

# Living with Floods in a Mobile Southeast Asia

This book contributes to a better understanding of the relationship between migration, vulnerability, resilience and social justice associated with flooding across diverse environmental, social and policy contexts in Southeast Asia. It challenges simplistic analyses of flooding as a singular driver of migration, and instead considers the often complex ways in which floods figure in migration-based livelihoods and amongst already mobile populations.

Developing a conceptual framework based on a ‘mobile political ecology’ the authors pay particular attention to the multidimensionality, temporalities and geographies of mobility and vulnerability. The focus is on identifying the environmental, social, institutional and political factors that produce and perpetuate vulnerabilities that provide context to capacities (or lack thereof) of individuals and households. These include: the sociopolitical dynamics of floods, flood hazards and risky environments, the characteristics of migration and migrant-based livelihoods and the policy environments through which these take shape.

Organised around a series of eight empirical urban and rural case studies in Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Thailand and Vietnam, where lives are marked by mobility and by floods associated with the region’s monsoonal climate, the book concludes by synthesising the insights of the case studies, and suggests future policy directions. Together, the chapters highlight critical policy questions around the governance of migration, institutionalised disaster response strategies and broader development agendas.

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A Political Ecology of Vulnerability, Migration and Environmental Change

*Edited by Carl Middleton, Rebecca Elmhirst and Supang Chantavanich*

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Migration and Environmental Change

Edited by Carl Middleton, Rebecca  
Elmhirst and Supang Chantavanich



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# Contents

<i>List of acronyms</i>	vii
<i>Author biographies</i>	ix
<i>Acknowledgements</i>	xiii
<b>1 Migration and floods in Southeast Asia: a mobile political ecology of vulnerability, resilience and social justice</b>	<b>1</b>
REBECCA ELMHIRST, CARL MIDDLETON AND BERNADETTE P. RESURRECCIÓN	
<b>2 Living with the flood: a political ecology of fishing, farming, and migration around Tonle Sap Lake, Cambodia</b>	<b>22</b>
CARL MIDDLETON AND BORIN UN	
<b>3 Migrants seeking out and living with floods: a case study of Mingalar Kwet Thet settlement, Yangon, Myanmar</b>	<b>42</b>
MAXIME BOUTRY	
<b>4 Risky spaces, vulnerable households, and mobile lives in Laos: <i>Quo vadis</i> flooding and migration?</b>	<b>63</b>
ALBERT SALAMANCA, OUTHAI SOUKKHY, JOSHUA RIGG AND JACQUELINE ERNEROT	
<b>5 Living with and against floods in Bangkok and Thailand's central plain</b>	<b>89</b>
NARUEMON THABCHUMPON AND NARUMON ARUNOTAI	
<b>6 Generating vulnerability to floods: poor urban migrants and the state in Metro Manila, Philippines</b>	<b>105</b>
EDSEL E. SAJOR, BERNADETTE P. RESURRECCIÓN AND SHARON FELIZA ANN P. MACAGBA	

vi	<i>Contents</i>	
7	<b>Responses to flooding: Migrants' perspectives in Hanoi, Vietnam</b> NGUYEN TUAN ANH AND PHAM QUANG MINH	127
8	<b>Flooding in a city of migrants: ethnicity and entitlement in Bandar Lampung, Indonesia</b> REBECCA ELMHIRST AND ARI DARMASTUTI	146
9	<b>Vulnerabilities of local people and migrants due to flooding in Malaysia: identifying gaps for better management</b> MOHAMMAD IMAM HASAN REZA, ER AH CHOY AND JOY JACQUELINE PEREIRA	167
10	<b>Floods and migrants: synthesis and implications for policy</b> LOUIS LEBEL, SUPANG CHANTAVANICH AND WERASIT SITTITRAI	188
	<i>Index</i>	198

# Acronyms

ACCCRN	Asian Cities Climate Change Resilience Network
BAPPENAS	Badan Perencanaan Pembangunan Nasional (National Development Planning Board [Indonesia])
BMA	Bangkok Metropolitan Administration
CCT	Conditional cash transfer
CDEV	Community-driven enterprise development
DID	Department of Irrigation and Drainage (Malaysia)
DPWH	Department of Public Works and Highways (Philippines)
DRR	Disaster risk reduction
DSWD	Department of Social Welfare and Development (Philippines)
FDA	Foundation for Development Alternatives
FROC	Flood Relief Operations Centre (Thailand)
ID	Identification card
IOM	International Organization of Migration
ISRP	Informal Sector Relocation Program (Philippines)
IWRM	Integrated Water Resources Management
JICA	Japan International Cooperation Agency
Lao PDR	Lao People's Democratic Republic
MMDA	Metro Manila Development Authority
MMK	Myanmar kyat
MOF	Ministry of Finance (Malaysia)
MoAI	Ministry of Agriculture and Irrigation (Myanmar)
NGO	Nongovernmental organization
NHA	National Housing Authority of Thailand
NSC	National Security Council (Malaysia)
NSCB	National Statistics Coordination Board (Philippines)
NSO	National Statistics Office (Philippines)
NT2	Nam Theun 2 Dam
RASKIN	Beras untuk orang miskin (rice for the poor) (Indonesia)
RGC	Royal Government of Cambodia
RM	Malaysian ringgit
ROSCA	Rotating Savings and Credit Association (Laos)
Rp	Indonesian rupiah

viii *Acronyms*

SLORC	State Law and Order Restoration Council (Myanmar)
SLP	Sustainable Livelihood Program (Philippines)
SPDC	State Peace and Development Council (Myanmar)
THB	Thai baht
USDP	Union Solidarity Development Party (Myanmar)
VCI	Vulnerability and capacity index
VND	Vietnamese dong
YCDC	Yangon City Development Committee



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x *Author biographies*

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xii *Author biographies*

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# 1 Migration and floods in Southeast Asia

A mobile political ecology of vulnerability, resilience and social justice

*Rebecca Elmhirst, Carl Middleton and Bernadette P. Resurrección*

## Introduction

Flooding is a common experience in monsoonal regions of Southeast Asia, where diverse flood regimes have for centuries shaped agrarian and fisheries-based livelihoods. From the pronounced seasonality of wet-season rice cultivation through to the rhythms of the flood pulse of the region's mighty rivers that links agriculture and wild-capture fisheries across extensive wetlands, the movement of water has historically played an important part in shaping the seasonal movement of people. However, in recent public discourse, the link between flooding and migration is most often made with regard to catastrophic flood events. News images and personal experience of frequent and intense weather-related flood events in the region's low-lying megacity and delta regions in recent years has contributed to a perceived link between extreme environmental events and mass migration through displacement. Such perceptions have been lent authority by high-profile expert reports around the impacts of climate change and its likely effects on migration flows, such as Myers (2002), and in the early meetings of the Intergovernmental Panel on Climate Change, where it was argued that projected sea-level rise would place a third of the population of Southeast Asia at risk of coastal flooding (Hugo and Bardsley, 2014).

The spectre of flood-induced mass displacement, particularly when associated with climate change, remains firmly established within public discourse (CNN, 2012). Images relayed via the world's media of the devastating impact of various types of catastrophic floods – for example, Cyclone Nargis in the Ayeyarwady Division of Myanmar in May 2008, countrywide flooding in Thailand including of Bangkok in late 2011 and Typhoon Haiyan in the Philippines in November 2013 – have served to cement the link between catastrophic floods, mass displacement and unplanned distress migration in the public imagination. Yet, this focus on mass displacement frames migration in largely negative terms. Mobility is seen as a failure of adaptation to a changing environment, with both transborder and internal population mobility even regarded by some as a security

## 2 Rebecca Elmhirst et al.

issue, 'lying within the realm of the military and the protection of sovereignty' (Ransan-Cooper et al., 2015: 110).

Yet, other kinds of stories linking migration and this catastrophic type of flood do emerge, and these point to the need for a more nuanced and plural account of migration and mobility in relation to flood disasters. For example, shortly after Typhoon Haiyan, it became evident that Filipino migrants working abroad were finding ways of helping those back home who were affected by the disaster, bringing to bear not only their economic remittances but also their cultural and political capital in holding those responsible for the official disaster response to account (Mosuela and Matias, 2014). Thus, complex and seemingly contradictory links between migration and flood-related vulnerabilities emerged from this and similar events.

Recent influential comparative studies, many focusing on climate change rather than floods *per se*, have sought to challenge simplistic and inaccurate assessments of the links between environmental hazards and accelerated rates of cross-border and transnational migration (Black et al., 2011; Warner and Afifi, 2014; Adger et al., 2015). Much of this work has drawn attention to the role of migration as an adaptive response, rather than a failure to adapt (e.g. Tacoli, 2009; Bardsley and Hugo, 2010; Dun, 2011). Migrants are reframed from being hazard victims to being 'adaptive agents' (Ransan-Cooper et al., 2015): a framing which is very much linked to wider discourses around livelihood diversification where migration is seen as a resilience-building strategy (de Haas, 2012; Rigg and Oven, 2015). Indeed, it is argued that 'immobility' is more of a problem in the face of environmental change, where 'trapped' populations (i.e. those without the resources needed to move out of harm's way) are especially vulnerable to catastrophic environmental events (Black et al., 2011; Findlay, 2012). Moreover, strong measures to regulate and limit population movement and minimize entitlements of those who have migrated or who are able to be mobile may also undermine livelihoods in very specific and frequently unjust ways (Tacoli, 2009; Black et al., 2011). Some warn that framing migrants as adaptive agents can also feed into an apolitical and neoliberal discourse of self-help and self-improvement, without addressing wider questions of social justice and structures of social and political power that 'make' different categories of migrants (Oliver-Smith, 2012; Felli and Castree, 2012). Indeed, even as simplistic views of migration are being challenged in recent work, the environment and human-environment relations remain relatively undertheorised and depoliticised (Greiner and Saktapalrak, 2015).

In Southeast Asia, donor attention is being directed towards building resilience to climate change-related hazards (including flood hazards) in rural and urban areas (Bulkeley et al., 2011; ADB, 2011; Rockefeller Foundation, 2016), and this is taking place in tandem with (and in response to) a growing evidence base demonstrating changes to the region's hydrological cycle and extreme weather patterns that are predicted to further impact on the region's livelihoods (Zhaung et al., 2013). The Association of Southeast Asian Nations (ASEAN) too is seeking to shape a common policy framework for dealing with events such



as flood disasters (di Floristella, 2015). However, for such projects and policy on flood mitigation and disaster preparedness to be effective and socially just, a multidimensional and qualified framing of migration is required.

Given these developments, the purpose of this book is to respond to the need for a nuanced understanding of the connections between flooding and migration in Southeast Asia. Our aim is to complicate simple readings of environmental change – in particular, flooding – as a singular driver of migration by exploring a diversity of flood-migration-vulnerability assemblages. Thus, we aim also to sensitise flood-hazard policy agendas to the complexities of migration and mobility in Southeast Asia.

In this chapter, we propose a ‘mobile political ecology’ conceptual framework for understanding how migration links to vulnerability and resilience across diverse environmental, social and policy contexts. Our conceptualisation has been developed, tested and refined through the undertaking of a diverse set of rural and urban empirical studies in Cambodia, Myanmar, Laos, Thailand, the Philippines, Vietnam, Indonesia and Malaysia set out in Chapters 2 to 9 of this book. The policy implications are discussed in Chapter 10.

In the next two sections, we briefly outline migration followed by flooding in Southeast Asia. We then introduce and critically review the organising concepts of our conceptual approach, namely vulnerability, resilience and political ecology. Next, we consider flooding and migration as a nexus to propose our conceptual lens of ‘mobile political ecology’. We then outline the book’s methodological approach of ‘progressive contextualisation’ to trace vulnerability in migration-flood contexts. Finally, having established the conceptual lens and methodology, we briefly summarise the empirical cases presented in subsequent chapters.

## **Migration and mobility in Southeast Asia**

A starting point for this book is recognition of the diversity of forms of migration in Southeast Asia: a region long characterised by population mobility, including local, cross-border and transnational migration. Migration-based livelihoods in contemporary Southeast Asia are now made possible by increasingly accessible forms of geographical mobility, including rural-urban, rural-rural and transnational (Elmhirst, 2008; Rigg, 2012). Whilst some migration is exceptional, brought about by economic, environmental and sociopolitical shocks, much movement in the region occurs as everyday practice: short term, long term or permanent, or as circular, involving seasonal movements between different localities. Everyday mobilities form part of a broader effort to spread risk and adjust to long-term livelihood stresses, but they may also occur as part of individual or household aspirational strategies.

Increasingly, livelihoods are conducted on a multilocal basis, whereby households distribute their labour across multiple locations in order to maximise incomes and minimise risk (Rigg, 2012).<sup>1</sup> Multilocal livelihoods are held together and facilitated by social networks and, in some instances, are established as part of livelihood routines, for example as reflected in the seasonality of agricultural

4 *Rebecca Elmhirst et al.*

labour demand. Whilst income diversification is seen as a key strategy for mitigating livelihood risks, shocks and stresses,<sup>2</sup> multilocal livelihoods allow people to spread environmental, economic and political risk across different spaces, including in the context of more frequent flooding and uncertainty (Resurrección and Sajor, 2015).

Reflecting the aforementioned, this book adheres to a framing that gives emphasis to migration as an ‘already significant phenomenon’ (Black et al., 2011: 2), rather than as an isolated, one-off response to flood events.

### **Floods in Southeast Asia**

A second starting point of this book is to develop a more nuanced approach towards floods in Southeast Asia. Rather than assuming floods equate with catastrophe, we see floods as extremely varied and can be negative or positive in impact. Diverse experiences of floods reflect in part the complex nature of flooding in the region, where flood events include seasonal floodplain inundation, irregular riverbank overflow, flash floods in urban areas, landslides and flash floods in mountain areas, coastal floods and tsunamis (Lebel and Sinh, 2009).

The experience of these different types of flooding varies distinctly between groups of people according to their livelihood, location, socioeconomic status and level of political voice. For example, farmers and fishers in rural areas hold a very different relationship with floods to those who live and work in urban or peri-urban areas. In some places, floods are beneficial and bring means to livelihood, as is the case around Cambodia’s Tonle Sap Lake where fishers and farmers depend on the annual flood cycle for the vitality of the wild-capture fisheries and floodplain agriculture (Middleton, 2012).

Flood events can also be destructive, however, in both rural and urban areas. Destructive floods disproportionately affect those from lower socioeconomic groups with less political power (Wisner et al., 1994). The effects of floods can be mitigated or exacerbated by institutionalised disaster-response strategies (or the lack thereof), as well as shaped by broader long-term development planning policies and decisions. As Lebel et al. (2011) have shrewdly observed, risk reduction for some can result in risk redistribution to others.

More broadly, the region’s development pathway has ‘produced’ floods. Thus, rather than see a flood as a wholly natural phenomenon, we recognise that policy decisions and their consequences – for example around urban growth, industrial and infrastructure development, deforestation and land and coastal degradation – contribute to the nature and frequency of floods. This perspective aligns with relational approaches to nature that have coalesced within the field of political ecology that this book adopts. Political ecology points towards the social and political processes that produce ‘risky environments’ and recognises ‘nature’ as a material force (Wisner et al., 1994; Pelling, 2003; Braun, 2006; Collins, 2009; Marks, 2015).

Thus, a second core concern when conceptualising migration and floods is to ensure that the complexities of floods, as socionatural phenomena, are sufficiently

appreciated, and that a simple overemphasis on floods as catastrophic ‘natural hazards’ is avoided. Moreover, we seek to emphasise that people’s ‘vulnerability’ to flooding often reflects a larger story of socioeconomic and political inequality.

### **Linking migration and mobility to a political ecology of floods**

A conceptually sound approach towards the multiple ways floods intersect with migration in different Southeast Asian contexts must hold in play both the complexities of migration and mobility, and the complexities of floods as socationatural phenomena. In this section, we outline our organising concepts for a ‘mobile political ecology’, namely vulnerability, resilience and political ecology. Given the plural definitions and approaches in each of these terms, we undertake a brief critical engagement with existing literature to arrive at our use of these concepts.

#### ***Vulnerability***

Vulnerability – ‘the social precarity found on the ground when hazards arrive’ (Ribot, 2014: 667) – is useful as a central organising concept, as it provides a lens for viewing the intersections between flooding and migration. ‘Vulnerability’ is a concept that holds sway for migration researchers, as well as for those researching the impacts of natural hazards such as floods, and as such, is a conceptual boundary object through which the two aspects of our book – floods and migration – may converge.

‘Vulnerability science’ has emerged as a catch-all phrase that includes a wide range of natural and social scientific approaches to vulnerability, which share a desire to understand ‘what makes people, places, and societies vulnerable to a range of environmental threats’ (Cutter, 2003: 9). Whilst Wisner et al. (1994: 11) define vulnerability as ‘the characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard’, there have been many iterations, reflecting particular ideological positions and different disciplinary concerns (Adger, 2006). These include human capital or neoliberal approaches that regard vulnerability as an outcome or a quality held by individuals, which contrasts with perspectives that emphasize the processes that produce vulnerability (e.g. capital accumulation, property relations and social and political marginalisation) (Pelling, 2003; Collins, 2009). Furthermore, there are a range of approaches that reflect different disciplinary backgrounds, with dominant approaches including those from a hazards tradition, which focuses on the political economy of environmental risks and human responses (Wisner et al., 1994), and a sustainable livelihoods, entitlements and capabilities-based approach. The latter perspective draws on Sen (1997) to focus on the social realm of institutions, well-being and household assets or capacities (Bebbington, 1999; Kabeer et al., 2010), a perspective that has also been taken up by migration scholars (e.g. Julca, 2011). Recent debate has focused on the ways in which the hazard tradition does not deal explicitly with human agency, capabilities and the role of institutions (including social

6 *Rebecca Elmhirst et al.*

capital, social networks, institutions associated with governance), whilst livelihoods, entitlements, capabilities-based approaches underplay the materiality of nature and ecological or physical risk (Adger, 2006).

Tacoli (2009) outlines a 'livelihoods approach' to migration, in which mobility may be part of a wider household or individual strategy to reduce vulnerability and diversify income sources, including as a response to environmental, economic or political shocks and stresses (see also McDowell and de Haan, 1997). This framing gives particular emphasis to the capitals (assets or capacities) of individuals and households, and the ability to realise the benefits of these, as critical in shaping the shape and success (or otherwise) of livelihood strategies. These include human capital (labour resources, skills, health and education), financial capital (including remittances and access to credit) and social and political capital (which mediate access to material assets and to institutions, such as government or traditional authorities).

The chances of reducing vulnerabilities through migration depend in part on the characteristics (or 'the capitals') of those migrating, and also on forms of governance that either facilitate or inhibit mobility – for example, immigration controls, household registration systems and the capacities of migrants to draw on new social networks in areas to which they have relocated. However, 'capitals' or assets in the place of origin (e.g. social networks, knowledge or employment skills) may have limited purchase in the area of destination. Heikkilä (2005) refers to this as 'mobile vulnerability', which reflects the cultural nature of migrant vulnerability, deriving from stereotypes, prejudices, ignorance and institutional discrimination, that produces spatial vulnerabilities for those regarded as 'out of place' and therefore unable to access to limited resources, whether this is housing, employment or access to state services. Furthermore, entitlements may be nontransferable between different geographical locations. In other words, when people move to new places, their identity as migrants can lead to their access to social, political, economic and environmental resources becoming uneven and problematic. These 'citizenship effects' are not restricted to cross-border or transnational migration but may also be apparent in internal migration contexts, particularly in ethnically diverse countries, where the precariousness of livelihoods for migrants in urban areas may be quite marked.

On the other hand, as Schade (2013) points out, migration may not therefore always be an expression of vulnerability, but can also be a manifestation of 'capability': in Sen's terms, the ability to choose and live a life that a person values (Sen, 1997), and in this instance, the ability to choose whether to stay put or move. Migration is also a way through which individuals build social capital (through their engagement in social networks, their involvement with new labour markets and their exposure to other ways of life). However, the idea that migration reflects 'capability' needs to be investigated, and not assumed. This leads us away from a straightforward framing of migrants as 'adaptive agents' (where this implies they hold a responsibility to alter their behaviour) and towards what Ransan-Cooper et al. (2015) describe as a framing of migrants as 'political subjects'. Capabilities may be seen in terms of political and material control over one's environment – in other words, the freedoms needed to avoid risk and to

influence those who govern and the broader political economic system (Ribot, 2014: 687).

The efficacy of migration in reducing vulnerability is strongly linked to intermediary factors, including the ties that households and individuals might have with other places, people and labour markets, and the formal and informal institutions that shape these (e.g. family and kinship reciprocal relationships, labour recruiters and so on). The social dynamics of migration, when understood in this way, also involve processes of exclusion: migrant networks are themselves power laden (through gender, generation and ethnicity), and the ability to invoke or actualise such networks may be unevenly distributed within social groups (Ribot and Peluso, 2003). As Kabeer et al. (2010: 2) put it, in developing a relational conceptualisation of vulnerability,

not all forms of vulnerability can be conceptualised in terms of exposure to shock episodes or assessed in terms of fluctuations in income or consumption flows. Social relationships can give rise to forms of inequality in which some groups are positioned as subordinate to others through processes of economic exploitation, social exclusion and political marginalisation.

In some Southeast Asian contexts, social protection is available only through client relationships with more powerful individuals within communities. Kinship, gender, age, ethnicity and citizenship status thus take on a particular salience.

Furthermore, migration needs to be understood in relation to household and community assets, and therefore is a strategy that is unevenly available. This tempers some of the overly celebratory approaches to migration sometimes seen in development thinking. The ways in which migration may condition access to or exclusion from resources and rights, and can locate migrants within risky environments, point to a need to adopt conceptualisations of vulnerability that emphasise questions of social exclusion and 'flexible citizenship' (Hogan and Marandola, 2005).

Thus, a central approach to this book is to identify and analyse the types of vulnerabilities of people living in communities that experience flooding. Such vulnerabilities might be associated with the sociopolitical features of flood events, as well as with more general social and political vulnerabilities associated with poverty, precarity and marginalisation (e.g. a lack of access to secure forms of livelihood, exclusion from political processes). At the same time, we ask, what kinds of capacities and assets, resources and 'capitals' (to draw from Bebbington's, 1999 terminology) are available to households and communities in relation to flooding, and how might these shape their capacity to adapt and rebound – to be resilient – to environmental shocks and stresses?

### ***Resilience***

The search for a more holistic perspective has drawn some authors towards 'resilience thinking', where resilience is seen by some as dialectically related to vulnerability (Oliver-Smith, 2012). Within resilience thinking, the emphasis is on

social-ecological systems and their ability to absorb or buffer disturbances and retain their core attributes, and on a system's capacity for learning and adaptation in the context of change (Miller et al., 2010).

A potential point of convergence between resilience thinking and livelihoods or entitlements versions of vulnerability analysis lies in the attention each pays to the role of governance and institutions, which are seen as holding the key to reducing social and environmental vulnerabilities by enhancing the resilience of social-ecological systems. This dimension of resilience thinking has been explored by Lebel et al. (2006), who find empirical support for improved resilience where social-ecological governance is through participatory, deliberative, multilayered and accessible institutions, and where there is recognition of the trade-offs made in relation to social and environmental priorities.

One stream of 'resilience thinking', however, has been derived from ecological economics, with an emphasis on rational choice theory and concepts such as social capital, and this has meant a tendency towards insufficient attention being paid to the analysis of interests, power and social identity (Turner, 2014). Resilience understood this way tends to align with neoliberal discourses of decreased state involvement and limited accountability, and increased individual and community self-reliance in relation to environmental challenges. Moreover, if 'resilience' is read as system stability, there is a risk that this may translate into the maintenance of a socially regressive social-ecological status quo, thus sidestepping issues of social and environmental justice (Cretney, 2014). In other words, critical elements of vulnerability analysis – processes leading to exclusion and marginalisation – may slip from view: an omission that is particularly problematic when analysing migration and migrant-based livelihoods.

In this book, whilst holding in play ideas about socioecological systems and relationships (Folke, 2006), we seek to contribute to an emerging critical perspective on resilience where we see resilience as socially uneven, multiscalar and politically embedded (Cote and Nightingale, 2012; Cretney, 2014). Our conceptual framework, therefore, places marginalisation and exclusion as central concerns in our analysis of how vulnerabilities are produced through the sociopolitical dynamics of human-environment interactions at various scales and mediated by relevant institutions.

### *A political ecology of floods*

Whilst resilience thinking provides a useful starting point for considering social-ecological systems, we build on and extend this perspective through a political ecology approach that focuses attention on questions of power and politics in relation to environment-society relations. Political ecology is an umbrella term used to identify a broad and eclectic realm of scholarship and practice 'which seeks to understand the complex relations between nature and society through a careful analysis of forms of access and control over resources, and their implications for environmental health and sustainable livelihoods' (Watts, 2000: 257).

As Oliver-Smith (2012) has argued, understanding environmental change and its effects (including in relation to migration) requires a reframing of how environment-society relations are understood (also Greiner and Sakdapolrak, 2015). Social vulnerability to disasters, including flooding, brings to fore the economic system that lies at the crux of human-environment relations and consequent degradation and disaster. Instead of seeing each as separate and external to one another, environment and society should be seen as inseparable and mutually reinforcing, implicated in each other's vulnerability and resilience (Robbins, 2012: 59).

In contrast to much resilience thinking, political ecology emphasises the exercise of power in society and as a force that shapes material engagement with the biophysical world (Turner, 2014). A key concern is the role of political economy in producing particular environments (and, by extension, environmental vulnerabilities), and in underpinning the discourses and practices through which environments (and thus environmental vulnerabilities) are governed and managed (Felli and Castree, 2012). Political ecology focuses on the distribution and contestation of power and resources in relation to nature and socially produced environments, and in doing so, seeks to render visible and analyse the underlying institutions, incentives and interests that give these their shape. Moreover, most political ecology analyses are explicit in setting out their normative commitments to achieving social and environmental justice (Robbins, 2012).

Political ecologists also often draw attention to the linkages between scales, from the body (the links between bodies, nature and health) to community (mobilisation around questions of environmental justice), and outwards to the state and intrastate relations, including those associated with new forms of environmental governance (e.g. management of transboundary resources, multilateral regulation over climate change). From a political ecology perspective, therefore, the generation of vulnerability, rather than being an inherent property of an individual or social group, or something that "falls from the sky" (Ribot, 2009), is seen as being embedded in a combination of socioecological and political economic factors, both of which take shape through past and contemporary policy environments.

Floods (as a hazard) become 'risky' through their social production, where flood vulnerability is as much an outcome of political decisions and the power relations that surround them as it is the consequence of environmental change (Pelling, 2003: 258; Collins, 2009). The extent to which flooding may be called a 'natural' event is a topic of intense debate, especially when a flood is named as 'destructive' (Lebel and Sinh, 2009; Middleton, 2012). A flood, from the perspective of political ecology, can be viewed as social-natural assemblage that is constructed by the reflexive interaction of ecologies, political and economic power, social organisation and use of technology 'whose intricate geographies form tangled webs of different length, density and duration' (Braun, 2006; see also Robbins, 2012; Pelling, 2003). This contrasts with approaches that place a more singular emphasis on the biophysical properties of an environmental hazard. Thus, although the materiality of 'forces of nature' such as floods cannot be ignored, and indeed may

be scaled in ways that exceed human control, political power and social organisation are critical for shaping the natural environment.

### **A flood-migration nexus**

Recent debates on the links between migration and environmental change (especially climate change) have indicated the difficulties in identifying the environment as a singular driver of vulnerability and therefore of migration (Black et al., 2011). With regard to floods, as outlined previously, a political ecology approach links hydrological and related biophysical processes and their science to contested social processes including livelihoods, politics and history, providing an interdisciplinary approach to the analysis of risk, vulnerability and environmental justice.

In this section, we first bring migration and mobility into our political ecology conceptualisation by considering the complex and nuanced ways migration intersects with vulnerability, capacity and capability, resilience and social inequalities. We then outline a methodological strategy of ‘progressive contextualization’, which involves unpicking the social production of floods through a series of methodological steps, similar to those utilised in recent political ecology work on hazards (e.g. Collins, 2009), and specifically on flood hazards (e.g. Pelling, 2003). We add to these approaches an explicit analysis of the role of migration and migration-based livelihoods in shaping vulnerability and capacity, which has been given insufficient attention in progressive contextualisation approaches to date.

### **A mobile political ecology**

Migration-based livelihoods, in which migration is ‘managed’ by households, may be an important means by which people avoid or mitigate the effects of environmental catastrophes, through diversifying income, spreading risk spatially and using migrant remittances earned in locations unaffected by the catastrophe. Migration is also a way through which individuals build social capital, including through their engagement in social networks, their involvement with new labour markets and their exposure to other ways of life. Social remittances of this kind may contribute to peoples’ ‘voice’ or capacity to feel empowered sufficiently to make entitlement demands within governance structures when floods take place. Migration may also work as a substitute for the deprivation of *in situ* entitlements (i.e. the resources available to individuals on the basis of their own assets, reciprocal arrangements and relative claims within their society). Thus, there are multiple pathways through which migration may be an asset that contributes to household and individual capability and empowerment, reducing vulnerability and potentially building resilience to future shocks and stresses. It may be argued, therefore, ‘to be mobile, whether practiced or not – is an expression of capability’ (Schade, 2013: 239).

At the same time, processes associated with migration themselves can produce forms of social vulnerability where the freedom to move – that is, migration as



an expression of capability – is tempered by the social and political exclusions in terms of access to rights, recognition and justice that this can bring as people find themselves ‘out of place’. Migrants may end up in risky environments in flood-prone cities and thus face new vulnerabilities in place of old ones. Meanwhile, as multilocal livelihoods transcend the spatialities of social-ecological systems, migrants are potentially exposed to a variety of ecological risks beyond the forms of place-based vulnerability identified by Ribot (2014) and others. This form of simultaneous livelihood diversification means households can spread risk, but may also be required to deal simultaneously with different risks. For example, during the 1997 economic crisis in Southeast Asian, multilocal households comprising both rural and urban income sources were subject to a double squeeze, as urban incomes were impacted by layoffs from factories and rural incomes were blighted by drought-related crop failures (Silvey and Elmhirst, 2003). Moreover, some environmental risks (e.g. Typhoon Haiyan in 2013) may be scaled at a level that is beyond the scale of multilocal household coping strategies. A ‘mobile political ecology’ therefore requires an appreciation of the ‘nested and teleconnected’ nature of vulnerability in the context of geographical mobility (Adger et al., 2009), where a number of ecological and economic systems may be at work simultaneously in contributing to the vulnerability, capacity (assets and capitals) and resilience of households and individuals.

Importantly, the policy environment cuts across vulnerability, capacity and capability, as the institutional landscape shapes people’s access to resources (i.e. assets and the capacity to realise the benefits from these assets), as well as people’s capacity to challenge and shape policies. Policies shape the nature of floods (e.g. through the promotion of economic strategies that foster deforestation and urbanisation) and flood responses (as governments seek technical solutions to protect areas from inundation through infrastructure, or seek to relocate people from spaces deemed as risky). Development policies have indirectly given rise to particular forms of migration and multilocal livelihood as marketisation means agrarian livelihoods have given way to wage work and more urbanised forms of income generation, or have facilitated cross-border labour migration from low-wage to higher-wage countries and regions (Nevins and Peluso, 2008).

### *Tracing vulnerability in migration-flood contexts*

Conceptualising vulnerability within different migration-flood contexts points to a methodological strategy of ‘progressive contextualisation’ (Ribot, 2014), which involves unpicking the *social production of floods* through a series of steps, outlined in this section. This approach, which has guided the analysis of the empirical chapters of this book, is augmented through an analysis of the generative dimensions of vulnerability and capacity that lie within the dynamics of migration and migration-based livelihoods. Rather than seeing vulnerability or capacity as innate characteristics of individuals, households and groups, progressive contextualisation helps identify the social and historical processes that produce these.

12 *Rebecca Elmhirst et al.*

*Tracing the 'nature of nature'*

In contextualising the linkages between flooding and migration, a first important methodological step in mapping out the generative dimensions of vulnerability is to characterise the type(s) of flooding evident in any particular case, and also to link its temporality to migration as the flood cycle moves from onset, to its peak, its recession and, finally, a return to normal conditions. Ecological or environmental sources of vulnerability can therefore be traced back to the 'nature' of the flood event (as a socially produced phenomenon), and how the characteristics of the ecosystem shape vulnerability. Lebel and Sinh (2009) describe a typology of flood regimes experienced in different places in Southeast Asian, including seasonal floodplain inundation, irregular riverbank overflow, flash floods in urban areas, landslides and flash floods in mountain areas and coastal floods. A political ecology approach also directs attention to the planned and informal 'engineering' of rural and urban landscapes and how they shape flood events, ranging from planned flood control infrastructures to unplanned settlement; these dimensions require exploration through further historical and contemporary contextual analysis as outlined next.

*Developing a historical contextualisation of an evolving social context*

As Oliver-Smith (2012) has put it, market logics and the structural constraints that these processes reflect are ultimately cultural products: the outcome of decisions and choices made in the past. Hence, consideration must be given to the role of neoliberalism, decentralization, marketization, urbanization and colonial or postcolonial histories and how these have produced particular flood environments in urban, rural and peri-urban landscapes.

Much of the unpredictable flooding currently experienced in rural areas in Southeast Asia could potentially be traced to human actions such as rapid deforestation of critical watersheds and large hydropower dam construction (as well as climate change), fuelled by global and national policies favouring resource exploitation and agricultural intensification, which are themselves reflective of colonial and postcolonial development strategies (Vandergeest and Peluso, 2006). Similarly, in some urban and peri-urban settings in the Southeast Asian region, a combination of rapid property development, industrial expansion and the creation of extensive middle-class housing zones work against and within local hydrological processes, sometimes with catastrophic outcomes (in terms of flooding), the impacts of which vary across social groups.

Moreover, past efforts to manage floods and subsequent disaster responses themselves form part of the wider socionatural context of floods, including urban or rural socionatures. Risk reduction for particular target populations (or spaces deemed worthy of protection) can result in risk redistribution, where nontarget populations find themselves at greater exposure to floodwaters, including migrants that frequently inhabit informal settlements in 'risky spaces', or where flood protection measures disrupt hydrological processes and agro-ecosystems, undermining resilience-building strategies of other groups (Lebel and Sinh, 2009).

*Developing a contemporary analysis of power, patronage and unequal access*

Following on from this historical contextualisation, the next step is to develop a more contemporary analysis of power, patronage and unequal access (to political, environmental, social and economic assets); the interaction of key political actors; and the role of local (in the context of higher-level) power structures in producing 'flood hazards'. As Robbins (2012: 74) writes,

powerful actors and interests bend and funnel natural materials and forces into place in order to increase rents, develop properties, fuel growth and control citizens. At the same time, however, these objects and forces enact their own tendencies and interests in surprising ways, as rivers flood neighbourhoods . . . and heat waves bake local residents, all with further implications for investment, social action and urban politics. . . . this means that these residents, material, and processes are always politicized in cities [and in rural areas also] and no technical solution or ecological analysis can free them from the struggle of interests that make up the life of a city.

This insight allows us also to explore the impact of flood responses in generating and reproducing vulnerability: the new 'natures' produced through highly technical (and thus power-asymmetrical) approaches that instigate changes to the physical environment by government, donor or corporate interests which without attention to social justice and governance issues may create vulnerabilities for some just as they mitigate the vulnerability of others. Moreover, as people themselves seek to manage floods, perhaps by moving to the city to spread risk in the face of rural flood vulnerabilities, and in turn modify the environment, they again produce new forms of hazard and risk.

Political ecology also highlights the institutional mechanisms through which society's most powerful are able to externalise risks in their pursuit of economic gain, as environmental risk – and the experience of risk – is relocated across scales (Collins, 2009). In respect to both of these dimensions, vulnerability is associated with inadequacies in local governance and inequalities in access to resources of various kinds, each in part reflecting the discipline of market logics that is deepening across the Southeast Asian region (Nevins and Peluso, 2008).

*Considering vulnerability through social exclusion and 'flexible citizenship'*

In developing a progressive contextualisation of the generative dimensions of vulnerability in migration-flood contexts, an important area for consideration is the vulnerability (and, by extension, capacity) associated with the social dimensions of migration itself. In other words, how does migration condition access to or exclusion from resources and rights? Questions of social exclusion and 'flexible' citizenship are key considerations in this regard (Hogan and Marandola, 2005).

Table 1.1 provides a summary of the elements that make up this part of the analysis of migration in relation to flooding. Migration has a paradoxical

Table 1.1 Vulnerability and resilience through migration

<i>Vulnerability</i>	<i>Threads of resilience</i>
<p><i>Household vulnerability</i></p> <ul style="list-style-type: none"> <li>• Break of physical family ties, fragmentation, desertion, divorce</li> <li>• Burdens on those left behind</li> <li>• Employment risks for migrants</li> <li>• Social, cultural and economic exclusion</li> <li>• Legitimacy and lack of rights</li> <li>• Vulnerability to displacement and resettlement</li> <li>• Lack of entitlement to social, political and economic resources</li> <li>• Conflict with existing population</li> <li>• Negative impacts of social networks (demands from family and others)</li> </ul>	<p><i>Household capacity</i></p> <ul style="list-style-type: none"> <li>• Reduction of place-based economic insecurity through remittances</li> <li>• Spreading of risks across different physical, social and economic environments</li> <li>• Impact of social remittances in terms of building human (i.e. knowledge) and social capital</li> <li>• Contribution of migration experience to developing political 'voice'</li> <li>• Capacity to draw on social networks</li> <li>• Elusiveness to authority (keeps open clandestine options for livelihood or further migration)</li> </ul>
<p><i>Community vulnerability</i></p> <ul style="list-style-type: none"> <li>• Loss of potential community leaders because of out-migration</li> <li>• Increased interhousehold inequality due to impact of remittances</li> <li>• Loss of community labour (forms of cooperation) because of out-migration</li> <li>• Brain drain (loss of community expertise)</li> <li>• Informal settlement of migrants in areas susceptible to flood hazards</li> </ul>	<p><i>Community capacity</i></p> <ul style="list-style-type: none"> <li>• Potential for adaptive strategies from remittance receipts</li> <li>• Increased capacity because of migration to manage and avoid environmental risks, including floods</li> </ul>

relationship with vulnerability, compounding it in some instances, whilst being a strategy to mitigate its effects in others. As with ecological and social aspects of vulnerability, it is the generative dimensions of migration-based vulnerability that are key in the contextual analytical framework: political and institutional failings, coupled with uneven economic development and power asymmetries, underlie vulnerability.

### **Converging vulnerabilities: a flood-migration-vulnerability assemblage**

Whilst the preceding section presented a step-by-step progressive contextualisation of vulnerability, in this section we consider how different forms of vulnerability (ecological, political, social and migration related) converge and compound one another within each case study of the book. We aim to move away from a simple causal analysis to instead look at the flood-migration-policy nexus as an assemblage of different elements that take shape in different ways in different geographical settings.

As Adamo (2010) notes, the interconnectedness of people and places that is so much a feature of Southeast Asian lives complicates the geography of place-based vulnerability and risk. In short, a ‘mobile political ecology’ analysis of flooding, migration and vulnerability takes us away from a simple flood-hazard response analysis, and involves instead a mapping out of the interlinkages between socially produced environments, vulnerability and different movements and mobilities (including displacement, commutes, long-term labour migrations, etc.) apparent in specific Southeast Asian contexts.

In Chapter 2, Carl Middleton and Borin Un examine fishing, farming and migration as livelihood strategies around Tonle Sap Lake, Cambodia. In this rural case study, they show how year-to-year differences in the seasonal flood cycle of the lake affect the viability of smallholder farming and family-scale fishing livelihoods differently, and discuss how this shapes decisions over family members migrating. Competition for land and wild-capture fisheries is intense around the lake, the natural resource base is under pressure and rights to access resources are contested. The chapter argues that amongst farming and fishing households, although relatively resilient to the seasonal flooding of Tonle Sap Lake, vulnerability is significant and growing, due to resource exclusion and degradation, and migration is a key strategy in response.

In Chapter 3, Maxime Boutry explores how migrants have sought out and settled land at risk of flooding at the peri-urban fringe of Hlaing Tha Yar township, Yangon, Myanmar, due to the affordable rent and the availability of factory work nearby. Boutry contextualises the chapter to Myanmar’s rapidly shifting politics, and how these have produced waves of rural-urban migration and migration across Yangon itself. Life in the informal settlements at the peri-urban fringe offers both new opportunities and vulnerabilities. Relating the chapter to urban land-use planning, one particular vulnerability Boutry identifies is how the process of migrants settling in flooded areas ultimately leads to landlords’ investment in improved flood management and towards the land’s formalisation. As this process unfolds, rents increase, and the original migrant settlers, unable to afford them, must once again move on.

In Chapter 4, Albert Salamanca and coauthors present case studies of four rural villages in upland and lowland Laos where both flash floods and slow-onset floods occur. Salamanca and coauthors show how *in situ* vulnerabilities are contingent upon the governance of identities, spaces and natural resources. They find that the intersection of flooding and migration in the study sites is not straightforward. There was not a tendency for community members to respond to flooding through mobility. As livelihoods remain closely connected to land, instead of mobility, there was a common desire for secure land rights, improved infrastructure and the comfort of sustainable, fixed livelihoods. This, the authors argue, demonstrates that any person’s decision to migrate is complex, and to understand how environmental change may (or may not) shape migration, appreciation of local context – including in rural Laos ethnicity, geography, agrarian transition and the implications of government plans for large-scale infrastructure – is important.

In Chapter 5, Naruemon Thabchumpon and Narumon Arunotai present empirical research on the impacts of the major flood in 2011 in Thailand on three urban, one semiurban and three rural communities. The chapter shows that whilst the rural communities are largely adapted to seasonal flooding, the 2011 flood increased vulnerability due to damage of property and livelihoods. In urban areas, communities were not well prepared and therefore were highly vulnerable. The chapter discusses the contentious politics of how vulnerability was exacerbated by government policy to protect core urban and industrial areas, leaving rural and suburban areas flooded. Thabchumpon and Arunotai find that in the case studies selected the relationship between flooding and mobility is subtle. For example, some, but not all, rural migrants living in urban areas returned to their rural family homes, where living with floods was more feasible.

In Chapter 6, Edsel Sajor and co-authors explore the migration experiences of poor urban migrants and their reasons for settling in flood-prone areas of Malabon City in the Philippines. Their findings show how the current causes of vulnerability must be examined in the context of the urban region and rural provinces from where migrants originate. They suggest that poverty, urban employment and inequitable access to land and housing means the adaptive capacity of migrants to flooding are not only multi-local and multi-level, but also emerge from actions and influences of government in other sectoral policy domains. The authors argue that a transformative approach to flood-risk adaptation requires an understanding of migration dynamics through a broader spatial analysis, and integration with policy domains that lie beyond disaster management and climate change concerns.

In Chapter 7, Nguyen Tuan Anh and Pham Quang Minh consider the linkages between migration, rapid urbanization and floods in Hanoi, Vietnam, in a context where government interventions have sought to ‘manage migration’ through policies designed to restrict entry to the city, and ‘manage floods’ by reengineering the city’s infrastructure. The authors show how flooding is an integral part of Hanoi’s migration dynamic, creating the conditions that make certain areas affordable for low-income migrants as a temporary residence while they build urban livelihoods. Those most vulnerable to flood disasters include migrants who have settled without registering in the city, and who lie outside circuits of government support. It is unlikely that improvements in the city’s flood-prevention infrastructure and restrictions on population mobility will address the specific vulnerabilities of this group.

In Chapter 8, Rebecca Elmhirst and Ari Darmastuti investigate the intersection of historical migration, kin networks and clientelism at very localised scales in Bandar Lampung, Indonesia. In this city, a long history of migration continues to resonate in the ethnic networks that shape the political capital people are able to draw on at very localised scales and that enable them to gain access to support during and after flood events. Past migrations also remain significant in the complexities of urban land tenure and the ways in which low-income people ‘make space’ for themselves in areas close to employment opportunities whilst negotiating flood impacts. Ironically, household and community efforts to tackle

floods have become a way of signalling a right to remain in places where formal tenure is unclear.

In Chapter 9, Mohammad Imam Hasan Reza, Er Ah Choy and Joy Jacqueline Pereira examine the impact of severe floods in Johor State, Malaysia, an area of the country which is a key destination for local and international migrants seeking factory employment in the state's industrial zones. Malaysia has recently signed the United Nations' Sendai Framework for Disaster Risk Reduction 2015–2030, which notes migrants as a key stakeholder group. In Malaysia, although there is no deliberate discrimination against migrants in flood risk management, this is a group that is relatively hidden: even in undertaking the research, authors found it difficult to locate migrants who had been affected by flooding, as they had already moved on. The authors show the importance of extending analyses of disasters to include migration and migrants, particularly where the latter have difficulties in accessing the support of the state.

The final chapter of the book turns to the policy implications of the case studies. In this chapter, Louis Lebel, Supang Chantavanich and Werasit Sittitrai synthesise the book's main findings, addressing how floods impact ongoing processes of migration, how floods impact the lives of migrants and why migrants end up in flood-prone places. They then propose a series of policy recommendations that would avoid simplistic assumptions of the relationships people have with floods, and thus that are supportive of migrants and their circumstances in the face of a range of different flood types.

## **Conclusion**

In response to an urgent need to develop a more nuanced understanding of the connections between flooding and migration in the Southeast Asian region, this chapter has presented an analytical framework that seeks to clarify the connections between flooding, migration, vulnerability, resilience and social justice. In line with recent calls from migration scholars to investigate empirically the mutually reinforcing social, economic and environmental drivers of migration, the challenge has been to develop a workable conceptual framework that can be applied across diverse contexts in Southeast Asia.

One of the ironies of development policy in Southeast Asia is that neoliberalism and infrastructure development make mobility and migration increasingly important aspects of urban and rural livelihoods, as sustaining a livelihood in one place becomes difficult in the face of the restructuring of rural economies (Lund et al., 2013). In other words, the wider development trajectories of the Southeast Asian region are premised on the movement of people and material goods across space. Householding frequently involves different family members working in different localities, sharing resources and retaining footholds in several different places simultaneously. At the same time, governance is based on geographically defined and bounded territorial units, and is largely built on an assumption of households being attached to one place, in which livelihoods are derived and

where people stay put: a kind of geographical fixity (Scott, 2009; see also Allen and Cochrane, 2010). Tensions between these two modes run through any analysis of the relationship between flooding, migration and policy, and through efforts to address socioecological vulnerability, as failures to grasp the mobile and multilocal character of most peoples' livelihoods compromise the success of development programmes that are designed to govern and deliver services to people by virtue of their membership in geographically defined communities of place (Li, 2007; Lund et al., 2013).

As Adger (2006) has noted, effective policy interventions to reduce vulnerability rest on identifying vulnerabilities within social-ecological systems along with the processes which produce vulnerability in the first place. Addressing marginality and exclusion is therefore a critical element in the design of good governance aimed at both tackling vulnerability and enhancing household and community capacities. The connectedness of migration to processes of marginality and exclusion make addressing the impacts of flooding in mobile populations a particularly complex governance endeavour. Our aim in producing this book is to sensitise policy to the complexities of migration and floods in an increasingly mobile region, in order to counter possible oversimplifications and sensationalising that too often becomes embedded in discourses of migration as a singular and catastrophic response to environmental change.

## Notes

- 1 Rockenbauch and Sakdapolrak (2017) propose a comparable concept of 'translocality'.
- 2 Shocks are short-term, rapid changes that tend to return to their early state; stresses are gradual and enduring shifts in state.

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