew nearly twice as fast from 2000 to 2010 as in the previous thirty years, and in 2013, they grew at their fastest rate since 1984.[6] As carbon dioxide stays in the atmosphere for hundreds of years, every increase locks in an increase in global warming, which means that even if we stopped carbon emissions tomorrow, we would still continue to see increases in global warming for decades to come. UK climate scientists Kevin Anderson and Alice Bows say that the only way to keep temperatures within the globally agreed target of 2°C of warming will be for industrialised countries to peak their emissions soon after 2015 and then enforce a 10 per cent cut in emissions year after year, starting in 2020.[7] They admit this kind of cut is unprecedented in human history; it is a target that even the most praised 'green' economies such as Germany have failed to achieve.

This means that whatever we do – and must do – to end the fossil-fuel economy, we are still going to be living in a climate-changed world, so we must simultaneously prepare for its consequences.

The rapid degradation of our planetary home is not just an issue of carbon emissions. A team of 28 scientists in 2009 identified nine separate biophysical systems crucial to humanity's flourishing, and marked out boundaries within which we must remain in order to prevent 'irreversible and in some cases abrupt environmental change'.[8] We have already crossed the boundaries for climate change, biodiversity loss, and interference with the nitrogen cycle; we are fast approaching the boundaries for freshwater use, land-use changes, ocean acidification, and interference with the global phosphorus cycle. In fact,

humans are having such a significant impact on the planet that some geologists are now saying we have moved into a new epoch – the 'Anthropocene' – marked by the fact that humans are now shaping the entire planet's ecosystem, oceans and atmosphere, leaving nothing untouched. We agree that it would be better called the 'Capitalocene', given that the responsibility for continued destruction lies with contemporary alignments of power and capital, rather than humanity as a whole.[9]

The Intergovernmental Panel on Climate Change (IPCC) report is the most widely acknowledged reflection of consensus among scientists, even though its statements and predictions are frequently on the conservative side, given the difficulty in reaching consensus among 195 countries. Nevertheless, their report released in March 2014 starkly chronicled some of the changes scientists across the world are reporting – and the likely impacts as these trends continue. These include extreme weather, rising sea levels that will flood many coastal cities, food insecurity and 'the breakdown of food systems', declining water supplies, increases in 'ill-health in many regions,' and ongoing collapse of biodiversity.[10]

The report notes that climate impacts will be not be evenly spread, hitting those in the Global South and vulnerable populations the hardest. This points to the profound injustice at the heart of the climate crisis: that those who played the least role in causing the crisis will feel its impact hardest. People living at the edge of subsistence have few resources to deal with additional stresses caused by climate change. Frank Rijsberman, head of the international Consultative Group for International Agricultural Research (CGIAR) 15 crop-research centres, explains how it will impact food production:

> The annual production gains we have come to expect … will be taken away by climate change. We are not so worried about the total amount of food produced so much as the vulnerability of the one billion people who are without food already and who will be hit hardest by climate change. They have no capacity to adapt.[11]

The financial capacity to respond to climate change impacts is also starkly different between North and South. The US government spent $68 billion on the aftermath of Hurricane Sandy, but all the richest countries together have barely raised $30 billion a year to help the poorest countries cope with climate change impacts, despite a pledge to raise $100 billion in 2009.[12] Former Filipino climate negotiator Yeb Sano despairs when he thinks of how much money and resources it will take to prepare his country for climate impacts:

> The fact is we are not ready. We have a coastline of 37,000 miles. How can we possibly defend that from sea level rise? Sixty per cent of our people live in low-lying areas which may flood. It will be probably be 4C warmer – that will seriously impact on our fisheries, our cities, our coral reefs, our food supplies, our economy. Everything we know will be compromised.[13]

Planning for the future is not made any easier by the fact that understanding our climate is still, in the words of environmental policy professor Joseph DiMento, 'a film with many blurry images and empty frames'.[14] We know it will lead to increased extreme weather, heatwaves, flooding and rising seas, but predicting where and when is an elusive science. The most disturbing scientific predictions now suggest that as climate change accelerates, it could prompt self-reinforcing feedback loops that would create a tipping point and lead to a sudden surge in emissions. There is particular concern at the speed of melting permafrost in the Arctic and Northern Siberia, which could cause a major and sudden release of methane, one of the most powerful greenhouse gases.

In spite of impressive innovation and take-up of renewable energy production, our current trajectory, if not altered, could see temperature increases of up to 4 degrees Celsius, which, according to the World Bank, would mean that by 2080, the coolest months of the year would be substantially warmer than the warmest months now, and we would experience 'a completely new class of heat waves, with magnitudes never experienced before in the 20th century'.[15] As Australian scholar Clive Hamilton argues, these kind of scenarios force us to consider the ability of humanity to adapt, even with all the financial resources in the world.[16]

Hot air and no action

The big question is why – given the alarm bells sounded by the world's science community and the acceptance of the facts by most politicians – there has been so little action commensurate with the threat. In an online chapter that accompanies this book, Nick Buxton and Pablo Solon explore the reasons in more depth.[17] To summarise their arguments, rising corporate power, the constant drive for capital expansion, and a mistaken focus on emissions rather than extraction and production of fossil fuels have blocked an effective dismantling of a deeply embedded fossil fuel economy. International governance, weakened by years of US unilateralism, has spectacularly failed to rise to the challenge. Annual UN climate conferences have become an abysmal charade. Behind the grand speeches and posturing, it is clear that the whole point of the annual spectacle is cosmetic; the decision to avoid any commitment that could possibly put a country and its national and corporate interest at an economic disadvantage has already been taken.

The result of these systemic failures has been a catastrophic political stasis, that allows the current fossil fuel complex to run amok. The dangerous impacts of inaction play out in the context of growing corporate power and diminishing popular accountability while the same forces that caused the crisis are also looking to shape its impact, increasingly behind the barrel of a gun. It means for concerned citizens that the struggles to combat climate change and to address its impacts are no longer separate issues but need to be addressed together.

The new security agenda

The first part of this book examines the way in which states and corporations are seeking to leverage climate change to their own ends. Chapter 1 is abridged from Christian Parenti's book, *The Tropic of Chaos*,[18] and explores these 'new geographies of violence' and the links between climate, conflict and insecurity. A US journalist and scholar, Parenti argues that climate change has been an overlooked factor in a whole range of conflicts, particularly in the world's central latitudes, which are affected most by changes in weather patterns.

To his evidence gathered in Afghanistan, Kenya and India, one can also add recent research that suggests that the civil war in Syria was also fuelled, at least in part, by an extreme drought that affected the country from 2006 to 2009, most likely due to climate change. Rising food prices linked to climate change are also seen as a significant source of the mass frustrations that boiled over into the so-called 'Arab Spring'.

Parenti's chapter demonstrates how the environmental crisis is colliding with the twin legacies of Cold War militarism and unbridled free market economics to inflame existing conflicts and create new patterns of violence – and how countries of the Global North and others in the South are responding with greater repression, surveillance and a program of permanent counter-insurgency.

Much of the violence that Parenti describes also has roots in the conflicts embedded within the global fossil fuel economy: violence has consistently followed extraction of oil, ranging from repression of residents in extraction zones to the giant geopolitical conflicts that have devastated and distorted politics in the Middle East.

In a powerful online chapter that accompanies this book,[19] Nigerian environmental campaigner Nnimmo Bassey explores how militarisation has accompanied oil extraction in Nigeria, causing devastation to the environment and local communities. The chapter provides an insight into the dynamics of resource wars in the twenty-first century and shows how militarisation in distressed regions is becoming the given geopolitical backdrop for our times.[20] At the same time, Bassey also draws attention to the creative and powerful resistance that has emerged and against the odds has won significant victories.

In Chapter 2, security researcher Ben Hayes examines the security strategies seeking to address the impacts of climate change. He unpicks the 'threat multiplier' doctrine adopted by NATO, the Pentagon, the EU and the UN and others that frame climate change as a security issue in order to cement their role in managing its impacts. Long-term threat assessment is something that military and security agencies claim they are mandated to do in the public interest, however, there is an inherent danger to liberty and democracy in letting these agencies play a leading role in this area, because they are structurally and ideologically predisposed to a limited set of hard security responses. These are based on a 'paradigm that seeks to maintain control rather than address the underlying problems'.[21]

This ideology and practice also serves the interests of those who have power and resources; by its very nature, it militates against actions that would seek to redistribute power and wealth and thereby address the inequities that are at the heart of the climate

crisis. This can be seen most obviously in the detail of military security strategies that focus on how to protect assets, resources and supply chains against the social instability caused by climate change. What unites all these strategies is their externalisation of threat. As scholar Robyn Eckersley notes, 'environmental threats are something that foreigners do to Americans or to American territory', and they are never something caused by US or Western domestic policies.[22] By its very nature, then, the military/security approach disregards the systemic causes of climate change and therefore the changes that need to be made in US and Western institutions, structures and policies. As usual, the enemy is elsewhere.

The chapter also explores the relationship between the politics of security and the politics of scarcity, which have together spawned a whole set of sub-narratives – food security, water security, energy security, and so on. These narratives largely persist with the military 'control' paradigm, ignoring issues of justice and equity, and seeking to ensure that those with resources, no matter how, why, and at what cost, continue to keep them.

While many people still view 'security' in benign terms – being able to walk safely at night or having the security of a job or income – the term has been co-opted radically since 9/11 and is increasingly deployed to justify coercive measures *against* people. As later chapters explore, we are starting to see, for example, the notion of 'food security' being used to justify land grabbing, or 'energy security' used as a reason to take pre-emptive action against environmental campaigners. Cornerhouse research group suggest a useful distinction between 'Upper-Case' Security which secures property and privilege, and 'lower-case' security, which is the right to have the means to survive and to defend territory and livelihoods. Not only has Upper-Case Security been used to 'subdue recalcitrant or colonised peoples, to provide physical and political infrastructure, to assure the flow of raw materials, [and] to break apart old social relationships in order to lubricate increasingly global channels of commerce,' it has also become a 'scarce, global commodity … of which there can never be enough'.[23] Given the application of 'security' measures usually ends up creating further insecurity, security rapidly becomes a panoptic vision covering everything and everywhere. This much is now patently clear thanks to Edward Snowden.

Chapter 3 by climate scholar and activist Oscar Reyes takes up the corporate side of the new security agenda through the lens of managing 'risk' and promoting corporate 'resilience', in other words, continued profit making. Reyes explains how the narrative of security has been usurped by corporate elites to defend the status quo and consolidate their power. Climate change brings both risks to corporations such as flooding of warehouses or disruption of trade routes – to be addressed through corporate resilience – and opportunities – expressed in terms of new markets, new supply routes and changes in patterns of consumption. Resilience accepts worsening climate change as fact and, rather than seeking to take the radical actions to prevent it, seeks to adapt to it. Used with equal vigour in the military-industrial complex, it embraces 'disequilibrium as a point of organisation', in which populations are helped to 'survive' while corporations and capitalism are supported to 'thrive'.[24]

Corporations are also hedging their bets on climate change, promoting a number of 'sustainable' activities to attempt to appease consumer concerns and protecting themselves from specific threats such as rising sea levels. Yet in financial terms, these same corporations continue to invest in deeply unsustainable activities and in political terms exercise their influence to prevent radical *dirigiste* climate interventions, promoting their technocratic expertise as the solution to any problem that emerges.

Walmart is a typical example of this corporate greenwashing. The retail giant received plaudits for setting a goal of being 'supplied by 100 percent renewable energy', before an investigation by *Grist* magazine found that at its current pace of converting to renewables the company would take about 300 years to achieve this.[25] Similarly, divestment campaigners forced Exxon Mobil to analyse its climate-change risk exposure, given that burning all of its reserves would undermine internationally agreed climate goals and therefore risked their becoming 'stranded assets'. Exxon Mobil's report concluded that government action forcing Exxon to keep any of its oil reserves in the ground was 'highly unlikely', and argued that it could therefore continue to search for more oil and gas without restraint. Reyes concludes:

> That type of response represents a complacent – indeed, arrogant – disregard for the planet. But it is based on a confident bet that transnational corporations will continue to have significant influence on public policy-making, both through their lobbying, and as a result of the anti-regulatory neoliberalism shared by politicians of both the centre-left and centre-right in most industrialised countries.

Meanwhile, other companies are lining up to profit from the impacts of climate change. One such company is Arcadis, a Dutch engineering firm that offers flood-protection services. The company has embarked on a buying spree, snapping up ETEP, a Brazilian water-engineering and consulting firm, winning contracts in New York to bring water-treatment facilities online after Hurricane Sandy, and working with New Orleans and San Francisco to raise levees and plan for rising sea levels. Arcadis's revenue rose 26 per cent in 2012 to €2.5 billion ($3.25 billion). Services such as flood protection will be critical, but the rise of these new climate-change profiteers does reflect an economic model in which corporations and elites are best placed to prosper from climate change while the vast majority of the planet will have no such protection. As explored later in the book, some of the solutions that corporations provide to address climate change end up intensifying the dispossession of peasants and marginalized communities. When Michael Richardson, head of business development at Land Commodities, who advises rich investors and sovereign wealth funds, says that 'there is an overemphasis of its [global warming's] negative impacts' and celebrates its potential to increase the value of land and create new markets, you can be sure that he is not thinking about the impacts of climate change on peasant farmers.

The corporate capacity to shape our climate-changed world reflects the growing power that corporate elites have accumulated in the past two decades. A report by TNI

in 2014 showed that the world's wealth is concentrated to an even greater extent than is popularly understood: not in the hands of the 1 per cent but the 0.001 per cent, that is, the 111,000 people who control $16.3 trillion. This is equivalent to a fifth of the world's GDP. Moreover, 37 of the world's largest economies are corporations, not nations. But the concentration of power goes deeper still: in a study of 43,000 corporations, mathematicians at the Zurich Polytechnic Institute found just 147 companies control 40 per cent of the economic value of the entire sample. Most of these are banks, hedge funds, or other financial services corporations. Even an advisor to Deutsche Bank, George Sugihara, admitted that 'It's disconcerting to see how connected things really are.'[26]

The unprecedented concentration of economic and military power is not only an indication of the forces that will seek to dominate a climate-changed world, it is also an indication of systemic vulnerabilities in our globalised world. Geographer Mazen Labban explains: 'The vulnerability of the network derives not only from its vastness … of the (physical) concentration of the infrastructure, but also from its connectivity: disruption of supply in one place might create shocks at the regional, or even global scale.'[27] On the flip side, though, these vulnerabilities are also opening new spaces for social innovation and challenges to corporate power.

Adaptation and security for whom?

The second part of this book examines four specific features of the state-corporate climate-change agenda as they relate to adaptation to climate change. Climate adaptation is understood as efforts made to reduce the vulnerability of human, natural and social systems to the impacts of climate change. Cities, institutions, governments clearly need to invest in adaptation efforts to protect people from negative climate impacts. However, as environment and security scholar Geoff Dabelko and others have argued, both mitigation and adaptation efforts handled badly are likely to aggravate social unrest and conflict.[28] While climatic events may be the catalyst for future conflicts, ham-fisted elite adaptations are likely to make them even worse. An EU-funded study of conflicts in the Mediterranean, Sahel and Middle East showed, for example, that the principal causes of conflict in these countries was not hydro-climatic conditions, but rather democratic deficits, distorted and unjust economic development and poor adaptation efforts to climate change that end up worsening the situation.[29] A militarised response is – as we have already seen all too clearly – only likely to make this situation worse.

Many people watched in horror as 58,000 troops were deployed to New Orleans in the wake of Hurricane Katrina, together with privatised security forces such as the notorious Blackwater commandos. While many civilians were rescued, others found themselves shot at and arrested. Seven police were eventually indicted for killing two African Americans and wounding four others. Many more killings by the military, security guards and vigilantes still await justice. Rebecca Solnit, who has analysed many disasters, including New Orleans, notes that militarisation normally occurs because of

what she calls 'elite panic' – the fear of social disorder and fear of the poor, minorities and immigrants. This fear prompts police and military to prioritise protecting property over human lives. The US military continues to see potential disorder where others see injustice, suggesting New Orleans is not an unusual one-off case: a US Army Strategic Studies Institute report in 2008 said that in the wake of civil unrest caused by climate change, the 'DoD would be, by necessity, an essential enabling hub for the continuity of political authority in a multi-state or nationwide civil conflict or disturbance.'[30]

In Chapter 4, writer and journalist Nafeez Ahmed (writing with Nick Buxton and Ben Hayes) looks at how governments are preparing for 'natural' disasters with 'civil contingencies' and 'disaster preparedness'. Across the world, states have added new statutes to their books that provide for the suspension of democratic institutions and the restriction of civil liberties in times of crisis. In many cases, this legislation builds upon and even extends powers previously adopted in wartime. At the same time, the standard for invoking those powers has slipped from state of emergency to any time of 'crisis'. While it is both legitimate and desirable for governments to plan for the worst, it is clear that a significant part of this planning is concerned with the 'threat' that citizens are seen to pose to governments. Ahmed shows how these 'emergency' powers build upon the exceptional and now permanent measures introduced under the 'war on terror'. In a post-Occupy, post-Arab Spring world, security agencies have become increasingly preoccupied with managing and anticipating social unrest, which inevitably rests on targeting 'radical' social activism. One example is the Pentagon Minerva initiative, which is funding researchers to develop advanced data-mining tools that can automatically categorise activist groups and rank them on a threat-scale and determine their alleged propensity for violence or terrorism by automatically tracking and analysing their social media posts. Within these models, the threat comes not from climate change or the iniquities of the neoliberal system, but now from those who oppose it. There is of course nothing new in states casting 'radicals' as a threat, but the threat is now green as well as red.[31]

These tendencies have put environmental activists in particular on the front line of state repression, as one of the online chapters that accompany this book explores.[32] Global Witness reports in 2014 and 2015 indicated that there has been a dramatic rise in killings of people protecting the environment and defending land rights, as competition for natural resources intensifies.[33] Around three-quarters of these deaths took place in Central and South America, often during the repression of resistance to hydropower projects, mining, agribusiness and logging. Meanwhile in the US and UK, climate-change activists have been defined along with terrorist suspects and armed militias as 'domestic extremists', or 'eco-terrorists', with enormous resources now devoted to identifying, tracking and spying on them.

Meanwhile, those who flee their countries due to climate disruption confront even bigger military obstacles and dangers, as many nations follow the lead of Europe and the US in building ever-stronger fences to keep refugees at bay. Journalist Todd Miller calls the borderlands of the US 'constitution-free zones' and says the borderlands are

providing a useful 'on-the-ground laboratory for the development of a surveillance state … one of the police and the policed'.[34] The disturbing militarisation of borders, using ever more dangerous technologies to ward off those forced to migrate from climate instability, is explored by security scholar Steve Wright, border security expert April Humble and co-editor Ben Hayes in Chapter 5. They argue that what is needed is less a new legal category of 'environmental refugee' than sustained resistance to the 'border industrial complex'.

In Chapter 6, Kathy Jo Wetter and Sylvia Ribeiro of ETC group examine the corporate and military interests that promote geo-engineering of the climate to reduce temperatures and prevent their damaging impacts. The fact that these proposals are gathering momentum is a reflection of both the support of Big Oil and the influence of those in power who believe that bizarre experiments with sunshades in space is a more sensible course of action than confrontation of the fossil-fuel industry.

Wetter and Ribeiro explain how geo-engineering advocates – or, as they prefer to call them, 'geopirates' – are backed in the US and Europe by some of the same conservative institutes and politicians that are sceptical about climate change. Perhaps that explains why geo-engineering's impact is perversely the same or worse than climate change, legitimising further human meddling with the climate, creating profits for a small few and leaving those most affected out of the discussions. Despite its dangers, geo-engineering is gaining ever more traction and government support. The Central Intelligence Agency funded a 21-month $630,000 scientific study in 2013 to analyse the prospects for and potential impacts of geo-engineering.[35]

The final chapter in this part of the book, by Dutch peace activist Mark Akkerman, looks at some of the broader responses of the global military-industrial complex to climate change. In the wake of 9/11, what is more accurately described as the military-*security* industrial complex has become extraordinarily powerful. In 2013, global military spending reached about $1.7 trillion dollars, 130 times that of planned humanitarian spending and dwarfing any investment in climate change. US military spending is roughly equal to the next nine top global spenders combined, with ever more corporations seeking to grab a slice of the pie.[36] A *Washington Post* investigation in 2010 revealed the existence of 1,931 private companies benefiting from a $75 million government intelligence budget that had more than doubled since 9/11.[37] Corporations reaping handsome rewards from this burgeoning fear-based industry clearly have a vested interest in fuelling a media and political debate that forecast an insecure dangerous future in order to promote their 'security' solutions.

Europe is involved in a similar security-industrial arms race. TNI's report *Neoconopticon* revealed, for example, that arms manufacturers are benefiting from €1.4 billion of EU largesse to develop research into how to integrate land, air, maritime, space and cyber-surveillance systems. As the report noted, we are not just 'sleepwalking into … a surveillance society', but also 'turning a blind eye to the start of a new kind of arms race, one in which all the weapons are pointing inwards'.[38]

Despite the interests at stake, the military embrace of climate change as a new *raison d'être* has been warmly welcomed by some in the environmentalist community. Climate scientist John Schellnhuber,[39] for example, expresses his relief that 'the military do not deal with ideology. They cannot afford to: They are responsible for the lives of people and billions of pounds of investment in equipment.' Certainly in the US, the military is seen as one of the few possible voices that could get a hearing by Republican climate sceptics. Nick Mabey, formerly of World Wildlife Fund, has urged military officials to become louder 'communicating the security implications and costs of uncontrolled and extreme climate change to political leaders and the public', saying it would protect their interests, open up new markets, and drive technological innovation.[40] Others point to the potential role for the military in dealing with climate disasters, with the US Operation Damayan in the aftermath of the Typhoon Haiyan in the Philippines in 2012, as one recent example.

We see the unfolding love affair between some environmentalists and the military as deeply problematic. Akkerman's closer look at the military's 'green pivot' shows that it is mainly driven by energy, not environmental concerns – and the need to identify a new 'threat' that will fill army coffers in case the threat of terrorism no longer suffices. The military have also welcomed new allies from the environmental movement and efforts to paint themselves 'green', as it helps detract attention from the deeply unpopular wars in Afghanistan and Iraq and the much less publicised, but constant, public opposition to their vast global infrastructure of military bases.

Acquisition through dispossession

The third part of the book casts a critical eye on the new state-corporate discourses on food, water and energy security. The common theme is a Malthusian vision of scarcity that predicts shortages in the future due to population growth combined with climate constraints. The dominant proposed solution to these 'InSecurities' is always the same: expand production, encourage more private investment and participation and use new technologies to overcome obstacles. Issues of distribution, injustice and environmental exploitation or the values of self-reliance or local control, where considered at all, are dismissed as unfeasible or irrelevant.

Yet the scarcity most describe is not an absolute scarcity – there continues to be enough food and water for everyone – but is mainly created by how these resources are shared. In our global food system, 30–50 per cent of food produced globally is wasted; moreover while an estimated 1 billion people today suffer from hunger, 500 million people in both the Global North and South are obese. Despite this chronic mal-distribution of resources, the bulk of research and investment continues to go into production and technological development. The result is that real-life experiences of present injustices in our energy, food and water systems are ignored, not learnt from. As research group Cornerhouse

point out, this also means we are doomed to repeat and deepen the problems with our current systems of food, water and energy:

> As the future will grow out of the present, a better way of dealing with 'future [resource] crisis' is not imagining a future Malthusian world that bears no relationship to what exists now or ever has existed, and then imagining how to stave off that hypothetical Malthusian destiny, but rather dealing with current scarcities now on the realistic assumption that what causes scarcity today is going to go on causing scarcity in the future.[41]

The advocacy and implementation of plans for food security, water security and energy security in the name of climate change has also in many cases perversely accelerated climate change. In Chapter 8, Zoe Brent and Annie Shattuck of the think tank Food First, together with co-editor Nick Buxton, note that the World Bank's and others' calls for 'sustainable intensification' of agriculture in future decades will consolidate an industrial agricultural model that is decidedly unsustainable in its dependence on cheap fossil fuels and global transportation. Moreover, peasants are having their land grabbed in the name of 'food security' at an unprecedented rate.

In Chapter 9, researcher and activist Mary Ann Manahan of Focus on the Global South reveals how water scarcity has become a major driver in corporations and banks securing water rights in order to lock-in guaranteed profits as the precious resource becomes scarce. This leads to situations where companies like Pepsi have glossy brochures about reducing their water footprint, yet have quietly secured rights to water in water-stressed regions of India. 'Water security' is also invoked in California to back 'climate-friendly' water infrastructure that will mainly benefit agribusiness and fracking firms.

Meanwhile in the world of energy, dwindling resources have fuelled a calamitous 'race for what's left',[42] as companies enter regions like the Arctic, Amazonian rainforests, protected national parks and often indigenous territories to extract the very last drop of oil and gas. In Chapter 10, UK oil campaigner Emma Hughes and the Platform research collective show how, despite the obvious role our energy system has played in causing climate change, most government and corporate energy planners have used energy security to justify ongoing fossil-fuel exploitation, to legitimise military intervention in defence of supply, to repress environmental activists and to prioritise energy for corporations rather than people.

From security to justice

The final chapter in the book asks what our response to climate-change impacts should be once we reject the notion of security. After critically examining two popular concepts of 'adaptation' and 'resilience', the last chapter outlines some of the driving principles and practices that could embody a people's just response to climate change. Many of

the alternatives are described in each of the preceding chapters and have arisen out of resistance to corporate and security-led strategies as well as through attempts by communities to take back control of key resources in a way that embodies principles of justice, democracy and sustainability. Two accompanying online chapters explore these themes further – one by labour scholars Hilary Wainwright and Jacklyn Cock points to the importance and potential of trade unions to address climate change and its impacts, the other by Justin Kenrick and Tom Henfrey who have been deeply involved in the Transition Town movement draws out the lessons for commons-based movements worldwide.[43] The book ends on a note of hope, drawing on the inspiration from the way people throughout history in times of disaster have more often responded with creativity and in defence of justice than with repression and violence.

For a long time, environmental advocates have ducked the issue of how we should respond to the impact of climate change because it was seen as a tacit admission of defeat, an admission that we had failed. But as climate impacts become increasingly obvious, that is ever more a self-defeating strategy. When it becomes clear that this void has been filled mainly by the military and corporations seeking to cash in on catastrophe, it is even more short-sighted.

We hope this book, which analyses those forces, and points to the dangers of viewing all our basic necessities such as food and water through the lens of 'security' will build support for alternative approaches. These alternatives already exist as many of this book's authors makes clear. Indeed, climate disruption may well provide the opportunities to put them on the table as never before. The key will be to connect them from the bottom up and build the inclusive local, regional and global movements that can tackle systemic injustice. We need to ensure that as difficult times emerge, our societies respond with justice and compassion, rather than fear and repression.

Notes

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