ROUTLEDGE SECURITY IN ASIA PACIFIC SERIES

Human Security and Climate Change in Southeast Asia

Managing risk and resilience

Edited by
Lorraine Elliott and
Mely Caballero-Anthony

ROUTLEDGE

Human Security and Climate Change in Southeast Asia

This book makes an important and timely contribution to debates about the relationship between climate change and security in Southeast Asia. It does so through a human security lens, drawing on local and regional expertise to discuss the threats that climate change poses to human security in Southeast Asia and to show how a human security approach draws attention to the importance of adaptation and strategies for social resilience. In doing so, it exposes the consequences of climate change, the impact on community rights and access, and the special problem of border areas, before going on to investigate local and regional strategies for addressing the human security challenges of climate change.

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Routledge
Taylor & Francis Group
LONDON AND NEW YORK

First published 2013
by Routledge
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

Simultaneously published in the USA and Canada
by Routledge
711 Third Avenue, New York, NY 10017

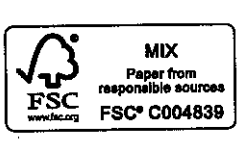
Routledge is an imprint of the Taylor & Francis Group, an informa business

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

Library of Congress Cataloging in Publication Data
Human security and climate change in Southeast Asia: managing risk and resilience/edited by Lorraine Elliott and Mely Caballero-Anthony.
p. cm. – (Routledge security in Asia Pacific series; 22)
Includes bibliographical references and index.
1. Climatic changes–Social aspects–Southeast Asia.
2. Human security–Environmental aspects–Southeast Asia.
3. Southeast Asia–Environmental conditions–Social aspects.
I. Elliott, Lorraine M. II. Anthony, Mely Caballero. III. Series: Routledge security in Asia Pacific series; 22.
QC903.2.S645H86 2013
363.738'7470959–dc23 2012007953

ISBN: 978-0-415-68489-7 (hbk)
ISBN: 978-0-203-10777-5 (ebk)

Typeset in Times
by Wearset Ltd, Boldon, Tyne and Wear



Printed and bound in Great Britain by
TJ International Ltd, Padstow, Cornwall

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1 Human security, climate security and social resilience

Lorraine Elliott

Introduction

Climate change is a crucial issue for the Asia-Pacific. The Intergovernmental Panel on Climate Change (IPCC) reports a worrying litany of likely climate change impacts for the region: a decline in crop yield, an increase in climate-induced disease, an increased risk of hunger and water scarcity, an increase in the number and severity of glacier melt-related floods, significant loss of coastal ecosystems, a high risk of flooding for many millions of people in coastal communities, and an increased risk of extinction for many species of fauna and flora. In its report on the economics of climate change in Southeast Asia, the Asian Development Bank concludes that the region is "likely to suffer more from climate change than the rest of the world," and that "the potential economic cost of inaction is huge" (ADB 2009b: xxvi).

Efforts to understand the connection between climate change and national, regional and international security have fuelled something of a climate security industry, evidenced in a range of reports from governments, international organizations and non-governmental organizations (NGOs). Climate change is presented as a non-traditional threat multiplier, overstretching societies' adaptive capacities and creating or exacerbating political instability and violence, possibly to the extent of inter-state conflict. The assumption is that climate change could "create risks of major disruption to economic and social activity, on a scale similar to those associated with the great wars and the economic depression of the first half of the 20th century" (Stern 2007: xv). The triggers include competition for resources, access to environmental services, and the unregulated movement of people in the face of ecosystem collapse. Human security concerns often appear incidental to this analysis, or relevant only when those who are affected or made insecure by the impacts of climate change are characterized as the likely source of social tension, civil unrest and other pressures. Yet it is people, particularly in developing countries, who ultimately bear the cost of climate-related environmental harm through increased vulnerability to poverty, disease, loss of livelihoods, food insecurity (sometimes to the extent of real malnutrition and starvation) and disasters of nature. Unlike the wealthy, "poor people often lack access to alternative services ... live in locations that are vulnerable to environmental

threats and lack financial and institutional buffers against these dangers" (GLCA 2009: 16).

This chapter examines the value of a human security approach to climate security in the context of debates about non-traditional security. It explores not just the human insecurities that are generated by climate change, with a particular focus on the Asia-Pacific, but examines how human security models provide (1) different ways of interpreting climate conflict "triggers" and (2) different and more effective strategies for responding to climate insecurity. This involves an analytical move from risk to vulnerability and a strategic move from mitigation to adaptation and social resilience. Despite the challenges that this presents for more orthodox approaches to non-traditional security, it is also more certain to deliver outcomes that can guarantee security for both peoples and for states.

Securitizing climate change

The proposition that environmental degradation in general and climate change in particular are or should be considered security concerns is no longer a novelty on the non-traditional security agenda. Put broadly, environmental security falls within two sometimes competing approaches to non-traditional security (other terms include new security, transnational security, comprehensive security and non-conventional security). The first of these focuses on non-traditional threats to traditional "referent objects" (that is, states) and worries about the potential for conflict and political violence as a result.[1] The primary security problematic remains one that focuses on the maintenance of order and stability and the protection (or securing) of those values that are associated with statehood: political independence, territorial integrity and internal order. The second takes account of what might be called "non-traditional" referents, including individuals, communities, societies, economies and, where environmental issues are concerned, possibly even species and ecosystems. Of the two security models, it is the more traditional statist approach that has dominated the recent resurgence of interest in the link between security and climate change.

In August 2009, the United Nations Secretary-General Ban Ki-moon told a global environment forum in South Korea (at the same time that governments were meeting in Bonn for five days of informal climate negotiations) that failure to act quickly on climate change could lead to a worsening of tensions, social unrest and even violence (Ban 2009). This was not the first time that the Secretary-General, who has made climate change a touchstone issue of his incumbency, has expressed these kinds of concerns. In March 2007, at a meeting of youth delegates at UN headquarters in New York, he suggested that "in coming decades" climate-related "changes in our environment and the resulting upheavals – from droughts to inundated coastal areas to loss of arable lands – are likely to become a major driver of war and conflict" (Ban 2007). The warnings about climate-induced conflict and instability in the Secretary-General's August 2009 speech echoed the themes of a burgeoning climate security industry as scholars and policy-makers attempted to better understand the possible security

threats associated with climate change. Few reports are quite as alarmist as the 2004 report commissioned for (and then suppressed by) the Pentagon which warned that in the face of catastrophic climate change, "nuclear conflict, mega-droughts, famine and widespread rioting" would erupt across the world as a result of climate change and competition for food, water and energy. Disruption and conflict, the authors predicted, would become "endemic features of life" (cited in Townsend and Harris 2004).[2] Yet while most reject this dystopia, all assume that some form of disruption and conflict – ranging from civil unrest through inter-communal violence to political radicalization and, in extreme situations, state collapse – is likely, even though the empirical evidence for such claims is often thin.

In a widely reported move in January 2007, the Board of the *Bulletin of the Atomic Scientists* moved the hands of the Doomsday Clock from seven to five minutes to midnight, concluding that "global warming poses a dire threat to human civilization that is second only to nuclear weapons" (*Bulletin of the Atomic Scientists* 2007). At the same time, the British Ministry of Defence released the latest in its strategic trends series identifying climate change, a shifting environment, and increased demand for natural resources – especially food, water and energy – as challenges to stability that would create new sources of insecurity and tension (UK Ministry of Defence 2007). A few months later, in April 2007, a panel of retired US admirals and generals released a report in which they argued that climate change constituted a significant threat to US national security interests (CNA Corporation 2007). In the same month, under the presidency of the UK, the UN Security Council held its first debate on global warming. The British Foreign Secretary at the time, Margaret Beckett, told the Council that the threat from climate change has "grown larger in scale and sharper in outline" with consequences that "reach to the very heart of the security agenda" (UK Foreign and Commonwealth Office 2007).

In September 2007, the London-based International Institute for Strategic Studies (IISS), which styles itself as the world's leading authority on political military conflict, included in its annual *Strategic Survey* a long discussion that characterized climate change as a potential "existential security threat" (IISS 2007: 47).[3] The climate–security link was reinforced further in October with the awarding of the 2007 Nobel Peace Prize jointly to former US Vice President Al Gore and the IPCC for their work on climate change. In announcing the prize, the Norwegian Nobel Committee said that climate change presented a threat to the security of humankind which could bring with it "increased danger of violent conflicts and wars, within and between states" (Norwegian Nobel Committee 2007). This flurry of activity continued into 2008 and 2009.[4] In March 2008, the High Representative and the European Commission (HREC) prepared a paper on climate change and international security for the Council of the European Union (HREC 2008). In April 2008, the Deutsche Gesellschaft für Technische Zusammenarbeit published its report on "Climate Change and Security: Challenges for German Development Cooperation" on behalf of the German Federal Ministry for Economic Development and Cooperation (Carius *et al.* 2008).

Climate change featured in the UK government's first-ever National Security Strategy published in March 2008 and in a US National Intelligence Assessment in June later that year (UK Cabinet Office 2008; Fingar 2008). In June 2009, the UN General Assembly adopted a draft Resolution sponsored by the Pacific Island countries which called (among other things) for a comprehensive report on the possible security implications of climate change to be prepared for the 64th session of the General Assembly (United Nations General Assembly 2009). In September 2009, the British government appointed from within the ranks of the defense forces, a climate and energy security envoy, Rear Admiral Neil Morisetti, in response to their concerns that "climate change will act as an increasingly powerful amplifier of instability across some of the most volatile regions of the world" (British Embassy Oslo 2009). The US 2010 "Quadrennial Defense Review Report" offered a similar litany of concerns, suggesting that climate change would play a "significant role in the future security environment" with the potential to "spark or exacerbate future conflicts" (US Department of Defense 2010: xv, 7).

Climate change and conflict

In much of this work, efforts to understand the triggers and pathways that link climate change to conflict and instability, and thus to non-traditional security, have relied on an updated version of predictions made by scholars in the late 1980s and early 1990s that environmental degradation could contribute to instability, the "disruption of legitimized and authoritative ... social relations" (Homer-Dixon 1991: 91) and "civil turmoil and outright violence" (Myers 1989: 24). In its 2007 *Strategic Survey*, for example, the IISS suggested that "the security dimension [of climate change] will come increasingly to the forefront as countries begin to see falls in available resources and economic vitality, increased stress on their armed forces, greater instability in regions of strategic import, increases in ethnic rivalries, and a widening gap between rich and poor" (IISS 2007: 68). A second assumption that characterizes the current climate security literature is that the sources of national and societal insecurity will be equally as much internally as externally generated.

These are complex processes. The proximate triggers for intra-state social unrest and inter-communal violence are usually argued to involve competition for scarce resources (including water and energy), food insecurity, and pressures that result from internal migration spurred by the impacts of climate change on local environments. This menu of concerns is not surprising. The reports of the IPCC show that climate change will result in a growing pattern of scarcity and vulnerability for an increasing proportion of the world's people. Hundreds of millions of people will be exposed to more severe water stress; cereal production will decrease in most latitudes in the longer term; millions more people will be vulnerable to extreme weather events such as droughts and heatwaves, and to disasters of nature such as floods; and there will be a growing health burden from increases in malnutrition and infectious diseases.

The fear expressed in climate security literature is that intra-state pressures and instabilities over various kinds of environmental scarcities will be internationalized in various ways – and therefore make more challenging the security problems of "the North" – through a geography that moves from borders through regions to the global. The pressures of climate migration, for example (although poorly tested empirically) are assumed to translate into unrest, conflict and perhaps even violence in transit and destination areas. Climate-related resource scarcities have also raised the spectre of more conventional border or territorial disputes between states or adjacent communities. New geopolitical tensions are anticipated as countries' vulnerabilities to resource scarcities, including energy and food, increase or decrease in both comparative and absolute terms. Climate security commentators also worry about "spill-over" effects if local disputes "threaten the political stability of countries and regions" (HREC 2008: 4) and, in turn, the security interests of the more "stable" parts of the world such as North America, Europe and Australasia. Concerns are raised that "under conditions of severe global climate change, environmental factors may push already failed states deeper into the abyss of ungovernability, while driving other states toward the brink" (IISS 2007: 55; Campbell *et al.* 2007: 107). In extreme cases, climate-related state failures are feared to provide an avenue for extremist ideologies and create breeding grounds and safe havens for terrorist networks (CNA Corporation 2007: 31). The multilateral system is also deemed to be "at risk" if governments are unable to or fail to address these threats (see, for example, HREC 2008: 5; Campbell *et al.* 2007: 107). Finally, in a replication of the concerns that are at the heart of realist security debates, observers worry that the divergent regional effects of climate change could affect both global and regional distributions of power with unpredictable consequences for international security.

Climate security and the Asia-Pacific

Conflict and instability is thought more likely in conditions where people face a contraction of livelihood choices, and where governments face increased demands on critical social infrastructure such as health systems, the overstretch of societies' adaptive capacities, and the growth of a politics of resentment in situations of ecological marginalization where unequal access to resources is politicized or where resource scarcities feed into existing tensions between ethnic, religious or other identity groups. Many countries in the Asia-Pacific fit this "profile" and are thus assumed to be more vulnerable to internal conflict and unrest sparked by the environmental, economic and social impacts of climate change.

In a detailed report, the NGO International Alert (IA), has identified 46 countries – home to 2.7 billion people – in which it anticipates that "the effects of climate change interacting with economic, social and political problems will create a high risk of violent conflict" (Smith and Vivekananda 2007: 3). In the Asia-Pacific, Burma/Myanmar, Indonesia and the Philippines are the three countries identified as most likely to fall into this category. Other analyses have

likewise suggested that Indonesia and the Philippines are countries in which unsustainable resource use, mismanagement and environmental degradation, as well as the more direct impacts of climate change, could drive instability and insurgency "on a par with ethnic and religious issues" (Jasparro 2002). IA has characterized another 56 countries – home to 1.2 billion people worldwide – in which "the institutions of government will have great difficulty taking the strain of climate change on top of all their other current challenges." While IA suggests that the "risk of armed conflict may not be so immediate" in these countries, they also argue that "the interaction of climate change and other factors creates a high risk of political instability, with potential violent conflict a distinct risk in the longer term" (Smith and Vivekananda 2007: 3). IA includes the Asia-Pacific countries of Cambodia, Laos, North Korea, Thailand and Timor-Leste in this category. Climate security analysts have also worried about the potential for climate change to increase the likelihood of state failure in the Asia-Pacific if governments are unable to respond effectively to the social and economic challenges of climate change or the kinds of civil unrest and communal violence that might result. In this view, the impacts of climate change will create demands for resources, food, water, health infrastructure, and social and economic assistance that may be difficult for governments to meet, potentially undermining confidence in those governments and calling their authority and perhaps even legitimacy into question.

In a region which is reported to have an already higher-than-average number of internal armed conflicts and struggles of various kinds (Reilly 2002: 8), the multiplier effect of climate-induced resource scarcities and stresses should not be discounted. The Asia-Pacific has already seen localized tensions over other kinds of resource and environmental issues, although few of these have resulted in the kind of instability and fragility that the more alarmist versions of the climate conflict models might anticipate. The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) reports that large-scale electricity generation projects have become a source of social conflict in countries such as China and Thailand (although this is often directed against governments or corporations rather than other communities) (UNESCAP 2006: 52). Problems of environmental degradation and pollution have resulted in unrest in China where these issues are made more complicated by disputes over land tenure and rural poverty (see Lieberthal 2007; Lum 2006). Concerns about food security – influenced by both prices and availability – have resulted in social protests across the region including in Indonesia, the Philippines and China. Each of these challenges – energy management, pollution and food security – is also a human security issue. Yet, as noted above, the impact of climate change on human insecurity is rarely made a priority in climate security literature.

Climate change from a human security perspective

In the August 2009 speech referred to earlier in this chapter, UN Secretary-General Ban also drew attention to the catastrophic impact that climate change

could have for humanity, a statement that places people at the center of the non-traditional and climate security debates. The genesis of the human security approach lies in ideas articulated initially by the United Nations Development Programme (UNDP) but with a genealogy that can be traced to the two reports of the Brandt Commission, *North–South: A Programme for Survival* published in 1980 and *Common Crisis* published in 1983. The UNDP defined human security as a universal, people-centered concern with "human life and dignity" and as an antidote to conventional views of security that had "for too long ... been shaped by the potential for conflict between states ... [and] equated with ... threats to a country's borders" (UNDP 1994: 22). While environmental degradation was not the only component of human security, the report nevertheless identified the "basic question of human survival on an environmentally fragile planet" as a central concern. This theme was also picked up by the Commission on Global Governance in its argument that "threats to the earth's life support systems ... challenge the security of people far more than the threat of external aggression" (Commission on Global Governance 1995: 79).

The state-centric (and, for some, adversarial) model of security against which human security was to be the antidote was deemed to be flawed on a number of grounds. First, it ran the risk of militarizing non-traditional insecurities, drawing attention away from the underlying causes. Second, it overlooked the extent to which various forms of non-traditional insecurities – such as environmental degradation – might be amenable to cooperation rather than conflict. Third, it restricted who was able to contribute to the security discourse and precluded ideas and concepts that did not have states as the key structures or agents. Thus traditional security models were thought not only inappropriate as a basis for dealing with non-traditional and human security threats, such as those involved with environmental degradation and climate change, but as standing in the way of creative and successful solutions. As Bilgin put it, the supposed "commonsense" of statism "forclos[es] alternative nonstatist conceptions of security and the constitution of alternative futures" (Bilgin 2002: 100).

In the Asia-Pacific, climate change will have a fundamental impact on the livelihoods and even survival of millions of people. Of the ten countries in the world most imperilled by climate change in terms of the *number* of people likely to be affected, six are in this region: China, Indonesia, Japan, the Philippines, Thailand and Vietnam.[5] The IPCC notes that "projected climate change-related exposures are likely to affect the health status of millions of people, particularly those with low adaptive capacity" through increases in malnutrition, greater frequency of death, injury and disease from heatwaves and other disasters of nature, an increased disease burden including diarrhea, cardio-respiratory illness and infectious diseases (IPCC 2007a: 12). Climate change will create further economic uncertainties and not just for the region's poorest, although they are likely to be the least resilient and least able to adapt, at least in the short term. In conditions of economic weakness (the term used by IA), the range of income possibilities is narrowed and the state is also deprived of resources with which to meet people's needs (Smith and Vivekananda 2007: 3). In Southeast Asia, for

example, over 300 million people live on incomes that fall below US$2 per day (over 40 percent of the region's population).[6]

Climate change will almost certainly undermine or slow progress towards the achievement of the Millennium Development Goals by the 2015 target deadline, including those goals for reducing poverty and achieving sustainable development (for more, see UNMC 2009; UNESCAP, ADB and UNDP 2007). Poverty exacerbates climate insecurities. In a region where subsistence lifestyles constitute a significant proportion of human livelihoods, the poor in rural areas in particular will be disadvantaged and impoverished by climate change, a condition the Asian Development Bank refers to as "environmental poverty" (ADB 2007a). Marginal incomes provide little or no safety net against health burdens, food insecurity, flooding and drought, or other impacts of climate change. And those who are economically marginalized are also the least able to pursue adaptive strategies, and the least able to buy their way out of the impacts of climate change.

A human security model which takes people (or peoples) as the security referent questions the "taken for granted" assumptions and analyses in the policy community about climate change, threat and (in)security. Making people and their communities the security referent helps us to think differently about the threat multiplier effect that is at the center of more orthodox non-traditional approaches to climate insecurity. A closer, albeit brief look at three of the key concerns in climate security literature demonstrates some of the practical consequences of this discursive move from state to human security within non-traditional security models.

Food insecurity

Food insecurity refers to both a shortage of food and vulnerability to high food prices which puts staples out of reach of the poorest. It is a product of land degradation and loss of soil fertility caused by deforestation, overuse of chemicals, inefficient irrigation and waterlogging, as well as drought and desertification; diversion of food crops into biofuel; market failure reflected in rising food prices and an ineffective and unfair distribution of food; over-capitalization of the global fishing industry and over-exploitation of many of the world's fish stocks; and coastal and river pollution from development that destroys breeding grounds. In the more traditional climate security literature, the main concerns are that food insecurity can turn food exporting countries in the region into net food importers, increase their vulnerability to global markets and their reliance on the security of trade routes, heighten poverty, and potentially intensify domestic grievances and social disruptions. Efforts are thus made to identify food security "hotspots": those countries where not just food shortages but also food conflict is a possibility. In the Asia-Pacific region, those countries include Burma, Cambodia, Indonesia, Laos, Mongolia, North Korea, the Philippines, Thailand, Timor-Leste and Vietnam (UNESCAP 2009a: 29).

From a human security perspective, possible or actual food scarcity generates concerns for those who will be most affected. The unpredictability of wet and

dry seasons is already having an impact on agriculture in parts of Southeast Asia, with harvests being disrupted, rural incomes dropping, and hunger and malnutrition increasing, especially among children. In Northeast Asia, the Chinese government's State Meteorological Administration has calculated that climate change could cause that country's grain harvest to fall by 5 to 10 percent, with a food shortfall of 100 million metric tonnes by 2030, a serious problem for people in a country which is already losing farmland to deserts and which has little capacity to increase arable land (Reuters 2007). A decline in fisheries production, caused by over-fishing, illegal fishing, and by increases in sea-surface temperatures and salinity, will complicate food security for millions of people in the region who rely on fish stocks as their major source of protein. Coupled with a projected decline in crop yields, particularly in key cereal crops, this could result in malnutrition, an increased disease burden and possible starvation for many of the region's most disadvantaged with an extra 130 million people in the Asia-Pacific anticipated to be at risk of climate change related-hunger.

Water stress

Most parts of the Asia-Pacific are projected to experience increased water resource stress as a result of climate change. The Consortium of Non-Traditional Security in Asia reports that since 1950, "water availability per capita has already decreased by 60 per cent in North Asia and by 55 per cent in Southeast Asia" (Centre for NTS Studies 2008: 3). In the more traditional approach to climate security, vulnerability to water stress and increased drought is anticipated to trigger distributional conflicts and "fuel existing conflicts over depleting resources, especially where access to those resources is politicised" (HREC 2008: 3) or where there are limited or weak institutional frameworks for the "adaptation of water and crisis management systems" (WGBU 2007: 2). Several countries in the region have a high dependency ratio for renewable water resources (that is, the proportion of their total renewable water resources that originate outside the countries' borders). Transboundary river systems are often moderately or highly affected by fragmentation (that is, the river's natural flow is interrupted by dams, inter-basin transfers or other forms of water withdrawal) (see UNEP 2008). The British Ministry of Defence anticipates that in the region's transboundary river systems, such as the Mekong for example, "large-scale farmers [will] ... benefit at the expense of smaller [farmers], ... there will be disruption of fisheries ... [and there is] likely to be increased tension over water resources" (IISS 2007: 63). Yet these remain controversial claims. Detailed historical studies suggest that interactions over water resources are more likely to result in cooperative rather than conflict outcomes (Wolf 2007).

From a human security perspective, water (in)security involves more than tension and the possibility of violent competition among competing users (and uses). UNESCAP calculates that up to 650 million people in Asia and the Pacific do not have reliable access to safe water – and this has very real and immediate consequences for human security (UNESCAP 2006: 2).[7] Both poor quality water

and limited access to water, whether through the overdrafting of water supplies or through drought, can undermine agriculture which accounts for between 70 and 80 percent of water use in the region, exacerbate food scarcity, and compromise sanitation.[8] For many millions of people, and particularly the poor, this has consequences for nutrition, for health and the disease burden and, increasingly, for who lives and who dies.

Climate migration and climate refugees

The potential for large-scale migrations of people – both within countries and across borders – has been described as "perhaps the most worrisome problem associated with rising temperatures and sea levels ... [and one which] could easily trigger major security concerns and spike regional tension" (Campbell *et al.* 2007: 8). The Report of the IPCC Working Group II suggests that as well as disruptions of human populations within states and across national borders in the region, sudden sharp spikes in rural to urban migration are likely in some countries with flow-on consequences for shortfalls in food production, rural poverty and urban unrest (IPCC 2007a: 488). The causal chains about climate migration and security have so far "rarely been substantiated with reliable evidence" (Nordås and Gleditsch 2007: 627). As Preston *et al.* (2006: 49) observe:

> although it is likely that climate change will ultimately force the displacement of some populations within the Asia/Pacific region, considerable uncertainty persists regarding the number of individuals that will be displaced, whether those displacements will drive internal or external migration, the extent to which human adaptation can reduce displacement, and the extent to which migration will jeopardise human security.

Neither Northeast Asia nor Southeast Asia are among the regions of most concern in terms of the geopolitical challenges of climate-induced migration identified in a 2007 report by the Center for Strategic and International Studies (Campbell *et al.* 2007: 56). On the other hand, IISS reports that "the Chinese military expects to have to ... face refugee flows from Indonesia and the rest of Southeast Asia" (IISS 2007: 63). And the British Ministry of Defence indicated that climate-related population displacement was a distinct possibility in the major East Asian archipelagos (UK Ministry of Defence 2007: 29).

More orthodox, non-traditional security approaches to climate migration focus on pressures on or threats to states through internal displacement and transboundary movements of peoples. A human security perspective, by contrast, focuses on the vulnerabilities of those whose homes, livelihoods and lives are at risk from sea-level rises, desertification and loss of arable land, extreme weather events and disasters of nature. According to the Asian Development Bank, about 20 percent of people in the world who will be affected by coastal flooding by 2100 live in Southeast Asia, particularly Indonesia, Philippines, Thailand and Vietnam (ADB 2009b: 51). The IPCC estimates that a 40 cm

sea-level rise by 2080 could affect as many as 21 million people in Southeast Asia and the World Bank reports that up to 11 million people just in Vietnam alone could suffer from the impacts of a 1 m sea-level rise (cited in Francisco 2008: 7). But this does not necessarily translate into millions of people on the move. Migration is not the only response strategy to climate change: people may, for example, choose to stay in their communities and seek to adapt to the impacts of climate change, or they may choose to stay, accept the costs of climate change and do nothing (see, for example, Reuveny 2007). Migration patterns are not always evidence of instability. Adger distinguishes displacement migration (or what we might call "desperation migration") from circular or seasonal forms of migration (or what we might call "adaptation migration") which could actually be a component of enhanced stability for communities (see Adger 2000). In situations where migration is the only option, this can generate other human insecurities, including loss of income, loss of social capital, disruption to traditional coping mechanisms, and increased vulnerability for already marginalized groups including the poor, women and children.

Climate security strategies: adaptation and social resilience

These three brief examples offer some insight into the ways in which a human security approach delivers a different understanding of the "triggers" for climate conflict. It also helps to see environmental scarcity as something more than a material problem. As Webersik reminds us, "scarcity of resources is ... caused by failure of institutions, absence of state trust, economic inequalities, and lack of entitlements to access these resources" (Webersik 2000: 1). Human security approaches also have something to say about strategies for responding to climate insecurity in ways that will simultaneously enhance human security and reduce the potential for social violence and conflict. The expectation in more traditional models of climate security is that governments should work cooperatively to avoid the kinds of tensions that might result from intra- and inter-state competition for resources and access to environmental services and from cross-border challenges such as those associated with climate migration. In this more traditional approach, governments are also encouraged to prepare themselves for demands on their defense forces to protect borders against refugees, to protect strategic assets and supply lines, or to assist in cases of climate-related humanitarian crises or civil unrest. Certainly cooperative and multilateral approaches to climate change are essential, and preferable to the deployment of military capability. This focus on risk – the *probability* that a location will be affected by problems such as climate change – usually engenders efforts to mitigate or constrain the phenomenon that has the potential to cause harm (see Clark and Chenoweth 2006: 96). Commitments to reduce greenhouse gas emissions have been central to international political debate on climate change. But from both a human and traditional security perspective, it is now too late to rely on these mitigation strategies alone.

Reducing the potential for tension, conflict and social violence requires that a human security focus on vulnerability takes precedence over the traditional

security focus on risk. Vulnerability encompasses "the exposure of groups of people or individuals to stress as a result of the impacts of environmental change" (Adger 2000: 348). From a traditional security perspective, it is those stresses that are the source of insecurity and that help to define climate conflict "hot spots." From a human security perspective, those stresses are the *result* of insecurity. The complement to vulnerability, as Webersik points out, is social resilience and the "capacity to adapt" (Webersik 2000: 2). This involves bolstering societies against threats (Clarke 2007: 1), and enhancing "the ability of groups or communities to cope with stresses and disturbances as a result of social, political and environmental change" (Adger 2000: 347). In effect, climate security needs to be "human securitised." Clarke describes this as a move from geopolitics to biopolitics in which human and social resilience "is a key building block to more sustainable [and secure] twenty-first century states" (Clarke 2007: 1).

Based on this human security approach, climate security should include the kinds of strategies that have the potential to increase individual adaptive capacity, build social resilience and save lives. Adaptation to the impacts of climate change can take a variety of forms – technological, behavioral, managerial and regulatory (IPCC 2007a: 19). Adaptation efforts that support those who are most vulnerable to the social and economic consequences of climate change can help to reduce human and societal vulnerability and increase resilience. More resilient societies are also those in which structures are in place to manage competition for resources and the displacement of people and this, in turn, can reduce the risk of unrest and social violence. In this way, adaptation and social resilience also serve the interests of the traditional security community in mitigating and managing conflict.

Adaptation alone, however, does not guarantee social and community resilience, particularly if it relies on "top-down" decision-making and technocratic responses. Focusing only on the macro-level "runs the risk of ignoring the concerns of the most vulnerable people" (GLCA 2009: 22). This presents a number of challenges for traditional security discourse and the community of practice as they address the security impacts of climate change. Climate security strategies for building social resilience need to be people-centered not just people-oriented. They need to be engaged with and responsive to the vulnerabilities and security needs of local communities. Traditional security, on the other hand, functions primarily at the level of the state and the international. Social resilience requires adaptation strategies and institutions that are inclusive and transparent (GLCA 2009: 22; Smith and Vivekananda 2007). Security policy, particularly when synonymous with defense policy, is traditionally closed and non-participatory. Social resilience and human security approaches also need to involve actors who are not usually included in either the development or the delivery of more traditional modes of security – NGOs, civil society, local governments, development agencies and a range of other regional and international organizations. Yet these challenges need to be addressed, and overcome, if people, communities, societies and states are to be more secure and more resilient in the face of climate change.

Introducing the book

In light of this analysis, we need a better understanding than we currently have of how adaptation strategies can account for social resilience and how this works to enhance human security in the face of climate change and to reduce the likelihood of social instability. Two broad propositions inform the chapters in this book. *First*, strategies for climate adaptation and social resilience are multi-level as well as multilateral. *Second*, climate security should include the kinds of strategies that have the potential to increase individual adaptive capacity, build social resilience and save lives. In the context of non-traditional security, social resilience strategies are important not only for supporting vulnerable communities but also for minimizing social instability, inter-communal conflict and, in turn, regional insecurity and instability. More resilient societies are those in which structures are in place to manage competition for resources and the displacement of people and this, in turn, can reduce the risk of unrest and social violence. In this way, adaptation and social resilience can also serve the interests of the traditional security community in mitigating and managing conflict.

In examining and explaining these propositions, this book seeks to move beyond established empirical studies and well traversed conceptual arguments about climate change, human security and non-traditional security to explore specific modes of and for social resilience in the region. In doing so, it makes an important and timely contribution to the debates about the relationship between climate change and security. It does so by (1) adopting a human security approach that challenges the conventional focus that understands the security implications of climate change only as a threat multiplier to existing forms of conflict and political violence in ways that constitute a threat to states; (2) drawing on specific examples of adaptation strategies to advance our understanding of how to manage risk and resilience in the face of climate change; (3) investigating local and regional scales to explore how the governance of enabling environments for social resilience can or should function beyond the state; and (4) broadening and deepening our conceptual understanding of the connections between risk and vulnerability on the one hand, and resilience and human security on the other.

The book therefore brings both an empirical and conceptual dimension to the objective of expanding our understanding of climate change, adaptation, human security and social resilience as non-traditional security challenges in Southeast Asia. The chapters offer a range of empirical case studies, exploring urban, forest, rural, coastal and river basin communities and ecosystems across the region along with regional institutions. The authors explore how key concepts such as risk and resilience should be defined and understood and shed light on key issues and complexities associated with governance and implementation.

In Chapter 2, the second of the two scene-setting chapters (this current chapter being the first), Juzhong Zhuang, Suphachol Suphachalasai and Jindra Nuella Samson from the Asian Development Bank, provide an overview of the impact of climate change on Southeast Asia and review adaptation measures that

have been adopted by many Southeast Asian countries. They identify those areas where more efforts are needed to address human security concerns, with particular attention to key climate-sensitive sectors including water resources, agriculture, forestry, coastal and marine resources, and health.

The two chapters in the second section use case studies – the urban poor in one case and water security in the Lower Mekong Basin in the other – to offer critical analyses of conceptual approaches to the nexus of human security and climate change. In Chapter 3, Devanathan Parthasarathy provides a critical investigation of the nature of risk, vulnerability and resilience which recognizes the complexity of the links between poverty, power distribution in society, discrimination and environmental shifts and changes. In this chapter, Parthasarathy takes issue with some classical sociological perspectives on risk (particularly those developed by Mary Douglas and Ulrich Beck) and offers a critique of their applicability in non-Western contexts of non-traditional security. Drawing on research on the vulnerability of the urban poor to climate change, this chapter calls for a more nuanced understanding of vulnerability and therefore of resilience that recognizes the complexity of social structures within Asia, and argues that an understanding of risk is insufficient without a concurrent grasp of the issue of social and cultural choices to which social actors are subjected. In this context, the chapter also questions the dangers of institutional isomorphism and the wisdom (or otherwise) of importing or imitating or even adapting international "best practice" for resilience which might have little fit with local requirements and social processes. This emphasis on local requirements is taken up further in Chapter 4 by Keokam Kraisoraphong. She also begins with the argument that any analysis of social vulnerability that seeks to enhance social resilience (and, by implication, non-traditional security) must take into account the social construction of vulnerability and the economic, institutional and political factors which promote or constrain options for adaptation. Drawing on a case study of water security in the Lower Mekong Basin, this chapter argues that what seems to some to demonstrate regime creativity and adaptation in the field of water governance can also be seen, from within a critical hydropolitics perspective, to have been limited by the dominance of law, engineering and economics. This informs a central concern of the chapter, that of the relationship between the apparent resilience of institutions and the resilience of individuals and communities, and the need for people-centered approaches that focus on community rights and access.

This emphasis on "the local" as crucial to non-traditional security and climate security – in conceptual terms and as a site for delivery and implementation – informs the third section of the book which explores the nature of local risk and strategies for local resilience. Developing strategies for adapting to climate change and building social resilience involves complex challenges. While we know a lot about the types of adaptation strategies available, much more is required to understand how to move from general assumptions to implementation in specific circumstances. We also need to explore more carefully the ways in which strategies for mitigation can or should be balanced against adaptation,

and the ways in which some mitigation strategies can actually undermine social resilience and human security as models of non-traditional security. The two chapters in this section draw on case studies to take this research one step further. Each chapter identifies a particular human security challenge (or set of challenges) in the face of climate change, examines and evaluates particular types of adaptation strategies and their impact on or contribution to building social resilience, and offers some thoughts on the policy, implementation and institutional or governance issues that the analysis raises.

In Chapter 5, Enrique Ibarra Gené and Arif Aliadi examine reducing emissions from deforestation and forest degradation (REDD) and its relationship to mitigation, adaptation and the resilience of local livelihoods. They examine the ways in which a REDD demonstration activity in Aceh was intended also to enhance social resilience through providing alternative livelihoods, and generating revenue and income. The chapter reveals the complexities associated with REDD when human security and social resilience issues are factored into governance strategies. As this chapter demonstrates, these include the importance of recognizing traditional community rights, the need to understand the impact of land reclassification on local livelihoods, multiple strategies for addressing illegal logging, and imperatives for transparency and accountability. Ibarra Gené and Aliadi also examine the ways in which understanding market structures and economic incentives is important in the implementation of adaptation, mitigation and resilience strategies, factors that are often analyzed out of non-traditional security. In Chapter 6, Bernadette Resurreccion examines another important issue that is often missing from both traditional and orthodox non-traditional security literature and analyses, that of gender. She examines climate change not just as a human security issue but also as a gendered security issue, one that affects women and men in different and uneven ways. Drawing on both a broader analysis of adaptation strategies and specific case studies in Cambodia, Vietnam and the Philippines, this chapter argues that making gender prominent requires adaptation strategies that are shaped and influenced by women's and men's relative and differentiated capacities, power and social resilience, vulnerabilities and resources. In this view, social resilience and human security are processes that require the construction of reliable and sustained institutions of support and trust.

The final three chapters examine the challenges in scaling human security back up to the region. In Chapter 7, Irene Kuntjoro revisits at a regional level the economic issues identified by Ibarra Gené and Aliadi in Chapter 5. She examines ways in which the security aspects of climate change are, or could be, integrated with the development agenda with a focus on the role of international agencies in promoting adaptation efforts in the region. The relevant case study here is UNESCAP and its role in promoting preventive approaches and in supporting governments to develop climate change resilient and secure societies. The chapter explores how a move from reactive to anticipatory adaptation results in a change in policy instruments and can deliver more effective outcomes including those that speak specifically to human security. In Chapter 8, Fitrian Ardiansyah

and Desak Putu Adhityani Putri investigate the security impact of climate change in three cross-border areas in Southeast Asia – the Greater Mekong Subregion, the Heart of Borneo and the Coral Triangle. They examine the ways in which climate change can result in human insecurity and in social unrest, tension and conflict. This chapter explores regional agreements and actions in each of the three cross-border regions and evaluates them against "ideal" type models with an emphasis on mainstreaming climate adaptation as well as mitigation in the development agenda. The analysis here points to the importance for adaptation and resilience of identifying other "real" actors (that is beyond states and intergovernmental actors) and getting them involved: the business sector, local communities and the public. In the final chapter, Mely Caballero-Anthony explores the real challenge of using regional cooperation to create enabling environments for adaptation and social resilience, thus making a specific link between the regional and the local. She explores how adaptation strategies, which are key to social resilience and human security, have been incorporated into regional mechanisms in Southeast Asia. This chapter pays particular attention to the issue of regional governance, not just in the declaration of principles and norms, but also in the links that are made between climate change and human security on the one hand, and regional efforts to develop and implement strategies for non-traditional security in the context of the potentially competing agendas associated with the demands of building security, economic and sociocultural communities within Southeast Asia.

Each of the chapters offers its own conclusions on the issues and challenges explored therein. But overall, the chapters in this book suggest a number of broader conclusions that speak to the challenges of understanding climate change as a non-traditional security and, more specifically, a human security issue. Those conclusions point to the importance of:

- a critical understanding of the ways in which vulnerability and risk (and, therefore, resilience and security) are *socially* constructed;
- participatory, people-centered approaches within the context of the so-called "triangle" of cooperation that includes business and government along with civil society;
- identifying the benefits as well as policy consequences of anticipatory and reactive approaches to climate change adaptation as a strategy for human security;
- understanding how scientific research, including social scientific investigation, informs and engages with policy-making and policy implementation; and finally,
- an awareness of the complexities and challenges of governance across multiple scales, including the need to identify and overcome governance and capacity deficits and the need to develop a well grounded understanding of appropriate enabling environments for non-traditional security strategies.

Notes

1 The literature on environmental security is now extensive. For useful explorations of the various interpretations and contestations surrounding the term and its policy implications, see Dalby (2002), Barnett (2001), Elliott (2004: chapter 9, 2007).
2 Admittedly, the report was explicitly intended to assess likely outcomes in the face of *abrupt* climate change. See Schwartz and Randall (2003) for a public version of the report.
3 In September, the British Ministry of Defence also announced a £12 million contract with the UK Meteorological Office Hadley Centre to support research that would focus on the relationship between climate change and conflict, identify countries where there is conflict over food and water scarcity, and examine the related conditions in which British troops might be deployed in the future.
4 Official reports and assessments have been matched by analyses from research institutes, think tanks and academic institutions too numerous to mention.
5 The Economy and Environment Program for Southeast Asia reports that climate change is less rapid in Southeast Asia when compared with global averages (Francisco *et al.* 2008: 5).
6 On 2005 figures, about 93 million (18.8 percent) people in Southeast Asia lived below the $1.25 per day poverty line, and 221 million (44 percent) below the $2 per day poverty line (ADB 2009b: 53).
7 Other reports put the figure higher, closer to 700 million (Leadership Group on Water Security in Asia 2009: 7).
8 The problem for human security comes not just from water scarcity. An increase in precipitation and more frequent floods is likely to result in "degraded water quality and [an increase in] water-borne infectious diseases such as dermatosis, cardiovascular disease and gastrointestinal disease" (Wong 2008).