

Livelihoods Under Stress:

Household Assets and Responses to
Environmental Change in the Mekong
Delta, Vietnam

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*Thesis submitted for the degree of Doctor of Philosophy
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ABSTRACT

This thesis is a response to broad stroked claims that climate change and sea-level rise will cause mass displacements in areas such as the Mekong Delta. Instead, I argue for a more nuanced approach to understanding vulnerability and household response measures in contexts of environmental stress, and highlight the importance of deciphering differentiations of vulnerability across households of varying characteristics. I propose that in this way, by empirically understanding differentiated household vulnerabilities and response measures to stress rather than focusing on one type of stressor (environmental change) and response (migration), we would be better positioned to holistically address the root causes of vulnerability.

To this end, I take a micro household-level approach, using an asset vulnerability framework, to assess the role of various household assets in mediating vulnerability and resilience in the rural Mekong Delta context. As a result, we are able to understand the interactions of numerous elements, including the effects of environmental stress and mobility decision-making processes, within the context of household asset profiles, which are in turn shaped by the broader political ecology.

The main findings of this study furthermore include the ‘counterintuitive’ role of environmental stress, where it is found to be one of many stressors, often paling in comparison to the pressure of others. In the process of analysing

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resettlement outcomes, we encounter the process of *vulnerability shifts*, whereby some vulnerabilities are alleviated while others are increased as a result of resettlement. Finally, in terms of the link between environmental change and migration, a direct relationship is found to be tenuous. Instead, the key drivers, deterrents, and facilitators of migration are identified, pointing to the significance of assets and their role in shaping mobility decisions and outcomes for households. This leads us to not only think about those who move, but also those who do not have the option to move as a result of their poor asset profiles.

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List of Acronyms

CRED	Centre for Research on the Epidemiology of Disasters
CTC	Can Tho City
DFID	UK Department for International Development
FGD	Focus group discussions
GSO	General Statistics Office of Vietnam
HCMC	Ho Chi Minh City
HDI	UNDP Human Development Index
IDI	In-depth interviews
IDP	Internally displaced person
IFRC	International Federation of Red Cross and Red Crescent Societies
IOM	International Organization for Migration
IPCC	Intergovernmental Panel on Climate Change
IRD	Integrated Rural Development
KII	Key informant interviews
LECZ	Low elevation coastal zone
MARD	Ministry of Agriculture and Rural Development
MOFA	Ministry of Foreign Affairs
MOJ	Ministry of Justice
MOLISA	Ministry of Labour, Invalids and Social Affairs
MONRE	Ministry of Natural Resources and Environment
MPS	Ministry of Public Security
NA	National Assembly
NGO	Non-governmental organisation
PMT	Protection Motivation Theory
PPA	Participatory Poverty Assessment
RBA	Rights-based Approach
RDS	Respondent-driven sampling
SL	Sustainable livelihoods
SLF	Sustainable livelihoods framework
SLR	Sea level rise
UNDP	United Nations Development Programme
VBSP	Vietnam Bank for Social Policies
WB	World Bank
WHO	World Health Organization

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Sincerely,

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Introduction

Global environmental change is a phenomenon gaining increasing attention among a range of stakeholders, from policy makers, development and humanitarian practitioners, and academics, to the general public. Its effects are already far-reaching, and to a large extent, irreversible. It is estimated a wide gamut of sectors and systems will be strained, such as those involving water resources, food security, and health, and given that we live and operate within a broader political economy, such impacts will inevitably be unevenly distributed (McDonald 2010). Despite the certainty of climate change, much uncertainty remains on how its effects will manifest at the local level (Oliver-Smith 2009).

Rooted in part in advocacy efforts to raise awareness regarding the negative effects of global environmental change, its potentially catastrophic effects including mass displacements of people, have been sensationalised and used to bring attention to the issue. Some authors have further helped to fuel such unfounded claims, citing vacillating and questionable estimates for people who will be displaced as a result of climate change (Tacoli 2009, Foresight 2011, Gemenne 2011). While recent years have seen more authors, including migration scholars, rebutting such broad stroked approaches with more nuanced investigations and queries (Black 2001, Castles 2002, McLeman and Smit 2006, Renaud et al 2007, Adamo 2008, Hugo 2008, Boano, Zetter and Morris 2008, Piguet 2008, Tacoli 2009, Baldwin and Gemenne 2013,

Foresight 2011, ADB 2012), I hope to add to this body of research with my own empirical research from the Mekong Delta, Vietnam.

Hence, this thesis attempts to explore the following questions: How is environmental stress affecting the lives of individuals and households living in areas deemed to be vulnerable to climate change? How important and disparate is the environmental variable from other aspects of life – is the environment in fact a dominant stressor overshadowing others? Furthermore, are people migrating as a result of environmental stress and change? If so, what is the nature of the causal relationship, and how are migration dynamics manifested?

Thus, unlike most approaches investigating this conceptual nexus, I do not focus on the direct causal relationship between environmental stress and migration, as I believe focusing on the two variables and their interaction prevents us from seeing the broader picture including the role of other critical variables. Instead, I take the approach of examining the variables exacerbating underlying household vulnerability in conditions of environmental stress, and the range of response measures available to different groups. To this end, I examine the role of various household assets in mediating household vulnerability and livelihood outcomes, as well as responses undertaken, including mobility decision-making. In this way, the thesis offers an alternative methodological approach. Rather than the question of whether or not environmental stress / change is causing people to migrate, we take a step back to examine the context comprehensively, and turn our attention to the variables exacerbating *vulnerability* in conditions of environmental stress. This enables a better understanding of the lives of people living in these contexts,

ultimately shedding light on the underlying factors creating differential vulnerability among populations in conditions of environmental stress and change, and facilitating the development of informed interventions and policies to strengthen the resilience of susceptible populations, which may or may not involve mobility.

The Mekong Delta is chosen for its frequent citation as a ‘hotspot’ for displacement as a result of sea level rise (SLR) (IPCC 2007b). This is particularly poignant given its importance as the most productive agricultural region in the country, and all the more intriguing in light of the essential role of seasonal floods for the maintenance of its lush, arable soil, and the livelihoods of its inhabitants. Hence, as my research shows, both beneficial and damaging aspects of floods co-exist in the Mekong Delta, as they have for its residents for generations.

In this context, I started my inquiry by asking, what is the link between environmental stress and migration, if any? In the attempt to answer this question, the thesis led me to broader questions about how people are living in flood-prone areas, what the environmental stressors of the localities mean to their lives, and how they are responding in such circumstances. I turned my attention from the potential future effects of climate change and the unknown possibility of mass displacements, to how people are coping and responding to environmental stress in the present, and what they have done in the past. In essence, I focus on what is concrete and measurable according to peoples’ accounts and narratives – grounded data on what makes people vulnerable and how. This information, in effect, can be used to support sustainable initiatives to build resilience to future climate change. In this way, we

are able to approach and prepare for future unknowns based on solid empirical evidence. For these reasons, I do not use the term ‘climate change’ or ‘global environmental change’ in any significant way in the main discussions and exploration of the literature, but instead use the terms ‘environmental stress’, ‘environmental change’, ‘environmental events’, and ‘hazards’ when referring to environmental stressors affecting people’s lives, to avoid attributing any events to the effects of climate change.

1.1 Structure of the Thesis

The first four chapters of this thesis provide the backdrop for later empirical discussions. Following Chapter one, I discuss the conceptual underpinnings for the study in Chapter two, with an explanation of the evolution of my conceptual thinking, starting with an investigation of the concepts of vulnerability and political ecology, and linkages between the two. Against the backdrop of these broader notions, I introduce the more operational concepts of sustainable livelihoods and asset vulnerability, the latter of which is the predominant framework applied in this study. I end the chapter with a discussion of the literature on the relationship between environmental stress and (im)mobility, given its importance to my query.

Chapter three follows with an exploration of the Vietnam and Mekong Delta context, including its environmental, economic, and political contexts, in addition to those of land policies and rural livelihoods, and the history and trends of internal migration. The purpose of the chapter is to give the reader an understanding of the

politico-historical context of the country and area in which the research takes place. This understanding, it is hoped, grounds the empirical data within the broader political economy and the development of its current processes and systems.

The methodological approach and research methods are presented in Chapter four, as well as the challenges faced during fieldwork, and the limitations of the study, particularly important to keep in mind when drawing any conclusions from its findings. Ethical issues are also discussed, ranging from inherent biases of the researcher, to the social positionality of the researcher and interpreter during fieldwork.

The next four chapters, from chapter five to eight, move on to discuss the empirical findings. Chapters five and six investigate two critical and related ‘tangible’ assets – the homestead and agricultural land respectively – in influencing livelihood strategies and outcomes in contexts of environmental stress in the two rural sites. The two types of land are differentiated as the homestead carries the cultural meaning of a home, shaping livelihood and mobility decision-making in ways different from that of agricultural land.

In Chapter five, the role of the homestead in conditions of environmental stress is analysed in the two rural sites, as well as the asset’s influence on motivations to resettle. As a result, the concept of ‘vulnerability shifts’ is proposed, while questioning the current approach and purpose of government resettlement programmes, and whether they are ultimately building the resilience of communities to climate change and environmental stressors.

Chapter six focuses on agricultural land as a key determinant of wealth in the rural context, and compares the outcomes of differing human-environment systems between the two rural sites. A typology of livelihood outcomes is also presented, at the interface of the various types of household income-generating activities, degree of land access of households, and environmental conditions.

Human assets are investigated in Chapter seven – delineated into human knowledge assets, human psychological assets, and human physical assets. These ‘intangible’ assets emerged as being critical to determining how individuals respond to stress, as well as in the formation of livelihood strategies. While human assets remain the furthest from my academic expertise among other assets dealt with in this thesis, its importance was made clear during fieldwork and analysis, and as such, I explore it to the best of my ability in the study, drawing from psychology literature on response behaviours in relation to risk and risk perception.

Chapter eight is the last of the empirical chapters, on the environmental stress and (im)mobility link, interrogating the relationship with household data from both the rural and urban sites. Critical drivers and deterrents of migration are identified, as I attempt to present a nuanced empirical analysis of this somewhat tenuous link. In the process, the socially constructed and differentiated nature of hazard exposure and mobility decision-making is revealed, including the need for considering those who are ‘trapped’, who do not have the option to neither move nor adapt sustainably to their conditions of stress, given their impoverishment and correspondent lack of options.

The final chapter, Chapter nine, offers some reflections and conclusions on several themes – on the importance of micro-level analysis at the household level to better inform response measures to environmental stress and climate change, given the differentiated nature of vulnerability found in this thesis; on the need for a holistic approach to understanding vulnerability, given the interconnections among numerous factors, and the unintended consequences resulting from targeting some while ignoring others; on the merits and areas of concern in terms of resettlement as a measure to decrease communities' susceptibility to natural hazards; and on mobility and migration in the context of environmental stress. I furthermore frame these findings within the broader context of their applicability to other countries with differing political economies, and put forward some suggestions for further areas and approaches for research, to expand our understanding of how people are living in conditions of environmental stress, to ultimately inform policies and interventions building the resilience of communities to external stressors.

Conceptual frameworks

2.1 Introduction

This chapter explores the conceptual frameworks used in this study and their relationship to each other, as well as their suitability for analysing the subject material at hand. I start with the concepts of vulnerability and political ecology, the two broad conceptual frameworks underpinning the study. Vulnerability is chosen as an overarching concept given its ability to holistically capture the elements and processes making people susceptible to stressors, including to environmental stress. As I argue in this chapter, vulnerability is well suited to investigating variegated states of deprivation and resilience to stress, more so than, for example, poverty, which focuses on financial deprivation. Just as vulnerability is a social construct creating unequal conditions of susceptibility to stress and harm, political ecology then addresses the element of power and explains the broader power structures and processes forming the context within which access to resources and the ability to exercise choice and response measures are negotiated.

Against this backdrop, we then turn to the sustainable livelihoods approach, with a focus on the assets comprising the heart of the Sustainable Livelihoods Framework (SLF). The SLF encapsulates the spirit of vulnerability and political ecology, but also grounds them in the context of rural livelihoods, translating the many processes and components into measurable elements. This finally leads us to

the notion of asset vulnerability, which while rooted in the conceptual approach of vulnerability and political ecology, utilises assets as the unit of measurement and lens through which household vulnerability is measured, refined further by incorporating the asset categories from the SLF. Lastly, while distinct from the previous sections in this chapter, I explore conceptual issues surrounding the nexus between environmental stress and (im)mobility, given the importance of this relationship to the thesis.

2.2 Vulnerability: Definition and Discussion

A number of disciplines employ the concept of vulnerability, based on diverse epistemological and methodological approaches. As this thesis is evoking the concept to study the phenomenon of individuals and groups living in conditions of (environmental) stress and shocks, the literature of political ecology, entitlements¹, risk, and natural hazards is deemed most relevant (Sen 1981, 84, 88, Watts and Bohle 1993, Bohle et al 1994, Cutter 1996, Adger 1999, Adger and Kelly 2001, Adger 2006, O'Brien et al 2004). Broadly speaking, the social sciences view vulnerability as socially constructed, and thus, unevenly manifested across societies. In the context of environmental hazards, this results in unequal exposure to risk and impact, with some groups more prone to the negative effects of hazards than others; hence the appropriateness of the quote, 'while hazards are natural, disasters are not' (Hilhorst and Bankoff 2004).

¹ Entitlements are 'the set of alternative commodity bundles that a person can command in a society

According to Adger (2006), vulnerability 'has been a powerful analytical tool for describing states of susceptibility to harm, powerlessness, and marginality of both physical and social systems, and for guiding normative analysis of actions to enhance well-being through reduction of risk'. Vulnerability is an intrinsic quality of individuals and groups, shaped by many factors – social, economic, political, and demographic (O'Keefe et al 1976, Cutter 1996, Adger 1999, Brooks 2003: 4, Adger et al 2004). Thus, some authors propose the terminology, *social vulnerability* (Adger 1999, Adger and Kelly 1999, Adger and Kelly 2001, Brooks 2003), to emphasise the determinants of social differentiation, such as the effects of inequality, poverty, marginalisation, and entitlements (to food, land, markets, housing, and other resources) (Adger and Kelly 1999, Brooks 2003, Wisner et al 2004). The following section on political ecology explores the interface of vulnerability and power structures in greater depth.

Similarly, from the natural hazards tradition, Blaikie et al (1994: 9) see vulnerability to hazards as being the 'characteristics of a person or group in terms of their capacity to anticipate, cope with, resist, and recover from the impact of natural hazards'. The term – *capacity* – is key, where one's capacity in this context is shaped largely by one's state of vulnerability. As O'Keefe et al (1976) poignantly wrote, 'without people, there is no disaster'.

Along these lines, Wisner et al (2004) argue that most existing approaches to disaster research see disasters as being 'departures from 'normal' social functioning, and that recovery means a return to normal'. Instead, the authors propose a nuanced approach to vulnerability that while acknowledging the importance of hazards as

trigger events, places social systems creating *differential vulnerability* front and centre. Emerging in the 1970s and 80s, this view of disasters as social constructs was based on research showing ‘normal’ daily life and disasters as being hard to differentiate in some contexts (Cutter 1996, Bankoff et al 2004, Cardona 2004, Wisner et al 2004, Few 2007), offering a framework through which analysis of gradations of vulnerability rooted in social differentiation was possible. For example, I explore the role of agricultural land access in shaping such differential vulnerability between households in Chapter six, where land ownership is found to be a key indicator for a household’s ability to withstand the effects of external stressors. In Chapter seven, human assets are furthermore discussed, whereby key assets such as good health and the ability to work, as well as a long term planning skills appear to influence a household’s degree of resilience in the face of stressors.

Box 1. Terms and definitions

Stress in the hazard context denotes ‘disruption to groups or individuals’ livelihoods and forced adaptation to the changing environment’ (Adger 1999, Adger et al 2001). *Shocks* are differentiated by stress in temporal terms as a sudden disruption, whereas stress tends to exude pressure on a system for longer durations. A *hazard* ‘refers to the natural events that may affect different places singly or in combination... at different times (season, time of day, over return periods of different durations), and has varying degrees of intensity and severity’ (Wisner et al 2004: 49). The broadly encompassing term, *environmental stress*, will be used interchangeably with hazards in this thesis, to denote a stressor of an environmental nature.

A *disaster* ‘occurs when a significant number of vulnerable people experience a hazard and suffer severe damage and/or disruption of their livelihood system in such a way that recovery is unlikely without external aid’ (Wisner et al 2004: 50). ‘A disaster as measured in human terms (lives lost, people affected, economic losses) is therefore the outcome of a hazard, mediated by the properties of the human system that is exposed to and affected by the hazard’ (Brooks 2003). Therefore, the interaction of the an external stressor (hazard) with underlying internal characteristics of an individual / group (vulnerability), is then what generates the

disaster, as described by the formula $Risk = Hazard \times Vulnerability$ (Wisner et al 2004, Naude et al 2009), not the hazard in and of itself or simply the geographic location of populations in relation to the hazard (Cardona 2004). As risk is a function of both vulnerability and hazards, understanding and addressing underlying vulnerabilities is thus critical to transform the root causes keeping individuals in states susceptible to harm (Wisner et al 2004: 49, 61, Leary et al 2008, Lewis 1999).

Within a social-ecological system, *resilience* is defined as the ‘magnitude of disturbance that can be absorbed before a system changes to a radically different state’, as well as ‘the capacity to self-organise and the capacity for adaptation to emerging circumstances’ (Adger 2006). *Resilience* and *vulnerability* are in effect two sides of the same coin (Adger et al 2001), whereby environmental events expose underlying vulnerabilities, and have the potential to shift human systems into states of weakened resilience (Adger et al 2005b).

When examining the constituent elements of vulnerability, much of the literature includes cause and effect dimensions. For example, Chambers (1989, 2006) and Wisner et al (2004) see vulnerability as being composed of two main elements – *exposure* to external natural hazards and the *capacity* to ‘anticipate, cope with, resist, and recover from the impact of a natural hazard’ (Wisner et al 2004). While implicit in this view, other authors have further disaggregated the *capacity* element to include an individual or group’s *sensitivity* to the external stressor and *potentiality / capacity* to recover, resulting in the following core elements of vulnerability: (1) *exposure* to the external stress / shock; (2) *sensitivity* to the external event; and (3) *potentiality / capacity* for recovery and adaptation (Bohle et al 1994, Pelling 1999, Adger 2006).

Examining the linguistic roots of *vulnerability* provides further insight into its meaning. According to the Merriam Webster Dictionary², vulnerability can be defined as ‘capable of being physically or emotionally wounded’. The term’s Latin roots include *vulnus*, which means ‘a wound’, and *vulnerare*, meaning ‘to wound’. The

² Accessed online on 27 January 2013.

word originates specifically from the Late Latin term *vulnerabilis*, used by the Romans to describe the state of a wounded soldier lying on the battlefield. Importantly, he is already wounded and is thus at greater risk of being attacked again. Hence, when applied to the topic at hand, the vulnerability of an individual or group to environmental stress is determined by their current state and capacity to respond to future stress / shocks in the context of their past experiences (Adger and Kelly 2001).

Nevertheless, there are also cases where people are physically affected by a hazard across the socio-economic spectrum, where they are simply ‘in the wrong place at the wrong time’, also known as *vulnerability of place* (Lewis 1999, Wisner et al 2004). These are instances where the environmental events themselves are the predominant factor putting people at risk, regardless of differential social vulnerability, but such events are exceptional. For example, when a cloud of carbon dioxide gas was released from Lake Nyos in Cameroon in 1986 and killed 1,700 people in their sleep, individuals across the social spectrum were equally susceptible to the effects of the gas. Another example is the case of landslides destroying all houses in an area, in wealthy hillside residential areas with stunning views in California, just as they do in poor slums in Rio de Janeiro (Wisner et al 2004).

Three key differences between the resource endowed and resource poor do nonetheless exist in this last case: (1) wealthier individuals are able to afford engineering and design in their structures significantly decreasing the exposure risk, whereas poor individuals tend to use cheaper materials without the aid of professional engineers. (2) Living on a hillside is a voluntary choice made by the

wealthy (voluntary risk taking), while the decision to live in hazardous conditions for the poor are generally determined by the location's affordability and conduciveness to income generation, or in other words, as a result of involuntary risk taking. (3) The repercussions of the event are by far more deleterious for the poor than for the wealthy, who are usually insured, have savings and credit, more options for relocation, and can continue their livelihoods. The poor, however, tend to lose close to if not all of their assets, have little or no savings, and have a far more difficult time resuming or starting new livelihood activities (Wisner et al 2004: 12-13). Along these lines, I further refine the concept of vulnerability (as developed in section 2.5) by referring to groups of differing asset endowments as falling along the spectrum of 'asset rich' and 'asset poor'.

These contrasting outcomes stemming from social differentiation and unequal access to assets allude to the following sections on political ecology, sustainable livelihoods, and asset vulnerability, where differential levels of assets (also called 'capital' by some authors) and the power structures determining access to them are central to the concepts, ultimately shaping household livelihood outcomes and vulnerability to external stress and shocks.

2.3 Political Ecology and Vulnerability: A Link

As the central concern of this thesis revolves around gaining an understanding of the nature of vulnerability for people living in conditions of environmental stress and how they are responding and adapting, it is critical to

acknowledge the broader political economy within which resource access and use is determined (Adger 2006). In this way, advocates of a political ecology³ approach to investigating vulnerability to hazards and hazard management emphasize the importance of looking beyond the immediate disaster to interrogating the broader and underlying structural and political causes of vulnerability (Cutter 1996).

In line with the discussion on vulnerability in the previous section, political ecologists view vulnerability as being shaped by socio-economic, political, cultural, and institutional factors, where variables such as inequality, poverty, marginalisation, entitlements, access to common property resources, and human assets (such as good health, education, and skills) are crucial determinants of the vulnerability of individuals and groups to hazards, as well as their livelihood options and adaptive measures (O’Keefe et al 1976, Hewitt 1983, Watts 1983, Hewitt 1997, Cutter 1996, Adger 1999, Adger and Kelly 1999, Brooks 2003, Adger et al 2004, Wisner et al 2004, Adger 2006, Bohle 2007). Political ecological perspectives then prioritize the importance of power structures and institutions in enabling and constraining the way people make decisions, which in turn cycles back to influencing these structures and institutions (Oliver-Smith 2009).

As discussed in the above section on vulnerability, Wisner et al (2004) assert the importance of focusing on the political and social constructs of differential vulnerability, shaping underlying states of vulnerability and by extension, individuals’ capacity and response options to external stress (environmental or

³ While some authors refer to this tradition as *human ecology* and at times use the terms interchangeably, I intentionally use the term *political ecology* to highlight the political and structural power elements involved in human-environment interactions and in the social construction of vulnerability.

otherwise), ultimately determining the outcome of the disaster. In this way, exposure is overwhelmingly socially and politically determined, for example, where people choose / or are left with no option but to live, the nature of settlements, livelihoods, communities, and how they're established (Brooks 2003).

The *geography of exposure*, a main concern of the biophysical approach to hazards, explains one facet of this relationship, as the poor frequently reside in areas more prone to hazards – on marginal land, in areas susceptible to hazards such as flooding, riverbank erosion, and landslides, not to mention pollution (Adger 1999, Few 2003). In rural areas, the poor or landless tend to live and make livelihoods in less desirable or disaster-prone sites such as unstable riverbanks (Davis and Hall 1999), low-lying deltas and flood plains, and coastal marshes (Cairncross and Ouano 1990 in Few 2003) when compared to their wealthier counterparts. According to Morrow (1999), the poor furthermore tend to live in poorly built and maintained housing, lack adequate access to transport (particularly in terms of evacuation), have unstable employment, and are inclined to require significant government support. The geography of exposure was evident in Vinh Tri and Long Thuan (my two rural study sites) as discussed in Chapter five, apparent in the difference in housing quality (where wealthier households can afford concrete houses while poorer households have no option but to use temporary and cheaper materials such as thatch leaf and bamboo) and housing elevation (with wealthier households able to raise their housing foundation on dirt foundations while poorer households are forced to evacuate to higher ground during floods or build stilt houses).

The *geography of hazard* also dictates that not only are the poor more often exposed to hazards, but they are more prone to suffering when a hazard occurs. Not only do they have less resources to draw upon when coping with the effects of environmental stress (Chan and Parker 1996, Holzman and Jorgenson 2000), but they are also at greater risk of getting trapped in the cycle of capital loss, whereby their ability to withstand future environmental events is deteriorated with each hazard encountered (Wisner et al 1994, Chambers 1995). For example, the IFRC World Disasters Report 2001 chapter on Vietnam documents a pattern of the same families being devastated by floods, repeatedly losing homes and livelihoods, and trapped in a cycle of vulnerability to floods.⁴

It may be important to mention at this juncture that vulnerable populations are at times considered to be synonymous with poor populations, but this is a misguided use of the term as vulnerability refers not to one's lack of or want for something, but to a state of susceptibility to stress and shocks. Whereas poverty refers to an individual or group's economic state, vulnerability refers more broadly to a range of characteristics depending on the definition being used, such as their assets, entitlements, and capacity (Sen 1981, 84, 88, Chambers 1989, Watts and Bohle 1993, Bohle *et al* 1994, Adger 1999, Adger and Kelly 2001, Adger et al 2004, Cordona 2004, Chambers 2006) in a multi-dimensional context of interwoven social, economic, and political factors. Chambers (2006) states that vulnerability 'is not the same as poverty. It means not lack or want, but defencelessness, insecurity, and

⁴ I am unfortunately unable to speak to this phenomenon directly given the data for this thesis is not longitudinal. Nevertheless, as the reader will see in the empirical chapters, I do discuss the differential vulnerability to external stress found in Vinh Tri and Long Thuan as determined by household asset wealth.

exposure to risk, shocks and stress'. Vulnerability can then be said to be a more accurate measurement of exposure to risk, and thus more fitting than poverty in deciphering the processes and consequences of 'underdevelopment' (Hilhorst and Bankoff 2004), or in our case, livelihood and mobility outcomes in conditions of environmental stress. Therefore, in this thesis, by adopting the lens of vulnerability and political ecology, we are able to take a step back from a focus on economic wealth to analyse the broader context of vulnerability and the power structures shaping differential household outcomes.

While poverty and vulnerability to natural hazards do refer to two distinct states, they do nevertheless often coincide (Adger 1999, Adger and Kelly 1999, Adger and Kelly 2001, Pelling 1999, Few 2003, Wisner et al 2004, Adger et al 2004). Given that poverty is a manifestation of unequal access to resources, it is therefore a crucial feature of the architecture of entitlements and access to resources, furthermore reflecting the differential options available to people when faced with hazards and subsequent livelihood stress (Adger 1999, Adger and Kelly 1999, Adger and Kelly 2001, Few 2003). Consequently, poverty can be viewed as a proxy for access to assets and entitlement in its many forms, as more often than not, poor households find themselves marginalised in conditions of vulnerability, having no option but to passively accept their difficult circumstances in the daily struggle with poverty (Swift 1989, Chambers 1995). These characteristics also make it likely that poor individuals lack channels to make claims of their government, which may mean they are a lower political priority for governments (Adger et al 2004). In the case of Vietnam, however, there are some measures in place to ensure that poor households

receive government support (as long as they are registered in the area), and the political system in place is not conducive to citizens exercising their political voice, regardless of class.

Accordingly, my use of the concepts – asset poverty and asset wealth (as elaborated in section 2.5) – facilitates the measurement of broader household vulnerabilities while encapsulating the critical element of deprivation, including poverty. While findings from Vinh Tri and Long Thuan show the poorest households are most often also the most vulnerable across a range of indicators such as housing and land ownership, their endowment of human assets does not always overlap, pointing to the ability of the vulnerability concept to capture greater nuances across a range of variables, beyond that of economic deprivation.

Thus, how resources are secured and the range of opportunities available in the face of environmental stress is shaped by elements and processes beyond the level of households and local communities, by broader political, economic, social, and ecological structures (Adger and Kelly 2001, Adger et al 2004). Political ecology therefore focuses our attention on the underlying political and structural causes of vulnerability to hazards, and the differential outcomes of power, inequality, and variegated access to resources (Cardona 2004, Hilhorst and Bankoff 2004, Adger 2006). Ultimately, understanding and ameliorating underlying vulnerabilities is in the interest of sustainable development, as disasters will continue to occur, even as hazards are addressed to some degree through technical and planning interventions. As long as the inherent root causes of vulnerability remain, asset poor and

marginalized individuals will continue to be at greater risk to the harmful effects of environmental stress (Wisner et al 2004: 49, 61, Leary et al 2008, Lewis 1999).

2.4 Sustainable Livelihoods and DFID's Sustainable Livelihoods Framework (SLF)

Having discussed the broader conceptual frameworks of vulnerability and political ecology, particularly as they apply to people living in areas of environmental stress, this section and the next seek to ground these concepts through the application of the notion of 'assets' and their role in determining differential livelihood outcomes, including mobility decision-making. To tighten our conceptual approach into a framework applicable to empirical data, this section brings in the sustainable livelihoods approach, introducing us to 'assets' (measurable variables) and their role in shaping household livelihood outcomes. The next section further refines our conceptual apparatus by linking concrete livelihood 'assets' with vulnerability (asset vulnerability), resulting in a framework with which to measure household vulnerability to external stress through the lens of household assets.

Sustainable livelihoods approaches strive to paint an accurate and changing depiction of rural people and their environment at various levels (local, national, international) and dimensions (economic, social, political) (Carney, 1999). Its origins date back to the writings of Chambers in the early 1980s, further developed by Chambers and Conway (1991), Scoones (1998), and others in the mid-1990s, resulting in numerous sustainable livelihoods approaches (Ashley and Carney 1999),

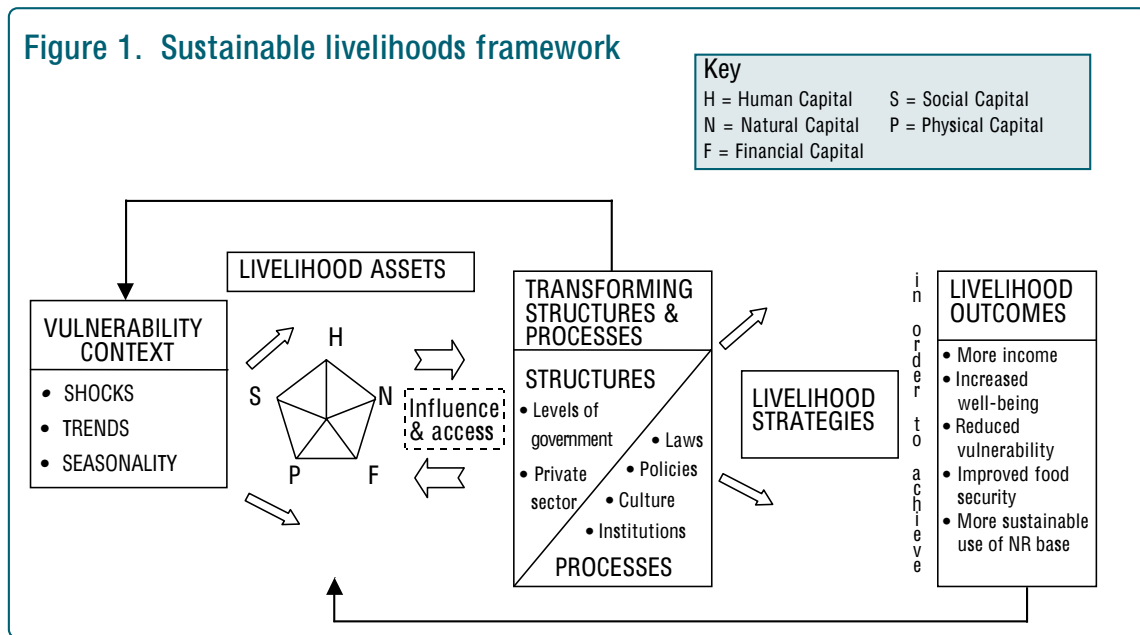
including the most well-known Sustainable Livelihoods Framework (SLF) of the UK Department for International Development (DFID 1999).

Incorporating a rights-based approach to sustainable livelihoods, Chambers and Conway (1991) state that sustainable livelihoods provide ‘the resources and conditions for the enhancement and exercise of capabilities’⁵. They further state that ‘[a] livelihood comprises the capabilities, assets... and activities required for a means of living: a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long term.’ Here the authors articulate the importance of assets and capabilities, and the process of exposure and recovery from shocks – echoing the concepts of vulnerability and political ecology discussed above.

While the SLF was not designed specifically for the analysis of disasters or conditions of environmental stress, it does incorporate elements of external stress and shocks including environmental events, and their impact on livelihoods and the sustainability of such livelihoods in the rural agricultural context. The goal of the SLF is to decipher how individuals or households pursue a livelihood through their use of five types of household assets within the broader landscape and processes of political and human ecology.

⁵ Rooted in the tradition of Amartya Sen (1981, 84, 88), ‘capabilities’ refer to an individual’s positive freedom or empowerment through which the needs and rights of human well-being are given or accessed.

Figure 1. Sustainable Livelihoods Framework



DFID. 1999. Sustainable Livelihoods Guidance Sheets.

Similar to Chambers and Conway’s definition, DFID defines livelihoods as ‘the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base’ (DFID 1999).

Lying at the centre of the framework, livelihood ‘assets’ are divided into five types: human, social, natural, physical, and financial, comprised of both tangible and intangible assets. The asset pentagon can also be used to express the level of an individual / household’s access to each asset, which fluctuates over time.

The ‘vulnerability context’ in the SLF refers to the wider external environment in which people operate, and should instead be understood as ‘external stress / shocks’ given the usage of the vulnerability term in this thesis. It includes trends (population, resource, economic, governance, technology), shocks (epidemics, natural hazards, economic downturn, conflict), and seasonality (prices, production, environmental seasons).

The ‘transforming structures and processes’ of the SLF has been called many names by different authors – ‘institutions and organizations’ (Scoones 1998) and ‘policies, processes and structures’ (Neefjes 1999) – but the fundamental idea remains the same. It essentially refers to government policies and structural systems, the backdrop context of power and its manifestations within which livelihoods and access to assets are determined and negotiated (Carswell et al 1999). For these reasons, some authors have added a sixth asset to the asset pentagon – political assets – linking household assets with broader power structures (Toufique 2001, Carney 2003). As mentioned in section 2.3, power is integral to studying vulnerability, as vulnerability refers not only to the lack of material needs but also a state of powerlessness, shaping the nature and degree of inclusion or exclusion, and exploitation of individuals and groups, thereby determining their level of access to other assets (Collinson 2003).

‘Livelihood outcomes’ are the result of livelihood strategies developed within the capacity of households’ asset profiles, limitations posed by power structures and processes, in the context of external stress / shocks. Such outcomes include income levels, access to basic needs, long-term (in)stability, and mobility strategies.

In the context of environmental stress, some authors see a lack of income diversification dispersed throughout the year as indicative of the household's vulnerability, with greater diversity of income sources signalling greater resilience to livelihood stress and shocks. While these authors speak of the 'climatic dependence' of livelihood activities – the importance of natural resources, and thus, the dependency of the household's income on the natural environment – as translating to the degree of susceptibility of the household's livelihoods to environmental stress (Adger 1999, Adger 2000, Barnett and Webber 2010), my findings (in Chapters five to eight), notwithstanding, reveal a more nuanced and differentiated picture, stressing the value of certain income generating activities and assets over others, sometimes regardless of their degree of climatic dependence.

2.5 Asset Vulnerability

The previous section presented the main components of sustainable rural livelihoods, bringing us now to the last and final concept of asset vulnerability, which combines the household asset element of the SLF with the broader vulnerability concept. In doing so, asset vulnerability helps us to explore household vulnerability through the focused and measurable lens of household assets, facilitating the analysis of how livelihoods are negotiated and pursued, and the resulting differential vulnerability between households within a larger political ecology context.

Vulnerability is a multi-dimensional and multi-tiered concept, and household vulnerability, while influenced by the greater political economy, is manifested at the micro level through household assets. Ownership of or access to⁶ such assets and their management therefore provide the ‘means of resistance’ when dealing with challenges (Moser 1998), reflecting the degree of vulnerability and resilience of households (Vatsa 2004, Naude et al 2009). In other words, a household’s capacity to respond to opportunities as well as stress is mediated by its asset portfolio and their strategic management – decisions on their accumulation, depletion, and allocation, or in sum, livelihood strategies (Heltberg et al 2008, Moser and Dani 2008, Prowse 2008). This means that asset poor households tend to be more vulnerable as they lack a robust means of resistance to stress / shocks – translating, in the context of environmental stress, to a greater susceptibility to the effects of hazards when compared to their asset rich counterparts.

In the hazards context, households either maintain their current livelihood activities or respond to environmental stress by reorganising their assets, for example, by drawing on savings, reinforcing the house, minimising expenditures, eating less expensive foods, migrating to non-flooded / flooded areas for income-generation, or seeking help (monetary, food, in kind) from relatives and neighbours. Moreover, given that most asset poor households generally tend to lack critical assets and those they do have access to are characterised by poor quality and quantity (Heltberg et al 2008, Heltberg et al 2009), they are as a result less able to recover from shocks and stress.

⁶ For example, ownership of or the ability to rent or sharecrop agricultural land.

Some authors further argue that susceptibility to flood hazards tends to be cyclical, as the corrosion of assets and livelihoods caused by an event leaves households in states of greater vulnerability to subsequent floods (Wisner et al 2004). Although I do not have the longitudinal data with which to inquire into the cyclical nature of hazard vulnerability, I would hypothesise the degree of increased vulnerability to subsequent hazards would depend on many factors, including the length of time between events and thus time for recovery between events, amount and nature of aid received from external sources (government, aid organisations, family and community members), degree of damage incurred during the event and the ability to recover losses between events, and the nature of the household's asset profile – in other words, the tools facilitating recovery from the hazard.

Nevertheless, as I discuss in Chapters five and six, in Vinh Tri and Long Thuan, the asset rich overall tend to be less vulnerable to the effects of hazards as they are able to adopt more robust adaptation measures through the use of their strong asset profiles, for example, by building higher and stronger dykes and housing foundations in Vinh Tri, and moving further inland on their own land away from the riverbank in Long Thuan.

2.5.1 Types of assets and key assets found in Vinh Tri and Long Thuan

In this sub-section, I now outline the different types of assets according to the SLF, followed by a brief discussion of specific assets found to be critical determinants of household vulnerability in Vinh Tri and Long Thuan. According to

the SLF, natural assets refer to natural resources used by the household for productive and domestic use, including rivers, canals, forests, and communal land. Physical assets include housing, equipment used for livelihoods, bicycles or motorbikes used for transportation, and basic goods such as clothing. Financial assets are straightforward, referring to cash, savings, loans, remittances, and pensions. Social assets refer to social networks and relationships one can call upon in times of need, ranging from family and neighbours to service providing institutions. Political assets are similar to social assets, with the relationship of importance being political, and also referring to political leverage including representation, bargaining power, and the ability to voice opinions to authorities and affect change. Human assets refer to the assets embodied by the human body, which I break down in Chapter seven into three sub-groups – human physical assets, human knowledge assets, and human psychological assets. Human physical assets encompass ablebodiedness and health, human knowledge assets refer to knowledge and skills, while human psychological assets include the psychological components of agency, self-efficacy (the individual belief in one’s ability to execute a measure), and self-sufficiency.

I will now present the key assets identified from the data, to illustrate their role in shaping household livelihood outcomes, but save the main discussions for later empirical chapters. In Chapter five, I discuss the importance of the homestead⁷ for households in Vinh Tri and Long Thuan, where the home – a physical asset – is critical for its cultural significance, as well as its practical role in providing shelter

⁷ *Homestead* in this thesis refers to the home and adjoining land occupied by a household.

and protection from the elements; and the adjoining land – a physical and natural asset – as an important source of supplemental income. The home also profoundly shapes individuals' attitudes toward resettlement. In this way, the possession / lack of possession of this physical asset influences not only household livelihood outcomes and exposure to environmental stress, but also mobility decision-making and ensuing livelihood outcomes as a result of such decisions.

In Chapter six, I focus on access to agricultural land, a physical and natural asset, as a key determinant of wealth and livelihood outcomes in the rural context of Vinh Tri and Long Thuan. In other words, access to agricultural land is found to influence the accumulation of other assets such as greater income and savings (financial assets) and a permanent home (physical asset). Furthermore, the nexus between household asset profiles (including land), their livelihood activities, and the nature of local environmental stressors is also investigated, revealing differentiated outcomes depending on interaction of these variables.

Chapter eight furthermore investigates both of these assets (homestead and agricultural land) and their role in shaping out-migration for households who have access to them. As such, it is the interaction of household asset profiles and external stressors in the context of the broader political ecology that produce context-specific livelihood decision-making and outcomes.

As important as asset ownership may be, however, the capacity and ways in which they are managed have an equally profound impact on household vulnerability (Moser 1998, Few 2003). The ability to optimise and utilise assets (livelihood strategies) is in and of itself a type of human asset, involving skills and knowledge

for their management during times of opportunities and hardship. For example, as I show in Chapter seven, the strategy of livelihood diversification, commonly found in Vinh Tri and Long Thuan, requires both asset ownership and effective management – the ability to work as hired labourers on rice farms, run a small home-based business, and grow vegetables for consumption all require a range of assets, such as skilled and healthy household members, social networks to access hired work and customers for the home business, a house from which to run the business, financial capital to purchase necessary livelihood input, land for vegetable farming, and a sense of self-efficacy and strategic thinking skills to confidently pursue opportunities and allocate assets (Vatsa 2004).

While most of the asset types are fairly straightforward (natural, physical, financial, social, political), human assets remain less developed in the hazards and livelihoods literature. Hence, I will discuss some of the literature on human assets here, the empirical findings for which I discuss in Chapter seven.

I divide human assets into three types – physical, knowledge, and psychological – as these are the primary dimensions of capability that I believe the individual (human asset) is able to contribute toward household livelihoods. While they are not classified as such in any single piece of literature⁸, I have developed these categories based on a range of literature on human assets, as discussed below.

On human physical assets, good health and ablebodiedness are among the key determinants shaping asset poverty and household vulnerability (Woodward et al 2000). While healthy household members able to work and generate income form

⁸ Psychological assets, as far as I am aware, are not included as a component of human assets in the sustainable livelihoods literature, which is where the concept of household assets originates.

the foundation for a household's asset accumulation and growth; conversely, the economic burden of poor health includes not only the direct financial cost of healthcare and treatment, but also the indirect costs of income and production losses caused not only by the household member in poor health, but also that of the caretaker(s) devoting their time to health matters rather than income generation (Ellis 2000, Russell 2005). This includes travel costs, particularly for more severe conditions requiring specialised care (Scoones 1998, Russell 2005).

Furthermore, as asset poor households tend to be dependent on labour-intensive work given the lack of other assets, household health status is critical for their survival and ability to generate income (Woodward et al 2000). For example, Krishna's (2007) multi-country study and Narayan's (1997) findings from Tanzania both found health shocks to be the most prominent factor causing households to fall into poverty. While this thesis does not go so far as to make this claim, what was apparent across all locations was that health and ablebodiedness were among the key assets contributing to household asset profiles and wealth, particularly for asset poor households.

Before moving on to what I find to be the most complex human asset, that of human psychological assets, I will briefly outline here what is meant by human knowledge assets. Human knowledge assets refer to an individual's knowledge and skills, accumulated through formal and informal education, required for the uptake and maintenance of livelihood activities (Hanmer 1998, DFID 1999). This includes basic financial management skills, knowledge and skills required to participate in income generating activities, and knowledge passed down from past generations

regarding the local ecosystem and agricultural practices, as described in Chapter seven, and touched upon in Chapter six.

I now proceed to discuss the final human asset, human psychological assets. Before doing so, I take note of the fact that an in-depth investigation into the field of psychology is beyond my expertise and the scope of this thesis. As such, I draw upon elements of the psychology literature found to be helpful in exploring the role of psychological assets in shaping household livelihood outcomes and individual responses to external stress.

Protection Motivation Theory (PMT) is used in the field of psychology to explain cognitive processes and decision-making that give rise to a protection motivation in response to a particular threat (Bubeck et al 2012). Originally developed by Rodgers (1975, 1983 in Bubeck et al 2012), it has primarily been applied in recent times to analyse and anticipate health behaviour (Floyd et al 2000, Milne et al 2000), but has also been used in relation to environmental and natural hazards (Mulilis and Lippa 1990, Grothmann and Reusswig 2006, Bubeck et al 2012).

The two cognitive processes involved are ‘threat appraisal’ and ‘coping appraisal’, where ‘threat appraisal’ refers to an individual’s perception of risk, and ‘coping appraisal’ describes an individual’s thoughts about ‘the benefits of possible actions’ and the self-assessment of their ‘competence to carry them out’ (Grothmann and Reusswig 2006, Bubeck et al 2012). While ‘coping appraisal’ is comprised of three elements – ‘self-efficacy’, ‘response efficacy’, and ‘response cost’ – I focus on the self-efficacy component given the availability of data and the scope of the thesis. Self-

efficacy is defined as ‘the belief of a person as to whether he or she is personally able to actually carry out the specific measure’ (Bubeck et al 2012). The pairing of an individual’s threat appraisal (perception of risk) and coping appraisal (perception about response measures and one’s capacity to carry them out) is then what shapes their protection motivation, resulting in a protective or nonprotective coping response (Bubeck et al 2012).

‘Coping appraisal’ has been established through the analysis of numerous studies, including empirical investigations into the link between flood risk perceptions and preventative behaviour, to be a far greater predictor of health-related motivation and behaviour compared to the ‘threat appraisal’ element (Milne et al 2000, Gothmann and Reusswig 2006, Bubeck et al 2012). Hence, a low coping appraisal appears to explain the adoption of nonprotective responses by individuals, even in the context of high risk perception. As ‘self-efficacy’ comprises one of three variables constituting the ‘coping appraisal’, it is possibly an important indicator for risk mitigation behaviour in the context of environmental stress. As such, in Chapter seven, I focus on self-efficacy as a key human psychological asset, as (1) it emerged from interviews as a prominent factor shaping household asset poverty and vulnerability, and (2) questions on response efficacy and response cost (the other components of coping appraisal) were not included in interviews given their complexity and unfeasibility of recording comparable responses across all respondents.

On nonproductive responses to risk, or in other words, ‘counterproductive behaviour’, a range of studies describe its correlation with poverty and contribution

to the perpetuation of the poverty trap (Edin and Lein 1997, McLoyd 1998, Kim et al 2006, Blank et al 2009, Barr 2012, Mani et al 2013). According to Bubeck et al (2012), common nonprotective responses include ‘fatalism, wishful thinking, or denial’. This link between poverty and nonprotective behaviour is partially explained by the external conditions of poverty, such as predatory lenders targeting poor neighbourhoods, and weak transportation infrastructure in poor areas contributing to absenteeism and tardiness at work; as well as by the lack of human assets on the part of the poor themselves – for example, weaker financial planning skills and lower literacy rates, and poor parenting skills learned from previous generations (Mani et al 2013).

A recent study by Mani et al (2013) further expands our knowledge on this link between asset poverty and nonprotective responses by focusing squarely on the effects of financial stress on overall individual cognitive function. Essentially, they find that simply being preoccupied with financial burdens and stress leaves individuals with ‘fewer cognitive resources available to guide choice and action’, with financially poor individuals performing significantly worse on cognitive tests compared to their wealthy counterparts when subject to financial burdens and mental stress arising from such concerns. As cognitive capacity is a finite resource, when the mind is preoccupied with financial stress, it is proposed that less cognitive resources remain available to devote to other problems at hand. Results were replicated in a study among respondents in a shopping mall in New Jersey in the US, as well as among sugarcane farmers in Tamil Nadu, India. Interestingly, in Tamil Nadu, the same farmers performed either better or worse depending on whether the

test was administered pre- or post-harvest, correlating with when they were poorer or wealthier.

When applying these findings to the Mekong Delta and its flood season, a period of decreased income and increased hunger and deprivation, the implications are significant, given the flood season is precisely when greater adaptability and incentive is needed to maintain daily incomes through alternative means. It may also partially explain the prevalence of nonprotective responses among asset poor households described in Chapter seven, such as passive acceptance of one's circumstances, dependency, and short term time preference behaviour. Consequently, Mani et al's (2013) study expands our understanding of how poverty may be reproduced and protracted, (partially) by means of nonprotective responses undertaken by the asset poor, but more importantly, the conditions contributing to the adoption of such counterproductive measures. This knowledge enriches our understanding of how poverty traps and vulnerability are created, and sheds light on an important aspect of the perpetuation of poverty and vulnerability – hence, justifying the inclusion of the human psychological asset component in this thesis, further supported by their salient absence among asset poor households in Vinh Tri and Long Thuan.

In contrast, individuals with rich asset profiles maintain greater certainty and control over future events (Wood 2003) due to their ownership and power over resources and assets. In this context, *dependent security*, as discussed in Chapter seven, is often perceived by the asset poor as a necessary route to survival, with future security necessitating the support of those with power and resources. This results in

the tendency towards 'staying poor' in order to 'stay secure', or in other words, the view that 'dependent fortunes are better than the risk of no fortunes at all' (Wood 2003).

Wood (2003) found such dependent security systems in rural areas of Northern Pakistan where community leaders and wealthier classes took steps to secure basic needs for marginalised groups such as the elderly, those in poor health, and widows. In exchange, the households were expected to convey their gratitude by accepting the political economy in place, essentially, the root cause of their poverty. In Vinh Tri and Long Thuan, a similar dynamic was found between asset poor households and local governments, whereby the social welfare system of allocating government aid according to 'Poor', 'Near-poor', and 'Better off' statuses was (intentionally or inadvertently) found to be fostering dependency among the asset poor. As I describe in Chapter seven, many respondents expressed a deep-rooted sense of dependency and reliance on local officials for assistance during times of stress or need, ranging from livelihood failure, damage caused by natural hazards, to illness in the household. Thus, while the asset poor in Vietnam may wish to escape poverty, the governmental designation of 'Poor household' is simultaneously coveted, ultimately reinforcing the incentives to stay poor in order to stay secure. In this way, the state plays a significant role in the formulation of (non)protective responses on the part of households.

Furthermore, as also described in Chapter seven, the lack of predictable asset flows is a prominent dimension of asset poverty (Wood 2003), contributing to another nonprotective response – *short term time preference behaviour* – also frequently

found among poor households, whereby the needs of daily life outweigh long term planning and prospects, exacerbated by overall weak human assets (such as weak financial and long term planning skills, low sense of self-efficacy, and ensuing states of passive acceptance and dependency). The element of time contributes to this insecure predicament as a 'hand to mouth reality' (or 'short term security') dictates daily life, superseding necessary strategies and resource allocation for long term enhancement (or 'long term security'), keeping poor individuals in an asset-based poverty trap (Wood 2003). Correspondingly, in response to environmental stress, assets are used for coping in the short term at the expense of long term yield and adaptation (Heltberg 2009). Moreover, given the lack of assets and options, and the detrimental effect of any shocks or livelihood failures on already weak asset profiles, strategies employed by the asset poor tend to be risk-averse and remain in the scope of the 'familiar and controllable' rather than that of maximising opportunities (Wood 2003).

2.6 Environmental Stress and (Im)mobility: An Exploration of the Literature

Having discussed the conceptual frameworks used in the thesis, this section moves away from overarching conceptual discussions to investigate the literature on the relationship between environmental stress and (im)mobility. Doing so is important given that while vulnerability, assets, and livelihoods form the lens through which the lives of people in Vinh Tri and Long Thuan are investigated, we take this approach to a certain extent to gain an understanding of the backdrop

against which mobility decisions are made in contexts of environmental stress. As such, this section provides the knowledge base on which the environmental change-mobility element of this study is built.

Before proceeding with the main content of this section, nevertheless, it is important to mention that while the importance of the effects of global environmental change on human systems is part of the reason I have chosen this thesis topic, I will not be referring to ‘global environmental change’ or ‘climate change’ in any significant way in this thesis. Too many uncertainties remain in the exercise of forecasting future scenarios and it remains beyond the bounds of this study to attempt to determine whether the flood events being described by the respondents resulted from climate change or remain within natural fluctuations. Instead, I use the terms ‘environmental stress’, ‘environmental change’, ‘environmental events’, and ‘hazards’ to avoid attributing any events to the effects of climate change.

I also choose this terminology as I believe understanding the current situation and the determinants of current vulnerability for populations living in flood-prone areas is valuable to ascertaining what steps can be taken to minimise present and future susceptibility to severe floods and sea level rise (SLR), rather than depending on scenarios that do not take into account numerous unknown factors such as those pertaining to future social, economic, and political change.

Furthermore, when attempting to link flooding events to global environmental change, there is a lack of convincing evidence showing any rising trends in global or regional flooding, particularly as flooding is influenced by

numerous environmental factors (Milly et al 2002, Few et al 2004a). The task becomes exponentially convoluted when attempting to predict the scale and nature of future changes to the flooding regime, not only because of the uncertainty in future natural factors (e.g. rainfall, storm surges, tide patterns, wave heights, and sea-level rise) but also manmade physical alterations to the landscape such as land use patterns, mangrove clearance, building of flood defences, and dams (Few et al 2004a), in addition to other adaptation measures. Now having justified my use of certain terms over others, I return to the conceptual discussion on the relationship between environmental stress and mobility.

While the last couple of decades have seen a rise in sensationalist claims regarding the link between climate change and impending mass displacements, the empirical evidence to support these claims have not been convincing. In terms of SLR, most estimates of future displacements are based solely on SLR projections derived from topological and climate data, without regard to how people are currently living and coping with floods and other hazards, particularly in low lying deltas and flood plains – in other words, present adaptation measures that will surely influence future actions. Furthermore, SLR projections tend to overlook other crucial sectors and variables such as the impact of future infrastructure development (e.g. dyke construction), climate change adaptation strategies (at local, national, and international levels), and other economic, social, demographic, and political factors.

Proponents of the predicament of ‘environmental refugees’ believe a strong causality exists between environmental change and migration, basing their arguments on what Castles (2002) calls a ‘common sense’ approach, and call

attention to the urgency of the situation. The 2007 Intergovernmental Panel on Climate Change (IPCC) report makes numerous references to the influence that climate change will have to force people to migrate. The Christian Aid Agency (2007) estimates that by 2050, one billion people will be displaced by global warming. Other estimates stand at 25 million environmental migrants in 1995, with the potential of the number doubling by 2010 and up to 200 million in the later half of this century (Myers 2002).

Nonetheless, in contrast to these maximalist perspectives and alarmist claims, much of the current literature has moved on to advocate a more minimalist and nuanced understanding of the relationship, while questioning the validity and derivation of these figures (Tacoli 2009, Foresight 2011, Gemenne 2011). Hence, it may be possible to make the statement that in the absence of substantial empirical evidence, meaningful conclusions cannot be drawn on the number or the nature of populations at risk of being displaced or pushed to migrate by environmental stress.

As we know from the migration literature, mobility and migration are complicated processes, undertaken in a social, economic, environmental, and political space particular to each individual, with multiple factors – both structural and asset-based – influencing an individual’s decision to (not) migrate, as well as in determining the nature of the migration (Bilsborrow 1991, Black 2001, Afifi and Warner 2007, Carr 2005, Dun 2009, Black et al 2010, Baldwin and Gemenne 2011, Black et al 2011a, Foresight 2011). While there may be some need for additional empirical research regarding the cause and effect relationship between environmental change and migration (Hugo 2008, Kniveton *et al* 2008), the growing

body of in-depth case studies illustrate the complexity of the relationship, as well as the diverse range of coping and adaptation strategies employed by individuals, beyond that of migration (Afifi 2010, Alscher 2010, Arenstam Gibbons and Nicholls 2006, Bleibaum 2010, Fruhmann and Jager 2010, Kadirbeyoglu 2010, Meze-Hausken 2000, Nasritdinov et al 2010, Poncelet et al 2010).⁹

Generally speaking, when people do migrate, empirical findings tend to point to economic, social, and political factors as the main reasons for doing so, with environmental factors remaining in the periphery or playing an indirect role. This tells us that at least in terms of perception, migrants see economic, social, and political reasons as the prevailing motivation for their mobility (Jager et al 2009, Foresight 2011, ADB 2012). Black (2011b) presents a framework deconstructing the array of migration drivers that ‘might affect the volume, direction and frequency of migratory movements’ from the micro to macro levels. These drivers are divided into five categories: economic, social, political, environmental, and demographic. In this context, nevertheless, environmental factors have been shown to remain a predominantly indirect driver of migration, exerting its influence through other drivers, or co-existing with other drivers. As such, disentangling the multiple drivers from each other is difficult if not impossible, as it is to designate individuals as being ‘environmental migrants’, where environmental elements are designated as being the primary driver (Black 2001, Castles 2002, McLeman and Smit 2006, Reneau et al 2007, Adamo 2008, Hugo 2008, Boano, Zetter and Morris 2008, Piguet 2008, Tacoli 2009, Foresight 2011, ADB 2012).

⁹ It is important to note that much of these studies assume that migrants are able to exercise agency, possess keen aptitudes in self-awareness and reflection, and are able and willing to accurately convey these motivations for mobility to researchers (Black 2011b).

When examining the variegated role of various factors on mobility patterns in response to natural hazards, the empirical findings are mixed and differentiated depending on households' asset endowments and contexts (Perch-Nielsen 2008). For example, most case studies illustrate land and home owners as being less inclined to migrate than those who rent these assets (Belcher and Bates 1983, McLeman and Smit 2006, Quarantelli 1982), while a smaller number of studies indicate the opposite (Frey and Singer 2006). The link between migration and wealth is also complex, with some studies in the industrialized context finding low income individuals more prone to staying put, middle income individuals able to finance their move, and those with high incomes tending to stay given their comfortable asset base in their current locations (Smith et al 2006, McLeman and Smit 2006). Meanwhile, in the industrializing context of Bangladesh, flooding and riverbank erosion is deeply intertwined with economic, social, political, and physical conditions. As found in this thesis, erosion is found to most severely impact the landless and poor farmers who have the weakest asset profiles with which to cope and recover from hazard events. Small landholders are furthermore found to be affected to a greater degree than are large landholders (Greenberg 1986 in Hutton and Haque 2004, Rogge and Elahi 1989). Correspondingly, the poorest and landless segments of society were found to be most prone to multiple displacements in response to riverbank erosion as erosion renders them landless with no option but to leave the area (Hutton and Haque 2004). As such, some trends do emerge pointing to the importance of assets for household resilience to environmental stress, while

context-specific factors simultaneously prevent us from making generalizable statements on the environmental stress-mobility link.

Furthermore, while much of the attention has been on those inclined to migrate, recent focus has also shifted to consider immobility, or those who are unable to migrate. As we know from the migration literature, the poorest of the poor are generally considered to lack the resources to migrate (Pottier 1993, Kothari 2003), entailing a group of people who are not only highly vulnerable to external stress, but also unable to move away from these conditions of stress and are simultaneously the least able to adapt in their current location given their weak asset profiles (Black 2011, Foresight 2011).

2.7 Conclusion

This chapter started with an exploration of the broader concepts of vulnerability and political ecology, followed by the SLF and the importance of assets, culminating with the notion of asset vulnerability, the lens through which subsequent empirical chapters will measure differential household vulnerability and livelihood resilience, and impacts and responses to environmental stress. This was followed by a discussion of the literature on the environmental stress and (im)mobility nexus, which highlighted the complexities and context-specific nature of the relationship, as will be explored in later empirical chapters.

In essence, this thesis lies at the juncture of multiple concepts, where vulnerability and political ecology address the underlying social and political fabric,

mediating household level processes such as access to resources, and social inclusion and exclusion. Within this context, households strategize on the management of their asset profiles, entailing the accumulation, depletion, or exchange of assets resulting in variegated household livelihood outcomes. To analyse this process, assets as found in the SLF, are used to ground the vulnerability and political ecology concepts, as units of analysis revealing differential vulnerability across households, and to measure responses to external stressors, including environmental stress. In this way, asset vulnerability encapsulates the philosophy of vulnerability and political ecology, while providing a means to analyse these abstract concepts through measurable units.

Vietnam and the Mekong Delta in Context

3.1 Introduction

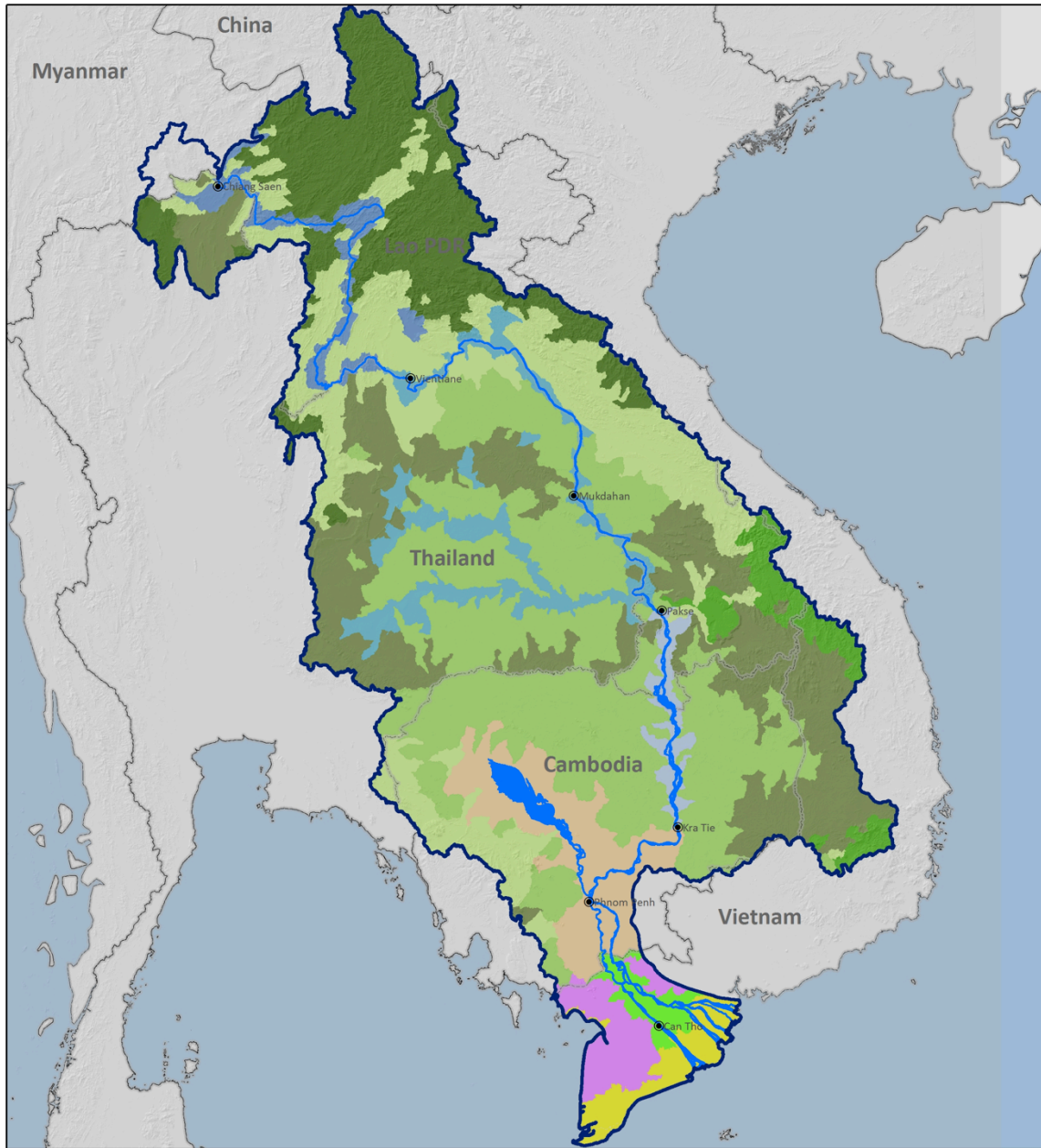
This chapter is an account of the context of Vietnam and the Mekong Delta, outlining the environmental, economic, and political fabric against which discussions in later empirical chapters take place. I start with these broad topic areas to lay the groundwork, then bring in the subject of land policies and rural livelihoods, and their co-evolution within these larger historical developments. I also outline the history and trends of internal migration, including the symbiotic relationship between large population movements and coinciding rapid economic developments of the past few decades, as well as the role of the state in managing mobility and migration. Lastly, I discuss state resettlement policies and programmes, one of the pillars in the government's strategy for dealing with the impacts of natural disasters and climate change, and their essential role in achieving broader socioeconomic goals of rapid industrialisation and urbanization of rural areas.

3.2 Environmental Context

Vietnam encompasses an area of 331,690 km², spanning 16 latitude parallels, bordered by the South China Sea on the east with over 3,200 km in coastline, neighboured by China, Laos, and Cambodia. The Mekong Delta region, 80 percent

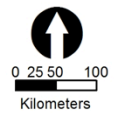
of which lies in Vietnam, is the most downstream portion of the Mekong Basin, which passes through or is adjacent to six countries – China, Burma, Laos, Thailand, Cambodia, and Vietnam. The Mekong River itself extends 4,200 km from the Tibetan plateau to the Mekong Delta in Vietnam and is drained by a network of distributaries into the South China Sea (Sneddon and Nguyen 2001). Comprised of thirteen provinces and inhabited by 18 million people – 22% of the country’s total population – the region is predominantly covered by low-lying floodplains measuring 0.5 to 3 meters above sea level (except a small mountainous area in the north) (Taylor 2004, Dun 2009). With gradations in duration and intensity between locations, the July-November wet season floods roughly 47 percent of the region at its peak (Sneddon and Nguyen 2001).

Map 1. Map of the Lower Mekong Basin and the Mekong River



ECOZONES IN THE LOWER MEKONG BASIN

- | | | | | | |
|--|-----------------|--|---|--|---|
| | National border | | High-elevation moist broadleaf forest Annamites | | Mid floodplain, wetland, lake (Vientiane to Pakse) |
| | LMB boundary | | High-elevation moist broadleaf forest North Indochina | | Lower floodplain, wetland, lake (Pakse to Kratie) |
| | Water body | | Mid-elevation dry broadleaf forest | | Tonle Sap swamp forest & lower floodplain (Kratie to delta) |
| | Wetland site | | Low-elevation dry broadleaf forest | | Delta freshwater wetlands |
| | | | Low-elevation moist broadleaf forest | | Delta acidic swamp forest |
| | | | Upper floodplain wetland, lake (Chiang Saen to Vientiane) | | Delta mangroves and coastal wetlands |



Data Source: ICEM 2012, WWF 2002-2006, MRC GIS Database

Endowed with nutrient-rich soils, the Delta is the most crucial agricultural region of Vietnam, producing over 50 percent of the state's rice and 60 percent of its fish and shrimp. Furthermore, as the second largest rice exporter in the world, Vietnam together with Thailand produces 50 percent of the world's rice trade (ADB 2009). With 40 percent of the cultivable land made up of flood plains, the Mekong River's predictable, slow, and steady flooding is essential for the livelihoods of the Delta's inhabitants (Be *et al* 2007, Dun 2009). Hence, floods, unless they are severe, have historically been viewed as a natural part of the ebb and flow of the Delta, exemplified by early hydrologic studies of the Mekong system observing the benefits reaped by floods through silt deposition and natural fish catchments (Bureau of Flood Control 1950 in Sneddon and Nguyen 2001), and views of flood control as being a negligible concern (US Bureau of Reclamation 1956 in Sneddon and Nguyen 2001). This beneficial aspect of seasonal floods are discussed in later chapters as being an integral part of life in the region, but one which is often overlooked by scholars and practitioners when making assumptions regarding the feasibility of floods and people coexisting in the same space.

In this environment, rice farmers of the Mekong Delta are typically able to grow two crops per year, with some areas conducive to three crops, along with wealthier farmers who are able to farm their land throughout the year by constructing small irrigation systems and dykes to shelter their land from flooding (Taylor 2004, Chinvano et al 2008). In general, the use of modern agricultural technology is limited, while alternative seed varieties and crops are commonly planted, sometimes in rotation, to increase the resilience of crops to environmental

stress and change. 'Floating rice' is for example one such flood-resistant rice variety (Nguyen 1994, Chinvano et al 2008). As flooding is a natural aspect of the Mekong Delta landscape, many farmers plan their crop calendar around the flood season, while embracing the floods for their nutrient-rich sediment and role in cleansing the land of pollutants (Taylor 2004).

The last four decades have, however, shown a greater frequency of severe floods that have in the past occurred on average only once every 50 years (White 2002, Dun 2009). The Southern Region Hydro-Meteorological Centre in Ho Chi Minh City also claims that typhoons hitting Vietnam are increasing in number, intensity, magnitude, and unpredictability of travel path. This is potentially significant for the Delta as typhoons not only cause harm on its own, but also affect the level of precipitation in the region as well as degree of flooding (Dun 2009). The destructive power of severe floods should therefore not be dismissed, as evidenced by the most recent extreme floods of 2011, causing serious loss and damage across seven provinces¹⁰, affecting over 600,000 people, damaging 11,768 acres of rice fields and secondary crops, causing 85 casualties, and the evacuation of nearly 13,000 families (IFRC 2012).

As a result, Vietnam is often cited as being one of the most vulnerable countries in the world to sea-level rise (SLR) (Hugo 2008, Warner et al 2008, Oxfam 2011, ADB 2012) and saline water intrusion. Rising sea levels are projected to alter the landscape and exert significant pressure on the Mekong Delta and Ho Chi Minh City (HCMC) (the biggest urban centre in Vietnam), portions of the Red River

10 An Giang, Dong Thap, Long An, Can Tho, Vinh Long, Hau Giang, and King Giang.

Delta, and considerable parts of other coastal areas. Without substantial interventions, one metre in SLR is estimated to inundate an estimated 30,945 km², or 9.3 percent of Vietnam's total land surface. Greater HCMC would see 473 km² or 23 percent of its land affected. The Mekong Delta, the rice bowl of Vietnam and a crucial driver of economic growth, would lose 37.8 percent of its land to saline water inundation. Saline water intrusion would also occur in estuaries, affecting surface water used for irrigation and ground water, in turn affecting arable land and agricultural production, as well as water for human consumption (UNDP 2007, ADB 2009). Important to note, nevertheless, is that such projections do not account for current and future socioeconomic developments, adaptation measures ranging from the central to local levels, and potential changes in upstream countries that may alter the flow and patterns of the Mekong River.

Vietnam nonetheless also ranks sixth in the world in terms of highest proportion of the population living in Low Elevation Coastal Zones (LECZ)¹¹, and seventh for the highest number of urban populations living in LECZs (Hugo 2008). Consequently, the Mekong Delta in Vietnam and Cambodia is cited by some sources to be among the world's three hotspots in regards to potential displacement due to SLR (IPCC 2007b), with flooding referred to as a potentially strong push factor for temporary or permanent migration or displacement. Also worth noting is the fact that according to Vietnam's Strategy for Industrial Development, 80 percent of the country's most rapidly growing industrial sector will occur within a coastal corridor from Hai Phong to HCMC, and coastal urban agglomerations such as HCMC, Da

¹¹ Connected areas along the coastline measuring less than ten metres above sea level.

Nang, and Hai Phong host a considerable portion of the urban population and ongoing development of manufacturing and service infrastructure. Cited vulnerabilities for LECZs include harmful inundation, increased intensity of storms, and salinization of arable land and aquifers (Carew-Reid 2008).

3.3 Economic Context

Shifting away from a centrally planned economy to a socialist-oriented market economy, the early 1980s saw Vietnam initiating market-led reforms, culminating in the *doi moi* (direct translation: new change, renovation) process in 1986, in line with economic trends occurring in China and Russia at the time (Adger et al 2001). As a result, the country achieved a GDP growth rate averaging 7.4 percent in the 1990s and 7 percent from 2000 to 2012 (World Bank 2013). During the 1990s, the Mekong Delta was showcased by the state as an example of the success of *doi moi*, for the region's swift growth in household incomes and five of its thirteen provinces exceeding the average national GDP in spite of their largely agrarian economies (Taylor 2004, NCSSH 2001: 108).

Past achievements notwithstanding however, as of 2010, the monthly income per capita for all provinces of the Mekong Delta remained below the national average (GSO 2010), with critical poverty indicators including: the second highest rate of landlessness in the country compared to other regions as of 2003; a trend of increasing landlessness; lack of off-farm employment opportunities and the prevalence of hired farm work as the primary source of income for poor households;

dearth of new enterprises; lack of human capital, particularly individuals with technical skills; poor water, sanitation, and transportation infrastructure; and chronic poverty in many locations (Taylor 2004, WV Australia and Adam Fforde 2004). Interestingly, my findings from Vinh Tri and Long Thuan reflect the presence of many of these poverty indicators as posing significant barriers to decreasing household vulnerability and improving livelihood outcomes.

While all economic sectors in Vietnam have shown steady growth in absolute terms since the introduction of *doi moi*, the share of agriculture¹² in the national GDP dropped from 39 percent in 1990 to 21 percent in 2012, while the share of the industry sector¹³ rose from 23 percent in 1990 to 40 percent in 2012, and the services sector¹⁴ remained steady at 39 percent during the same period (World Bank 2013). According to the 2010 Household Living Standards Survey (GSO 2010), 44.5 percent of the population is engaged in farm-related livelihoods while 55.5 percent generate their income from non-farm activities.¹⁵ Hence, since the late 1980s, Vietnam has established itself as one of the world's leading rice-exporting countries, 90 percent of which is grown in the Mekong Delta. The past decade has also seen a growth in exports of vegetables and legumes, as well as fish and shrimp originating from the Delta. At the household level, however, opening markets have translated to falling commodity prices and increasing costs of agricultural inputs, and exposure to market fluctuations (Taylor 2004).

12 Inclusive of crop cultivation, livestock production, aquaculture, forestry, and hunting (World Bank 2013).

13 Inclusive of mining, manufacturing, construction, electricity, water, and gas (World Bank 2013).

14 Inclusive of wholesale and retail trade including restaurants and hotels, transport, and professional, personal, government, and financial services such as education and health care (World Bank 2013).

15 The GSO identifies 'farm' activities to include agriculture, forestry, and fishery-based activities, and 'non-farm' as referring to industries, construction, trade, and services.

As such, economic growth has not manifested in equitable growth across the population, particularly since the mid-2000s, with wealthier households recording levels of growth increasingly surpassing those of poorer households. The reasons for this growing inequality are many, including shifts in sectoral significance in the modern economy, increasing returns on technical skills and education, and differential access to power and voice among social groups (World Bank 2012).

Thus when looking closer at the differentiating characteristics of poverty within Vietnam, several salient factors emerge. The rural incidence of poverty is striking, with more than 90 percent of the poor and 94 percent of the extreme poor residing in rural areas.¹⁶ Consequently, a large portion of the poor work in the agriculture sector, with 32.9 percent of households primarily dependent on agriculture for their livelihoods remaining below the poverty line, and these households comprising 65 percent of the poor and 73 percent of the extreme poor. Among those most susceptible to remaining poor however, the most notable are ethnic minority groups, with the most rapidly growing minority households still surpassed by average Kinh¹⁷ households. While ethnic minorities made up 20 percent of all poor households in 1993, the figure rose to 29 percent by 1998, and 47 percent in 2010, accounting for 66 percent of the poorest households among the poorest 10 percent of the total population (World Bank 2012).

16 Here, the 'poor' and 'extreme poor' categories referred to are in line with the GSO-WB food poverty line, derived using mean unit values for food purchases by households in the bottom 2.5-20 percent in terms of wealth, as reported in the GSO 2010 Vietnam Household Living Standards Survey (World Bank 2012).

17 Kinh is the main ethnic group of Vietnam, comprising 85.7 percent of the total population. Other ethnic groups include the Tay, Thai, Muong, Khmer, H'mong, Nung, Dao, and Hoa (World Bank 2012).

3.4 Political Context

The Socialist Republic of Vietnam is a one party state controlled by the Communist Party of Vietnam. A new Constitution approved in April 1992 recognizes the Party as the leading power of the state and society and requires the Party to function within the framework of the Constitution and laws of the country. The National Assembly (NA) is appointed as the highest representative body of the people, as the only organ with constitutional and legislative power. NA Members are elected every five years by universal and direct suffrage through secret ballot. Non-party members were elected for the first time to the NA in the 1997 election, but Party members still form the vast majority. The NA meets twice a year, with a Standing Committee acting on its behalf throughout the rest of the year. Nevertheless, the NA has the power to elect and dismiss members of the Standing Committee, including the President and Vice-President of the state, Speakers, Vice-Speakers, and Chairs of NA Committees.

Some cardinal changes were made by the eleventh term NA, elected in 2002. Moving towards greater decentralisation, the NA was granted more power to make decisions regarding state budget affairs, and local governments were permitted to make decisions on local budget issues. The number of full-time Deputies to the NA was also increased to about 25 percent to increase its influence. May 2003 saw the passing of a law on oversight activities, signifying a landmark shift of power to the Legislative Branch, enabling it to oversee the Executive Branch. In essence, this

gives Legislature the ability to vote for non-confidence regarding members of the Executive Branch when at least 20 percent of Deputies support the motion.

Meanwhile, numerous Ministries are responsible for managing different sectors, including for example, the Ministry of Agriculture and Rural Development (MARD), Ministry of Natural Resources and Environment (MONRE), Ministry of Planning and Investment (MPI), and Ministry of Finance (MOF). Below the central level, various layers of People's Committees are responsible for daily administration at the provincial, city, district, and commune / ward¹⁸ levels. Mass organizations, such as the Fatherland Front, Women's Union, Farmer's Union, Youth Union, and Labour Union, act as the link between the people and the Party by disseminating information on and encouraging participation in government policies and initiatives, and mobilizing members at the community level.

On the whole, civil society remains weak in Vietnam, with many entities operating in the sphere of NGOs in reality being affiliated with a government body. Obtaining registration to work as a local NGO is often convoluted and prolonged, with geographic restrictions imposed on areas where work is permitted. The activities of local NGOs are heavily monitored, and prior authorization is required from the local People's Committee before carrying out activities or receiving funding from donors. International NGOs and UN agencies must also receive authorization from relevant Ministries, People's Committees, and other agencies to implement projects, but experience a greater degree of freedom than do local NGOs and community-based organizations.

¹⁸ 'Commune' is the administrative unit used in rural areas, while 'ward' is used in urban areas.

3.5 Historical and Current Context of Land Policies and Rural Livelihoods

While the economic and political contexts were already outlined in sections 3.3 and 3.4, this section details the evolution of land policies embedded within the historical context of concurrent economic and political developments, and as such, presents a historical account of how such developments influenced land as a commodity and land policies, ultimately shaping rural livelihoods.

Given the numerous wars from 1946 to 1989 (with Cambodia, French colonial powers, as well as the Vietnam / American war), calls for personal sacrifice for the good of the country and state-imposed economic and social measures came to be accepted by much of the population during this period. The imperatives of war moreover became the rationale to stifle public protest and dissent, as well as the press, particularly for the government of northern Vietnam.

As touched upon in Chapter six, Vietnam was overwhelmingly an agrarian society at the time, and as a result, land reform came to be among the policies of greatest impact, developed within this context of war and self-sacrifice for the nation. During the Franco-Vietnamese war and by 1953, Ho Chi Minh's government redistributed more than 750,000 hectares of land, of which 564,547 hectares formerly owned by French-protected landowners were given to the poor in southern Vietnam, where two-thirds of rural households are thought to have been landless (Lam 1985 in Luong 2003, Luong 2003). Between 1956 and 1972 during the division of the country into north and south regions, the southern Saigon government also

instituted its own land reforms in an effort to reduce socioeconomic inequality, by allocating 1,884,037 hectares of rice fields to nearly 1.3 million households (Lam 1995 and Nguyen 1990 in Luong 2003).

Following reunification of the north and south at the end of the Vietnam / American war, the Communist government's model of a command economy, in place in the northern half of the country from 1945 to 1975, came to be applied throughout the country. The centrally planned economic model strove for rapid economic development and industrialisation, and consisted of three economic units – state, cooperative, and household. The state was envisioned to dominate economic activities, particularly for industries and services, while the cooperatives were charged with the agricultural sector. In this context, no land laws existed, and the national economy was state-subsidized, with agricultural land owned by agricultural cooperatives and industries and services owned by state-owned enterprises and community-owned economic organizations. Agricultural land was distributed by the state in accordance with socio-economic development policies and subsequently reclaimed if deemed to be in improper use.

After 1975, small-scale agricultural cooperatives were increased in size and scale, with the average size in the north rising from 199 households and 113 hectares in 1975 to 368 households and 201 hectares in 1980 (Chu van Lam 1990 in Luong 2003, Nguyen 2004). The south also experienced a substantial drive toward agricultural collectivisation and the nationalisation of private industrial enterprises during this period. The 1980 Vietnam Constitution furthermore established the ownership of all land as belonging to the collective people, where land did not have

market value and could not be bought or sold. By 1980, however, the command economy model was suffering setbacks, with many cooperatives in the southern region having failed and those in the north on their way to disintegration due to population growth, lack of incentives for individuals and resulting low returns on labour, greater focus on individual household gardens, and dwindling agricultural output (Luong 2003, Taylor 2004).

Contributing further to the deterioration of the economic model, as a result of artificially low procurement prices of the state, both agricultural and industrial sectors witnessed increasing portions of products being sold in the open market. The inevitable consequence was then the shortage of goods in the state system and their availability in the market at much higher prices. This in turn diminished the purchasing power of state employees, brought about massive inflation, and accentuated the importance of the informal market. In response, the government increased financial incentives to agricultural and industrial producers in 1981 while remaining committed to a centrally planned economy. Nevertheless, annual inflation rates rose to 50-92 percent in the period of 1981-1985, peaking in 1981 at a rate of 775 percent (Luong 2003).

In response to the crisis, the *doi moi* process was endorsed by the Communist Party Congress in 1986, to further decentralise the economy and move towards a market-based system. By 1989, several reforms had been put in place, including the abandonment of the two-priced system (state and market) save the sectors controlled by government monopolies, and the approval of increased privatisation. As such, the Vietnamese economy grew from three economic units (state,

cooperative, and household) to also include private and joint state-private. Households were empowered to make decisions on their production and product distribution, and by the 1990s, the cooperative system had been relegated to a minimal role of providing agricultural services such as ploughing and irrigation. Since the initiation of *doi moi*, Vietnam has essentially been shifting from a centrally planned economy to a socialist-oriented market economy (Luong 2003, Oudin 2009).

In this context, although land was legally owned by the collective people and by the state, the 1990s brought about a land market in southern Vietnam and in urban areas, with land rights for households and individuals increasingly acknowledged by local governments (Luong 2003, Taylor 2004). Land use rights certificates were issued to farmers, who were able to make individual decisions regarding production, and private commerce of agricultural produce was permitted, as well as the exchange, inheritance, and sale of land use rights. Consequently, agricultural, aquaculture, and forest lands previously owned by cooperatives were appropriated to households for their economic and daily use. Land distribution to farmers resulted in Vietnam becoming one of the largest rice exporting countries, and was a considerable driver in reducing poverty rates throughout the country (Dang and Tran 2006, Dang *date unknown*). Starting in 1996, however, the state initiated the redistribution of household-owned agricultural lands back to the state for the construction of infrastructure including residential areas, economic and industrial zones, and commercial service zones. These more recent developments are evident among respondents in Vinh Tri and Long Thuan, and are discussed further in Chapter six.

As a result of *doi moi*, the decollectivisation of agriculture heightened economic development and a market economy on the one hand, but at the same time, enhanced social inequality in rural areas (Adger and Kelly 2001, Luong 2003, Taylor 2004). Although the goal may have included strengthening rural livelihoods and shifting greater control of land use to the farmers themselves, a paradoxical outcome has been that of increasing landlessness of farmers as they face decreased profits, and in response, have had to sell their land, particularly in the Mekong Delta where levels of landlessness have been among the most rapidly increasing (Luong 2003, Taylor 2004).

As such, debt and net loss has been characteristic, particularly for small-scale farmers, as the price of agricultural inputs such as pesticide, herbicide, fertilizer, and mechanical services have consistently risen, whereas agricultural commodity prices have fluctuated, and in the case of rice, prices have largely depreciated (Luong 2003, Taylor 2004). According to interviews by Taylor (2004) in the Mekong Delta, farming rice was sometimes described as being ‘a sure way to lose your land’. These aspects of impoverishment – of landlessness, debt, fluctuating market prices, and inflation of agricultural inputs – were indeed found in Vinh Tri and Long Thuan, as discussed in later empirical chapters.

3.6 History and Trends of Internal Migration in Vietnam

Population redistribution and migration have historically been prominent policy concerns in Vietnam – their discussion here providing the backcloth to

empirical discussions on mobility and migration in Chapter eight. Following reunification (the end of the Vietnam / American War), the late 1970s saw the beginning of state managed resettlement programmes, the predecessors to the programs of today.¹⁹ An estimated 4.57 million people were resettled from 1976 to 1995 (Dang 2005), with most moving short distances (Guest 1998). From 1994 to 1999, the total number of people resettled was 2,105,000, with spontaneous migrants starting to outnumber organised migrants. The 1999 census recorded a total number of all migrants above five years of age (spontaneous and managed) at 4.5 million, or 6.5 percent of the total population, with more than half of movements owed to spontaneous migration. The coinciding rapid economic development and decrease in poverty would likely not have been achieved without this massive scale of mobility (Dang 2005).

With the initiation of the *doi moi* process, dynamic shifts in migration trends started to emerge, in contrast to prior state managed resettlement programmes. First, decollectivisation and the new household contract system released farmers' bonds to their lands. This coupled with the commercialisation of agriculture scattered the rural labour base and created further opportunities for rural to urban migration. Second, the burgeoning new economic zones arising from the growing industry, service, and technology sectors, and foreign direct investment was (and continue to be) a major impetus for migrant workers to move to newly developed industrial zones (Dang 2005). Third, major urban cities such as HCMC and Hanoi increasingly became leading destinations for migrants.

19 For the sake of relevance, this chapter omits the ancient history of migration of the Kinh people which subsequently established the territories of modern Vietnam.

According to the most recent Population and Housing Census from 2009 (CPHCSC 2009), of a total population of 85,789,573 people, the number of internal migrants in the 5 years prior to the census was 6.6 million, showing a significant increase from the previous 1999 census at 4.5 million. Because the census excludes people who have migrated less than six months prior to the census, as well as seasonal and unregistered movements, the real number is estimated to be considerably higher. 3.3 million of the recorded migrants moved within the same province, while the remaining 3.3 million moved across provincial lines. The trend of migration towards the Southeast and Central Highlands regions was furthermore consistent with that of the last 1999 census. 29.6 percent of the population now reside in urban areas, 6 percent higher than in 1999, with the urban growth rate at 3.4 percent, exceeding those of rural areas at 0.4 percent. Since the birth rate in urban areas is below replacement level, it would be safe to attribute much of the growth to migration. Numbers are not available for international migration. These mobility trends of the past few decades in essence reflect the symbiotic relationship between economic development and migration, whereby the rapid economic development achieved by Vietnam following *doi moi* would likely have been difficult without such significant past and present population movements.

The legal, policy, and administrative framework for internal and certain types of international migration (e.g. labour migration) are often nebulous and spread across various government agencies and legal documents. The Ministry of Agriculture and Rural Development (MARD) is in charge of state managed migration, while the Ministry of Public Security (MPS) is responsible for the

registration of temporary migrants and manages the household registration system under which spontaneous and undocumented migrants are often excluded. Meanwhile, the Ministry of Labour, Invalids and Social Affairs (MOLISA) deals with economic migration matters, including the migration of labourers to new economic zones in Vietnam, as well as the overseas employment of Vietnamese workers (mostly for unskilled or semi-skilled labour). MOLISA also coordinates with MARD on labour and population resettlement programs. In line with its role to maintain social order, the Ministry of Public Security (MPS) along with the Ministry of Foreign Affairs (MOFA) and the Ministry of Justice (MOJ) supervise immigration issues. The People's Committees at different levels also issue their own policies and regulations concerning population and migration. Mass organizations accordingly encourage and implement daily tasks at the community level according to government policies and programs.

3.6.1 Household registration system (ho khau)

Prior to 1990, migration was stringently controlled by the government through the household registration system (*ho khau*) and employment policies. Similar to the Chinese *hokou* system, the purpose of the *ho khau* was to regulate population mobility, particularly to restrict migration from rural to urban areas. Under central planning, receiving government rations and subsidies and basic necessities were fully dependent on one's residency status, making the system extremely effective at deterring spontaneous migration. The main routes to

residency in an urban city were thus limited to state jobs or assignments, and accompaniment of family members. While the system did not completely constrain voluntary migration, it placed a significant social and financial cost on such spontaneous movements (Dang *et al* 2003). Given the increasing demand for workers in the industry and service sectors however, the rules of the *ho khau* became increasingly relaxed to allow for greater freedom of movement to meet labour demands (Dang 2009). The eventual abolition of the ration and subsidy systems significantly eased the ability for voluntary movement, but continues to create barriers for non-residents to access essential services and basic rights at a level equal to that of residents.

In general, the household registration system is no longer a critical barrier to migration (Locke 2008). Nevertheless, every citizen of Vietnam is required to have a *ho khau*, and it remains one of the most important determinants of an individual's social, economic, and political status in their area of residence. Hence, residency status largely shapes the level of access to public services (such as health care, education, poverty reduction programmes), government aid following disasters, and land and housing rights. Furthermore, while it is possible to re-register for a *ho khau* should it become lost, for example during a natural disaster, the myriad of paperwork may be difficult to obtain to prove one's residency, illustrated by examples of people falling out of their permanent resident status due to the inability to prove their residency.

3.6.2 'Living with floods' and resettlement policies

In response to the catastrophic floods of the Mekong River in 2000, the government introduced the concept of ‘living with floods’ into its disaster mitigation and management policies, based on the premise that flood risks should be mitigated, but at the same time, are essential to livelihoods and the country’s economic development. The development of residential clusters and dykes²⁰ in the Mekong Delta is a core component of this strategy in the effort to improve living conditions and provide stable livelihoods for flood-affected communities. Investment to construct residential clusters / dykes was for example one of the seven main objectives of the ‘socio-economic development of the Mekong Delta region’ in 2001-2005.²¹ Involving the relocation of people in the Mekong Delta living in conditions deemed unsafe to residential areas on higher ground, the purpose includes the provision of safe and permanent residences with access to basic infrastructure such as clean water, schools, and health clinics. As such, the on-going building and enhancement of residential clusters and dykes is relatively new, and will likely continue to be a core strategy in response to the changing environment (Adam Fforde 2003), linked with initiatives for increased economic development and increased urbanisation of rural areas. It is for this reason that I include resettlement

²⁰ *Dykes* refer to areas along rivers, canals, and ditches, and historically have been the most popular type of location for houses in the Mekong Delta. *Clusters* refer to areas where houses are clustered in groups on higher land, which has also been relatively common. Houses have also been built in a *dispersed* fashion, in jungles or directly in family farm fields or unclaimed plots of land. Compared to clusters, dykes entail decreased access to essential infrastructure and services such as water sanitation, waste collection, health care, schools, and markets. They are nevertheless favoured for their close proximity to rice fields, canals, and rivers where small boats can be parked. Additionally, marginal lands attached to dykes enable households to cultivate home gardens and raise livestock to increase household income (Adam Fforde 2003, Pham 2006).

²¹ Prime Minister’s Decision No. 173/2001/QD-TTg.

outcomes in this thesis, given its integral role in the government's strategies for climate change adaptation, and development.

The government's first policy to develop residential clusters and dykes in the Mekong Delta appeared in 1996, for irrigation and transportation development and construction of clusters / dykes²². In An Giang province alone, the period of 1996-2000 saw the construction of 89 residential clusters with space allocated for 14,234 housing foundations, and 54 residential dykes along 132 km accounting for 12,510 housing foundations. The numbers and scale of construction were similar in other flood-prone provinces of the Mekong Delta during the same period (Adam Fforde 2003).

In 2001, as mentioned above, the Decision on the 'socio-economic development of the Mekong Delta region in the 2001-2005 period'²³ was issued, of which one of the seven objectives was to develop residential clusters / dykes. This was followed by numerous Decisions in the following years, including the Ministry of Construction's Decision on the 'establishment of the Steering Committee for Residential clusters / dykes and building houses program in the Mekong Delta'²⁴.

In this way, numerous policies exist to both directly and indirectly regulate internal mobility in Vietnam. On regulations to guide state-led population distribution and planning, Decision No. 190/2003/QD-TTg of 16 September 2003 'on the migration policies for realization of population planning and relocation in the 2003-2010 period' is one such example.

²² Decision No. 99/TTg, approved 9 February 1996.

²³ Decision No. 173/2001/QD-TTg, approved 6 November 2001.

²⁴ Decision No. 146/QD-BXD, approved 28 November 2002.

'The objectives of the migration policies for realization of population planning and relocation in the 2003-2010 period are: From now to 2010, to **relocate, arrange and resettle population** in necessary areas in order to **exploit labour and land potentials**, developing agricultural, forestry and fishery production, creating jobs, increasing incomes, eliminating hunger, alleviating poverty, **stabilizing and raising people's life**; to **minimize free migration**; and at the same time to **form new population quarters** with adequate essential infrastructures thus serving the sustainable socio-cultural-economic development and contributing to maintaining political security as well as social order and safety.'²⁵

Reflecting the spirit of state-managed migration, for anyone living in precarious circumstances including disaster-prone or environmentally degraded areas, state-managed resettlement is more often than not assumed to be the most appropriate solution. While resettlement programmes aim to simultaneously raise incomes for relocated households, individuals are also seen as having a duty to the state, as exemplified by one of the stated purposes for relocation: 'to exploit labour and land potentials'.

Specifically targeting relocation from disaster-prone areas is Decision No. 193/2006/QĐ-TTg, issued on 24 August 2006 on 'Approving the Program on population distribution in **natural disaster-** and special difficulty-hit areas, border regions, islands, **areas inhabited by free migrants**, and important and very important areas of protective forests and strictly protected zones of special-use forests in the 2006-2010 period, and orientations up to 2015'.

As such, resettlement due to environmental factors is lumped into a mesclun with migration control, income generation, poverty alleviation, environmental

²⁵ Bold here and in subsequent paragraphs inserted by author.

protection, and security and order. Also similar to other resettlement programmes is the purpose of relocation. One of the 'principles' of the programme states:

'Population redistribution and rearrangement constitute an objective as well as a **solution for economic, cultural and social development, security and defence protection** and eco-environmental protection. Population should be distributed in concentrated and selected areas, in parallel with the stabilization and development of production and living conditions, of which **production development shall be considered the most important factor.**'

Again, we see the idea of population planning and distribution as a means for national economic development. In the spirit of the *ho khau*, resettlement is instructed to occur within short distances, with agreement between provinces required should cross-provincial relocation be necessary. The ultimate goal is furthermore that of permanent settlement:

'Population distribution shall be conducted **mainly within communes, districts and provinces**. Where population should be relocated to other provinces, **agreement should be reached between provinces** where people leave and those where they move to in order **to arrange them in the planned areas** so as to stabilize their life and production for **permanent settlement.**'

Regarding its coordination with other policies:

'Land policy: According to current provisions of the Land Law, localities shall implement measures to **recover unused or inefficiently used land of organizations, agricultural and forestry farms or change the use purpose of land according to plannings and plans** already approved by competent authorities **for allocation to households and individuals under population distribution projects.**'

Thus, the determination of who is allocated land following resettlement and for what use is at the sole discretion of authorities. While numerous resettlement policies exist at the central and provincial levels, however, implementation at the local level is largely decentralized as districts are allocated varying amounts of

funding for such programs, and the responsibility of securing the remaining funding needs. Furthermore, as with the household registration system, the lack of clear guidelines and enforcement often results in confusion at the household level on official procedures as well as entitlements. For example, interviews in Vinh Tri and Long Thuan often revealed a lack of transparency and consistency in the resettlement process, particularly in Long Thuan, whereas implementation was generally consistent in Vinh Tri.

According to interviews with officials in Vinh Tri, the resettlement programme in the commune is informed by the Prime Minister's Decision 105.²⁶ Based on this decision, the People's Committee of Long An province issued Decision 4382²⁷ to regulate the implementation of resettlement cluster and dyke programmes. Households meeting the criteria are thus entitled to buy a foundation with a maximum value of 10 million VND²⁸ on a 10-year deferred loan with no interest, with repayment starting at year six and 20 percent repayment per year for the last five years. In addition, each household is entitled to buy a house with a maximum value of 7 million VND²⁹ with a 10-year deferred loan and 3 percent interest per year. Payment is similarly due starting the sixth year, at a rate of 20 percent of the total value per year, including interest. Only resident households falling under the category of Poor and Near-poor are eligible for these loans, the poverty status of households determined by hamlet leaders according to official criteria based on income and land ownership.

²⁶ Decision 105/2002/QĐ-TTg, dated 2 August 2002.

²⁷ Decision 4382/2002/QĐ-UB, dated 20 December 2002.

²⁸ Equivalent to USD 470 in current value, according to Google search on 13 January 2014.

²⁹ Equivalent to USD 329 in current value, according to Google search on 13 January 2014.

Correspondingly, according to interviews with officials in Long Thuan, the central government in accordance with the Prime Minister's Decision 204, provides loans for erosion-affected households in the amount of 20 million VND³⁰ to build houses – a 10-year loan with no interest until year six. In addition, 10 million VND is provided to each household as moving support, following the Prime Minister's Decision 1046. The 10 million VND grant is funded by the provincial budget while the 20 million VND loan is provided by the Vietnam Bank for Social Policies (VBSP). Nevertheless, as I discuss in Chapter five, these amounts conflict with the feasibility of repayment for the vast majority of loan recipients in both locations, as the amounts far exceed their financial capacities. The same chapter furthermore questions the purpose of the loan-centred approach of resettlement programmes, as government officials understand these circumstances well and to some extent, do not realistically expect repayment.

3.7 Conclusion

As illustrated in this chapter, Vietnam is a country of contrasts – a one-party government reaping the economic benefits of an open market economy; the legacy of state managed mobility and the need for labour migrants to fuel economic development; floods as a necessary and natural part of life in the Mekong Delta as they have been for generations, but in recent years framed as a symbol for future SLR and harmful environmental change.

³⁰ Equivalent to USD 940 in current value, on 13 January 2014.

This chapter attempted to present the historical background and recent developments of environmental, economic, and political aspects of life in Vietnam, the backdrop against which land policies and rural livelihoods also co-evolved to what they are today. Among the resounding themes in this context is that of resettlement, which I believe embodies the salient concerns of the government today and the manner in which they are addressed – the state’s authoritative role as the entity ultimately exercising power over land ownership, use, and allocation; mobility, residency, and social status determined by one’s standing within the *ho khau* system and ultimately by the state; and the heavy handed approach to the critical matters of economic development, climate change adaptation, and disaster risk management.

Methodology and methods

4.1 Introduction

In Chapter two, we explored the conceptual underpinnings of this thesis – vulnerability, political ecology, SLF, and household assets – and resulting conceptual framework and lens through which I analyse empirical findings – asset vulnerability. The chapter also outlined the literature on the environmental stress / change and mobility nexus to complete the conceptual exploration of the topics addressed in this thesis. This was followed by a discussion of Vietnam and the Mekong Delta in Chapter three, describing the politico-historical context of the environment, and economic and political developments, and their concurrent influence on land policies and rural livelihoods, as well as internal migration and resettlement programmes.

In this chapter, I describe the methodological approach and research methods used in the study before moving on to the empirical chapters. Importantly, I also discuss the challenges and limitations of the study, as well as some ethical considerations, all of which are critical to keep in mind when drawing any conclusions from the findings, and when considering the value of this research.

4.2 Methodology

The genesis of this thesis was rooted in an attempt to investigate the link between environmental change and migration in the Mekong Delta, and the empirical basis supporting the relationship. While much of the literature studying this conceptual nexus tends to focus on whether a direct causality exists, as I explain in Chapter two, I believe focusing on the two variables and their interaction obscures the view of the bigger picture and the role of other critical variables. Thus, rather than the question of whether or not environmental stress / change is causing people to migrate, I take the approach of examining the variables exacerbating vulnerability in conditions of environmental stress, and the range of response measures available to different groups. In this way, this thesis offers a counterpoint to the methodological approach of focusing on one of many responses and strategies to environmental stress, of which migration is only one.

Hence, as I discuss in detail in Chapter two, the overall vulnerability and political ecology for households living in stressful environmental conditions is the backcloth for the thesis. From here, I see the household level analysis of livelihoods, livelihood strategies, and responses to stress as being essential for empirically understanding just how people and their livelihoods are both vulnerable and resilient in such contexts, how they are responding (through asset management), and why. In this way, household assets lie at the heart of the study, the effects of their presence and absence, their management, and interaction with external stressors illuminating differential outcomes among households and environmental contexts, and the role of various assets in shaping such outcomes.

In terms of understanding the relationship between migration and environmental stress, I attempt to explore the micro household level context *surrounding* and *informing* the relationship – how household assets, livelihoods, conditions of vulnerability and resilience as shaped by household assets, and the broader political ecology influence migration decision-making in contexts of environmental stress. Hence, migration decision-making is analysed as one of a range of household response measures, under diverse circumstances, for example, in response to livelihood stress for asset poor households, or as an investment strategy for asset rich households. Furthermore, as explained in the previous three chapters, environmental stress – specifically flooding and riverbank erosion – are proxy variables for the effects of future climate change, with current effects and response measures of greater interest given that they are measurable and observable. Such findings not only offer concrete empirical evidence on the present, but can also be used to more soundly inform estimates and scenarios of future impacts of and responses to environmental change.

Having outlined the methodological approach of the study and justification for its use, I now move on to describe the research methods used in the field sites.

4.2.1 Site selection

The Mekong Delta was chosen as the geographical focus, given its frequent citation as one of the most vulnerable areas in the world to rising sea levels and resulting displacement (Dasgupta 2007, Nguyen 2007, Carew-Reid 2008). As

explained in Chapters one and nine and above, I was motivated to empirically interrogate this claim regarding a strong causal relationship between floods and out-migration, and in the process became interested in the concept of vulnerability, and how it is manifested in a measurable way among households living in conditions of environmental stress.

Given the political sensitivities and difficulties of obtaining permission for fieldwork in Vietnam, after several failed attempts to gain sponsorship to access field sites and subsequent delays, I was able to move forward, working under the umbrella of a research project with UNDP Vietnam on a similar topic, in the capacity of Team Leader. Hence, the fieldwork for both studies took place simultaneously, in the same locations, with this study embedded within the UNDP study which had a larger sample size and was more quantitative in nature.

Under these circumstances, after a review of secondary literature and consultations with provincial officials (a necessary procedure in Vietnam), two upstream provinces in the Mekong Delta, Long An and Dong Thap, were chosen for their intense floods during the wet season. Two provinces were chosen instead of one to allow for comparison, initially with the idea of comparing two locations experiencing the same type of environmental stressor – flooding. The rationale behind focusing on flooding was to extrapolate the current effects of flooding and communities' response, coping, and adaptation measures as an indication for future impacts of sea level rise (SLR).

While operating within the permission structure guided by provincial and district level officials, the communes I was ultimately permitted to work in were

Vinh Tri commune, Vinh Hung district, Long An province, and Long Thuan commune, Hong Ngu district, Dong Thap province, with seasonal flooding being the primary environmental stressor in the former, and riverbank erosion as a result of seasonal flooding in the latter.

While the initial study design had aimed to compare two locations with the same environmental stressor, as a result of unforeseen circumstances, I was in the end able to compare the effects of two different environmental stressors – seasonal flooding and riverbank erosion – which ultimately provided some significant comparative findings on how people are living and responding to different environmental stress variables, but within the same Mekong Delta context.

The two communes were also selected as they contain both rural areas experiencing flooding / erosion, as well as government resettlement sites predominantly for those affected by these environmental stressors. The presence of government resettlement programmes allowed for the analysis of another type of mobility response to environmental stress, and is relevant to the effort to understand future scenarios based on current adaptation measures, as resettlement is one of the pillars of climate change adaptation for the Vietnamese government, as discussed in Chapter three and illustrated in Chapter five. Vinh Tri had two resettlement clusters and one dyke while Long Thuan had four dykes, with data gathered in one cluster and one dyke in Vinh Tri and two dykes in Long Thuan, as permitted by the authorities.

In addition to Vinh Tri and Long Thuan communes in rural areas of the Mekong Delta, two more urban cities were included in the study, to enable a more

comprehensive understanding of the migration experience and decision-making from both rural sending areas and urban receiving areas. Rural to urban migration was the chosen migration route of focus for this study over other flows such as rural-rural and urban-rural, based on its prevalence in Vietnam, with the 2009 Vietnam Population and Housing Census reporting 8.9 percent of the urban population as rural-urban migrants (GSO 2011)³¹, and furthermore as this migration pathway is often the point of concern for policy makers, and prominent in modern day Vietnam given the leaps toward industrialisation made in the past few decades (Dang 2005, CPHCSC 2009).

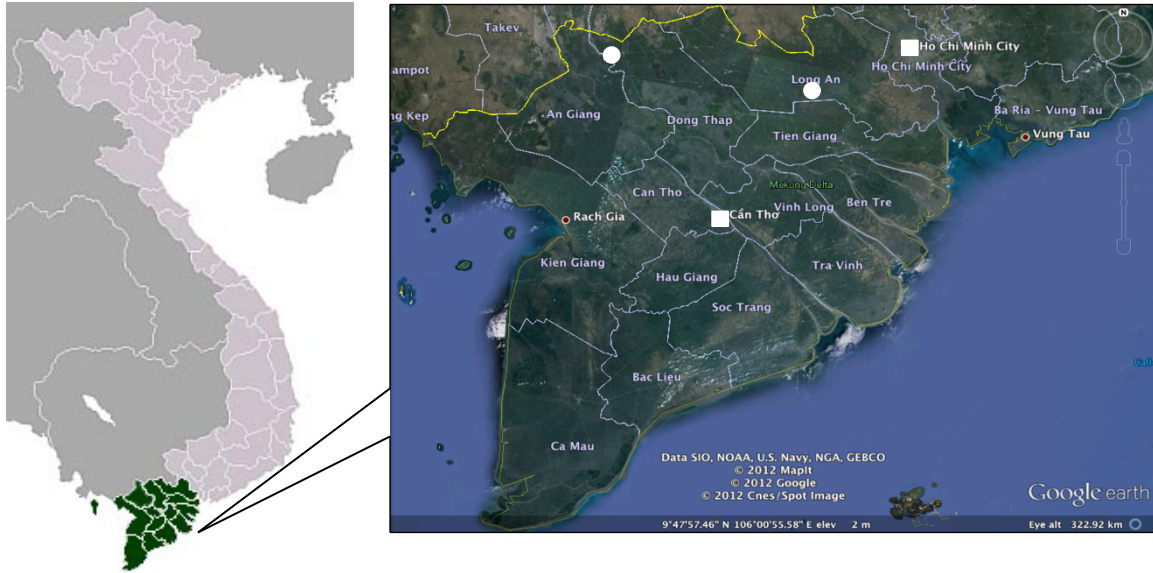
Can Tho City (CTC) was thus included as it is the largest urban centre (a second-tier city) within the Mekong Delta. For comparative purposes, Ho Chi Minh City (HCMC) was also included given its size as the largest urban city in Vietnam and its relative proximity to the Mekong Delta. HCMC furthermore records the highest in-migration rates of any province or city in Vietnam (GSO 2011), making it a location of interest for examining mobility outcomes and decision-making. Both cities have well-established migration routes from the Mekong Delta (Taylor 2004), and as we know from the migration literature, existing migration corridors are typically the paths undertaken by new migrants (Resurreccion 2007, Locke 2008, University of Adelaide 2009). As such, I am making the assumption that should future increase of out-migration occur as a result of SLR, these existing migration corridors will be most commonly used, at least in initial phases. After discussing the

³¹ According to the same census, urban to urban migrants made up 7.4 percent of the total urban population, and 1 percent of the total rural population were urban to rural migrants, and 4 percent were rural to rural migrants.

selection criteria with local authorities in both locations, ward 15, district 8, HCMC, and An Khanh ward, Ninh Kieu district, CTC were identified as the urban study sites for their high concentration of migrant populations originating from the Mekong Delta.

Industrial zones and large-scale factories were avoided as they tend to attract migrants of a narrower age bracket (young adults) and their living conditions would tend to be factory housing instead of the varied options in the chosen wards. In addition, working outside the factories provided for a greater diversity of livelihoods and migration experiences among the migrant sample. Moreover, given the strict timeframe enforced by the local officials, it was not possible to sample from both factory and non-factory settings. I make this distinction in the urban context of Vietnam given its burgeoning manufacturing sector and prevalence of the migrant workforce in industrial zones and large factories. Map 2 below is a map of the Mekong Delta and the four study locations, where circles and squares denote the rural and urban sites respectively.

Map 2. Mekong Delta and the four study sites



4.2.2 Sampling

Having discussed the site selection for this study, I now move on to the sampling methods – that of a mixed methods approach of non-probability sampling methods, including purposive sampling, stratified sampling, convenience sampling, and snowballing sampling. Purposive sampling was first used to select the provinces of interest and sample groups necessary for the research – rural migrant-sending, rural resettled, and urban migrant. The selection criteria for each group is as follows:

Table 1. Sample groups and selection criteria

Sample group	Selection criteria
Rural migrant-sending	Living in rural areas designated as experiencing severe environmental stress, predominantly from Poor or Near-poor income category, household has / does not have migrants, mix of livelihoods including agriculture, aquaculture and off-farm activities.
Rural resettled	Living in government resettlement sites predominantly for those deemed to be vulnerable to environmental stress and resettled for this reason, predominantly from Poor or Near-poor income category, household has / does not have migrants, mix of livelihoods including agriculture, aquaculture and off-farm.
Urban migrant	Originally from rural areas of the Mekong Delta where former livelihoods in the Delta were agriculture / aquaculture-based, not living in factory boarding house, diversity of current livelihoods among respondents.

All urban migrant respondents had migrated from rural areas of the Mekong Delta, with formerly land-dependent agriculture / aquaculture livelihoods, in order to decipher the impact of environmental stress on livelihoods and migration decision-making prior to migration, if any. Following this initial stage of purposive sampling, cluster sampling was utilised to select the study districts with the guidance of local authorities – selection criteria were discussed with the district then commune / ward officials, leading to the finalisation of communes / wards³².

Next, stratified sampling was used in Vinh Tri, to identify the rural migrant-sending and resettlement sites, and the participating households within these two groups who were categorised as being Poor, Near-poor, and Better off. Lists of households with the names of household heads and addresses were generated by commune officials in Vinh Tri, and from this list, households were selected to

³² Communes and wards are administrative units below districts used in rural and urban areas respectively.

approach for in-depth interviews (IDI) and focus group discussions (FGD) using purposive sampling. In Long Thuan, purposive sampling was used to identify potential participants through the guidance of local guides. Any households not fitting the selection criteria or unable to participate in both locations were not included and replaced with other households. Purposive sampling ultimately facilitated both representativeness (within sample groups) and comparability (across sample groups).

Convenience sampling was also undertaken, particularly in the urban sites in CTC and HCMC, as migrants were working long hours and less inclined to participate, leaving us with the only option to approach respondents who were home and willing to be interviewed. Snowball sampling was also used in HCMC where migrants, and moreover those who fit the selection criteria, were especially difficult to identify.

In all locations, I was accompanied by local guides from the local commune / ward People's Committee office, police, or mass organization such as the Youth Union or Women's Union, who led the way to selected households, and who sometimes doubled as government minders. I discuss the implications of such government surveillance in later sections 5.3 and 5.4.

Below is a table outlining the sample numbers by sample group, method, and study site.

Table 2. Sample groups by size, method, and location

	Rural migrant-sending	Rural resettled	Urban migrant	Total
In-depth interview	18 9 VT 9 LT	36 18 VT 18 LT	18 9 CTC 9 HCMC	72
Focus group discussion	4 2 VT 2 LT	6 4 VT 2 LT	4 2 CTC 2 HCMC	14
Semi-structured questionnaire (UNDP)	188 100 VT 88 LT	200 100 VT 100 LT	200 100 CTC 100 HCMC	588

VT = Vinh Tri, LT = Long Thuan, CTC = Can Tho City, HCMC = Ho Chi Minh City

Nine IDIs were conducted for each sample group, with the resettled group divided into a resettlement cluster and dyke group in Vinh Tri and two dyke groups (phase one and phase two of construction) in Long Thuan. Poor and Near-poor households were targeted as they are generally more vulnerable and exposed to the effects of environmental stress compared to wealthier individuals (Chan and Parker 1996, Penning-Rowsell 1996, Few 2003, Dang 2005). Such ‘Poor’, ‘Near-poor’, and ‘Better off’ categories are determined by the local authorities at the hamlet level³³, according to each household’s income and land ownership in respect to district poverty lines. Three and four IDI respondents respectively were Better off in Vinh Tri and Long Thuan, while the others were Poor and Near-poor (eleven Poor and twelve Near-poor in Vinh Tri, thirteen Poor and ten Near-poor in Long Thuan). All FGDs in these locations involved Poor and Near-poor respondents.

³³ Hamlets are the administrative units below communes, used in rural areas.

4.2.2.1 Selecting ‘excellent informants’

In qualitative research, identifying and finding ways to include the most suitable informants is critical to gathering rich and relevant data. As Spradley described as the characteristics of a so-called ‘excellent informant’ for ethnographic methods (Spradley 1979 in Morse 2007: 231-233), these traits pertain to nearly all qualitative methods using any variation of a purposive sampling method. Morse (2007: 231) states that ‘[an] excellent participant... is one who has been through, or observed, the experience under investigation’... and that ‘participants must... be experts in the experience or the phenomena under investigation... willing to participate, and have the time to share the necessary information; and they must be reflective, willing, and able to speak articulately about the experience’. Moreover, the data must be significant and fitting to the topic, and provide the ‘best examples of whatever is [being studied]’ (Morse 2007: 233-234). This process of saturation is imperative to qualitative inquiry, and guarantees repetition, legitimacy, and reliability of the data (Morse 2007: 234).

As such, in this study, the participants were divided into three main groups of study, with each respondent requiring first-hand expert knowledge on the lived experiences of one of the three groups – (1) households living in rural areas experiencing environmental stress (flooding in Vinh Tri, riverbank erosion in Long Thuan) and having undertaken coping and adaptation strategies; (2) households living in resettlement sites designated primarily for those impacted by the same environmental events, and able to articulate their experience before and after

resettlement; and (3) migrants in urban centres originating from rural Mekong Delta, able to articulate their experiences before and after migration, the nature of their migration, and the reasons for and contributing to the decision to migrate. Further details of the selection criteria were outlined in section 5.2.2.

While all efforts were made to adhere to the above qualities of an ‘excellent informant’, compromises were sometimes made due to the constraints of the political system and tight procedures for foreigners conducting research in Vietnam. For example, it was necessary to adhere to a tight hourly time schedule, leaving little room to stay in one place longer than initially planned. Scoping out possible study sites was furthermore not feasible given restrictions of access for foreigners. The designation of study locations was as such carried out with significant input from the local authorities, which meant the poorest areas were off limits, as were communes in the Mekong Delta deemed too close to the Vietnam-Cambodia border.

Selecting respondents involved similar processes of monitoring, as household lists were generated by the local authorities in Vinh Tri and local guides affiliated with local government pointed us toward particular households in all locations. Nevertheless, it was possible to reject respondents during the study and request new households to be included.

4.2.3 Methods

Given this study was embedded within the UNDP research project, I was not able to conduct the fieldwork in its entirety on my own with an interpreter, but

instead, shared data collection responsibilities with one other Vietnamese researcher, Dr. Le Thanh Sang, including some of the fieldwork for this thesis. Dr. Sang conducted a portion of the qualitative interviews in Vietnamese, which were recorded, transcribed, and translated into English; he furthermore translated the research tools from English to Vietnamese. I conducted interviews through an interpreter, which was also recorded, but not transcribed as I took notes during the interview. All research tools were designed by myself, and all data analysis was also conducted by myself.

Moreover, as we were operating within the government's permission structure, a daily work plan outlining specific tasks for each day was submitted and approved by central officials, and as such, we were required to work according to this timeframe, which translated to a tight fieldwork schedule.

Three qualitative tools were adopted for this study – in-depth interviews (IDI), focus group discussions (FGD), and key informant interviews (KII). Three variations were developed for each tool, corresponding with each sample group – rural migrant-sending, rural resettled, and urban migrants.

To accommodate the holistic approach as described in Chapter two on conceptual frameworks, the IDI semi-structured surveys covered a range of topics including (1) basic information on household accommodation to contribute to the assessment of wealth levels and assets; (2) demographic profile of the respondent and other household members (including migrants); (3) legal documentation to inform data on access to official / legal protection (such as household registration status and possession of land deed); (4) history of residency to understand the household's

degree of rootedness and migration history; (5) livelihoods, assets (human, social, physical, financial, natural), expenditures, income sources, and land ownership; (6) debt; (7) health issues in the household and triggers and response measures (integral to understanding the household's 'human assets'); (8) environmental stress in sending and receiving areas, their impact on the household, and response, coping, and adaptation measures (including migration); (8) migration strategies of the household and others in the community; (9) existing government policies and programs and their impact, including initiatives in response to environmental stress; and (10) resettlement programs, process of participation, and their impact.

FGDs dealt with the following topics: (1) mapping the community and its history; (2) hazard mapping and their impact on the community; (3) social structure; (4) migration within the community; (5) process of resettlement as experienced by community members; and (6) life before and after resettlement. FGDs were conducted prior to the IDIs, to clarify key issues and inform IDI survey questions, as well as to understand community dynamics and collective ideas.

KIIs were conducted with government and mass organisation officials at the national, provincial, district, and commune / ward levels to understand their views on topics such as environmental change and climate change, mobility and migrants, livelihoods and living conditions of local people, key areas of concern for the population of the region and feasible adaptation measures, policy-making on topics related to environmental / climate change, including resettlement programmes at the central and provincial levels, and their local implementation. The surveys and questions for the IDIs, FGDs, and KIIs can be seen (in English) in the Appendices.

4.2.4 Data recording and analysis

Interviews and FGDs carried out by myself were recorded with simultaneous note taking using a Livescribe Echo smart pen and notepads. All other interviews and FGDs conducted by Dr. Sang were recorded, transcribed in Vietnamese, then translated into English. Given the tight schedule for fieldwork and my simultaneous responsibilities to the UNDP project, I was able to identify arising categories and codes in the evenings, roughly every third day, as opposed to everyday. This also provided the opportunity to make minor adjustments to the surveys during the first couple days of data collection, given that piloting the tools was not possible in the context of the tight fieldwork schedule, as mentioned in the next section.

All data analysis was carried out by myself, by hand. Dominant themes were informed by the conceptual frameworks discussed in Chapter two. Themes of focus for rural sites pertained to key assets shaping household vulnerability, livelihood processes and outcomes, responses to external (including environmental) stress, and mobility decision-making and outcomes. Factors contributing to differential outcomes for all themes across both field sites and non-resettled and resettled groups, were also included (including environmental factors). Principle themes of interest for urban sites centred around the reasons for migration – the drivers and deterrents – as well as any role of assets identified as important for rural sites.

Throughout data analysis, I employed an approach close to those of grounded theory researchers, whereby the initial stages of analysis involved combing through

the transcripts and interview notes repeatedly, without any preconceptions of particular elements I thought were important (for example, housing, land ownership, and wealth). Instead, I colour-coded the various elements relevant to the themes of interest that occurred with greater frequency, based on the assumption that greater frequency was synonymous with greater importance. Nonetheless, some patterns emerged only among households with particular characteristics (such as the influence of poor health and old age). In these cases, I analysed those interviews separately when attempting to make sense of any existing patterns and relationships, and later compared them to other households with different characteristics and outcomes, to better understand the role of assets and circumstances particular to each group of households.

Similar to what I would have been able to do with NVivo, I drafted separate word documents for each theme / category, outlining related data for each relevant household. These documents were then further analysed and colour-coded showing relationships to other categories. For example, my document outlining the reasons for migration in CTC and HCMC were colour-coded for every motivating element mentioned by respondents, including higher income in destination, inconsistent work in origin, job availability in destination, lack of land in origin, landlessness, social networks and their role in facilitating migration, debt in origin, lack of jobs outside of farm work in origin, and environmental stress.

Furthermore, I created a table outlining all of the identified themes and elements (rows) marking the elements relevant for each household (columns), making the comparison across different themes and elements easier to conduct by

hand. For example, if a household was marked for two elements, I then returned to their transcript or interview notes for in-depth analysis of the relationship between the elements. If another household was marked for one but not both elements, this signified the relationship was not present for that particular household. Household profiles were also drafted for each household, outlining the data pertaining to key themes, to facilitate searching for households with certain characteristics, without the need for returning to the transcript / interview notes each time. Nevertheless, while these methods improved the process of analysis, the final source of material used to reach any conclusions about any households were those of the interview transcripts and notes.

National censuses with data on migrants (e.g. Population and Housing Census) were not used to support the analysis of empirical data, as they are limited to permanent migration and only include migrants registered officially with the police. This number reflects a fraction of all mobility and was therefore deemed biased and inaccurate.

To protect the confidentiality of respondents, I furthermore use pseudonyms throughout this thesis, and all original survey forms with the name, address, and personal information of respondents is securely stored in my personal place of residence in Oxford and in Seoul. During fieldwork, they were kept in the trunk of the vehicle used for the UNDP project, and locked at all times, made accessible only to myself and Dr. Sang. All electronic scans of such forms and interview transcripts are stored in my laptop, accessible to myself only. Nevertheless, it would be prudent to mention that despite my best efforts, as I discuss in section 5.3, obstacles to

guaranteeing confidentiality are inevitable when conducting research in the Vietnam context.

4.3 Challenges and Limitations

Having described the methodology and methods for this study, I now discuss their limitations and challenges. I do so to inform any conclusions drawn from my findings, which were collected and analysed with care to the best of my abilities, but which should nevertheless be understood within the confines of the study's limitations.

The most obvious element influencing the validity of my findings is that of government and police surveillance during the interviews and FGDs. Due to the government's policies on monitoring and oversight of civilian life, prohibitions on information people are permitted to legally access, and activities of foreigners in Vietnam, police minders accompanied much of the interviews conducted by myself, and to a lesser degree, by my counterpart, Dr. Sang. When police were present, they listened in on the interview, sometimes taking notes of the individual's name and some of the content discussed. Hence, the respondents' narratives would inevitably have been influenced by their presence, with answers most likely biased towards the 'safe' and 'acceptable' from the perspective of the government.

It is worth noting the police would, nevertheless, have easily obtained the respondents' personal information even had they not been present during the interview, as it is easily obtainable from local commune officials. Without intending

to take away from the implications of having monitors present, I should also note that in most cases, the relationship between local officials and civilians was not so much based on fear or intimidation, but for better or for worse, was more paternal in nature. This judgement was made based on observations and consultations with Dr. Sang, a senior researcher whose judgement and frankness I trust. Nevertheless, the reasons for monitoring were clearly for the benefit of local officials, as part of their established political surveillance systems.

To complicate matters further, the fact that I am a foreigner may have already skewed the data in much the same way, even without the physical presence of the police, given the political system and the common knowledge that airing views shedding the government in poor light may result in adverse repercussions.

In Vinh Tri, CTC, and HCMC, such monitoring activities pertaining to myself tended to taper down after a few interviews, as the content and responses were deemed unthreatening, and the minders themselves became bored and stopped joining the interviews. Dr. Sang was furthermore almost never accompanied by a minder. In Long Thuan, however, local officials were much more guarded and wary of my presence, perhaps due to their close proximity to the border, and also according to my observations, the overwhelming presence of corruption and related information they did not wish to be exposed. As such, in this location, minders accompanied not only nearly all of my interviews, but also those of Dr. Sang's.

Hence, given the heightened screening of my activities, having Dr. Sang, a seasoned and highly capable researcher from Southern Vietnam and an expert on the region, conduct a portion of the interviews can be seen as enhancing the richness

and validity of the data as he was more often than not, able to interact freely with the respondents without the presence of the police, and also possessed a firm grasp of the study's concepts and aims.

Ultimately, the presence of police monitors during interviews and FGDs inevitably biased the information the respondents were willing and able to share. In a few cases, it was clear the respondent did not want to participate, but did not feel they were in the position to decline participation given the involvement of local authorities. In such instances, we refrained from asking potentially sensitive questions and did not probe for further details. In severe cases, we deemed the interview unusable and furthermore did not want to force participation, and as such, terminated the interview and replaced the household with another. Moreover, if the respondent seemed keen to speak to an issue in detail but I believed it would not be in their best interest to do so, I intervened to steer away from the topic or changed the question in an effort to prevent any negative repercussions for the respondent.

My survey instruments were furthermore screened by local officials prior to speaking with any local individuals in each of the four locations, but no changes were requested, perhaps due to the protection afforded by the UNDP research, a project conducted in partnership with the Ministry of Agriculture and Rural Development (MARD), and perhaps as I attempted to refrain from including any questions that are obviously sensitive and phrased questions in an unthreatening manner. It is for this reason that questions on relationships and issues of power (social and political assets) remained inaccessible and could not be included in this study. Not only did I not want to endanger the respondents by asking them for

information that may have been deemed threatening or sensitive by the local authorities, but I furthermore did not want to jeopardise the possibility of conducting and completing necessary interviews by including such topics. Thus, while acknowledging the importance of social and political dimensions of intangible assets, I focus on human assets given the empirical data available from Vinh Tri and Long Thuan.

Another obvious bias is that of sampling and the heavy input of government officials in selecting participating households. While the provinces of study – Long An, Dong Thap, Can Tho, and HCMC (an administrative city with no provincial affiliation) – were selected by myself and in conjunction with the UNDP project, the districts and communes / wards³⁴ were agreed upon together in consultative meetings with officials at the provincial and district levels respectively. Thus, while all study sites did meet the selection criteria I presented to officials, I did need to make some compromises, foregoing areas closest to the Cambodia border, the most impoverished communities, and perhaps also communes with the poorest resettlement outcomes in Long An and Dong Thap. The officials nevertheless exercised the most direct influence at the commune level when generating household lists in Vinh Tri and guiding us to specific households in Long Thuan. It is important to keep in mind, however, that in general, the observation by myself as well as Dr. Sang was that commune officials did overwhelmingly adhere to the selection criteria without other motivations across all study sites. Furthermore, this is how much of empirical research is conducted in Vietnam, within the confines of

³⁴ Communes are administrative units below that of districts in rural areas. Ward refer to the same unit, but are used in urban areas.

bureaucratic procedures for access to communities in place, and as such, alternative options were not available to the best of my knowledge.

Thus, in both subtle and overt ways, the study's methodology was influenced by the political system in which I was operating. Although such limitations are important to keep in mind when extrapolating conclusions from my findings, I believe the repercussion on the data was not severe as the majority of the interview content was not politically sensitive in nature. During the process of analysis, the analytical categories I was most careful to screen for bias resulting from police monitoring were those of migration histories and intentions, the process of resettlement, and views regarding government programmes and policies. In the end, I chose not to use any data from the latter two topics as they were deemed too biased for meaningful analysis. Data on migration histories and intentions, however, were usable as I engaged in substantial probing (unless it was felt the respondent was uncomfortable sharing) and data on the topic was judged to be rich and relatively unbiased.

Another limitation of the study is the use of an interpreter, given my lack of Vietnamese language skills. This meant that not only was I limited in my understanding of subtleties and cultural cues, but I was also missing more of the narrative during interviews than I would have had I been able to understand and speak the language. To minimise this effect, efforts were made to recruit an interpreter with not only strong interpretation skills, but also with a firm understanding of the Mekong Delta region, its culture, livelihoods, and environment, as well as the concepts important to the study. To this end, my

interpreter was originally from the Mekong Delta and had moved with her family to HCMC when she was young, giving her some understanding of the Mekong Delta context and the ability to understand and communicate in the southern dialect. Her general knowledge on the environmental landscape and common livelihood activities of the Delta further facilitated her understanding of the study's topic areas. Perhaps due to her lack of a social sciences background, her grasp of the 'softer' topics were weaker, but were leveraged by her main responsibility to act as my interpreter, not research assistant. I moreover attempted to fill any gaps in my understanding of the interview narrative by reviewing the content with my interpreter, and by consulting Dr. Sang, given his joint participation in the same UNDP research and his keen knowledge of the southern context through his many years as a researcher in the region.

Furthermore, while I strove to maintain gender balance of respondents, convenience sampling had to be used, most often in HCMC and to a lesser extent in CTC, as working migrants in the urban sites were often unavailable or unwilling to be interviewed during their leisure hours. As shown in table 3, this meant that even participation of both men and women was not feasible in the two urban sites. The data, however, did not appear to be biased across gender lines, as the questions were not designed to delve into gender dynamics and respondents were included or excluded based on their exhibited qualities as an 'excellent informant' as outlined in section 4.2.2.1.

Table 3: Sex ratio of respondents in the four study sites

Gender	Study site				Total
	Vinh Tri	Long Thuan	CTC	HCMC	
Male	12	15	2	6	35
Female	15	12	7	3	37
Total	27	27	9	9	72

Before proceeding, it is worth mentioning the fuzziness of the term 'household'. In this study, households refer to 'those who share common eating arrangements which coincide with production units' (Wisner et al 2004: 98). Defining the bounds of a household can be complex, for example, when there is a migrant who is still legally a dependent of the parents, but who only returns 'home' once or twice a year. In such circumstances, for this study, the migrant was only considered a part of the household if financial resources were being shared (e.g. somewhat regular remittances). In Vietnam, due to the household registration system, respondents often first listed their household members as being those whose names are included in the household registration book, to which the researchers clarified the definition as being those who regularly share meals and financial resources with the rest of the household (for example, not including children who have married and started their own family and do not regularly share resources with the given household). There were also instances when the daughter-in-law was not defined as being part of the family (rooted in linguistic and cultural influences). In such instances, we were careful to ask about all individuals who resided in the same house.

4.4 Ethical Considerations

Moving on from the challenges and limitations of the study's methodology, I now discuss some ethical considerations arising from this type of empirical research and related fieldwork. Firstly, let us ponder on the fact that much empirical research, this one included, is largely dependent on one individual's views and thoughts regarding circumstances in the field locations and surrounding context, at the point in time in which fieldwork takes place (Punch 1994). If we were to reach back to the genesis of the research at hand and the reasons for selecting any research topic for investigation, even this first step of the research process is in itself inherently biased by the researcher's worldview (Taylor 1994, Weber 1994), not to mention how data is collected and analysed, and findings arrived at and presented (Stanley and Wise 1983, Punch 1994, Weisstein 1994). Hence, in a qualitative study such as this thesis, as one's own 'research instrument' (Punch 1994), the researcher can be said to bias all stages of the investigation with their own culture, assumptions, personality, and social status, shaping not only the topic of study chosen and the cognitive and methodological approach, but also their capacity and outcomes in the field (Punch 1994).

Similarly, the social positionality of the researcher influences not only the nature of and how information is accessed and comprehended by the individual (Wilson 1993, Rubin and Rubin 2005), but also conversely, how the research and researcher are perceived by local communities. The fact that I was often seen to be in a position to bring aid to the household and community was the most overt

example of how my social positionality potentially affected not only the data, but also the expectations and hope for assistance on the part of the respondents. While some respondents understood the nature of the research after my interpreter read with them the consent form and further explained any portions needing clarification, a small proportion of individuals appeared to remain hopeful for assistance, indicated by their responses pertaining overwhelmingly to their poverty, including for questions on other topics. In these cases, I asked the interpreter to explain the aim of the research again as needed, in the effort to clarify the purpose of the research. This aspect of fieldwork was among the most difficult for me personally, given the vast majority of respondents were among the least powerful in terms of political and social power, and despite my efforts to minimise the appearance of social differences (for example, by dressing plainly and conservatively, eating in local eateries, assuming a humble manner and treating the respondent as the expert of their stories) (Apentiik and Parpart 2006), the distance created by my identity as a foreigner affiliated with UNDP remained, particularly given the tight schedule for fieldwork required by government officials.

Moreover, other individual factors such as my ethnicity (Asian), gender (female), and age (thirties) were both facilitative and inhibiting depending on the perspective of the individuals I was interacting with, shaped in turn by their worldviews (Punch 1994). For example, I believe my ethnicity afforded me one less barrier to developing a good rapport with local and government officials, as I was seen as being less of an 'outsider' than someone of a different race (in addition to certain other Asian nationalities).

Furthermore, in this research, I perceived my gender to be advantageous as I was seen as less threatening and did 'adapt' to the culture by taking a more 'feminine' and softer approach during in-depth interviews. This was done with the awareness that I was already seen as being in a position of relative power, affiliated with an international development agency. While such behavioural adjustments could be seen as compromises among some feminists and others (Punch 1994), I argue that we make such adjustments everyday, depending on who we are interacting with, I hope, with the intention to put others at ease, particularly if they are of less advantaged circumstances than we are. As far as my age, while I was younger than most of the officials and respondents I interacted with, I again saw this quality associated with less power as being beneficial to further disarming respondents in the context of my social positionality.

In much the same way, interpreters and translators, and their social identity shaped the way questions were posed, how data was communicated to me, and the manner in which interactions with other individuals took place. To minimise this effect, as mentioned in the previous section, efforts were made to recruit an interpreter with both adequate technical knowledge of the study's concepts, local knowledge of the culture, dialect, and lifestyle, and soft skills to both read situations and assist in mediating diverse circumstances. While my interpreter generally exhibited these skills, her interpretation skills were at times lacking, most prominently during interviews with officials, where the flow of the conversation moved at a relatively quick pace. Nevertheless, given the vast majority of the data

analysed for this thesis is that of household interviews, this was not a serious issue. I was also able to confer with Dr. Sang on any important content I may have missed.

Given these issues, I am wary of asserting that my interpretation of a sliver of ‘reality’ can in fact be seen as such, in the context of subjectivity permeating all stages of the research process. Nevertheless, I did take several steps to triangulate data – by asking the same question in different ways throughout the interview, by informing the interview narrative with observations made during the interview, and by consulting with Dr. Sang and my interpreter on cultural undertones and indirect communications better understood by those with local and insider knowledge.

Having discussed the ethical elements pertaining to the findings of the study, I now move onto those regarding our responsibilities as researchers to the communities we study. The field of bioethics has largely shaped the prevalent ethical frameworks of research institutions rooted in the traditions of current industrialised countries, founded on the principles of respect and dignity, justice and beneficence, and non-maleficence (do no harm) (Pittaway et al 2010). While such models are sound and multi-faceted, some recent academic works have further incorporated the intricacies of working with vulnerable populations such as refugees and internally displaced persons (IDPs) into existing ethical frameworks (Jacobsen and Landau 2003, Mackenzie et al 2007). In addition, guided by the principles of anti-oppressive social work and the ethics of researching vulnerable groups, Pittaway et al (2010) argue for the ethics of improving the lives of the people being studied, premised on their role not only as ‘sources of data’, but as subjects taking part in the process. I

now turn to the difficulties and dilemmas I encountered in the field, discussing them in the context of such approaches.

Several concerns arose during fieldwork – the implications of surveillance during interviews and the role of state officials, the degree of understanding on the part of respondents when signing consent forms, the one-sided nature of the interaction with communities, and expectations for future aid.

I start the discussion with the heavy hand of state involvement present at all stages of the research, including during fieldwork and interviews with individuals. This reality juxtaposed the practicalities of access with philosophical questions (Pittaway et al 2010), in that without government involvement and surveillance, access to communities would not have been possible, yet simultaneously, the confidentiality of respondents was compromised, as well as their ability to participate through voluntary consent. Hence, I found myself constantly attempting to balance the need to respect and work with ‘gatekeepers’ while reaching and communicating with community members in a genuine way, all the while doing my best to protect them from possible repercussions. Hence, while I could guarantee confidentiality in my thesis and other publications and presentations, I could not sometimes do so at the time of the interview in cases where police monitors were present. This reality was clearly outlined in the consent forms, although again, I question the extent of the voluntariness of participation among respondents.

On the topic of voluntariness, it may be possible to draw some conclusions regarding voluntary participation based on participation rates, where rural participants rarely refused participation, but urban individuals often did so, possibly

meaning that a greater degree of participation was voluntary in the urban sites compared to the rural sites.

Also fundamentally, the extent to which respondents comprehended the content of the informed consent forms is questionable (Pittaway et al 2010). In some sense, informed consent has no bearing on the lives of the respondents, as their lived experiences have little or no overlapping elements with the narrative in the consent forms. If they are not able to visualise and fully comprehend what is delineated in the form, how can we assume they are able to understand the content to which they are agreeing?

Lastly, the one-sided nature of the interaction with respondents is an element of the fieldwork I continue to struggle with. The principle of reciprocity proposes the 'risks and costs associated with participation in research can be offset by the delivery of direct, tangible benefits to those who participate', as decided by the participants themselves (Pittaway et al 2010). While the lack of guidance and resources often pose practical limitations to taking this approach (Pittaway et al 2010), in the context of this research and the political system in which I was operating, such a reciprocal approach was, at the time of the fieldwork, not possible. Nevertheless, I often found myself torn between the circumstances poverty in which my respondents lived, juxtaposed with my role as an objective researcher, where I questioned my own inaction, but was regardless aware that any actions to intervene would have consequences I could not foresee and for which I was not in a position to take responsibility in the long term. This ethical dilemma of action versus inaction was moreover acted out by some respondents during interviews where their

expectation or hope for aid shaped the narrative of their responses to focus on their conditions of poverty. As mentioned in the beginning of this section, while efforts were made to clarify any misunderstandings regarding the purpose of the research, it is possible to ask whether it is fair and ethical to subject the respondents to such circumstances of unmet expectations for our own perceived need for academic research. Are our obligations to the participants met simply with the receipt of their signature on our formal consent forms?

4.5 Conclusion

In response to the ethical issues posed by research involving human subjects, some researchers have proposed that we as researchers have a responsibility to the communities we study. Some authors advocate for the offering of research results to participants once a study is completed, founded on the reasoning that respect for persons does not end with the end of a study, and research participants should not be seen as simply a source for data and a means to an end (MacNeil and Fernandez 2006).

Others propose the use of participatory action research principles whereby participants are not passively involved in studies as sources of data for academics, but take an active role in the research, through methods such as 'reciprocal research'. Through this approach, participants are given as much agency as the researchers in determining the topic of study, methodology, and dissemination of findings. The subjects themselves own the data and grant / deny the use of the data for different

purposes, and are empowered to negotiate reciprocal support for their communities, such as training and support for community projects (Pittaway et al 2010).

In future research projects, I hope to incorporate such approaches to the extent possible. In terms of this thesis, I attempted to make the best decisions I could at each step of the research process, taking what I perceived to be the most ethical approach at the time, while upholding the integrity of the research. To that end, I now present the empirical findings from the four study sites in the next four chapters.

Tangible Assets: The Homestead

5.1 Introduction

This chapter and the next are devoted to the role of ‘tangible’ assets in shaping livelihood strategies and income-disaggregated outcomes in the context of environmental stress. In some ways, the subject matter of the chapters are interlinked – this chapter deals with the homestead³⁵ and the next addresses agricultural land as an asset – both speaking of land owned by households. Nevertheless, I make the distinction between the homestead (housing and surrounding land such as a yard) and agricultural land, as the homestead (in this chapter) refers not only to the shelter in which one lives, but also the cultural meaning of a home, where one is rooted, and if one has grown up in the area, where one’s lineage is based, and where rituals paying respects to one’s ancestors should take place. Agricultural land on the other hand (next chapter), does hold some of the cultural elements in its significance for households, but is more so an asset facilitating improved livelihoods and income, a commodity more easily bought and sold to enhance livelihood outcomes.

As such, this chapter discusses the significance of home ownership for households, and how the homestead as a physical asset shapes differential

³⁵ *Homestead* in this thesis refers to the home and adjoining land occupied by a household. I sometimes also interchangeably use the term ‘residential land’, along the lines of the Vietnamese government designating land use for individuals and households as being for residential or livelihoods purposes.

vulnerability and livelihoods, and is intricately interwoven with the effects of resettlement programmes in the context of environmental stress in Vinh Tri and Long Thuan. The importance of home ownership and the role of environmental stress are first examined, in connection to how these factors influence households' motivation and decision-making with respect to resettlement. This relationship is explored, first among non-resettled respondents in Vinh Tri and Long Thuan, followed by resettled respondents in the same locations.

Next, I propose the concept of 'vulnerability shifts', that is, how household vulnerability is transformed (not decreased) as a result of resettlement, moving from exposure to environmental stress and poor housing to others. In particular, I focus on two salient areas of increased vulnerability – livelihoods and household debt – resulting in the double impoverishment of resettled households. In the process, the relatively diminutive role of environmental stress is illustrated, in the context of other more prevailing stressors. The evidence for arguments made in this chapter are further strengthened by other existing studies examining similar resettlement programmes targeting hazard-prone and poor households in the Mekong Delta.

Finally, the aptness and affordability of government resettlement programmes are questioned as a pervasive strategy for climate change adaptation throughout the Mekong Delta, as well as their mechanisms for implementation.

The next four sections below present the significance of a durable home as a household asset, and how the house mediates exposure to environmental stress to varying degrees, thereby influencing the motivation of households towards resettlement into clusters and dykes. The first two sections (5.2 and 5.3) investigate

non-resettled respondents in Vinh Tri and Long Thuan, with the next two sections (5.4 and 5.5) moving on to resettled respondents in the same locations.

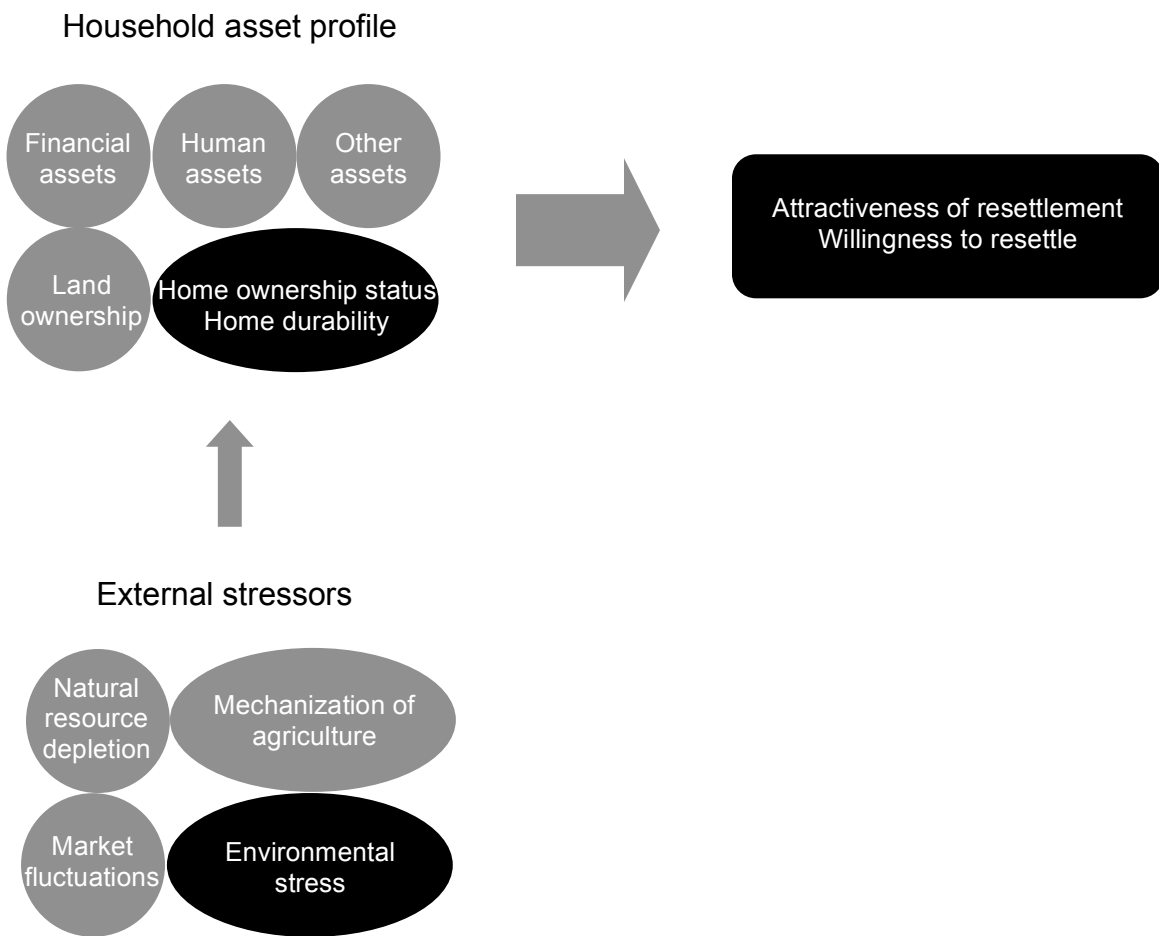
5.2 Significance of Home Ownership and Environmental Stress as a Motivator for Resettlement: Non-resettled Respondents

The importance of ‘owning’ a permanent house was apparent throughout interviews in both Vinh Tri and Long Thuan. Before we begin the discussion, however, the concept of ownership in this context is important to clarify, as I am not simply referring to legal ownership and its accompanying land use certificate and legal rights. Instead, the right to build a house on a housing plot and accompanying possibility of legal home ownership in the future are often what respondents were implying when speaking of the importance of owning a home, most commonly in the context of resettlement programmes in the area. Furthermore, living in a house made of more permanent materials such as concrete not only signify material wealth, but moreover, carry cultural meanings of stability and security, normally beyond the reach of asset poor households. The two elements – (1) importance of home ownership for individuals and (2) access to a durable home provided by resettlement programmes – are interlinked, with the former often increasing the desirability of participating in the latter.

5.2.1 Vinh Tri

Environmental stress was found to exert some degree of pressure on households to resettle in Vinh Tri, largely mediated by household asset profiles, whereby asset poor households lacking robust housing and agricultural land were found to be more susceptible to the effects of, and therefore, influenced by environmental stressors to a greater degree. While supporting evidence is provided in discussions below, we start with figure 2, a depiction of this relationship between the household asset profile (including home ownership status and durability of the home), external stressors (including environmental stress), and resulting perceived attractiveness of resettlement programmes and willingness to participate. The diagram will be presented in a more developed form later in the chapter as figure 3 in section 5.4.

Figure 2. Relationship between the home and land, environmental stress, and motivation for resettlement



‘When one has a home to settle down in, then it is possible to start one’s career.’ This Vietnamese saying was recited by six of the total 36 resettled respondents (three in Vinh Tri, three in Long Thuan) (LA11, 12, 23, DT6, 15, 22), reflecting the cultural significance of living in a safe and long term home, as demonstrated throughout much of the other interviews. Ownership of a strong and ‘permanent’ house equated to laying the foundations of one’s life, thus making it possible to focus on improving other aspects, including livelihoods. Against this

backdrop, government resettlement programmes targeting poor and hazard-prone households are often seen as opportunities to gain ownership of a permanent home, beyond the reach of most asset poor households who tend to live in temporary homes made of weaker materials such as thatched leaves and bamboo, susceptible to damage and collapse from environmental elements.

For example, in Vinh Tri, of the nine non-resettled respondents, five were not homeowners, and three of these five non-homeowning respondents wished to be resettled and had applied to the local authorities (LA4, 19, 27). (A fourth was not eligible due to their temporary residency status (LA1), and a fifth did not discuss the subject during the interview (LA21).) In contrast, the remaining four respondents owned their own house (LA5, 24, 25, 26), with most – three – stating their intention to live in their house for the rest of their lives and expressing disinterest in being resettled, despite their exposure to environmental hazards, especially flooding. (The topic was not discussed with the remaining one household during the interview (LA25).) While acknowledging the limitations of the small sample size and the lack of data on elevation of housing foundations and land telling us to some degree the depth of floods experienced by households, presented below are interview excerpts depicting the typical non-homeowning individual found in Vinh Tri, and their desire to become homeowners through the resettlement programme. This is followed by a contrasting interview excerpt from a homeowner reflecting the general lack of interest among homeowners towards the resettlement programme, given their current possession of housing and land.

Quyen lives with her husband, son, and grandson, as part of a household categorised as Near-poor, in a house made of wood and

thatched leaves, and a corrugated metal roof and dirt floor. They have been renting this housing plot for the past three years, and built the house themselves. The household's income is mainly derived from hired farm work during dry season and fishing during flood season. The floods of 2011 were particularly high and long lasting, with many houses in the area damaged or collapsing as a result. Quyen's house was not damaged, however, as they are located on higher ground and they had reinforced the roof and housing columns to protect against the storms. Nevertheless, her household has applied to be resettled, despite their relatively safe location away from floods, as they would like to own a house. Quyen knows some people who have had to leave the resettlement dyke because of their inability to generate enough income due to the distance from their income sources, and she is also aware that her household's livelihood would suffer on the dyke as it is far from their current location and areas of work, but her desire to own a home outweighs this possible negative impact on their livelihood. She also prefers the lifestyle in her current location as it is near a market and clinic, but she would like, more than any of these things, to be a homeowner. (LA4)

Quyen's desire to own a home was common in Vinh Tri, and also reflects the attitude of much of the resettled population, elaborated below. Interestingly, she wished to be resettled despite their relative safety from seasonal floods and expected deterioration of livelihoods and access to services following resettlement. For many resettled households, like Quyen, ownership of a durable house was deemed among the most desirable possessions, overshadowing even livelihoods. For these households, the resettlement programme is an opportunity to 'own' such a house made of expensive materials such as brick and concrete, normally beyond their means. This is not to say that all resettled households are able to remain in the resettlement sites, as according to accounts from respondents, some households have eventually had to leave due to the impossibility of sustaining a living. Nevertheless, the significance of ownership of a robust house was a recurring theme throughout Vinh Tri and Long Thuan, found in varying degrees to mediate how people perceive

their vulnerability to environmental stress, as well as the attractiveness of resettlement programmes. In contrast, below is an example of a homeowner in Vinh Tri who is uninterested in the resettlement programme, as they are already in possession of a home and see nothing to gain by resettling, despite their exposure to floods and storms.

Yen is part of a Near-poor household who own their home, including her husband, daughter, and son. The walls of their house are made of wood, corrugated metal, and thatched leaves, the roof of corrugated metal, and the floor of ceramic tiles. The household's main income-generating activity is growing vegetables on their land and selling them at the local market. They also raise pigs and engage in inland fishing for supplemental income.

'I built an inland pond to raise fish but they floated away because the pond was flooded... I lost the 5 million VND [borrowed from the Women's Union]... They lent me 5 million VND more and I... raised pigs... but all of them died... [We built the house] in 2000... Most of the materials are leaves and the tin is rusted too... [But] I will just live here... If I move to another place I would not be familiar with doing business there... Things weren't like this in the past. It used to start raining later. This year it keeps raining so it's difficult to raise any animals... I still owe 10 million VND [to the Women's Union], and lost almost 100 million VND... In the Winter-Spring crop, rain destroyed the rice. In the Summer-Fall crop, floods rose too early and destroyed the rice... I stopped renting fields to cultivate rice... This year I grow cucumbers, but I don't know what's wrong with the weather. My cucumbers all died... [But] I have land already, I don't need to move. It's good here... I've heard it's quite disorganised [in the cluster]... There is only enough space to live, no land to grow vegetables.' (LA24)

This interview with Yen is reflective of other homeowners interviewed in Vinh Tri, who, despite their exposure to environmental change and stress, plan to remain in their place of residence. While both homeowners and non-homeowners are

exposed to the elements, as depicted by the contrasting example of Yen (home and agricultural land owner) and Quyen (landless), my evidence suggests the difference in attitude towards resettlement may largely be determined by the ownership of key assets – a permanent house and some degree of land.

Particularly in the rural context, homeowners are likely to own some amount of land, varying from a yard to larger plots of agricultural land, often meaning the ownership of one entails ownership of the other. Among the three home-owning households who intend to remain on their land permanently, Yen's household generates their income entirely on their own land; the second household has a similar livelihood profile to Yen's – growing vegetables and raising fish – but on a much smaller scale (LA26); while the third depends primarily on hired farm work in the area but also generates supplemental income by selling chicken and duck raised in their yard, as well as lotus seeds picked from the pond in their yard (LA5). Meanwhile, of the five respondents who were not homeowners, none of them owned any type of land. As such, considering the home together with the agricultural land on which the house is located appears to be significant when assessing the impact of either asset on household vulnerability or decision-making.



Rural houses in Vinh Tri during dry season, located in flood plains

Among the three non-homeowners who wished to be resettled, flooding or environmental change was not identified as a salient stressor affecting their households. This may, however, be owing to the fact that the households most susceptible to environmental hazards have already been resettled in Vinh Tri. Quyen's house did not suffer much damage to environmental hazards. Instead, her household's livelihood was affected to a greater degree by market fluctuations and a decrease of fish stock in rivers and canals due to the construction of more canals in the area (LA4). The second household also did not mention floods as a stressor, but more so the effects of agricultural runoff and pollution in the canal, their main water source, and the decrease in fish stocks in recent years (LA19). The third household's house was not affected by environmental stress as they live in a local school, and their main livelihood – hired farm labour – has not significantly changed in the past several years, with irregular and scarce availability of work and lack of human assets posing challenges beyond that of environmental hazards (LA27). Rather, the main motivation for these three non-homeowning households for resettlement appear again to be the opportunity to 'own' permanent housing on the resettlement sites, not to escape exposure to environmental stress.

5.2.2 Long Thuan

While results were similar in Long Thuan in terms of the home as a valued asset for both resettled and non-resettled respondents, the differential nature of the dominant environmental stressor, riverbank erosion, produced divergent outcomes.

Of the eight respondents living outside the resettlement sites in Long Thuan (DT 6, 21, 22, 23, 24, 25, 26, 27), six were homeowners (DT 21, 22, 23, 24, 26, 27). In contrast to Vinh Tri where most homeowners had no interest in being resettled and often chose to remain in their homes, those in Long Thuan had no option but to be resettled due to the encroaching riverbank and the certainty of their houses and land, in the near future, collapsing into the river. Due to these inevitable circumstances, the majority – five of the six homeowners – felt they had no other option but to move into the resettlement dyke, where they had already been allocated housing plots (DT 21, 22, 23, 26, 27).

The sixth homeowner had been requested by the local authorities to move into the dyke, but he refused to do so, and planned to move the house further inland. His family owns large amounts of land and they can afford to hire people to dismantle and rebuild the house in



Rural house in Long Thuan during dry season, propped up on edge of riverbank with stilts.

the new location, when needed (DT 24). The remaining two households in this non-resettled group did not own housing and were keen to move into the dyke to live in safe and ‘stable’ homes. Below are interview excerpts from one non-homeowning respondent, followed by two homeowners households, illustrating the impossibility of remaining on the current housing plot due to the nature of riverbank erosion, whether or not one owns land. This is in stark contrast to Vinh Tri, where environmental stressors on their own are not sufficient to force home and land owners to relocate.

‘[The local officials] will give me an allotment [on the dyke]... They said erosion could happen... I don’t know when [the resettlement] will happen... [Erosion] is getting worse compared to before, because now two to three big holes have appeared, the land can erode at any time. Later on you can go downwards, you will see a very scary scene. The land erosion is very close to the road... I have nothing to prepare for now, I have dismantled the house already. Now I only wait to be able to build a house on the dyke.’ Van, Poor, rural, Long Thuan. (DT25)

‘[Our house] was large [before the erosion]... [The land between the riverbank and the house used to be] about one hundred and some dozen metres... It’s come very close to my house now... Recently... the area collapsed... The large collapsed piece was 10 metres wide and 20 metres long... Very close to my house. Thanks to the government, they... granted us with an allotment in the resettlement area. We can relocate there in advance so we don’t have to worry too much because there is a stable house for us.’ Nguyen, Near-poor, rural, Long Thuan. (DT22)

‘Now I am trying to gather enough money to build a house [on the dyke]... But I will still keep this plot, with a hut to farm and to raise pigs because... there’s no farmland available for us to do anything [on the dyke]... Erosion is risky. On the other hand, if [people] move to the resettlement area, there is no land for farming and livestock production. In the past, erosion affected 10% of their lives, now it affects 100%... Sooner or later it will affect my house, since erosion happened both on the left and on the right side of this area, and my house is in the middle... We are always aware of the risk... I prefer it here. I have a better family life here, I can do much more work and it’s more quiet... We have to relocate anyway, since it’s impossible to stay here.’ Minh, Near-poor, non-resettled, Long Thuan. (DT23)

The following last interview excerpt is from the Better off respondent who has refused to move as his household has access to family land within which he can relocate his house, and the financial assets with which to hire people to move the house for him.

‘Erosion happened quite often in recent years. In the past, only land by the riverside was eroded. [But] in recent years, the land collapsed... Sometimes when I hear a banana tree fall, I wake up and get ready to run away... There is no way to prevent it... I prepared in advance; I bought a crowbar to pry the door open to escape outside [if the house partially collapses into the river]... I packed my money so I

can take it with me... If I shout for help, my neighbour will come immediately... [The local officials] requested me to move into the new dyke but it's too far, I refused to move... I intend to move inland; there is some land [owned by my grandmother]... which is a rice field now... If I hire a lot of workers [to dismantle and move my house] then it will be fast.' Nguyen, Better off, non-resettled, Long Thuan. (DT24)

These examples illustrate that riverbank erosion affects households across the income spectrum, while adaptation measures are correspondingly limited. Access to the only possible in situ adaptation measure – to move the house further inland and away from the riverbank – is confined to households with sufficiently rich asset profiles. While the resettlement programme is available to all households affected by erosion regardless of their income status, the option to remain on one's land is possible only for households endowed with large enough land and financial assets (with which to purchase new land). Consequently, the importance and need for resettlement programmes in Long Thuan is far more pronounced across all income categories than was found in Vinh Tri, as a result of the environmental context.

5.3 Significance of Home Ownership and Environmental Stress as a Motivator for Resettlement: Resettled Respondents

5.3.1 Vinh Tri

Moving on from the non-resettled households, this section presents findings for the resettled respondents in Vinh Tri, most of whom fall under the category of Poor and Near-poor and have lived in flood-prone areas prior to resettlement. Among this group, 12 of the 18 respondents spoke explicitly about two converging

factors – how life is now better overall due to their ‘permanent’ and ‘stable’ house, and how they are now safe from hazards such as flooding and rain and do not need to worry about potential damage to their houses (LA2, 7, 9, 10, 11, 12, 13, 14, 15, 17, 20, 23).

A CARE study on resettlement programmes targeting flood-prone areas in An Giang, Long An, and Dong Thap (Adam Fforde 2003) – all provinces within the Mekong Delta – also found similar results, with all 45 households believing their new houses were more durable and comfortable than their former homes. Below are some excerpts from interviews in Vinh Tri expressing this view.

‘I came [to this commune] in 1999, lived on my brother’s land. I put up a house by the canal. The government asked me if I had any land, and if I wanted to buy some land. I told them I wanted to have a permanent house to live in so I would feel safe and comfortable... [Now] I don’t want to move again... I find it comfortable to live here so I don’t want to go anywhere else.’ Trung, Near-poor, cluster, Vinh Tri. (LA7)

‘I wish to live here forever; I don’t want to move anywhere else... It’s better here; it was hard living by the canal because when the flood season came, we often had to move up to the road, and every year we had to live in a stilt house for four months. We couldn’t build a permanent house... Moving here, it is more comfortable, safer, more convenient for my children to go to school, and water and power supply are also in place.’ Nguyen, Poor, cluster, Vinh Tri. (LA9)

‘By the canal, the house was flooded for three months [per year]... We raised the furniture and reinforced the house structure... After moving to the cluster I no longer have to worry during flood season, my house is strong so I don’t need to reinforce it... Before I lived in a thatched house, now I have a concrete house, that’s very good. If I move somewhere else I probably won’t have the same condition because I will just work as a hired labourer [and wouldn’t be able to afford this kind of house]. Here I also have electricity, water, and we are near the school.’ Trang, Near-poor, cluster, Vinh Tri. (LA20)

‘Things are very good here, no difficulties. I am on higher land now, no longer suffer from floods, which is very good... [Life is] much better [here], because I have a strong and stable house.’ Nguyen, Near-poor, dyke, Vinh Tri. (LA23)

Unlike their landowning counterparts, for landless (residential and agricultural) and asset poor households, the combination of weak housing in hazard-prone areas, and exposure to environmental stress appear to increase their vulnerability to environmental stress. In contrast, landowning households (from above section 5.2.1), while exposed to the elements, did not need to relocate to higher ground during flood season, as their houses were strong enough to withstand the storms as well as floods that may enter or surround the house, and they did not feel the need to resettle given their possession of critical assets – housing and land.

Interestingly, of the 18 resettled respondents, six were agricultural landowners (LA6, 10, 11, 16, 18, 22), with only one expressing the view that resettlement sites provided their household with greater protection from environmental stress (LA10). For this household, given their rich asset profile, when severe floods did affect their home, they did not experience considerable loss / damage as they were able to hire workers to dismantle and reassemble a portion of the house to live in temporarily on higher ground. Furthermore, among the six landowning households, none of their circumstances for resettlement were due to environmental stress, in line with the results from section 5.2.1 on non-resettled homeowners in Vinh Tri, where environmental conditions did not exert enough pressure on asset rich households to encourage their resettlement. Instead, four had been resettled to make way for development projects (LA6, 10, 11, 18), a fifth had recently inherited land from a relative but were too elderly to farm the land (LA22), and a sixth, a Near-poor household, had been able to purchase the resettlement

housing plot and attached land through their connections with local government officials (LA16).

The picture of life in rural Vinh Tri is therefore complex, with individuals juggling myriad stressors, of which one is environmental change and stress. The house as an asset provides shelter from the elements, and a sense of safety, permanence, and stability, depending on whether or not it is owned; also depending to some degree on its structural integrity and ability to protect against hazards. Furthermore, as discussed above, this sense of stability is formed not only by the physical security provided by a house, but also by the cultural sense of 'home', of being rooted in an area where one's parents and for some, older generations, have lived. As such, while homeowners in Vinh Tri were found largely to be uninterested in resettlement given their possession of a house and varying amounts of land, non-homeowners (who were simultaneously landless) considered a permanent house away from environmental hazards to be among the most valued assets, and displayed an eagerness to resettle in order to gain 'ownership' of such an asset, despite the negative impact it would likely have for some households on other aspects of their asset portfolio, most notably on financial assets.

5.3.2 Long Thuan

Similar findings emerged from the resettled respondents in Long Thuan. Of the 18 resettled respondents, 15 expressed their opinion regarding their new home during interviews. The majority – thirteen – of these respondents had been very

keen to move into the dyke as their houses had already been or were faced with imminent erosion (DT 1, 2, 3, 4, 8, 9, 10, 11, 12, 13, 14, 15, 18). Tellingly, none but two of these respondents had owned agricultural land in their former place of residence by the riverbank, while the landowning respondents had lost all of their land to erosion and had become landless prior to resettlement (DT8, 13). The remaining two landowning respondents were relatively neutral in regards to their new homes, mainly due to decreased livelihood options and income, and said they would not have moved to the dyke had it not been for erosion (DT 5, 16).³⁶ The houses of these two households had either been damaged by erosion (DT16), or was close to the riverbank (one to five metres away) (DT5) at the time of resettlement, reflecting the lack of alternative options at their disposal at the time of resettlement. Thus, home ownership was found to have some influence rooting people to their areas of residence in Long Thuan, also exemplified by the non-resettled landowner refusing to resettle and planning instead to move further inland on family land in section 5.2.2 (DT24). Although definitive statements cannot be made given the small sample, what is clear, nonetheless, is the pressure of erosion eventually leaving people with no option but to relinquish their homes and land. Below are interview excerpts from respondents reflecting the urgency and perceived need for resettlement found among most respondents in Long Thuan, given the unavoidability of riverbank erosion.

‘The erosion happened so the hamlet officers came to make a list. Households with damaged houses were eligible for relocation... I

³⁶ This data from Long Thuan should be understood in the context of the limitations discussed in Chapter four. More respondents could have expressed more negative sentiments regarding their house in the resettlement dyke without the presence of police minders.

followed him around and entreated him to put my family on the list. I told him that my house would soon be affected by erosion... we didn't have any land left, and we could never afford to buy a new plot. He felt pity for us, so he put us on the list... Moving here, I can leave home in the morning and return in the evening [without worrying about the house], and my house is more comfortable here.' Nguyen, Better off, dyke, Long Thuan. (DT8)

'[I will stay here permanently] because I like it here. It is quite stable. Also because I work as a hired labourer here I can't really go anywhere else; it will be difficult to live in another place... [I'm happy because] my life is stable now. I have good jobs too (doing hired farm work) so I am comfortable... Of course not, [life in my old house was not stable]. It rains hard and land erodes into the river, I can't sleep at night. How can I feel secure?... In my old place I was very worried about erosion.' Van, Near-poor, dyke, Long Thuan. (DT11)

'My house was right next to the riverbank... The kitchen was right next to the river... I used large sticks to prop the house [and keep it from falling into the river]... I used the materials from my old house to assemble the new one because we are poor... My old house was affected by erosion very bad already so I was happy to move.' Nguyen, Poor, dyke, Long Thuan. (DT14)

'At that time [before we were resettled], erosion was very severe. The hamlet officers told us to move [to the dyke] but we couldn't because we were too poor. A few relatives... helped by providing some money. The riverbank was already very close; we didn't have large sticks to support [the house], so just three metres of the floor was left untouched by erosion... I'm able to have a stable place here. Now I can focus on working hard.' Thi, Poor, dyke, Long Thuan. (DT15)

'We were poor, we thought of many possibilities but we didn't have money to build a strong house. Thanks to the government, we can live in a good house now. We can't even make ends meet, we never thought that we could build such a good house.' Trung, Poor, dyke, Long Thuan. (DT18)

5.4 Household Asset Profile, Vulnerability, and Responses to Stress

As is evident in our discussions thus far, environmental change as a stressor is often surpassed by or accompanies other stressors such as depletion of natural

resources due to development (e.g. decreased fish stocks and pollution of water sources), seasonal unemployment, lack of human assets such as human labour and ablebodiedness, and increased mechanisation of agricultural production and market fluctuations. Instead, environmental stress constitutes one variable within a conglomeration of numerous stressors, ultimately overshadowed by the opportunity for ‘ownership’ of a ‘permanent’ home in resettlement sites. There was some evidence showing some people eventually leaving the resettlement sites due to unsustainable livelihoods, but exploring this link is beyond the scope of this thesis.

Moreover, as we have seen, the differential outcomes of asset profiles and wealth on vulnerability was apparent in both locations, with asset rich households able to sustain their livelihoods and lives in a self-sufficient manner through the use of their existing asset profiles, while asset poor households saw resettlement programmes as a means to gain access to assets ordinarily beyond their reach. This paradoxically resulted not in decreased vulnerability, but shifts in vulnerability where certain assets are obtained at the expense of others, discussed in depth in section 5.5 below.

Furthermore, while the overall desirability of a safe and durable house as an asset is comparable in Vinh Tri and Long Thuan, environmental stress (specifically riverbank erosion) was found to be the main variable forcing people to leave their houses and land in Long Thuan, while in Vinh Tri, the degree of stress posed by flooding was not enough on its own to push people to leave their homes. Home (and land) ownership was found to be the differentiating factor in Vinh Tri, with home (and land) owners possessing a strong enough asset portfolio – particularly a

permanent house and agricultural land – to be resilient enough to environmental stressors to remain in their current location.

Another consideration important to mention but for which data is lacking in this study, is that of *geography of exposure* – or asset rich individuals having access to land less prone to hazard exposure, and the asset poor having no options but to take up residence on marginalised and more hazard-prone land (Adger 1999, Few 2003). Exposure is therefore overwhelmingly socially determined, for example, where people choose / or are left with no option but to live, the nature of settlements, livelihoods, communities, and how they're established (Brooks 2003). While 'generic' determinants of social vulnerability do exist, as mentioned above, there are determinants specific to particular hazards – for example, the location of a house in an area of riverbank erosion and the (lack of) ability to relocate inland on one's land, or the structural integrity of a house to severe seasonal flooding. As such, the location of one's home and thereby one's degree of exposure to environmental hazards, is influenced by both the geography of exposure as well as the type of housing that households can afford, largely determined by their asset profile – ultimately underscoring the socially constructed nature of vulnerability to environmental stress.

This chapter has thus far discussed the home and accompanying land as key assets and how they shape differential vulnerability in the context of divergent environmental stressors and government resettlement programmes. The connection between the value of housing as a household asset and access to this asset through

resettlement programmes was also explored. Among the most salient findings was the difference in household motivational factors for resettlement.

Regardless of the government's primary drive for widespread resettlement throughout the Mekong Delta – that of relocating people away from hazard-prone areas – from the households' point of view, a different factor altogether was seen as a compelling reason to resettle – the opportunity for ownership of a durable home, access to an asset which would otherwise be out of reach for the vast majority of asset poor households. While the government's stated goal of resettlement may lie in the perceived threat of environmental hazards, the motivation to participate in resettlement programmes and their outcomes are far more complex, shaped by households' asset profiles, desires and cultural values, and their own perception of vulnerability. Resettlement programmes speak to the cultural significance of ownership of a permanent home, and it is this aspect of the programmes that gave households the greatest incentive to move into resettlement sites in Vinh Tri, and to an extent in Long Thuan. Environmental variables were also found to coexist alongside other stressors, often overshadowed by other stress factors. Thus, particularly in Vinh Tri, the government's stated purpose for resettlement overlooks the broader context of multiple stressors and their influence on household vulnerability.

Nevertheless, environmental factors did play a role in motivating households to resettle, its degree of influence dependent on the nature of the hazard and households' degree of exposure to it. While riverbank erosion was found to be a serious enough environmental stressor to induce households to seek resettlement in

Long Thuan, the impact of seasonal flooding in Vinh Tri was mild in comparison, where annual floods are an integral part of the seasonal calendar and landscape. This sheds light on further nuances to be taken into account when making judgements on the vulnerability of populations to environmental stress. The differential vulnerability outcomes as a result of the nature of the hazard (alongside other stressors) points to the importance of acknowledging that within the Mekong Delta, different environmental stressors exert varying amounts of pressure shaping (1) household vulnerability, (2) ability and options for in situ adaptation, and (3) mobility options and the possibility for individuals to remain on their homesteads and land. While flooding is a seasonal occurrence with which people have learned to live and adapt to over many generations in Vinh Tri, coexisting in the same geographical space as riverbank erosion was impossible in the Long Thuan context given the lack of available adaptation measures. Households thus were left with no option but to physically move to an unaffected area, with the richness of options determined by household asset profiles.

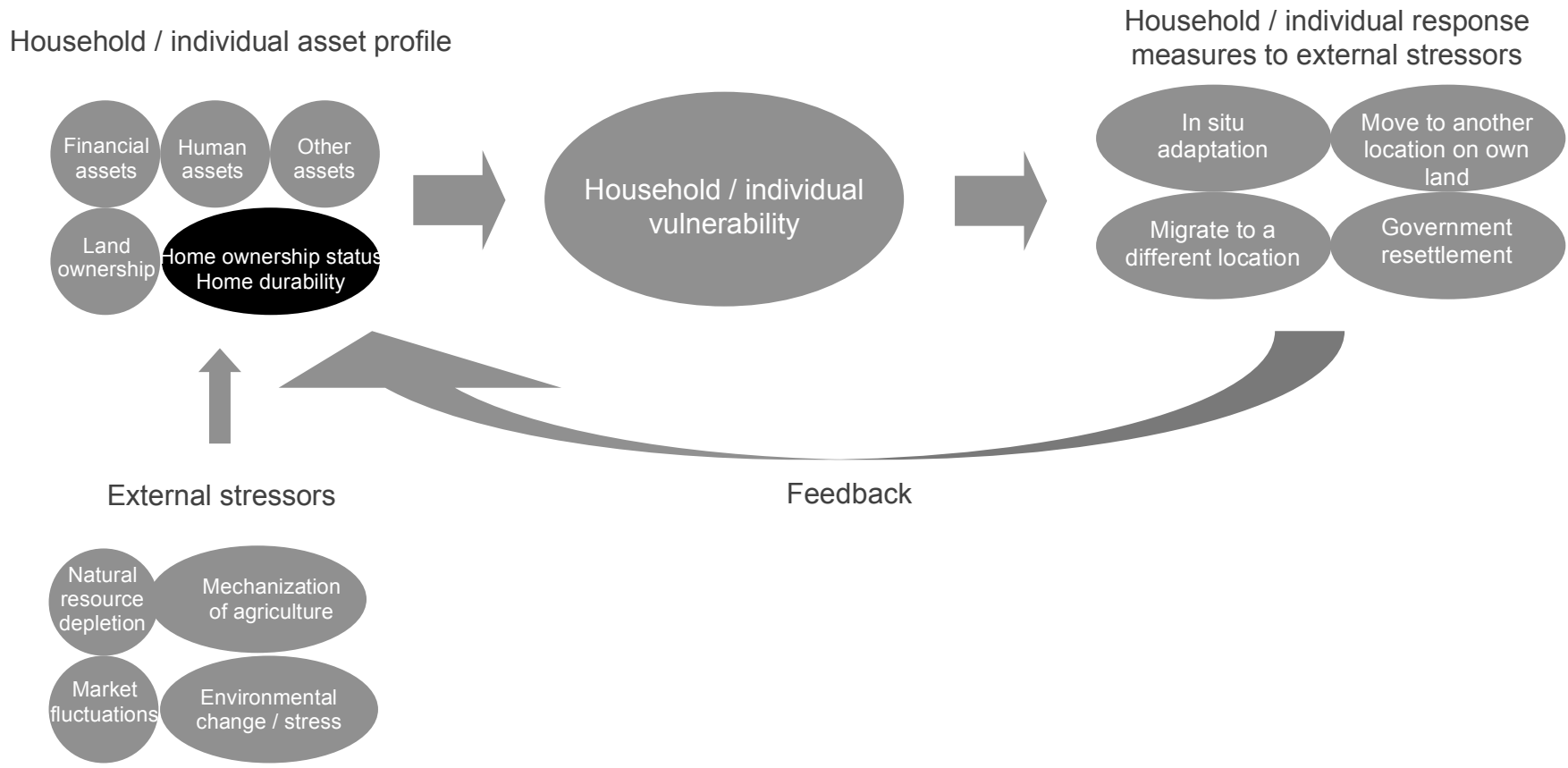
The degree of stress experienced by households in Long Thuan as a result of riverbank erosion was therefore diverse across households, mediated by asset profiles. Assets were found to determine the range of options available to households, thereby shaping the degree of autonomy and self-sufficiency with which they are able to conduct their lives and respond to stress and shocks. For example, while asset rich households (particularly land rich) are able to move within their own land and continue their livelihood activities in Long Thuan, the asset poor face limitations in this regard and are forced to leave their homesteads and land for

resettlement sites where livelihood outcomes and overall quality of life may suffer as a result. Somewhere in between were the landowners who were not wealthy enough to purchase new land plots following the erosion of their land, at which point they become landless and were forced to resettle. This is not to say that some households did not want to resettle. As discussed above, the incentive of home ownership was a strong motivator to resettle; instead, I am referring to the range of options available to households, where asset poor households are largely limited to resettlement in their response to erosion as opposed to their asset rich counterparts who are endowed with a greater diversity of response measures, including options allowing them to maintain their self-sufficiency and current way of life to a greater degree.

Figure 3 below depicts the linkages between the factors in the previous sections, expanding on figure 2 presented in section 5.2. The impact of environmental and other stressors are mediated by household asset profiles, thereby shaping household vulnerability and the range of available adaptation options (from various types of in situ adaptation to resettlement). This cycle repeats itself, with response measures in turn transforming household asset profiles and vulnerability, and subsequent responses.³⁷

³⁷ I make the distinction between the household and individual unit in figure 3, given that a household is comprised of individuals with access to varying degrees of power and agency, resulting in differentiated asset profiles and vulnerability. Nevertheless, I focus the discussion on the household level, the unit of analysis for this thesis.

Figure 3. Household asset profile, vulnerability, and multiple responses to external stress



Thus, if the ultimate goal of resettlement programmes and other development initiatives is that of decreasing household vulnerability and augmenting well-being, a focus on one stressor (environmental change) while ignoring others, not to mention how interventions affect overall household vulnerability, is comparable to treating only one symptom of a patient without diagnosing the problem holistically and considering the comprehensive effect of the treatment on the patient as a whole. While the primary justification for many resettlement programmes in the Mekong Delta is that of protection from environmental change and stress, only after understanding the complexities and overall picture of the vulnerability context is it possible to design sustainable interventions suited to local needs and contexts, which likely means that environmental stress is not the dominant problem in all hazard-prone areas of the Mekong Delta and a range of options beyond resettlement are needed to mitigate household vulnerabilities and amplify their resilience to climate change and other external stressors.

On this note, moving on from the discussion of key drivers motivating households to resettle in the context of housing (and land) ownership as critical household assets mediating differential outcomes to environmental stress and resettlement, the next section investigates the effect of government resettlement initiatives on household vulnerability, proposing the concept of vulnerability shifts.

5.5 Vulnerability Shifts: Livelihoods and Debt

In light of the prevalence of resettlement as a government strategy for climate change adaptation throughout the Mekong Delta, understanding how it is transforming household vulnerability is of critical importance. I now use the concept of vulnerability shifts to explore these transformations. As discussed above, interviews with both resettled and non-resettled respondents revealed the value placed on home ownership by households, particularly one that is robust and made of more durable materials. While the resettlement programmes in Vinh Tri and Long Thuan have been able to provide households with this asset, they have done so often at the cost of diminishing other assets – most notably through decreased incomes and increased debt, or broadly speaking, financial assets (as well as human assets discussed later in chapter seven) – ultimately shifting vulnerabilities from certain assets to others, not the amelioration of overall vulnerability. Having already examined how resettlement programmes in Vinh Tri and Long Thuan are strengthening resilience in the areas of housing and exposure to environmental hazards, the remaining sub-sections below focus on the household vulnerabilities found to be most exacerbated by resettlement as observed in the short term³⁸ – the shifted vulnerabilities. I first examine the livelihood outcomes of resettlement in the next sub-section, followed by further financial burdens imposed on households as a result of the debt-centred design of resettlement programmes.

5.5.1 Impact of resettlement on livelihoods

³⁸ Estimations of the long term implications of resettlement are based on observations of short term effect outcomes.

In Vinh Tri, of the 18 resettled respondents, a third of all households – six – reported decreased incomes post resettlement. For the remaining households, incomes had remained the same for seven households, while only four households were able to increase their incomes following resettlement. When disaggregating respondents further by dyke and cluster, livelihood outcomes in the dyke were found to be better than those of the cluster. Results are summarised in table 4 below for all locations. Of the ten dyke respondents, five reported their incomes as remaining the same as before (LA11, 12, 14, 16, 23), three saw improved livelihoods (LA10, 17, 18), and one a decrease in income (LA13). (The topic was not discussed during the interview with the remaining household (LA15).) In contrast, the cluster comprised a majority of five out of eight interviewees reporting decreased incomes (LA3, 8, 9, 20, 22), one better (LA7), and two the same as before resettlement (LA2, 6).

In Long Thuan, of the 18 resettled respondents, four reported incomes remaining the same (DT3, 4, 10, 15), three saw improved incomes (DT8, 14, 18), while a third – six – reported a decrease (DT1, 2, 5, 12, 16, 20). The topic was not discussed with five respondents (DT9, 11, 13, 17, 19). Thus, a total of seven households were able to maintain or improve their income generation following resettlement, while a comparable number of six households saw their livelihoods suffer as a result.

As mentioned in chapter four, however, it is important to consider that some interviews (more so in Long Thuan than Vinh Tri) were accompanied by the police, meaning the actual level of dissatisfaction and decreased incomes after resettlement are likely higher than reported.

Table 4. Income outcomes following resettlement

	Income decreased	Income same	Income increased	No data	Total
VT cluster	5	2	1		8
VT dyke	1	5	3	1	10
LT dyke³⁹	6	4	3	5	18
Total	12	11	7	6	36

These figures reflect heterogeneous livelihood outcomes depending on the households' livelihood activities and the characteristics of the resettlement site, with incomes most negatively affected in the Vinh Tri cluster and Long Thuan dyke, and largely remaining the same with a continuation of previous livelihood activities in the Vinh Tri dyke.

When accounting for all locations, however, the largest number of respondents – twelve – reported decreased incomes post resettlement, followed by eleven respondents whose incomes had remained unchanged, and seven who saw increased incomes. When taking into account the loan-centred structure of resettlement programmes and the significant size of these loans, however, the overall consequences for the 23 households experiencing diminished or no change in household incomes translate to an even greater degree of long term asset depletion and impoverishment. Of these 23 households, ten were Poor, nine Near-poor, and four Better off. Given that much of the Poor and Near-poor population struggle to consistently earn enough to meet daily needs and accrue any savings, the financial

³⁹ As mentioned in Chapter three, Long Thuan resettlement sites are comprised exclusively of dykes, and no clusters.

repercussions of taking on large debts to pay for assets beyond their means are all the more severe. This ultimately strains their already weak asset profiles, where the debt for resettlement far outweighs the capacity for repayment. Debt outcomes are discussed further in the following sub-section; this section will first focus on livelihood outcomes.

Below is a table summarising the main factors reported by respondents to have contributed to both enhanced and deteriorated incomes following resettlement in Vinh Tri and Long Thuan.

Table 5. Factors contributing to better and worse incomes in resettlement sites

	Vinh Tri cluster	Vinh Tri dyke	Long Thuan dyke
Factors that increase incomes	Dense population = more customers	Dense population = more customers Better roads = easier to get around for work Agricultural land available for rent in area	Construction work available in area More hired farm work available in area
Factors that decrease incomes	Can't raise livestock (poultry and pigs) Far from fish source = can't fish / fish less (Can't park boat nearby) Dense population = competition for hired farm work	Can't raise livestock (poultry and pigs) Far from fish source = can't fish / fish less	Can't raise livestock (poultry and pigs) Weak social network = less hired work Dense population = competition for hired farm work Better roads = less punctured tires to fix

Among these factors, those highlighted were the most frequently cited to have influenced livelihoods – the lack of space and regulations prohibiting households from continuing to raise livestock in resettlement sites; increased distance from floods and water sources in which fish are raised and caught; and weakened social assets in resettlement sites leading to less hired work being offered to resettled individuals.

Interestingly, the impact of resettlement on livelihoods was not found to correlate with income levels, with households in Poor, Near-poor, and Better off categories found across income outcomes, whether they remained unchanged, decreased, or increased after resettlement. Nevertheless, all respondents who had access to agricultural land – four landowners and one renter – did report that incomes stayed the same or improved, with three respondents seeing no change (LA6, 16, 23), and two reporting improvement due to better roads and transport, and the availability of agricultural land for rent in the area (LA10, 18). The fact that no landowners or renters experienced decreased incomes offers more supporting evidence for land as an important asset for household resilience to circumstances of change and stress, such as resettlement.

As landowners are able to continue their livelihood activities (which already generate incomes far beyond that of landless wage labourers), resettlement is less of an uprooting and traumatic experience than it is for the landless. In contrast, the landless and asset poor are uprooted both in terms of housing and livelihoods, forced to re-establish income generating activities and networks in resettlement sites, made all the more difficult given the further deterioration of their asset profiles resulting

from the resettlement process – such as the depletion of financial assets due to the dislocation of livelihoods, lack of savings, moving costs, and substantial loans incurred as part of the resettlement programme; and social assets as a result of the removal from and dispersal of social networks into resettlement sites. Below are interview excerpts from Vinh Tri and Long Thuan resettlement sites illustrating the negative livelihood effects of the factors outlined in table 5.

‘When we lived by the river, our income was better because it was next to the fish source, and few people lived there so it was easier to find employment; here it is too crowded, excessive number of labourers, so [landowners] don’t hire us. We raised chicken and a pig in our old place; here we can’t keep any livestock, so our income decreased.’ Nguyen, Poor, cluster, Vinh Tri. (LA9)

‘The only advantage here is that we are no longer flooded, but everything else is worse than the old place... We lived by the river so we could fish easily. Here it is difficult to get around by boat; there is no place to park it. It’s more difficult to work here too... Say in my old place I can earn 10, here I can earn only 5... I park my boat at my sibling’s place. I have to go there to get the boat when I want to go fishing... It’s three kilometres away... [Now] during flood season I raise fish [where I used to live]. I put up a hut and stay there to look after them... [Here,] sometimes when I’m tired I stay home. Over there the boat is always available so I can just take it and go.’ Tran, Near-poor, cluster, Vinh Tri. (LA8)

‘We used to make wine and raise pigs [before resettlement]... It is not allowed here, so we stopped... I am satisfied with the demand for hired workers and housing [in the dyke], but since I can’t raise animals, there are many difficulties too. Work is not constant either, there is nothing to do during six months of floods... In the old place I can hire myself out and raise animals at the same time, but here I can’t. But in the old place the house was not good.’ Lanh, Near-poor, dyke, Vinh Tri. (LA13)

‘Jobs are not available here and I didn’t know anyone [when I first moved here] so no one asked me to do hired work... Now I feel stable with the housing, but unstable with work... Here everything is difficult – livelihood, strange neighbours, can’t grow chicken or duck. Living conditions and livelihood was better there. Here we need to pay for everything – water, electricity, gas. Before we could use wood for cooking and water from the river. Before we had neighbours and relatives around, it was very easy to borrow money and rice. Now it’s

difficult to borrow these things.’ Linh, Poor, dyke, Long Thuan. (DT5)

‘Because we are poor, we didn’t own land elsewhere... we needed to move here [to the dyke]... We... heard a cracking sound, ran outside and the house immediately collapsed... The riverbank was two metres away. The house was four metres long, the whole house collapsed... In the old place it was easy to work, but here it’s difficult to find jobs... Here, friends and neighbours are busy building their houses and moving so can’t lend us money. Landowners around here already have labourers so they only ask me if they don’t have enough people... I feel stable with the house, but not our work.’ Van, Poor, dyke, Long Thuan. (DT1)

As illustrated by these excerpts, the discontinuation of some or all previous income-generating activities destabilises household livelihoods, translating not only to decreased income, but also diminished self-sufficiency, whereby households are unable to continue engaging in vital activities such as raising livestock and fishing, resulting in loss of income. In terms of household asset profiles, the dislocation of livelihoods translates to a conglomeration of interlinked and deteriorated assets – financial assets (decreased daily incomes and capacity to save, and simultaneous increase of debt), social assets (disintegration of social support networks vital for employment, and loans and assistance, particularly during times of stress), and human assets (increased dependency on government aid, weakened psychological assets such as self-sufficiency and sense of self-efficacy). (Resettlement outcomes for human assets are dealt with in depth in chapter seven.)

Adam Fforde’s (2003) study in An Giang, Long An, and Dong Thap shows comparable results, with 60 percent of interviewed heads of households in resettlement clusters and dykes believing their opportunities for getting hired would diminish if they remained in the cluster / dyke long term, as employers in their previous areas of residence preferred to hire labourers living close by. They were

also unable to breed livestock or plant home gardens due to the lack of land, higher ground temperatures, and lack of water.

Pham's study (2007) in An Giang also found the incomes of individuals residing in resettlement clusters to be lower than those who chose to remain in their homes outside the clusters. Increased distance from areas of wage employment and greater density of hired labourers concentrated in the clusters had diminished the ability of many resettled people to find employment following resettlement. Wages offered were also lower in the cluster due to increased competition. Of the 72 households interviewed, 100 percent of respondents perceived the relocation policy to be good and enhancing physical security, while the same 100 percent also had negative perceptions regarding their livelihoods following relocation, given the difficulties in securing work, increased expenditures due to the cost of utilities and a peri-urban lifestyle, and lack of 'peace and contentment' with one's work.

These studies support my findings from Vinh Tri and Long Thuan, where most resettled households felt their housing conditions had improved following resettlement, but their livelihoods had suffered as a result, due to some of the same factors that emerged from these other studies – increased distance from crucial natural assets such as land and water and the accompanying inability to raise livestock or fish in resettlement sites; weakened social assets resulting in less hired work for resettled individuals; and increased competition over hired agricultural work.

In terms of households reporting increased incomes post resettlement, the most frequently mentioned influencing factors in Vinh Tri and Long Thuan were (1)

the greater availability of work (hired farm work and construction jobs) in the Long Thuan dyke, and (2) the more densely populated resettlement site being conducive to an increased number of customers for those owning small shops, selling lottery tickets, and street vendors in both the cluster and dyke in Vinh Tri – essentially non-agricultural work benefiting from the increase in number of customers. Examples of respondents reporting higher incomes post resettlement are presented below.

‘After I got to know my neighbours, I found the living conditions here to be better. For example, in my old place I could only work (hired labour) five to six days a month, now I can work ten to fifteen days a month so I live more comfortably.’ Nguyen, Poor, dyke, Long Thuan. (DT14)

‘Because more people cultivate on the... fields here, they ask me to work for them. My old place is quite remote so people don’t know about me, of course they can’t offer me jobs. There are more jobs available here.’ Trung, Poor, dyke, Long Thuan. (DT18)

‘[Our business] is better here. We couldn’t sell much in the old place. There weren’t many people down there. It’s more crowded here so we can sell vegetables. Down there, we mostly earned money from working as hired labourers. Here [we] can sell things quite well.’ Trung, Near-poor, cluster, Vinh Tri. (LA7)

Therefore, some characteristics of resettlement sites – dense population, new location with a change in local employers – produced both positive and negative livelihood outcomes for different households; but these differential impacts crucially depended on their asset profiles, pre-existing capabilities rooted in their asset profiles, and related income-generating activities. While some shop owners, vendors, and lottery ticket sellers tended to benefit from the more compact living arrangement of resettlement sites, other hired agricultural labourers suffered declined demand for their labour due to increased competition and a surplus of labourers in the area. Being in a new area also generated mixed livelihood outcomes,

with three respondents in Long Thuan reporting increased availability of hired agricultural and construction work on the dyke (DT8, 14, 18), while another three individuals (DT1, 5, 12), also in Long Thuan, experienced weakened social networks which negatively impacted their ability to find hired work.

Nevertheless, relocation away from natural assets – land and water – used to fish in or to raise livestock and fish consistently produced negative livelihood outcomes. This again points to the importance of land, as well as water as natural assets, and also sheds light on the irony of moving people away from areas prone to environmental hazards, but which simultaneously contribute to livelihood decline – ultimately shifting vulnerabilities from one sphere to another.

When speaking of access to land and water, this entails not only social and/or legal contract enabling access (for example, ownership of, renting, or sharecropping land), but also proximity to them. When people are moved away from natural assets essential for their livelihoods, some respond by returning to their places of origin (with varying degrees of permanence) to continue their livelihood activities utilising these natural assets. For example, a few households reported maintaining shelters in their old areas of residence, either to raise fish during flood season in Vinh Tri or to maintain their livestock in Long Thuan – essentially defeating the purpose of resettlement programmes to move people away from hazard-prone areas. In fact, for those who return to their previous flood-prone areas of residence to fish and raise fish, they do so precisely during the time of year when floods occur. These examples offer further support for the need of a nuanced approach to climate change adaptation. This needs to go beyond that of

resettlement, designed to meet the practical needs of people, to recognise their asset profiles and livelihoods, and local human ecology.

For households in Vinh Tri and Long Thuan reporting income levels as remaining the same (LA2, 6, 11, 12, 14, 16, 23, DT3, 4, 10, 15), they had been able to continue their old livelihoods after resettlement. These livelihoods ranged from hired farm work, farming on owned or rented land, selling lottery tickets, construction and domestic work, and street vending, with no pattern found for livelihood outcomes across all locations.

In sum, livelihood outcomes post resettlement were diverse and shaped by the nexus of households' asset profiles and accompanying capabilities, income generating activities, and characteristics of the resettlement sites. Nonetheless, land ownership prevented a decline in livelihoods following resettlement across all locations. For landless households, most experienced deteriorated livelihoods following resettlement, resulting not only in decreased incomes, but moreover, a loss of financial assets (including the capacity to save and the burden of debt), social assets (for some), and human assets including diminished psychological assets such as self-sufficiency and sense of self-efficacy (discussed in chapter seven). Relocation away from natural assets – land and water – also consistently produced negative livelihood outcomes, as households are forced to give up critical income-generating activities. This points to the paradox of relocating people away from hazard-prone areas, which result in not overall decreased vulnerability, but shifts in vulnerability towards the sphere of livelihoods.

5.5.2 Impact of resettlement on household debt

Having discussed the impact of resettlement on livelihood vulnerability, I now proceed to examine another vulnerability shift already touched upon in this section – that of increased debt accumulation resulting from resettlement programmes. Debt is a prominent feature of life in rural Mekong Delta, with loans frequently taken out at the start of a crop cycle to purchase agricultural input such as seedlings, fertiliser, and pesticides, and subsequently paid off following harvest. Small loans among relatives, neighbours, and friends are also common, used to cover daily expenses such as food. These loans are vital, particularly for asset poor households who earn just enough to get by day to day and are unable to amass savings to use during times of stress or shock, for example, during periods of unemployment (in the Mekong Delta, this would most frequently occur during flood season), illness of a household member, or house damage caused by environmental hazards.

Despite the widespread presence of debt, the loans associated with resettlement programmes are distinct. They are substantially larger than what most asset poor households would accrue as part of their daily lives, as they are meant to cover the costs of high-value assets – housing land and house construction – normally unaffordable within the bounds of their asset profile. While the benefits of resettlement are undeniable for many individuals in terms of housing condition and safety from environmental stress, it simultaneously leaves resettled individuals in

situations of debt beyond their capacity for repayment. This section explores this vulnerability shift towards debt as experienced by resettled households.

Of the 36 resettled households in Vinh Tri and Long Thuan, all but two in Vinh Tri and one in Long Thuan had debts for their housing plots and/or house construction as part of the resettlement process (two Better off and one Near-poor household). These debts were perceived by many households to be beyond the possibility of repayment, as the vast majority of Poor and Near-poor households were unable to put aside any savings after accounting for daily expenditures. Among the three households who did not have debts for housing costs, one was a Better off street vendor (DT2) and two were agricultural landowners (Better off and Near-poor) and had been able to pay off the full loan amount by selling their land or by using their land as collateral (for further loans, which have been paid off) (LA10, 14). This again points to the importance of land as an asset that can be used as leverage and to grow one's asset profile (as discussed in chapter six).

Among the remaining 33 resettled households, debt from resettlement was a prominent feature of their lives, given the difficulty of repayment and resulting burden on household assets, ultimately increasing household vulnerability. In essence, debt was found to be a salient feature of resettlement programmes in both locations, whereby unless an individual possesses the financial assets to pay for the housing foundation and house construction up front, they are left with no other option but to take on the financial burden as part of the resettlement process. While the degree of voluntariness for participating in the programmes may vary, debt to

governmental and other sources remain unavoidable for those who do not have the financial assets to pay for costs at the time of resettlement.

For these 33 households, less than half – 15 households – expressed confidence that they would be able to make repayments, with only three of these households in the Poor category (LA16, DT4, 5), eight being Near-poor, and three Better off. Of the remaining 18 households who did not feel confident about repayment, 17 did not believe it was possible for them to pay off the loans given the large amount and the limitations of their low incomes stemming from poor asset profiles (e.g. lack of land and savings). (The remaining household was able to pay for their house construction by using cheap and recycled materials from their previous house, but was not aware that the housing plot was provided on a loan, not a grant, and will be left out of this figure given their lack of awareness regarding the loan.) Of these 17 households, the majority – eleven – were Poor, five Near-poor, and one Better off. These figures highlight the asset-differentiated burden of debt, with asset poor households most unable to make payments due to their low incomes and lack of savings. Table 6 summarises the number of households who feel they will be able to make full repayment and those who believe they will not, disaggregated by income category. The most striking income group is that of the Poor category, with the vast majority of households believing they will not be able to pay off their debt for resettlement.

Table 6. Number of households (un)confident about making full repayment of resettlement loans, by income category

	Poor	Near-poor	Better off	Total
Confident	3	8	3	15
Unconfident	11	5	1	17
Total	14	13	4	32

Further exacerbating vulnerabilities is the need for many households to take out additional loans from private sources to cover housing construction, as the standard loan amount stipulated by the government is often not enough to construct a relatively durable house. Moreover, this is taking place in an environment where the cost of living, including utilities and management fees, is higher than it was prior to resettlement, translating to increased expenditures, accompanied for many by decreased incomes (as discussed above). Hence, the convergence of multiple debts, increased cost of living, and decreased incomes are intensifying the effect of shifted vulnerabilities.

A study by Dun (2009) in An Giang province where people living along canals were relocated to nearby resettlement clusters also identified a key concern of the resettlement programme to be the high poverty rate among the programme's target population and the loan-centred structure of the programme further impoverishing already poor households.

Below are some interview excerpts from households in Vinh Tri and Long Thuan who felt that repayment of resettlement costs was not possible, and who were meanwhile also experiencing a confluence of difficulties due to decreased incomes and increased expenditures in resettlement sites.

‘[When we first moved here] we didn’t have any jobs... [During the resettlement process] we had all sorts of problems having to do with money, because we didn’t have any land, and just always worked as hired labourers... Now we spend all the money we earn... I can pay the interest but I can’t pay the principle... I used to raise pigs... [My income] decreased... [Compared to before resettlement] prices have increased but we don’t make much money so it’s much more difficult than before... Lower income and higher expenses... Of course we have to worry because we are in debt.’ Trung, Near-poor, dyke, Long Thuan. (DT16)

‘In the beginning we didn’t have money to buy the foundation, we had to borrow from many sources... It’s difficult [for us to repay]. We used to make wine and raised pigs... It is not allowed here, so we stopped... Since I [now only] depend on hired labour, it is not easy... It’s more expensive here... I’m sad [about our debt]... [We have] no plan, we just try to work hard to repay the loan... In the old place I can hire myself out and raise animals at the same time... Before we could catch 30 kg fish with nets, now about 5-10 kg.’ Lanh, Near-poor, dyke, Vinh Tri. (LA13)

‘We didn’t borrow money [from the government for house construction] because we already got a loan for the foundation (10 million VND). We were afraid we wouldn’t be able to pay it back... We borrowed from our neighbours to build this house and will repay them gradually... To repay the government’s loan... as soon as my son, Dat, was recruited into the Youth Union (a government mass union), we borrowed 10 million... We pay... monthly interest. The principle is still there... To be honest with you, selling things like this, I just pray that I can win a lottery and get 10-20 million to repay... since we just barely earn enough to feed ourselves now.’ Van, Poor, dyke, Vinh Tri. (LA15)

‘I can still cut rice but in recent years people use machines a lot so they don’t need my labour... [Now] I only fish to make money for daily expenses... [We spent] almost 20 million [for my wife’s healthcare]... I still owe a few million... [The local authorities] come here to ask for payments [for housing loans] but I tell them I am very poor so they don’t do anything... I try to pay back everything but I can’t put any money aside from my wages... Before there were more fish during high flood season but in the last few years there are fewer fish during high flood season.’ Duc, Near-poor, dyke, Long Thuan. (DT13)

‘This housing plot cost 14 million. At that time the government gave me a sink; I sold it and paid 500,000 [towards my loan]. Now I owe 13.5 million. No matter how much they demand payment, I can’t pay back... When we were still healthy [and living along the canal] we fished, but... I have become older and sick so... I no longer work... I raised ducks and chicken [before moving here]...

In the past I... earned quite a lot of money from [the poultry]... Now every quarter I receive 540.000 for being elderly, but I spend almost all of it on electricity, water, and garbage fees... I have a bit left to buy food.' Hien, Poor, cluster, Vinh Tri. (LA22)

Accordingly, debt was found to be one of the most pronounced features of resettlement programmes in Vinh Tri and Long Thuan, unavoidable for the vast majority of households who do not have an asset profile rich enough to make payments at the time of resettlement – the large proportion of households in debt is unsurprising given the programmes specifically target poor households. As such, most households have no option but to live with the burden of debt, often accompanied by a concurrence of other financial stressors – most notably (as mentioned above) that of higher expenditures and lower income on resettlement sites. Adam Fforde's (2003) study in An Giang, Long An, and Dong Thap provinces also found that most households first moved into the resettlement sites and considered repayments later.

Unmanageable debt not only has financial repercussions for the household's asset profile, but furthermore keeps households in a state of uncertainty, as the legal land use certificate is received by households only upon making full repayment of all loans from the government as part of the resettlement programme. This means that households have invested in building a home for themselves, often at great financial cost, and reside without the certainty of legal ownership. Moreover, this uncertainty, coupled with a lack of transparency on the part of local authorities when implementing the programmes, fuel a sense of dependency by asset poor households, in the hopes that local officials will eventually 'have pity for their situation' and 'forgive their debts' into de facto housing grants. Thus, the conjunction of

vulnerability shifts – decreased incomes and unmanageable debt – result in a process of double impoverishment. This depletion of financial assets moreover influences human, social, and political assets, by way of increased dependency on local authorities, eroded sense of self-efficacy and self-sufficiency, and overall lack of legal protection and certainty. The impact of resettlement on these ‘intangible’ assets will be elaborated in detail in chapter seven.

One may then ask why, given these negative repercussions, households resettle in the first place. This is an important question and one warranting an in-depth discussion, but for reasons of topicality to this thesis, I will only mention a few key points on the subject. First is the question of voluntariness of resettlement. In Vinh Tri, three respondents explicitly stated that they had no choice in the matter and were in essence ‘forced’ to move into the resettlement site by local authorities (LA8, 12, 13), with two being resettled to make way for development projects and one resettled from a flood prone area. I do not note the number of respondents from Long Thuan making similar statements, due to the police monitoring of interviews and self-censorship that would have resulted on the part of the respondents. Similarly, the number of respondents speaking to this topic is likely under-represented in Vinh Tri as well, given the political environment and monitoring, as mentioned in chapter four.

Second, in Long Thuan, the local policy was such that if a household refused to resettle and were later affected by riverbank erosion, they would not be entitled to government support or assistance. The prospect of being left to fend for oneself

without government aid, in circumstances of impending erosion was therefore a strong motivator for households to resettle in Long Thuan.

Third, as will be discussed in chapter seven, I postulate that a lack of human assets could have played a role in increasing the number of people who chose the resettlement option instead of migrating elsewhere or remaining in their current location. While this is impossible to prove within the scope of this thesis, the prevailing levels of dependency on local authorities and passive acceptance of one's circumstances exhibited by respondents (discussed in chapter seven) would, I believe, dampen the motivation of individuals to strike out on their own and respond to circumstances in an independent and self-sufficient manner. Instead, the default response for such individuals with strong dependencies on local officials and corresponding attitudes of passive acceptance may tend to be that of following local government initiatives, in this case, resettlement. This dynamic is moreover linked to the above point on the danger of exclusion from government aid should one refuse to take part in the resettlement programme.

Fourth, as already mentioned in this chapter, the opportunity to own a permanent house normally beyond the means of asset poor households is a strong incentive for households to resettle, and by extension, remain in their current commune and hometown. Related to this point is the hope by some households that loan payments will be forgiven by the government, sometimes accompanied by a tendency towards short-term time preference behaviour, elaborated in chapter seven, whereby short-term needs are prioritised over long-term security.

Lastly, I postulate that the household registration system – *ho khau* – plays a role in rooting households to their current location of residence, given the psychological sense of security provided by being a ‘resident’ of the area versus a ‘temporary resident’, referred to by several respondents. The ‘resident’ status is also accompanied by the practical benefits of enhanced social service access in their commune and district, such as access to greater subsidies for healthcare and primary school, monetary and in-kind gifts in celebration of holidays, as well as government aid dispersed every flood season and following disasters.

Consequently, returning to our discussion on resettlement outcomes, I find that the current framework for climate change adaptation in the Mekong Delta, specifically that of resettlement, is unsustainable in its current form. Putting aside the household level outcomes for a moment, let us consider the costs and affordability of implementing and maintaining the programmes. Resettlement programmes in the Delta are, on the surface, designed to be funded through loans to resettled households in the long term, but as Poor and Near-poor households are the target population and the majority are unable to make repayments, who is covering the cost of the construction, maintenance, and development of resettlement sites? In the end, the financial burden falls on the government, international aid, and/or other domestic sources.

According to interviews with local officials in Vinh Tri⁴⁰, the budget for the resettlement cluster construction was supported fully by funding from the central government, while central funding was insufficient for the construction of the

40 The interview with government representatives took place on 20 March 2012 at the Vinh Tri commune People’s Committee (PC) Office.

resettlement dyke. Private businesses in the commune were requested to compensate for this lack of funding through investments, with repayments owed by the local commune government. Loan repayments from resettled households were furthermore said to contribute to infrastructure development. What is unclear is how the local government will repay the businesses, given the lack of repayment by households, also in light of the fact that household repayments are purportedly allocated to infrastructure development.

During interviews with local officials in Long Thuan⁴¹, the resettlement programme was said to be funded in part by central funding, local private business investment, and donations from private individuals. An annual donation drive organised by mass organisations such as the Fatherland Front, Women's Union, and Youth Union calls for residents and migrants working in cities and industrial zones (with household registrations remaining in Long Than) to contribute to the construction of dykes. This model does not appear to be sustainable, however, given the lack of a clear and expendable budget prior to dyke construction. Signs of insufficient funds were apparent in Long Thuan as many sections of the dyke did not have water systems in place, with Better off residents filling the gap by using their facilities to pump river water into large tanks along the road, where other households are able to collect water at the cost of a small monthly fee. The main road leading to and along the dyke was also not yet paved or complete.

Furthermore, apparent in both Vinh Tri and Long Thuan were the close relationships between the local officials, construction companies (including state-

⁴¹ The interview with government representatives took place on 25 April 2012 at the Long Thuan commune People's Committee (PC) Office.

owned enterprises), and contractors responsible for building the resettlement sites as well as the houses for most households receiving the standard housing loan as part of the resettlement process. The contractors appeared to be paid through the resettlement programme budgets, with household moving support grants often reportedly given not to the households themselves, but given instead to the contractors (in cash) toward the housing loan.

On the whole, financial allocation and management was found to be murky at the local level, raising doubts as to the quality of resettlement sites and their management, not to mention the feasibility and rationale for the programmes' loan-centred structure. In the end, who is covering the costs for these widespread resettlement programmes? Households are made to pay through the chronic burden of debt, where in order to make any repayments, the savings they are able to accrue would need to be funnelled towards this debt, ultimately heightening vulnerabilities and eroding their resilience and means for responding to stress and shocks. The government is allocating a great deal of resources to a strategy for climate change adaptation showing mixed results, not to mention questionable standards and ethics in its implementation, in regards to both financial accountability as well as impact on households. This furthermore applies to any international funding that may be supporting these government initiatives.

5.6 Discussion

While resettlement programmes in Vinh Tri and Long Thuan have brought about some important positive outcomes, particularly in terms of protection from environmental stress and access to safe and permanent housing on resettlement sites, it is critical to simultaneously consider the negative consequences given the prevalence of resettlement programmes throughout the Mekong Delta and their focus on asset poor households, who are already more vulnerable to stress and change than their wealthier counterparts.

At the household level, the significance of living in a durable house often takes priority over other livelihood factors such as income generation, with resettlement presenting an opportunity to reside in a house normally beyond one's means on the one hand, and for many, increased indebtedness and decreased income, on the other. This results in vulnerability shifts, usually moving the sphere of vulnerability from exposure to environmental hazards and poor housing to that of double impoverishment – diminished incomes and indebtedness.

Meanwhile, while the stated goal of resettlement programmes in Vinh Tri predominantly aim to decrease the vulnerability of households to environmental stress, the main motivation of asset poor households to resettle appear rooted primarily in a different reason altogether. Exposure to environmental elements – at the heart of the purpose for much of the government resettlement programmes in the Mekong Delta – play a secondary role for the resettled themselves. This mismatch between the aims of the government and households points to a lack of consideration for varied circumstances and the need for context-specific adaptation measures, which may not only be more cost effective for the government, but also

result in decreased overall vulnerability and more sustainable outcomes for households.

The motivation for resettlement among households was furthermore differentiated by household asset profiles and the value placed on certain assets over others. In light of the significance of land and housing for households, for home and landowners in Vinh Tri, the repercussions and damage caused by environmental change in recent years were not perceived as threats serious enough to bring about the desire for relocation to a house away from such hazards. Instead, resettlement is viewed as unnecessary given their current possession of housing and land, to which they are rooted. Hence, while environmental stress does indeed have negative effects on households, in terms of what individuals view as important in their daily lives, it does not eclipse other stress variables, and escaping its effects were not found to be the priority of households in Vinh Tri. Having said this, outcomes in Long Thuan differed as a result of the difference in nature of the environmental variable, providing further evidence of the variegated nature of stress, exposure, and vulnerability.

Vulnerability as a result of resettlement is furthermore shaped by household asset profiles, their income generating activities, and nature of the resettlement site, converging to create differential levels of vulnerability among households. The result is a mixed bag of increased and decreased vulnerability across various aspects of rural livelihoods. Nevertheless, in line with findings from chapter six, access to agricultural land (and water) emerges consistently to increase the resilience of households to stress and change, including resettlement.

While not explored in depth due to the lack of available data from Vinh Tri and Long Thuan, the concept of the *geography of exposure* is important to keep in mind when pondering the asset differentiated exposure and subsequent vulnerability to hazards, as asset poor individuals tend to reside on peripheral and more hazard-prone land when compared to their asset rich counterparts. This points to the broader socially constructed nature of hazard exposure, development of communities and settlements, and conceptions of livelihoods, as well as the hazard-specific factors increasing household vulnerability. For example, the location of a house in flood-prone areas or in proximity to the riverbank in erosion-prone areas, access to land and the quality of said land, and the degree to which one's house is able to withstand environmental stress are determined by both the geography of exposure and the broader socially constructed nature of exposure.

Hence, when taking a step back from the findings and reflecting on the broader purpose of resettlement programmes in the Mekong Delta targeting poor households in hazard-prone areas, in its current form, the approach appears to be that of physically removing people from designated areas, without consideration for broader or long term implications for household vulnerability, resulting in the paradox of households being safer from hazards but poorer and in the end, more vulnerable in the long term. When considering measures to decrease household vulnerability in a context of environmental change, a focus on particular environmental stressors while failing to acknowledge other stressors is in essence, ignoring the big picture, and critically, other important factors contributing to household vulnerability. This holistic approach is important given that adaptation

measures (such as resettlement) are designed to ‘solve’ the problems at hand, but are developed with only a partial understanding of the circumstances, including the effects of dislocation for households. The result is then a fragmented understanding of the complex vulnerability context, opening the way for what are purported to be remedies to hardships that may in fact achieve the opposite by exacerbating other overlooked vulnerabilities. In the case of Vinh Tri and Long Thuan as well as the other studies cited, the lack of a holistic approach has resulted in resettlement programmes producing questionable results, often further impoverishing already asset poor households, and relegating them to states of dependency where their capacity for self-sufficient living is compromised.

Furthermore, understanding the nuanced micro-level processes of vulnerability also help us to avoid making broad stroked assumptions regarding which stressors are important and to what degree. As seen in this chapter, while academics, development practitioners, and policy makers may tend to assume that seasonal flooding poses a serious risk to households living in flood-prone areas, the reality and nature of vulnerability and resilience is complex, as found across environmental contexts in Vinh Tri and Long Thuan, and across diverse asset profiles.

It is then worth revisiting the purpose of resettlement programmes and their outcomes. As mentioned above, while relocating people away from environmental hazards is the primary goal of the resettlement programme in Vinh Tri (and generally being achieved), motivating factors for households to participate in the programme lie elsewhere – principally that of ‘ownership’ of a house normally

beyond their means. This calls into question the broad stroked implementation of resettlement interventions in flood-prone areas, or in other words, the means by which the stated goals of resettlement policies are being accomplished – that of protecting people from environmental / climate change. Is resettlement the best and most cost effective method to keep people safe from environmental hazards? Should other less invasive options not be explored in tandem, to accommodate differentiated environmental contexts and varying household asset profiles and needs? Furthermore, resettlement programmes are cost intensive for governments and are among the most dislocating for households and their asset profiles. To minimise financial costs for the government and present households with alternative options, a more nuanced approach to climate change adaptation is worth considering, to improve the effectiveness of resource allocation, as well as to enhance the positive and minimise negative outcomes. In lieu of these findings and reflections, I highlight the importance of understanding the nuances of vulnerability contexts in their varied forms for disparate household circumstances, and designing climate change adaptation measures to suit a range of scenarios to address comprehensive household vulnerabilities and strengthen overall resilience.

Tangible Assets: Agricultural Land

6.1 Introduction

Following the previous chapter on the homestead (housing and adjoining homestead land), this chapter continues the analysis of key ‘tangible’ assets for households in Vinh Tri and Long Thuan, devoted to the discussion of agricultural land as a critical asset for livelihoods. As mentioned in the previous chapter, while both Chapter five and this chapter address the topic of land, the conceptualisation of the assets and their meaning for households are fundamentally different. Land in Chapter five was conceptualised in its cultural context in the Mekong Delta as a place on which the house is located, or in other words, an extension of the home. It is essentially the space in which individuals reside, where one is rooted, and where daily domestic life (and for some, varying degrees of income generation) takes place. In this chapter, land is explored not in its role and connection to one’s cultural and physical home, but in its livelihoods dimension, as an asset critical for income generation and household livelihood outcomes. As a result, rural livelihoods feature prominently in this chapter, in relation to agricultural land as an asset (in the context of the broader household asset profile) and environmental stress.

The chapter starts with a brief exploration of the politico-historical context of land ownership and the Land Law in Vietnam, describing the policy and legal backdrop underpinning subsequent empirical discussions throughout the rest of the

chapter. The significance of agricultural land as a key determinant of current and future household wealth is then explored – with access to / ownership of land found to provide opportunities and leverage for livelihood growth while the lack thereof leaves asset poor households with little means to escape poverty. We then move on to explore the difference in human ecology between Vinh Tri and Long Thuan, particularly in terms of environmental stressors and their differential impact across livelihoods. Finally, a typology of livelihood activities is presented, building on the previous section on differential human-environment systems across the two locations, by focusing on the nexus between livelihood activities, environmental contexts, and household profiles including agricultural land. Thus, livelihood outcomes are examined through the lens of human-environment systems, with a focus on the role of land access (as part of broader household asset profiles) for households.

6.2 Land Law: Rights and Entitlements

An overview of the developments of land ownership and distribution in Vietnam provides historical context for the remainder of the chapter, with an overview of the developments of land ownership and distribution in Vietnam. Among the most salient themes to be noted is the political legacy of state control over land, now currently in practice by way of the Land Law⁴²(2003).

⁴² President Order No. 23/2003/L-CTN, issued 10 December 2003, on promulgation of the Land Law.

Following the end of the Vietnam War in 1975, the government established the ownership of all land as belonging to the collective people, and distributed by the state in line with socio-economic development policies and reclaimed by the state if deemed to be in improper use. Under this system, agricultural land was owned by government cooperatives and industries, while services were controlled by state-owned enterprises and community-owned economic organisations.

The initiation of *doi moi*⁴³, however, brought about the widespread dispersal of agricultural cooperatives in 1986, with residential and productive land allocated for household and individual use under the condition that residential land be used for such purposes permanently. Thus, in line with the increasingly market driven economy, from 1988 to 2006, the government redistributed 2.9 million hectares of productive agricultural, aquacultural, and forestry land from cooperatives to individual rural households for their economic and daily use (Dang and Tran 2006, Dang *date unknown*). Nevertheless, in 1996, large scale reallocation was initiated, with household owned agricultural lands returned to the state for socio-economic development purposes – construction of infrastructure and residential areas, new economic and industrial zones, and commercial service zones.

Soon after *doi moi*, the Land Law was established in 1988 (with subsequent amendments in 1998, 2001, and 2003). The current version of the Land Law (2003) introduced several policies, including the legal framework for individual ownership of land, while clearly stating the state's ultimate authority on all land use planning and allocation. In essence, the state is endowed with the authority to determine who is

43 As mentioned in Chapter three, *doi moi* is the policy of economic renovation initiated by the Vietnamese Communist Party Congress in 1986, moving the economy towards decentralized market-based system.

entitled to own which land, and the purposes for which it is used (Nguyen 2004). Ironically, while land distribution to farmers resulted in Vietnam becoming one of the world's largest rice exporting countries and was a considerable driver in reducing poverty rates throughout the country, the Land Law has in recent decades exacerbated disparities in access to land use for individuals (Nguyen 2004).

Under the Law, agricultural land is redistributed among households according to the number of adults and children in the household, following a 20-year cycle, with the exception of communal land, land used for household domestic use, and water sources. In such a policy environment, not only does demographic growth entail a lack of available land for households, but individuals born after land allocation are left to wait for the next allocation cycle, until which time they are likely to remain landless. This is particularly detrimental to agriculture-dependent households and individuals (Nguyen 2004), and is made further complicated by a political system rife with corruption and ambiguity. Moreover, the concept of 'ownership' is impermanent, with ultimate ownership and decision-making for land use resting with the state.

Presented below is the case of a Better off household in Vinh Tri who 'owns' agricultural land, but faces a shortage of land given their large household size and the restrictions posed by land distribution policies. Furthermore, the household is living through the land policies described above, from government socio-economic initiatives in the early 1990's boosting agricultural productivity of the Mekong Delta, to the reallocation of household land back to the state for development programmes in 1996, as well as the current limitations faced by agricultural land distribution policies.

Chau lives in Vinh Tri with her husband and has three sons. They are originally from Hai Duong province in northern Vietnam, and are one of numerous households who were resettled from Hai Duong to Vinh Tri in 1990 as part of a 'new economy' programme to populate and

develop the agricultural sector in the Mekong Delta. Upon arriving in Vinh Tri in 1990, the household received a small thatched house and 1.2 hectares of agricultural land as part of the resettlement package. In 1996, however, due to the construction of a new road, all of their fields were reclaimed by the government, while their land compensation was paid three years later after the market value of land had nearly quadrupled. Nevertheless, a seller agreed to deferred payment over three crop seasons, and with further loans, they were able to purchase two hectares of land in a different location. During the interview, Chau expressed frustration over the land distribution policies, as the household has three adult sons, but they have only been permitted to purchase one plot of land for the entire household. Furthermore, the sons are unable to start their own household registration books as they do not own land, in a predicament where they are not permitted to purchase additional land, but legally require land ownership in order to separate their household registration to register their own households. (LA10)

The history of this household reflects the sparse population and greater availability of land in the area in the early 1990s, and government initiatives to develop the agriculture of the region through resettlement programs. Also depicted are government initiatives starting in 1996 to redistribute land from households back to the government for infrastructure development. After authorities claimed their land, however, the household underwent a questionable compensation process having to wait an undue length of time before receiving their land compensation, during which time the price of land increased manifold. Most recently, the household was only authorised to purchase one plot of land, inadequate considering the allocation is meant to support five grown adults, some of whom who have their own families. It is unclear why this was the case, as large households in the Mekong Delta are typically permitted to purchase two plots, which even then, could have been insufficient.

Nevertheless, individuals have forged resourceful solutions and means for survival within such restrictive parameters, a common method being that of purchasing land and obtaining a property purchase allocation certificate through a proxy individual whose name is used on the certificate for a small percentage of the cost of land purchase.

For households who can afford this option, it is a well-known means to circumvent the limitations for household land use.

6.3 Land: Key Determinant of Wealth

Having outlined the policy and legal context of land ownership in Vietnam, we now move onto the empirical discussion on agricultural land and how it was found to shape household vulnerability, and livelihood strategies and outcomes in Vinh Tri and Long Thuan. Among the key asset determinants for wealth among households in Vinh Tri and Long Thuan, access to agricultural land use was found to be among the most important in terms of income and outputs.⁴⁴ In general, land is associated with greater rural livelihood opportunities and higher income, and was found to be a source of long term security as it can be used as a liquid asset, as collateral to build or expand livelihoods, and sold to pay off debts.

While acknowledging the limitations of the data as explained in Chapter four, the tables below summarise the range and average of household incomes per person, categorised by their household's degree of access to land use – landless, rent land, and own land. Only households whose income information was available and whose livelihoods depended fully or in part on agricultural activities were included, as land access is less relevant for non-agricultural livelihoods.

⁴⁴ 'Land use' in this thesis refers to owning, renting, and sharecropping agricultural land.

Table 7. Incomes by category of land access – Vinh Tri

Land access	# of households	Income range / person / year	Income average / person / year
Landless	7	1.6 – 3.12 million VND	2.3 million VND ⁴⁵
Rent land	1	5.14 million VND	5.14 million VND ⁴⁶
Own land	4	5.16 – 14.45 million VND	7.96 million VND ⁴⁷

Table 8. Incomes by category of land access – Long Thuan

Land access	# of households	Income range / person / year	Income average / person / year
Landless	5	1.8 – 4.8 million VND	3.42 million VND ⁴⁸
Rent land	3	4.7 – 12 million VND	8.9 million VND ⁴⁹
Own land	1	12.9 million VND	12.9 million VND ⁵⁰

Tellingly, but not perhaps surprisingly, these tables depict an income spectrum corresponding with households' level of land access, showing landless households reporting the smallest income, land owners the largest, and those renting land in between.

Providing further evidence on the importance of land for rural household economies, four households (one in Vinh Tri, one in Can Tho, and two in HCMC) spoke of previously owning land and (all but one) being wealthier at the time, but having to sell their land to pay for health care or to pay off debts. As a result, they reported now being landless and for three households, consequently poorer. Nevertheless, had they not possessed land during their time of need, they would have had no choice but to take out loans from private moneylenders, leaving them trapped in a cycle of indebtedness.

45 Equivalent to USD 180 in current value, according to Google search on 19 January 2014.

46 Equivalent to USD 242 in current value, according to Google search on 19 January 2014.

47 Equivalent to USD 374 in current value, according to Google search on 19 January 2014.

48 Equivalent to USD 161 in current value, according to Google search on 19 January 2014.

49 Equivalent to USD 418 in current value, according to Google search on 19 January 2014.

50 Equivalent to USD 606 in current value, according to Google search on 19 January 2014.

The experience of these respondents point to the role of land ownership as a possible buffer against household debt. In contrast, chronic indebtedness was prevalent among landless wage labourers, who are unable to amass significant savings for use during times of shock / stress and therefore left with no option but to take out loans during such times of need, but who were simultaneously lacking the assets with which to pay off all of their debts, and thus frequently trapped in a cycle of indebtedness.

Although land does appear to be among the most critical assets for households and the resilience of their livelihoods, it is nevertheless important to note that land is one of many assets within a household's asset profile, constantly in flux given the dynamic nature of asset accumulation and depletion, resulting in a household's overall asset profile, vulnerability, and livelihood outcomes as mediated by asset management and livelihood strategies. Below is an example of Huy, a migrant in HCMC from the Mekong Delta depicting the dynamic fluctuation of asset profiles, and his circumstances leading to debt, loss of land, and ultimately, migration.

Huy is currently a migrant working on a small construction site to build a private home in HCMC. He is originally from Bac Lieu province in the Mekong Delta, and has a wife and two daughters back home who depend primarily on his remittances for their daily expenses. Huy travels throughout the year to HCMC and other areas in southern Vietnam to work on construction sites. When they were newly married, he and his wife had inherited 1000m² of land from his parents-in-law, on which they used to farm rice for a living. Although their land lacked productivity due to saline intrusion, they were able to get by on the earnings made from farming, as well as through hired work on other farmers' rice paddies. Huy's daughters, however, became chronically sick for a length of time, and in conjunction with the household's sparse earnings and lack of hired work in the area, they ended up in debt due to health care costs and also struggled to pay for daily living expenses. As a result, Huy and his wife sold all of their land to pay off their debt and to cover living costs. Selling the land has allowed them to repay their debts, and Huy now migrates every few months to work on construction sites to support his family. This was seen as the only possible option as relying solely on hired labour wages in Bac Lieu would likely have landed them very quickly in debt again, given they no longer have land to farm or use

as collateral should they experience other unforeseen shocks / stressors.
(SG1)

Illustrated in this case is the value of land, not only as a source of income, but as a form of savings, an asset that can be used in times of need. The cause for migration in Huy's case is multi-faceted, but no longer having access to land use is a critical factor. While the root causes for migration are many, from poverty, salinisation, poor health, to debt, sequentially speaking, the decision to migrate was made following the loss of agricultural land given its impact on the household's livelihood. Mobility in the context of environmental stress will be discussed in detail in Chapter eight, but it is worth mentioning here that the loss of land use was detrimental enough on the household's livelihood for the main breadwinner to respond by living and working away from his home and family for the majority of the year.

Narayan et al (2000) also echo findings from this study whereby lack of access to land causes households to be particularly susceptible to becoming trapped in a cycle of indebtedness. This is in large part due to the nature of income generation available to landless individuals, which in Vinh Tri and Long Thuan tend to be low wage, agricultural hired labour. Consequently, working as landless hired labourers was repeatedly deplored by respondents as the path to 'stay stuck in poverty'. Without an asset base that can be used as collateral (such as land or savings) or that can facilitate the generation of substantial income, expanding livelihoods remains difficult, leaving asset poor households to survive on daily wages, unable to accrue any substantial amount of savings to grow their asset profile, and which would provide a degree of security to use during circumstances of stress / shock. Furthermore, without a sufficient asset profile (particularly large amounts of land in the agricultural context), returns are minimal and high in variance (Heltberg et al 2008) as hired work wages are low and

seasonal in nature; not to mention susceptible to decreased labour demand as a result of increased mechanisation of agriculture. For the Better off, on the other hand, land is often used to grow the household profile and wealth, as illustrated by the household presented below.

Trang lives in Vinh Tri, in a household classified as Better off. They own two hectares of agricultural land, used predominantly to farm rice. This is their main source of income, and they are able to sustain a good standard of living. Trang and her household moved into a residential dyke several years ago. They were able to pay off the full price of the plot and house construction by taking out a low interest loan from the Bank of Agriculture and Rural Development using their agricultural land use certificate as collateral. In terms of overall debt, as rice farmers in the Mekong Delta, they follow the common practice of purchasing farming inputs such as fertiliser and pesticides at the start of the season on credit, and repaying the loan after harvest. They are able to make these repayments and are earning profits from their two hectares of land. (LA10)

This case illustrates how due to the combination of land ownership and the financial assets they are able to generate from their land, as well as ‘intangible’ assets such as farming and financial skills (human assets discussed in Chapter seven), the household has been able to generate substantial savings and take advantage of low interest loans available to land owners in order to gain another important asset, a permanent house safe from flooding. Due to the strategic use of these key assets, they enjoy a level of flexibility inaccessible to their asset poor counterparts, enabling them to make investments and grow their wealth. In contrast, a different case below shows the limitations of being a landless wage labourer, and their lack of means to escape poverty and indebtedness due to their weak asset profiles, of which land is among the most critical in the rural context. As a result, their lives are permeated by a sense of uncertainty and an inability to plan beyond the day to day given their minimal earnings and struggle to meet basic daily needs.

Kim lives in Vinh Tri with her grandson who is nine years old. As the only breadwinner in the household, her main income generating activity is hired labour work in rice fields. She also helps to support her father who is elderly and cannot earn enough on his own. She and her grandson live in a small building owned by a public school, as they cannot afford to build a house and do not have access to any land on which to do so.

'I work on the fields as a hired labourer, also to earn money to support my father... [The school,] they let me live [in this building]. When they sell the land, I will move to another place... The government once offered to give me a loan to do business, but I was afraid the animals may die and I would not be able to pay back the loan. To start raising ducks or chicken I need enough capital, but I don't even have rice for myself. How can I raise animals?... There are no more jobs available now [because it is not crop season]. Later when they start growing rice, I will work to earn a bit of money and glean rice to eat... But during the last crop I couldn't glean because I was sick... Work is hard to find nowadays because people use machines, so few of them hire me to cut rice, and I can't glean rice either... Other people who have fields can sell their rice to earn money. I have to buy rice, buy everything. I don't dare spend much, I must save money to buy rice, and sometimes I buy a little meat, fish, and vegetables to eat.' (LA21)

Portrayed in this excerpt are the stressors that many asset poor and landless households juggle day to day, and their lack of resilience stemming from their weak asset profiles. These individuals overwhelmingly do not own a home and live in temporary shelters, survive day to day on their daily earnings, and work in irregular seasonal wage jobs with low returns. The effects of the lack of tangible assets (such as cash, savings, and land) are further magnified when human assets (such as ablebodied household members and good health) are lacking, as described in Chapter seven. Kim's comparison of herself to land owning farmers was a common occurrence among other landless respondents, with land ownership seen as the primary way to escape poverty. With access to land use, households are able to generate a higher level of income, and

decrease their food expenditures through the cultivation of home gardens or saving some of the farmed rice for consumption. The negative effects of mechanisation are also mentioned, with wage labourers finding themselves competing for fewer available jobs.

This constant state of uncertainty and lack of stability were common features among asset poor, landless households who primarily depend on daily incomes to get them through each day. The lack of an asset base and contingency plans when faced with unforeseen events (such as severe flooding, poor health, or increased mechanisation) makes them all the more susceptible to stressors undermining long term livelihoods.

As such, access to land was found to be a consistent indicator for income levels among those dependent on agriculture-based livelihoods. Attempting to decipher the chicken or the egg sequencing for land access and monetary wealth is beyond the bounds of this thesis, but for households whose livelihoods are agriculture-based, land is, regardless, among the most vital assets. A multi-country study by Narayan et al (2000) also found lack of land access to be a critical determinant of poverty in several rural communities in Vietnam, Bangladesh, and India.

We take pause at this juncture to note the absence of environmental stress in our discussion thus far on agricultural land as an asset. Speaking to the counterintuitive argument made in the last chapter, while policy makers, development practitioners, and academics outside the local context may assume environment stress to be a prevailing stressor in the Mekong Delta, what has emerged from my data is that environmental stress is not necessarily as important across the board for the households themselves as it may be assumed to be. Hence, in terms of the role of environmental stress in this discussion on the land-household vulnerability nexus, it was not found to stand out

among other external stressors, particularly in Vinh Tri. (The differential human ecology between Vinh Tri and Long Thuan is discussed in-depth in the next section.) Household vulnerability was instead found to be determined by myriad factors – internal elements of the household comprised of the asset profile including both tangible and intangible assets, and external stressors such as lack of employment and seasonal employment as a result of the seasonal nature of agricultural work in the Mekong Delta, environmental change and stress, degradation of natural resources as a result of development in the region, and mechanisation of agriculture causing a decrease in available hired work. Hence, the production of vulnerability is complex, shaped by numerous factors, of which environmental stress is only one.

6.4 A Comparison of Human-environment Systems: Vinh Tri and Long Thuan

Having explored the importance of land as an asset, this section discusses the differing human-environment systems of Vinh Tri and Long Thuan shaping the various livelihood typologies and related assets and outcomes discussed in the following section. As described in Chapter three, the predominant environmental stressors in Vinh Tri and Long Thuan are seasonal flooding and riverbank erosion respectively. While seasonal flooding may be the cause of erosion in Long Thuan, the stress variable most directly experienced by households is erosion, as residential and agricultural lands are for the most part higher than flood levels. This is in contrast to Vinh Tri, where the vast majority of the area is low-lying and naturally

inundated during flood season, outside the manmade structures such as roads, dykes, and residential and commercial areas.

Given its location surrounded by the Tien River, Long Thuan residents enjoy fertile lands and an abundance of nutrient rich water for irrigation year round. Thus, lands further inland from the riverbanks and located on higher ground (which is also where the resettlement dykes are located) by and large enjoy environmental conditions conducive to year-round agricultural production. This means that livelihoods in Long Thuan are on the whole, far less affected by the annual flood season in terms of scope. In contrast, seasonal flooding in Vinh Tri occurs across vast areas where only houses on sufficiently high foundations or stilts, or dykes high and strong enough can prevent flood incursion, resulting in a far greater percentage of people affected by floods each year.

Nevertheless, unlike Long Thuan, adaptation measures are available onsite in Vinh Tri, for example, by building dykes around one's land and raising furniture on bricks and houses on stilts. For those living in close proximity to the riverbank in Long Thuan, on the other hand, their houses can be moved further inland or supported on the edge of riverbanks with stilts, but these are only temporary measures available while the land available to them is still intact. Once any given land is eroded, it is swept away and permanently lost to the Tien River.

Consequently, while a smaller proportion of individuals in Long Thuan may be impacted by environmental stress, for those who are affected, their homes and livelihoods tend to be more severely and permanently altered, given the irretrievable loss of residential and agricultural land and homes, and landowners becoming

increasingly land poor and landless. In contrast, after flood waters recede in Vinh Tri, the land is returned to its inhabitants for use, in a landscape where seasonal floods are an integral part of the yearly calendar and people are accustomed to and have learned to live with such seasonal cycles.

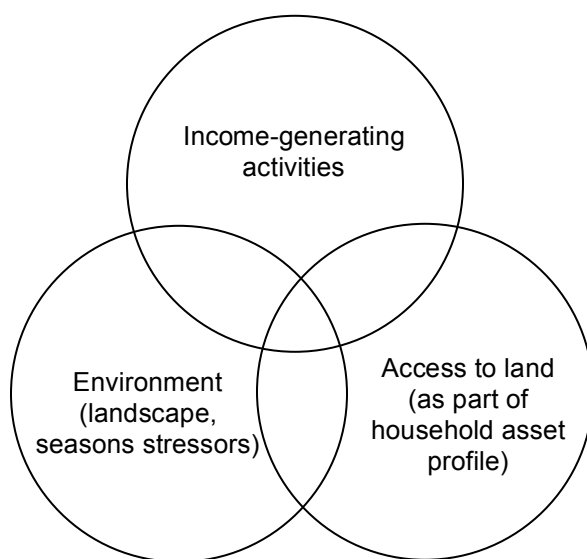
When comparing the two locations, it is difficult to say whether one area is affected to a greater degree by environmental stress than the other, but what is clear are the differential and temporal impacts of the environmental contexts on household asset profiles and livelihoods. Furthermore, when considering household resilience to these environmental stressors, household asset profiles appear to play a crucial role in mediating households' resilience and adaptive capacities. This was apparent in Chapter five with the importance of the homestead in determining livelihood outcomes and depending on the environmental context, the ability to remain on one's land despite environmental pressures; and in this chapter as evidenced by the household's degree of land access and corresponding income levels, as well as the role of land as a buffer against indebtedness and as a critical asset for long term livelihood security and asset profile growth. Hence, wealthier and asset rich households exhibited greater resilience to environmental stress, as they are able to adopt robust adaptation measures out of reach for the asset poor, such as building concrete housing foundations and dykes around the house in Vinh Tri (as observed during fieldwork), and purchasing land further inland to move to in Long Thuan (as described in Chapter five). In contrast, options for the asset poor are limited to lower cost, temporary, and short term measures (such as buttressing roofs and walls with

wooden planks and poles) while living with greater uncertainty as to the durability of these measures.

6.5 Typology of Livelihood Outcomes: Nexus of Income-generating Activities, Land Access, and Environment

The chapter has thus far examined land as a key asset for rural households engaged in agriculture-based livelihoods and outlined the comparative human-environmental systems in Vinh Tri and Long Thuan. This section now moves deeper into the analysis of agricultural land as an asset by investigating the nexus between household land access (and accompanying asset profiles), their diversified livelihood activities, and the environmental context. In essence, I am taking a human ecology approach to analysing livelihoods, focusing on how the land asset and the environment (landscape, seasons, and stressors) relate to income-generating activities and influence livelihood outcomes; while keeping in mind the role of broader household asset profiles in shaping differential vulnerability. Figure 4 below depicts the relationship being investigated.

Figure 4. Relationship between land, environment, and livelihoods



Of the diverse income-generating activities found in Vinh Tri and Long Thuan, the most prevalent activities are presented in the table below, disaggregated by the income groups found to engage in each activity.

Table 9. Income-generating activities by income group in Vinh Tri and Long Thuan

	Poor	Near-poor	Better off
On-farm hired labour			
Off-farm hired labour			
Home-based small business			
Farm on rented / sharecropped land			
Farm on own land			
Fish to supplement income			
Raise livestock			

What is most notable about this table is the fact that no Poor households had access to land use, either through ownership, renting, or sharecropping. In this way,

the inaccessibility of land for the most asset poor is illustrated, indirectly alluding to the role of land (and social differentiation mediating access) in perpetuating poverty; and conversely, the ability of the asset rich with land access to maintain and grow their asset profiles.

The following sections will analyse the context for engagement in the livelihood activities listed in the table, focusing on the nexus described above – the role of asset profiles in the inclusion / exclusion of households from certain livelihood activities, access to agricultural land, and the differentiating effects of the environmental context. I start with activities requiring low access qualifications – hired labour and small businesses, then move onto those with high access qualifications – farming with access to land use and other small businesses, and end with common supplemental income-generating activities – fishing and raising livestock.

6.5.1 Low access qualifications: hired labour and small businesses

The three most commonly found livelihood activities among the Poor and Near-poor income group across both locations were on-farm hired labour, off-farm hired labour (such as selling lottery tickets, collecting recyclables, domestic work, and local construction work), and home-based small businesses (such as street vending and home-based shops), of which more than one type of activity was often undertaken as part of a household's livelihood diversification strategy.

This typology of livelihoods is characterised by its accessibility for the asset poor given their low *access qualifications*, referring to the ‘set of resources and social attributes’ (Wisner et al 2004) such as cash, skills, or social membership, necessary to undertake a livelihood activity. Associated income-generating activities tend to be labour intensive and do not require highly technical skill sets or significant investment, explaining their prevalence among the asset poor. As discussed in Chapter two, the assets most readily available to asset poor households tend to be low skilled human assets – where the human body provides much of the needed input for income generation – such as human labour and ablebodiedness. These low skilled human assets, in some sense, are a substitute for one’s landlessness and lack of other high access qualifications such as financial assets. Hence, this livelihood typology is characterised by the weak asset profiles of those who engage in them (including landlessness), and minimal and high variance of returns perpetuating the impoverishment of households and hindering their ability to amass a secure asset base (such as savings and land).

We now start our discussion of the three most commonly found livelihood activities among the Poor and Near-poor groups, starting with small businesses. While this typology is common among asset poor households, they do require some financial assets to purchase and prepare inputs, remaining beyond the reach of the most asset poor. Below is an excerpt from an interview illustrating the financial and human assets required of a small business owner.

Trung is 65 years old, from a Near-poor household in Long Thuan, and lives with his wife who is 50 years old. Their main livelihood activity is selling homemade soymilk from their cart along the main dirt road in their neighbourhood.

'We earn money from this soymilk cart... Both of us prepare soymilk in the morning to sell... We are still poor but earn a living... I'm old now so I can only keep doing the same thing, I don't think I can grow or improve now... I also work as a hired farm labourer sometimes... We start preparing [the soymilk] at 3am. My wife sells and I deliver... We sell soymilk from morning to afternoon and earn 60-70,000 VND and spend it all on food everyday... If we can sell a lot it's ok but the problem is when we can't sell it all.' (DT16)

This example illustrates the nominal assets required for such small businesses – minimal cash to purchase inputs, social assets to form business relations, but most of all, low skill sets, human labour, and ablebodiedness to generate and sell one's product. Nevertheless, while financial assets required for initial input is relatively small, this livelihood activity remains beyond the reach of the poorest households given their lack of savings and other financial assets. Small businesses are, therefore, an income-generating activity accessible across the income spectrum, regardless of access to land, with the exception of the most asset poor households.

In Vinh Tri and Long Thuan, the non-agricultural nature of this line of work translates to a relatively steady flow of income given that the livelihood does not take place on flood plains and is therefore less affected by seasonal floods. While flood season is accompanied by rains and storms, which do hinder the ability to work to some degree, unlike hired agricultural work which is impossible to carry out when fields are flooded, it is possible to continue earning some degree of income through off-farm hired work and small businesses, when the weather permits. In this

way, these non-agricultural activities are less susceptible to the effects of environmental stress in Vinh Tri, as the predominant stressor is seasonal flooding. In Long Thuan, however, as the area remains largely out of reach of seasonal floods, the continuation of all three types of livelihoods – on-farm and off-farm hired work, and small businesses – is possible during flood season. While overall work productivity and earnings are decreased during flood season due to other accompanying environmental stressors, unlike in Vinh Tri, individuals are able to continue engaging in the same livelihood activities.

For the most vulnerable and asset poor households across both locations, their weak asset profiles mean that small businesses that require any significant amount of inputs, as small as they may be, are out of their reach. This leaves the most vulnerable with little choice but to rely predominantly on hired work (on- and off-farm) – labour-intensive livelihood activities resulting in low and unsteady returns.

In terms of agricultural hired labour, in Vinh Tri, this typology translates to little or no income during flood season, and in Long Thuan, some decrease in income during flood season, but not at the level of Vinh Tri, given the absence of flooding. As such, while data is lacking to compare the differential degree of vulnerability for asset poor households engaged in agricultural hired labour, it would appear that in terms of the effect of environmental stress on livelihoods, the negative repercussions are less severe in Long Thuan. Nevertheless, as discussed in Chapter five and in this chapter, while riverbank erosion may occur across smaller geographical areas at a given time, when it does affect a household, the loss is often

more acute. Moreover, erosion occurs incrementally every year, meaning it may only be a matter of time before its incursion into previously unaffected areas. Although landless individuals do not need to worry about losing their land in this context, their homes and possessions remain in danger of being irretrievably lost. Thus, while seasonal floods in Vinh Tri may affect households more frequently than riverbank erosion in Long Thuan, the damage caused by each flood event is likely less severe when compared to the acute and permanent damage caused by riverbank erosion in Long Thuan. Nonetheless, within the parameters of this thesis, it is difficult to judge the comparative long term effects of the two stressors on household vulnerability.

As mentioned above, the three most frequently occurring categories of income generation – on-farm hired labour, off-farm hired labour, and home-based small businesses – are characterised by low and unpredictable returns and the labour-intensive nature of the work. While the activity itself typically generates enough income to re-invest in inputs, or small loans can be taken (commonly from family, neighbours, or friends when needed), without human labour, it would not be possible to sustain this typology of income generation. Hence, households in this group are essentially finding the means to survive within their minimal asset profiles, dependent primarily on human assets (discussed further in Chapter seven) – among the most accessible and readily available assets. The example of Chi below, who lives with her son in Vinh Tri, further illustrates the dynamics of asset poor households reliant on hired on- and off-farm work.

‘I live in the building of the local kindergarten... I work as a hired labourer... for whoever asks me... I earn enough just to get

by... [My work is] very irregular. For three months of flood season, I don't have any work so I don't earn any money... Sometimes I collect recyclables to buy some vegetables for my son... I only do this during flood season... I also pick cork on the river sometimes to earn a bit to buy rice... [During the other nine months] I... am able to work for four months... [The local authorities] gave me a fishing net. I gave it to a neighbour to catch fish because I don't know how... When they catch some fish they give us some to eat.' (LA27)

Similar to the previous household, this household is limited in its livelihood options given their lack of financial and physical assets such as land, cash, and savings, restricted to activities requiring minimal access qualifications, that produce low and irregular returns. Their income-generating abilities are further hampered as they have only one income-earning individual, with poor health additionally impeding her ability to work (human assets discussed further in Chapter seven). The theme of low and unstable returns and the limitations of a poor asset profile were pronounced among asset poor households across all locations.

As mentioned above, off-farm hired employment and small businesses tend to be less affected by the flood season in general, but in Long Thuan, it is much easier for labourers, business owners, and their customers to move about and conduct their affairs as they would during the dry season. This is in contrast to Vinh Tri, where outside the residential clusters and dykes and other raised roads and structures, the landscape itself transforms into vast areas of flood plains, posing difficulties for transportation. Hence, in flood-prone areas such as Vinh Tri, tropical seasonality often brings about a conflation of inter-related difficulties, seen to a lesser degree in Long Thuan – high unemployment, decreased income, food shortages, and indebtedness (Chambers 1995). The household presented below depicts the

overlapping occurrence of these elements of deprivation during flood season in Vinh Tri.

Thi, her husband, Loc, their six children, and niece make up a household categorised as Poor in Vinh Tri. Their main activity for income generation is selling lottery tickets by foot on the street, with Loc, their niece, and son working in this capacity. The other children are still young and not yet contributing to the household income. The three working household members are able to sell tickets almost everyday during dry season, except when sick or unwell. During flood season, however, they cannot work when it rains, as they are exposed to the elements while on the road. Thi and Loc also work as hired workers on rice farms twice a year during harvest, which occurs in the dry season. As their daily income is just enough to feed the household of nine day to day, and flood season entails less work for both lottery ticket selling and hired farm work, they have no other options but to borrow money and food from neighbours when it rains, to hold them over until the next day they are able to earn an income. They try to repay their neighbours as quickly as possible to maintain good personal relations, and spread their loans across several people to avoid incurring large amounts of debt to one individual. Larger amounts are borrowed from relatives to minimise risk, taking advantage of trust and familial bonds. Nevertheless, repaying all of their debt is difficult given their low income and daily food needs, making any day without income all the more dire and prone to hunger and increased indebtedness. (LA2)

As further illustrated by this example, the confluence of several difficulties – seasonal unemployment, low and unsteady income, hunger, and indebtedness – was commonly found among asset poor households in Vinh Tri. In contrast, their counterparts in Long Thuan were far less affected by seasonal floods as a result of the differing landscape, and were therefore less prone to the convergence of hardships during flood season.

6.5.2 High access qualifications: farming with access to land use and small businesses

The second typology for income generation found in Vinh Tri and Long Thuan focuses on wealthier households farming on land either owned by the household, or rented, or sharecropped, as well as more lucrative small businesses. This typology of livelihoods is linked to high *access qualifications*, remaining beyond the reach of asset poor and vulnerable households. A certain level of financial assets, privilege, or inheritance is required to obtain ownership of land in particular, and to a lesser degree, to rent and sharecropped land. As the returns are significantly higher than the low paid, less skilled, and labour-intensive livelihood activities described in the first typology above, the asset rich, particularly in terms of land and financial assets, are endowed with the asset base with which to increase their asset profile, while the land poor and landless, without these lucrative assets, are prone to remaining vulnerable and trapped in poverty. Below are excerpts from two Better off households, the first in Long Thuan followed by an example from Vinh Tri, illustrating the level of income generated by asset rich households with access to land use.

‘I work as a hired labourer, I earn 2 million dong per year... [My mother-in-law’s field is] about 700m²... Each time I harvest shallots I get 1-2 million dong. After the first three months I harvest the shallots then the next month I harvest again, I can harvest every month... I make 1-2 million dong a month... I [also sharecrop] during rice crops... [I harvest] 400kg of paddy [per crop]... I work on [6-7000m²] of [rice] fields...I keep some rice to eat, the rest I sell to earn money... I can work three crops [per year]... If they ask me to embank the field or spray pesticides... I work for them if I feel good... I am not in debt.’ (DT24)

‘I work as a hired labourer, whenever they call for extra labour... In rainy season, there are no jobs here at all... [On my two hectares of land]... for the main crop I [harvest] five or six tons per hectare, the [second crop] four or five tons per hectare. From two hectares [of fields], that’s about 16, 17 tons per year... We earn [a total of] 25-30 million dong a year... [For the extra hired labour work] I [earn] about five or six million dong [per year].’ (LA10)

These two examples of asset rich households with access to land use depict the incomparable level of income generation possible for those with land access in contrast to the landless. While the first respondent did not have any debt, the second respondent did report being in debt, but as a routine part of the crop cycle where inputs at the start of the season are purchased on credit and repaid upon harvest. Both households farm on their own land / sharecropped land, but also engage in hired farm work to supplement their income, further increasing their incomes.

In terms of the influence of environmental conditions, however, the household in Long Thuan is able to farm throughout the year, whereas the Vinh Tri respondent spoke of no work (and therefore income) being available during flood season. Despite the ownership of land, the household in Vinh Tri is unable to farm their land during three months of the year due to the arrival of seasonal floods.

Among the Better off households, it is interesting to note the lack of households engaged in off-farm hired labour (as shown in table 9 in section 6.5), while hired farm work was common within the group. It may be the case that as landowners farmed their own land and agricultural hired labour requires the same set of skills, taking up the latter for supplemental income was an accessible way to increase household incomes. Thus, landowning farmers were able to generate income both on their own land, while also working in jobs that asset poor households are limited to.

For the Better off households who didn't own land, they were typically running a household business selling processed food such as processed meat and noodles, which require more capital for input, and also generate greater profit compared to other small-scale businesses. They were further characterised by having several healthy household members who were contributing to the business or engaged in hired farm work.

Consequently, a relatively profitable business in combination with ablebodied household members and no significant sources of asset depletion (such as poor health) was generally sufficient to keep households in the upper income bracket. Assets required included financial assets to afford business inputs, the physical assets with which to run the business, and human labour and skills to run the business and engage in farm work. Compared with their poorer counterparts, although the type of livelihood activity is similar (mostly street vending), wealthier households were able to sell more lucrative products given their ability to invest in inputs and purchase more expensive wholesale products.

6.5.3 Supplemental livelihood activities: fishing and raising livestock

Having discussed the two main livelihood typologies found in Vinh Tri and Long Thuan, I now briefly address the most common supplemental income-generating activities in both locations given their importance for household livelihoods – fishing and raising livestock, particularly poultry and pigs. For households with a sufficient asset profile including land on which to raise livestock, financial assets for input, and knowledge and skills, raising livestock proved to be an important source of supplemental income across all income groups. While some asset poor households were able to raise livestock with the right environmental conditions, they were often unable to purchase a substantial number of animals, or lacked the skills and experience to raise them through maturity, resulting in smaller earnings compared to their wealthier counterparts. Without an adequate asset

profile, raising livestock often ended as a one-time attempt at diversifying livelihoods, resulting in meagre earnings or debt due to the small number of livestock raised, or their illness or death.

Particularly for households whose main livelihood activity consisted of raising livestock, the type of animal chosen was differentiated by wealth status. As the cost of buying and raising piglets requires more financial assets than do chicken and ducks, pig rearing was found predominantly among Near-poor and Better off households. Naturally, the profit margin for pigs outweighed that of poultry, reproducing the pattern seen above of the wealthy and asset rich able to enhance their asset profiles and wealth, while the asset poor are restricted by their weak asset base and corresponding lack of opportunities.

Fishing as a supplemental livelihood activity, however, was common across all wealth groups due to its low access qualifications (skills and fishing tools such as a net, rod, and wooden canoe), but differentiated to a greater extent by environmental factors. While prevalent in Vinh Tri and much of the Mekong Delta during flood season, households engaging in fishing were extremely rare in Long Thuan as higher water levels remained largely confined to the Tien River. Given the strong river currents and depth, environmental conditions are not favourable to fishing from the shore or on small wooden canoes, especially during flood season. Only one household engaging in fishing for income was found in Long Thuan. However, fishing even in this case did not take place on site, but in other provinces in the Mekong Delta while travelling by wooden canoe. In Vinh Tri, on the other hand, given the vast areas of inundation and lack of other income-generating

activities during flood season, fishing was found to be a key source of supplemental income and sustenance during this time of year. Interestingly, the environmental stressor in question – flooding – is precisely the element needed to bring fish populations to a given area, highlighting again the counterintuitive argument and need for nuanced understandings of the effects of environmental stress at the micro level.

6.6 Discussion

This chapter found land to be a key determinant of wealth in both Vinh Tri and Long Thuan, linked to enhanced rural livelihood opportunities and higher income, as a critical asset that can be leveraged in times of shock / stress, or as collateral to grow household asset profiles and livelihoods. The possibility of land ownership as a buffer against household debt was also explored, given the cases found in this study, also in light of the prevalent level of indebtedness found among landless wage labourers, who remain unable to accrue enough savings to pay off their debts, or to protect themselves from falling deeper into debt during times of stress. A closer look at income levels and corresponding household access to land provided further evidence to the importance of land, with the landless reporting smallest income earnings overall, and landowners the highest.

Being a landless hired labourer was consistently identified by respondents as a way to ‘stay stuck in poverty’, as land provides the asset base to be used as collateral to accumulate further assets, and to generate a higher level of income.

Without land and other significant assets, asset poor households find themselves dependent on livelihood activities characterised by low and unstable incomes. Further exacerbating the situation is the lack of other assets – tangible assets such as cash and savings, and intangible assets such as ablebodiedness and good health.

To analyse the relationship between land access and livelihood activities in greater depth, the element of differential environmental factors was added to the equation, investigating the nexus of these elements across Vinh Tri and Long Thuan. Two main typologies of livelihoods were identified – the first requiring low access qualifications, exemplified by on- and off-farm hired labour and small-businesses. Households involved in this typology of livelihoods were limited by their weak asset profiles and landlessness, resulting in low and unpredictable returns, ultimately perpetuating the impoverishment cycle from which they lack the assets to escape.

The second typology – livelihoods requiring high access qualifications – involved landowners and those with more robust asset profiles, including financial assets such as higher incomes and savings. Corresponding livelihood activities included farming on land owned, rented, or sharecropped, and more profitable small businesses. Households with access to land use were generating a level of income far greater than the landless, where land facilitates superior income levels, enabling households to build up their savings, which can then be used to accumulate more assets and grow livelihoods.

Underlying these livelihood activities and the role of land access in shaping livelihood outcomes, are the divergent environmental conditions found in Vinh Tri

and Long Thuan. When comparing the two locations in the context of agricultural livelihoods, temporal and seasonal factors were found to be significant in differentiating livelihood outcomes between the two locations. Whereas agricultural and aquacultural activities are highly seasonal in terms of the type of activity undertaken and their feasibility in flood-prone areas such as Vinh Tri (for example, farming being possible only during dry season and fishing during flood season), Long Thuan residents on the other hand enjoy the availability of fairly consistent work year-round. Vinh Tri is representative of flood-prone areas and associated seasonal unemployment during flood season common throughout the Mekong Delta, whereas much of Long Thuan is located on higher land free from flooding. Thus, hired farm work in Long Thuan is more consistently available year round compared to Vinh Tri, due to the high elevation away from floods, as well as the year-round availability of sediment-rich river water for irrigation.

While affected to a lesser degree, off-farm employment and small businesses were also affected by the flood season, but individuals in Long Thuan were able to move about and continue their daily activities much as they would during dry season, whereas due to the vast inundation of flood plains, Vinh Tri residents were faced with more difficulties. Overall, inhabitants of Vinh Tri experienced a greater convergence of interlinked difficulties as a result of the environmental landscape and reach of seasonal flooding – seasonal unemployment, decreased and unsteady income, indebtedness, and food shortages.

As mentioned in Chapter two, some authors advocate the importance of the ‘climatic dependence’ of livelihood activities – the dependency of a household’s

income on natural resources – to ascertain the degree of susceptibility of the households livelihoods to environmental stress (Adger 1999, Adger 2000, Barnett and Webber 2010). While this concept is relevant to the Vinh Tri and Long Thuan contexts, in terms of the importance of assets, some were found to outweigh others, facilitating higher levels of income, regardless of (or despite) their climatic dependence – the most prominent being that of agricultural land. Adding yet another layer of nuance, the same asset was found to take on differential characteristics depending on the environmental system in which it was located. For example, with agricultural land, its climatic dependence varied between Vinh Tri and Long Thuan, determined by the geographic characteristics – prominence of seasonal flooding prohibiting agricultural activities during flood season in Vinh Tri, in contrast to Long Thuan, where the landscape was conducive to year-round farming. In this way, it is possible for one asset to exhibit varying levels of climatic dependence across environmental contexts, resulting in differential livelihood outcomes.

Human assets

7.1 Introduction

Following the two previous chapters on ‘tangible’ assets, this chapter examines the role of ‘intangible’ assets, specifically human assets. While tangible assets are established in the literature as being integral to households’ livelihood and adaptive strategies in response to stress and shocks (Few 2003), intangible assets tend to receive less attention but are equally important, particularly when attempting to gain a multi-dimensional understanding of the subjects of our research – the individuals who manage household assets, their decision-making processes, and why certain strategies are undertaken over others.

Having said this, I focus on human assets while excluding other intangible assets in this thesis, most notably social and political assets, but not because I believe human assets deserve more consideration. On the contrary, while ideal fieldwork conditions would have meant the collection of data on all three intangible assets, realities on the ground translated to restrictions on the type of data I was able to gather, with questions largely confined to the experiences within the households themselves (human assets), while those on relationships and issues of power remained inaccessible due to their sensitivity (social and political assets).

As we know from the disaster and hazards literature, as well as findings from this study, the most vulnerable people in contexts of environmental stress tend to be

those with poor asset profiles given their limited flexibility and range of options for response and adaptation (Wisner et al 2004: 110). Chapters five and six provided empirical evidence of this socially constructed and asset-differentiated nature of vulnerability with data from Vinh Tri and Long Thuan. This chapter further builds on this evidence by adding the intangible asset dimension of vulnerability to our investigation.

As discussed in Chapter four, I divide human assets into three categories – that of human knowledge assets, human psychological assets, and human physical assets. The cognitive dimensions are first explored in this chapter, starting with human knowledge assets and their role in shaping livelihood outcomes among households in Vinh Tri and Hong Ngu.

This is followed by an investigation of how individuals respond to stress in the context of their varying levels of human psychological assets. To navigate the territory of psychology while keeping a firm footing in our conceptual frameworks, asset vulnerability and sustainable livelihoods, I adapt portions of the Protection Motivation Theory (PMT) (Mulilis and Lippa 1990, Floyd et al 2000, Milne et al 2000, Grothmann and Reusswig 2006, Bubeck et al 2012), as described in Chapter two. The critical role of *self-efficacy* as a psychological asset is examined in connection to livelihood outcomes, followed by an inquiry into how individual self-efficacy itself is shaped by environmental stress. To further measure the effects of an individual's human psychological assets, the concept of protective and nonprotective responses to perceived risk is adopted from the PMT, whereby the prevalence of nonprotective responses among asset poor households in Vinh Tri and Long Thuan

indicated the pervasiveness of weak psychological assets and illustrated their differential effects on households.

The first nonprotective response explored is that of *passive acceptance* as a common response to the daily stress of impoverishment found in both locations, stemming from a lack of self-efficacy, or in other words, a sense of agency, power, and ability to change one's life. To deepen the discussion and the concept of nonprotective response behaviour, I take note of a recent study by Mani et al (2013) showing that given the finite amount of cognitive resources possessed by individuals, the preoccupation with financial burdens leaves 'fewer cognitive resources available to guide choice and action'. While other contributing factors are important and acknowledged in the section, Mani et al's (2013) study enriches our understanding of the prevalence of weak psychological assets and nonprotective responses among asset poor individuals.

This leads us to the discussion of another nonprotective response – *dependency* and related *dependent security* found among households, notably toward local officials. Dependency is moreover explored in the context of debt-centred resettlement programmes. Given the prominence of *debt*, its role in contributing to the adoption of nonprotective responses is additionally explored. In this context, we examine the effects of government disaster assistance and resettlement programmes, given the nonprotective responses they engender, namely that of dependency and dependent security. The desirability of the 'Poor' status and accompanying benefits are explored, in light of the structure of dependency created by government assistance, particularly for asset poor households.

The last nonprotective response explored is that of *short term time preference behaviour*, observed primarily among asset poor households, a strategy adopted given the limitations of their poor asset profiles, in conjunction with weak human psychological assets and related nonprotective responses.

Moving onto human physical assets pertaining to the physical human body, the importance of ablebodiedness and health are discussed, as salient sources of asset accumulation and depletion for households. While data specifically explaining the relationship between human physical assets and environmental stress is not available, I deduce the differential importance of physical assets in the context of the two environmental contexts – seasonal flooding and riverbank erosion – in light of what we know about these stressors and the response measures available to people living in the two locations.

7.2 Human Knowledge Assets

As explained in Chapter two and above, human assets refer to the human body and mind as assets, entailing a range of sub-categories including human physical assets (ablebodiedness and health), human knowledge assets (individual knowledge and skills), and human psychological assets (psychological resources such as agency, self-efficacy and self-sufficiency). As managers of heterogeneous asset portfolios, this collection of human assets is vital to maintaining and growing a household's asset profile (Moser 1998, Few 2003) and forming effective livelihood and adaptation strategies (Bohle 2007, Barnett and Webber 2010). In essence,

human assets refer to the individuals in question and their internal characteristics (different from innate characteristics). This section discusses the various categories of human assets, focusing first on human knowledge assets, then human psychological assets, followed by human physical assets.

Human knowledge assets encompass individuals' knowledge and skills, accumulated through formal and informal education. Examples include basic financial management skills, knowledge and skills required to perform livelihood activities, and knowledge passed down from previous generations about the local ecosystem and farming practices. In this section, I discuss the knowledge assets found to be most lacking in Vinh Tri and Long Thuan, and how the lack of these assets were found to affect overall livelihood outcomes and household vulnerability. I focus on the outcome of the *lack* of, not presence of knowledge assets, as their absence emerged from the data as a widespread obstacle to achieving sustainable livelihood outcomes. Furthermore, by investigating the effects of the *lack* of these assets, I am also speaking to their importance.

In Vinh Tri and Long Thuan, the human knowledge assets found to be most consistently lacking among the asset poor were financial planning skills and diversified income-generating skills. I make this statement with some caution given the challenge of proving the value of that which is not present. Nevertheless, livelihood decisions made in the absence of these assets appeared to negatively affect livelihood outcomes, in contrast to households who did possess such skills and appeared to be forming better informed, long term strategies leading to higher incomes. On financial planning skills, its weak presence among many Poor

households appeared to hinder their ability to capitalise on and grow their already weak asset profiles in the long term. Formulating financial plans to spend less and save more, or to invest in future payoffs, were often absent from this income group, largely due to the limitations of their small earnings, but also due to the lack of strategic long term financial planning skills. Moreover, the burden of debt as a result of resettlement programmes appeared to exacerbate financial burdens, adding further strain on already weak financial coping mechanisms and strategies. Below are two excerpts from respondents illustrating a short term approach to financial planning (*short term time preference behaviour* is discussed further in section 7.3.4), and overall poor financial planning skills.

‘This house costs a few million... I also took part in a few revolving loans; I collected money from there to build the house. I pay back little by little... I still owe... quite a lot. Last time when I was sick I spent few tens of millions on treatment. That was before I received the Poor book. I had to go to the city for my treatment so I spent over 30 million, all from revolving loans... I haven’t finished paying back yet. I didn’t have money but I had to cure my sickness, I couldn’t let myself die... I make over 10,000 VND profit per day, not much. I use that money to buy rice to eat; at least it’s better than doing nothing... I bought [this motorbike] a month ago, I pay by instalments. I never had a vehicle before. Just after [lunar new year], there was a promotion programme so I bought it... I take money from [my husband’s wages] to pay for the motorbike. I still owe a lot, I can’t pay back at once, I will pay gradually.’ Vi, Poor, Vinh Tri. (LA19)

As mentioned in Chapter five, household debt is common throughout the Mekong Delta, integral to meeting daily needs, particularly during hunger periods such as flood season in Vinh Tri when work and wages become scarcer and less predictable. Loans are thus a strategy undertaken by asset poor households given the lack of other options, stemming from weak asset profiles. Nevertheless, the poor

financial planning skills displayed by this respondent extends beyond meeting basic needs, reflected by the purchase of an expensive physical asset (motorbike) despite the numerous debts currently owed by the household and other more affordable alternatives (such as using a motorbike taxi when needed, or purchasing a bicycle). Instead, purchasing a motorbike on loan has substantially increased the size of the debt burden of the household, and perhaps also the length of time needed to make repayments (which may also entail the payment of interest for longer durations of time). This phenomenon of accruing debts for ‘inessential’ assets was found among several households in Vinh Tri and Long Thuan, despite already existing debt burdens, weak financial assets, and inability to put aside earnings to make repayments, speaking to the lack of financial planning skills further undermining already weak asset profiles. Below is another example of a respondent with poor financial planning skills.

‘I grow vegetables, but just a little because I am old now so I am weak... My family owes the government... I don’t remember [what it was for]. We borrowed to invest in the fields, raising animals... Every year we pay more than 1 million interest... [We borrowed] 7 million. Now my daughter added her debt to the loan, so the total loan is 10 million. We borrowed from the Agribank. I can’t go out to take care of business myself. My children go on my behalf and they tell me later. But I am old so I often forget... [We’ve had this debt] since my husband was still alive, he passed away in 1998... Yes [we go to many gatherings for special occasions]... [I spend] 3-4 million per year... [When my vegetables go bad] I just replant another crop... I am replanting trees, but this year the water level is rising again so I don’t know what will happen... Nothing left, [I lost all of my trees and vegetables last year to the floods].’ Thi, Poor, Vinh Tri. (LA26)

This respondent exemplifies an asset poor individual with overlapping characteristics contributing to overall financial insecurity. In terms of income,

despite the failure of livelihood activities the previous year due to floods, and the expectation of severe floods in the coming year, the respondent plans to pursue the same income-generating activities, knowing full well the result may be the same. This points to the limitations posed by asset poverty, as the lack of adaptability may be attributed to the household's weak asset profile and accompanying lack of options. By extension, while attributing the reason for the lack of financial planning skills would be complex and lead us off on a tangent, the absence of these skills is seemingly connected to poor asset profiles and corresponding lack of options, including weak human knowledge and psychological assets (human psychological assets are discussed below in section 7.3.1), whereby poor financial decisions are made as a result of few options and a lack of self-efficacy and agency, as well as a lack of cognitive skills with which to make strategic financial decisions.

Another behaviour frequently found throughout Vinh Tri and Long Thuan, as exemplified by this household, was the relatively large amounts of financial contributions given to other community members holding special occasions such as death anniversaries and weddings. While the overriding reason for these decisions may be that of social obligations and cultural traditions, some households, nevertheless, did not contribute disproportionately large portions of their incomes to such special occasions, while others felt they were obliged to give relatively large amounts and spoke of the financial stress felt by the household as a result of these communal celebrations. The contrast between these financial strategies speaks to some degree to the differing financial planning skills of households, in combination with other individual and social characteristics and obligations.

Lastly, this respondent's strong sense of dependency on her children for financial security was also found among some other elderly respondents, as a result not only of cultural norms, but also in conjunction, a lack of human psychological assets (such as self-efficacy, agency, and confidence), resulting in weak financial planning and skills.

Income-generating skills were another common human knowledge asset found to differentiate livelihood outcomes, particularly in terms of the ability to diversify and increase incomes. Presented below is a Poor household from Long Thuan, whose overall income is less than some of their peers engaging in similar livelihood activities, as they are relatively new to farming and do not yet have the skills required to generate an equivalent amount of crops, and subsequently, profit. They furthermore lack other knowledge assets (including financial planning skills), contributing to the depletion of overall assets. A discussion follows the household's presentation below.

Trung is part of a Poor household living in Long Thuan, on residential land inherited from his parents. He and his wife engage in several livelihood activities, and their daughter is working in HCMC at her aunt's home-based factory producing plastic raincoats. Trung and his wife rent 1,000m² of agricultural land, growing a rotation of crops throughout the year (spring onion, radish, and mustard leaves), as is common in the area. Instead of saving some food for household consumption or using a portion of their land to grow food for domestic consumption, they sell all of their produce for profit, and purchase food on credit, which is paid off with interest following harvest. They also work as hired workers for other farmers, weeding spring onion fields and picking chillies. They invested in raising pigs in 2010, but made a loss due to the pigs falling ill. Trung's daughter also sends remittances every one to two months. Regardless of the diverse income streams, the couple is unable to put away substantial savings as Trung and his wife are new to farming and husbandry and cannot produce enough to make substantial earnings, particularly when compared to their other farming counterparts. Moreover, much

of their earnings – roughly 600,000 VND per month – are spent on special occasions in the community, particularly weddings. (DT6)

This household exemplifies the convergence of several weak human knowledge assets, and their effects on livelihood outcomes. First, while their income-generating activities are relatively diverse, they lack the skills to maximise output, resulting in less earnings when compared to other more experienced households engaged in comparable agricultural and husbandry activities. Second, reflecting weak financial planning skills, the yard surrounding their house and agricultural land is not utilised to raise food for household consumption. Instead, unnecessary expenditures are spent on food, bought on credit with interest, at a price higher than market value. Third, also from a financial planning standpoint, as did the previous household above, this household contributes an exorbitant amount to wedding celebrations within the community, not counting death anniversaries as the data is not available. The amount totals more than the profit made from farming on rented fields (~540,000 VND/month⁵¹). While the additional income from hired farm work and remittances may prevent the household from recording negative overall earnings, the level of spending on such social activities seriously impacts their ability to accrue financial savings.

Given the difficulty in quantifying and measuring the level of human knowledge assets possessed by individuals (specifically financial planning skills and income-generating skills), I do not offer a concrete number for households and their varying degrees of knowledge assets. Nevertheless, what did emerge from the data was the importance of these human knowledge assets – financial planning skills and

⁵¹ Equivalent to USD 25 in current value, according to Google search on 20 January 2014.

income-generating skills – for household livelihood outcomes, and their role in shaping asset accumulation or depletion. In essence, low human knowledge assets seem to lead to less informed decision-making, resulting in other household assets being poorly managed (poor financial management, for example). Income-generating skills possessed by households furthermore appear to dictate the types of livelihood activities accessible for them, a lack of which in the rural context tends to translate to labour intensive work characterised by low and unsteady returns, ultimately restricting the maintenance and growth of one’s asset profile.

Measuring the role of knowledge assets when responding to environmental risk is equally complex, with data sufficiently rich for in-depth analysis regrettably lacking in this study. Nevertheless, in situ adaptation measures passed down from generations were widespread and observed to be a natural part of life in the Mekong Delta – for example, building stilt houses and raising housing foundations, and elevating furniture on bricks to prevent flood damage in flood-prone areas; and using wooden stilts to prop houses on the edge of riverbanks in erosion-prone and embankment areas. The ubiquitous nature of

such adaptation measures speaks to the prevalence of a certain degree of knowledge passed down from previous generations, particularly when responding to seasonal and regularly occurring environmental events such as seasonal flooding.



Top: Stilt house in Vinh Tri during dry season
Bottom: House on dirt foundation in Vinh Tri during dry season

7.3 Human Psychological Assets

This section now moves on from human knowledge assets to the psychological dimension of human assets. As outlined in Chapter two, human psychological assets refer to the psychological dimensions of individuals, such as the degree of self-confidence and self-efficacy (the individual belief in one's ability to execute a measure), integral to shaping how asset profiles are managed and the manner in which one perceives and responds to stressors.

7.3.1 Human psychological asset: Self-efficacy

The investigation of human psychological assets begins with the concept of *self-efficacy*, and its relationship to the formation of stress responses. As discussed in Chapter two, self-efficacy refers to the mind set of an individual regarding their ability to successfully carry out a particular measure (Bubeck et al 2012), associated with agency and the degree of self-confidence one feels regarding one's abilities – the more self-efficacious one feels, the more confidence one has in one's ability to perform an activity successfully. Influenced by self-efficacy are the types of responses (not) chosen, the degree of confidence with which they are undertaken, and the level of initiative and self-sufficiency underlying decision-making processes. Self-efficacy therefore explains to some degree the differential responses to stress by households with seemingly similar asset profiles. This section on human

psychological assets explores the role of self-efficacy, and how it was found to influence household livelihood outcomes, followed by how self-efficacy is influenced by differential environmental stressors in Vinh Tri and Long Thuan. While it would be interesting to explore the nexus of all three elements – self-efficacy, household livelihood outcomes, and differential response to environmental stress – we lack the data with which to do so. Thus, the role of self-efficacy in relation to livelihoods and environmental stress will be examined separately.

To measure the level of an individual's sense of self-efficacy, I focus on how the quality is expressed in individual responses to perceived stress and risks, with responses categorised as being protective or nonprotective. While acknowledging the relative simplicity of this categorisation, I take this approach to provide a clear delineation between responses rooted in strong or weak human psychological assets (particularly one's sense of self-efficacy), while avoiding an in-depth foray into the field of psychology.

In both locations, robust protective measures tended to increase in frequency and effectiveness with increasing wealth, enabled by rich asset profiles as well as a strong sense of self-efficacy and initiative. Evidence of this was presented in Chapters five and six where asset rich households (who typically also own land) were found to enjoy a greater range of options regarding life decisions (such as choosing where to live), and were further able to manage their asset profiles by leveraging current assets to generate additional assets resulting in the growth of their asset base. Examples included home and landowners having the option to remain on their land compared to the asset poor having no choice but to resettle and

leave their homesteads, and asset rich households using their land as leverage to purchase a house in resettlement sites, whereas the lives of asset poor households were characterised by chronic financial burdens arising from low and unpredictable incomes, lack of savings, and unmanageable debt.

As such, asset rich households were found not only to have greater access to tangible assets, but also to display a high degree of self-efficacy, stemming from their possession of necessary skills to carry out livelihood activities (i.e. farming their land), financial skills to participate in financial transactions (such as taking out loans using their assets, particularly land, as collateral) and to develop financial plans in the long term (such as plans for repaying loans). In stark contrast are the asset poor, who due to their lack of assets and options, were overwhelmingly found to be surviving day-to-day, generally dependant on loans to carry them through periods of low / no income, with a weak sense of self-efficacy as they are unable to see any way to improve their circumstances. Thus the observed outcomes were frequently found to be the adoption of nonprotective responses, particularly that of dependency and passive acceptance. While I lack the expertise to analyse in greater depth the reasons for this delineation along asset wealth lines, the Mani et al (2013) study discussed in Chapter two is worth mentioning here, for their findings on the effects of poverty on cognitive function, where the stress of financial deprivation alone was found to leave individuals with 'fewer cognitive resources available to guide choice and action', hence leading individuals towards the uptake of nonprotective (in other words, counterproductive) responses.

While I am not able to quantifiably offer concrete numbers delineating respondents into relatively neat categories (for example, into categories of strong and weak psychological assets), the differentiating role of human psychological assets was made particularly clear among the outlier respondents who deviated from the pattern of other asset poor / rich individuals in the income category to which they belonged. In these cases, the livelihood outcomes for these respondents (and their households) departed from the pattern of asset poor and rich households maintaining weak and strong livelihood outcomes respectively. I postulate that these relatively anomalous outcomes were predominantly determined by individual psychological assets such as self-efficacy, self-sufficiency, and adaptability, regardless of the current status of their tangible asset profiles. Below are two examples from Vinh Tri, the first an asset poor respondent with strong human psychological assets (including self-efficacy, self-sufficiency, and confidence to take risks) who has been able to generate the income level of Near-poor households. The second example is that of a Better off household who despite their rich asset profile, have taken on profound amounts of debt, and are on the verge of losing essential tangible assets due to weak psychological assets (low self-efficacy, self-sufficiency, and adaptability) and weak financial planning skills (human knowledge asset).

Linh lives in Vinh Tri with his wife and three children in a household categorised as Near-poor. They do not own any land, but are squatting on land with the permission of the landowner, where they have built a house of bamboo and thatched leaves. Linh and his wife have no schooling experience, but are continuing the education of their eldest son who is currently in grade 10 in the hope that he will be able to lead a better life. Linh aspires to own land one day, to live comfortably and settle in the area on his own property. This is in contrast to the vast majority of other Poor households who do not view land ownership or escaping poverty as possibilities for their

household. Furthermore, unlike most of his other asset poor neighbours who depend on hired labour for their main income generating activity, Linh took out loans to purchase a rice husking machine, which generates income throughout the year at a rate much higher than hired farm work alone. The household has also diversified their income with Linh's wife working as a hired labourer, and poultry grown for supplemental income. In the past year, several community members have started their own rice husking business as they have seen how well Linh's household is doing, which has caused a decrease in business and income for his family. As a back up plan, Linh plans to work on construction sites should their income continue to fall. (LA1)

Linh is an example of an individual with a weak tangible asset profile but strong human assets – human psychological assets, including a strong sense of self-efficacy and self-sufficiency; and human knowledge assets, demonstrated by the ability to develop concrete plans to grow the household asset profile over the long term. Unlike other landless and asset poor households who overwhelmingly displayed short term time preference behaviour and could not envisage, much less develop plans to carve out a better life for themselves, Linh displayed the initiative to start an uncommon business, has long term goals for household asset growth (land ownership), and the plans to achieve them. He is furthermore able to take calculated risks with the hope of future payoffs, such as keeping his son in school, investing in diversified income streams, as well as in a rice husking machine. He also has a contingency plan – moving on to work in construction – should his rice husking business fail to generate enough income due to increased competition. The level of self-efficacy and protective responses displayed by Linh is in contrast to the vast majority of other asset poor respondents, as well as the next example of Hoang, from a Better off household.

Hoang lives with his wife, son, daughter-in-law, and grandson in a resettlement cluster in Vinh Tri. They are a Better off household

owning 7,000m² of farmland on which they farm rice. After being resettled into the cluster, they have been struggling to make ends meet as a result of the increase in utility bills for electricity, water, and waste collection. They are now considering moving out of the cluster to a nearby location by selling their house and agricultural land, which would be sold at a cheap price given current market prices. Huong's household has amassed large amounts of debt as they purchase both food and agricultural input on credit and have not been able to fully repay the shopkeepers. The cost of buying food on credit is higher than it would cost to make payments upfront, and when they do not have enough cash on hand, they take out loans with a high interest rate of 15 percent in order to buy food. All of the rice that is harvested is sold or given away to fellow adherents of the Hoa Hao Buddhist faith, while rice for household consumption is purchased on credit. (LA6)

Hoang's example is that of a household wealthy in tangible assets, but lacking the human psychological and knowledge assets to capitalise on them. Overall, given that according to the interview, the only difference in income and expenditure after moving into the cluster has been the increase in utility costs, a low level of human psychological and knowledge assets appear to be the main hindering factor for Hoang's lack of adaptive capacity and ability to strategize in changed circumstances, ultimately posing considerable repercussions for the future wealth of the household despite their current wealth in tangible assets. Hoang's low sense of self-efficacy and initiative is in juxtaposition to Linh's entrepreneurial attitude and approach to problem solving. The livelihood outcome for Hoang's household is furthermore contrary to the overall outcomes among landowning asset rich households who experienced minimal negative livelihood outcomes following resettlement, as presented in Chapter six. Pointing to a lack of human knowledge assets, by purchasing food for household consumption on credit despite their access to agricultural land, Hoang is needlessly depleting his financial assets and increasing

household debt, without considering other possible options. Also critically, due to his nonprotective response of passive acceptance of the situation, as well as the lack of self-efficacy and adaptability (psychological assets), Hoang is endangering the household's asset profile given that he is seriously considering selling off critical assets – agricultural and residential land – at a price well below their worth. Should Hoang follow through with his nonprotective and fatalistic response to changed circumstances, his household may well experience a severe depletion of their asset profile and wealth in the long term. Worth noting is a possible debt burden taken on as part of the resettlement process, but which was not articulated during the interview. Nevertheless, his overall weakness in psychological assets does deviate from other landowning, asset rich households who had also been resettled.

Moving on to the role of environmental hazards, we now examine how differential characteristics of seasonal flooding and riverbank erosion influence individuals' sense of self-efficacy when considering and adopting adaptation measures. Certain aspects of the hazards were more salient than others, most notably their predictability and degree of permanent damage. These characteristics also shaped the feasibility of continued habitation in the current location. Consequently, it is these factors – the predictability and degree of permanent damage – posed by environmental stressors that appear to be critical in shaping the level of security perceived by individuals, and were thus most influential in determining the degree to which individuals felt self-efficacious towards their adaptive capacities.

On the whole, in the context of Vinh Tri and Long Thuan, the degree of unpredictability and severe risk posed by flooding were minimal compared to riverbank erosion. In Vinh Tri, although environmental conditions were often described as having changed in the past few years, for example, with floods arriving earlier and lasting longer than normal, high water levels, and coinciding irregular rainfall patterns, people were accustomed to seasonal floods and the pattern of taking preventive and adaptive measures every year. These measures are generally effective at preventing loss of life and assets, and while severe floods do cause greater damage, floods are seen as part of the seasonal pattern, understood to be a part of life in the Mekong Delta, and therefore did not constitute a high degree of uncertainty. Moreover, the government's infrastructure and capacity for flood response is well established, with evacuation and emergency response structures in place if needed, particularly through the army and mass organisations. Government aid is furthermore dispensed every year during flood season, with the bulk of the aid distributed to Poor households, and a smaller degree to Near-poor households. Nevertheless, it is a one-off distribution of cash, food, and other basic supplies such as soap and fishing nets, and does not contribute in the long term to the broader transformation of vulnerability to disasters.

In contrast to the flooding in Vinh Tri and its seasonal nature of occurrence and relative predictability, riverbank erosion in Long Thuan was perceived by respondents as being unpredictable and striking suddenly, posing a real possibility of permanent damage and loss of household assets, particularly through the irreversible loss of land and housing. While erosion does occur every year,

concentrated during or following flood season, it is impossible to know when or where it will take place, or to what degree. As a result, the range of adaptive measures is limited, with government response confined to relocating people into resettlement sites. Fundamentally, people are left with no option but to move elsewhere given that erosion causes incremental then permanent loss of land throughout the year. Presented below are three interview excerpts, one from Vinh Tri and two from Long Thuan, representative of the contrasting perceptions of environmental risk, and resulting levels of self-efficacy regarding one's capacity to implement effective adaptive measures.

The first respondent is Hien, who is part of a household classified as Near-poor, with her husband and two daughters in Vinh Tri. They depend mainly on Hien's income as an agricultural waged labourer working on rice paddies, and from selling chicken and ducks raised in their back yard. Like many other respondents, Hien feels that over the past five or so years, rainfall has intensified and has become less predictable, and storms occur more frequently. Floods have remained largely the same, but the most recent severe floods occurred in 2011, when water levels were higher and took longer than normal to recede. In 2011, as during other years, Hien saw the notices on television and also heard announcements over community loud speakers alerting people of the coming flood season, and knew from the news on television to expect higher flood levels that year. Nevertheless, it is not possible to know exactly what day the floods would arrive, so when she noticed water had started entering the house, she placed bricks under the legs of their furniture to elevate them as much as possible. This is what they do every year, and they took no

other measures out of the ordinary in 2011. Like many other Mekong Delta inhabitants, she also believed 2012 would bring severe floods as it was the year of the dragon according to the lunar calendar and associated with the water element, but she also planned to take the same measures then. Floods waters remained for three months in the rice paddies where she works in 2011, and remained in the house for two months as the house is on higher ground along the roads, as is customary in the Delta. Her family slept and ate on one wooden bed during this time, and although they needed to wade through the water in the house, they did not feel much discomfort, and accept that living with floods is part of life in the Mekong Delta. (LA5)

The second respondent is Van in Long Thuan, who lives with her husband and three children as part of a Poor household. They formerly lived by the river with Van's parents-in-law, where their land increasingly eroded into the Tien River, with the riverbank gradually inching closer towards their house. Two years ago, their house, four meters long and two meters away from the riverbank, suddenly collapsed into the river in the middle of the night when they were sleeping. Luckily, they were alerted by a loud cracking sound and everyone quickly evacuated out of the house before the entire house fell into the river along with all of their belongings. Had they seen any warning signs, they would have prepared for such an event in advance, but due to its sudden occurrence, they had been taken unawares. Subsequently, Van's household and her parents-in-law stayed with a neighbour for more than one month, after which they were resettled by local officials into a resettlement dyke. (DT1)

The third respondent in Long Thuan is Thanh, who is part of a Poor household including her son, daughter-in-law, and niece. Thanh formerly lived by the river, but as the land gradually eroded away, it eventually reached the edge of their house. As they had no other land to move the house to, they were forced to live in the house while it was made increasingly smaller through attrition. Once all of their land had been lost, they erected a temporary roof along the road, bordering where their land had been, and lived there for one year. Thanh and her household now live in a resettlement dyke, where they feel safe from environmental hazards and 'can sleep soundly at night'. (DT3)

These examples reflect the contrasting degrees of self-efficacy felt by individuals when faced with the two environmental hazards, largely shaped by the hazards' degree of predictability and potential for permanent loss and damage. While flooding in Vinh Tri follows a seasonal pattern subsiding at the end of the season, leaving household assets generally unharmed (and simultaneously nourishing agricultural lands with their sediment), riverbank erosion affects households incrementally throughout the year, eroding their asset profile in one-off events, and in the end, permanently claiming key assets, most notably land and housing as well as other assets not removed in time. Moreover, while the rate of attrition may be gradual when viewed over the long term, each erosion event occurs suddenly and without adequate warning, posing the threat of injury and death should the house collapse while people were still inside. In terms of long term adaptation, the only option available to asset poor households, save moving to another location on their own, is that of state resettlement. As such, self-efficacy in

the face of riverbank erosion in Long Thuan is vastly restricted in comparison to seasonal flooding in Vinh Tri.

7.3.2 Nonprotective response: Passive acceptance

Moving on from the discussion of self-efficacy, we now turn our attention to the concept of protective and nonprotective responses, adapted from the Protection Motivation Theory (PMT) (as discussed in Chapter two). I focus on the most commonly found nonprotective responses in Vinh Tri and Long Thuan – *passive acceptance, dependency, and short term time preference behaviour*. Passive acceptance is first examined in this section, followed by the other nonprotective responses in the subsequent sections. While the investigation remains largely observational without delving too deeply into the field of clinical psychology, judging from recurring observations made over the span of fieldwork in both locations, Poor individuals were frequently found expressing states of passive acceptance and dependency on local authorities when describing their views toward their states of impoverishment and response to external stressors, displaying attitudes far from a self-sufficient and self-efficacious response to stress.

It is important to note, however, the possible intersection between personal, cultural, and political influences shaping individual predispositions toward these nonprotective responses, and the risk of imposing a Western view of what is considered protective or nonprotective behaviour. Nevertheless, what I am able to speak to are the effects of the observed nonprotective behaviours on livelihood

outcomes, regardless of their complex origins beyond our classification of human psychological assets. As such, while I make the caveat that the root cause of the nonprotective behaviours at hand are complex and beyond the scope of this study, we adhere to the asset vulnerability framework at hand, as well as the PMT, used to zoom in on human psychological assets. Hence, within the parameters of my thesis, these nonprotective behaviours appear rooted in a lack of confidence in one's ability to transform one's life (self-efficacy), in the face of seemingly insurmountable obstacles, in the context of the dearth of tangible and intangible assets with which to overcome them (for example, financial capital and capacities to bring about positive transformations in one's life).

Moreover, at an even more individual level beyond external influences on human psychological assets and corresponding responses, according to Mani et al (2013) as discussed in Chapter two and above, the strain of being poor alone causes the deterioration of human assets and hinders individuals' abilities to maintain or grow asset profiles, while fostering the environment in which nonproductive responses such as dependency and passive acceptance are generated. This knowledge enriches our understanding of how the pressures on asset poor individuals may cause the degradation of human assets, pushing individuals toward nonprotective responses to stress, which in turn feeds back into the cycle.

Furthermore, when exposed to the same stressor, asset poor individuals may be less able to respond in a protective manner compared to the asset rich, given the deterioration of their human psychological assets caused by the burdens of poverty. Moreover, the same individuals are more / less capable of responding to stress

depending on their financial status at the time – particularly relevant in our line of inquiry given that environmental stress (floods and associated hazards such as erosion, heavy rains, storms) correspond to the poorest period of the year in the Mekong Delta, when incomes are least available and the most unpredictable. This points to a convergence of pressures exacerbating vulnerabilities during flood season in the Delta – environmental stress and their various impacts on households, greater impoverishment due to lack of available work, and poorer decision-making as a result of weakened human psychological assets, which in turn deteriorates access to human knowledge assets. While this study is able to speak to the nexus of environmental and livelihood pressures during flood season, comparative data on psychological assets during wet and dry seasons and the confluence of pressures mentioned above is regrettably unavailable.

Hence, keeping in mind this link between the burden of poverty and the nonprotective responses they foster, I now move onto the findings from Vinh Tri and Long Thuan. While I do not examine the same cognitive linkages as Mani et al (2013), the repercussions of asset poverty in terms of the deterioration of human psychological assets is important, particularly in light of the prevalence of nonprotective responses found among asset poor households.

In both locations, the lack of self-efficacy and confidence felt among households – in essence, a sense of powerlessness to improve present and future circumstances – was repeatedly expressed through an attitude of passive acceptance of one's current state. While feelings of frustration and some level of struggle to

alter or overcome circumstances was present to varying degrees, passive acceptance was observed to be an overwhelmingly common feature among the asset poor.

The reason for the prevalence of this particular nonprotective response over others is unclear, but its links to the other salient nonprotective response – dependency – appear to be mutually reinforcing. Both are amplified by conditions stifling individual agency and empowerment, where the political structure in Vietnam actively represses any forms of civil disobedience or unsanctioned collective expression, and by extension, a certain level of independent thought and expression.

Further compounding the structural conditions engendering passive acceptance and dependency is the structure of how social service and aid (including disaster relief) is dispensed – contingent on households' receipt of the official 'Poor' status from local officials. Thus, in a system characterised by ambiguity and a lack of transparency, the need to exhibit one's impoverishment and need only add to the conditions fostering these nonprotective responses. Below are some quotes reflecting the attitude of passive acceptance in Vinh Tri and Long Thuan.

'I'm too old to do anything now even if I have capital. I just want to get by. Whatever I earn in a day is enough to spend in that day.' Trung Poor, Vinh Tri. (LA17)

'I am only an ordinary woman working as a hired labourer so I must accept the fact [that I'm poor]. Sometimes I complain to the commune but my effort doesn't go anywhere because they are strong.' Vi, Poor, Vinh Tri. (LA19)

'[We have] no plans [for repayment], we just pay the monthly interest. If later on there is a change in rules we don't know how we can repay... since we just barely earn enough to feed ourselves now.' Van, Poor, resettlement dyke, Vinh Tri. (LA15)

'[To improve my life], if the village and commune authorities pay more attention to water provision, it will be nice. As for myself, I don't think there is a way to improve my life, I can't afford to not work for one day.' Thi, Poor, Long Thuan. (DT15)

When focusing purely on the role of tangible assets in relation to the state of passive acceptance, households across the income spectrum frequently shared what they perceived to be common knowledge – that a certain level of capital is needed to invest in future asset growth, and as such, asset poor households cannot escape their circumstances of poverty due to their lack of assets. The limitations of hired farm work were often cited by respondents, who overwhelmingly spoke of the futility of trying to overcome poverty given the impossibility of accumulating assets (such as land and financial assets) as hired farm labourers. The quotes below exemplify this widespread belief and the perception of futility and hopelessness among asset poor individuals found across both locations:

‘I am too poor... With this situation I don’t know when I will have money to improve my life.’ Kim, Near-poor, Vinh Tri. (LA21)

‘Without capital we can’t do anything. Now we can only work as hired labourers. If we had some capital we would have been able to improve [our lives].’ Trung, Near-poor, Vinh Tri. (LA7)

‘It’s impossible for me to afford land... I wish to change my life and escape from poverty but I don’t have any capital to make any change.’ Loc, Poor, Long Thuan. (DT27)

This aspect of poverty – the lack of tangible assets – and its role in individuals’ adoption of nonprotective responses is significant in light of Mani et al’s (2013) findings, and speaks directly to how the deficit of tangible assets may be creating the conditions for diminished psychological assets and simultaneous adoption of nonprotective behaviours. These circumstances in turn undermine individuals’ capacities to generate tangible assets, ultimately perpetuating and feeding into the vicious cycle of impoverishment.

7.3.3 Nonprotective response: Dependency and dependent security

As mentioned above, the nonprotective responses – passive acceptance and dependency – appear to be interlinked, stemming from a lack of individual agency and perceived options to improve one’s life in a self-sufficient manner. Adding to these conditions fostering nonprotective responses is the social welfare system of allocating government aid according to ‘Poor’, ‘Near-poor’, and ‘Better off’ statuses. While not without its benefits, it is possible to postulate that the system is also by design perpetuating, and to a certain extent, fostering dependency among asset poor households, particularly given the inconsistencies in assigning such categories to households. The effects of this power dynamic were evident in Vinh Tri and Long Thuan as many respondents expressed a deep-rooted sense of dependency and reliance on local officials for assistance during times of stress or need, ranging from livelihood failure, damage caused by natural hazards, to illness in the household. The perceived role of local authorities as ‘caretakers’ of the people was observed to be a pronounced feature of rural life in Vinh Tri and Long Thuan, with a few respondents exhibiting resentment when support was not given upon request (following personal failures such as failure of crops or husbandry).

For example, of the 12 Poor households in Vinh Tri, 11 expressed a sense of dependency on assistance from local authorities, with some displaying an expectation of regular assistance as part of the government’s responsibilities. This sense of dependency was simultaneously accompanied by a lack of individual self-efficacy and confidence to improve one’s life in a self-sufficient manner. I do not include a figure for Long Thuan respondents given that many hesitated to discuss matters related to the local government in the company of police minders, and related questions were often

intentionally omitted. Below are some interview excerpts reflecting this deep-seated attitude of dependency and related expectation of assistance from both locations.

‘Thanks to the government we got a house to live in. Otherwise I don’t know how we can live now, or when we would have such a house... They saw that we were poor, and I worked hard so they feel sorry for us. In general the village authorities feel pity for me and my son... They told me many things [about the resettlement process] but I am slow so I can’t remember... Erosion often happens... so the officials take care of the residents, give us more things, so we can worry less about food... I get lots of aid and tickets to receive things.’ Trung, Poor, resettlement dyke, Long Thuan. (DT18)

‘I am poor. If the government supports me and gives me the [housing] allotment for free [by forgiving the loan], I would be very thankful.’ Loc, Poor, Long Thuan. (DT27)

‘I grow vegetables, but just a little because I am old now so I am weak. I can only do things within my capacity... The house has been dilapidated, and some parts have collapsed. I asked the government for support but they refused.’ Thi, Poor, Vinh Tri. (LA26)

‘I don’t see anything, no support. When something happens to me, I always report to [the local authorities] but I’ve never seen them do anything about it... I reported about my dying pigs but nothing happened. During the floods they said they would provide some plants and seedlings but they haven’t taken any action... They lend money, [but] no support. It would be nice if I can receive some support, I can raise more animals.’ Yen, Near-poor, Vinh Tri. (LA24)

In this context, *dependent security* is often used by the asset poor as a necessary route to survival, with future security necessitating the support of those with power and resources. The result is the tendency towards ‘staying poor’ in order to ‘stay secure’, or in other words, the view that ‘dependent fortunes are better than the risk of no fortunes at all’ (Wood 2003).

In Vietnam, this relationship exists between ‘vulnerable’ groups who receive governmental assistance and the local authorities who allocate resources and designate households as ‘Poor’ or ‘vulnerable’ (such as widows, single mothers, and elderly individuals). Thus, while the asset poor may wish to escape poverty, the governmental designation of ‘Poor household’ is simultaneously coveted among those in the lower

income range for its benefits and government assistance, strengthening the incentives to stay poor in order to stay secure. The result is that of asset poor groups obliged to constantly display their states of need in order to maintain their official 'Poor' label, at the cost of their agency, self-efficacy, and self-sufficiency.

In this way, state policies and programmes play a significant role in shaping the (non)protective responses of households, most notably through government aid programmes contingent upon the 'Poor' label, including resettlement programs for Poor and Near-poor households susceptible to environmental stress. As discussed in Chapter five, while the goal of resettlement is to relocate households to increase their safety and physical security from hazards, the loan-centred structure of programmes simultaneously push asset poor households into circumstances of overwhelming debt, undercutting already weak states of self-efficacy and self-sufficiency, bringing about not decreased but shifts in vulnerability. Thus, on the one hand, households generally feel a greater sense of safety away from environmental hazards as a result of resettlement. On the other hand, resettlement contributes to the further impoverishment of households and adds to their seemingly unmanageable financial burdens, with related debts perhaps further exacerbating individuals' attitudes of passive acceptance and dependence, while reinforcing negative self-perceptions of powerlessness. Hence, households remain in houses in resettlement sites while unable to make loan repayments, in some cases hoping local officials will show sympathy and overlook their debts. Dependency on local authorities appears to be increased, while protective responses (such as long term planning and activities to grow asset profiles) are pushed further away from the realm of possibility. Statements reflecting the perceived impossibility of improving household circumstances were common among Poor resettled respondents across both locations:

‘This [private] loan and the loan from the government, I have to work and save and pay them back little by little. I don’t know what else I can do to pay them... I am 71 years old, I will have to do whatever I can... I don’t have any savings, I don’t make money.’ Trung, Poor, resettlement dyke, Vinh Tri. (LA17)

‘I don’t know [how we will pay back these debts]. Now I can’t contribute to the revolving loan anymore so I quit. When lenders demand payment, we just ask for an extension.’ Thi, Poor, resettlement dyke, Long Thuan. (DT15)

‘I only earn enough to live hand to mouth. When [the moneylenders] demand payment, I have to borrow from another source to pay them.’ Tran, Poor, resettlement cluster, Vinh Tri. (LA8)

‘I will try to work hard to pay back the loan. I can’t say anything for sure in advance, just try to pay it back little by little. If [the local officials] feel pity for me and just let me keep the money, I will be very happy.’ Trung, Poor, resettlement dyke, Long Thuan. (DT18)

Moreover, on the topic of debt, its asset differentiated effects are evident as asset poor households are generally unable to generate enough surplus income to save or plan long term, while Better off and wealthier Near-poor households more often possess the asset base with which to produce sufficient financial assets to make repayments as well as plan in the long term to grow their asset base. This dynamic of a rich asset profile enabling the generation of more assets and the limitations for asset poor households was also discussed in Chapters five and six. Below are excerpts from interviews with resettled Better off and relatively wealthy Near-poor households illustrating the way their debts are commonly managed, in contrast to the Poor and Near-poor households quoted above who often find themselves with overwhelming debts, exacerbated by resettlement costs.

‘We will work hard [to pay back the debts], pay back a little after each crop, and get my children employed... Yes, [we will be able to make the repayment], my children have graduated and are working now, it will just take us two to three years to pay.’ – Dung, Better off, resettlement dyke, Vinh Tri. (LA11)

‘None, [I have no difficulties paying back our debt] because I have a plan. I cultivate my fields and pay back little by little... My children... can work to support the family so our budget is not too tight.’ Nguyen, Near-poor, resettlement dyke, Vinh Tri. (LA23)

Furthermore, when considering the pervasiveness of debt in light of the limited options available for asset poor households, debt is frequently seen as the only way to provide for basic needs, given households' low incomes and lack of consistent work year round. Thus, the main option many households are left with is one that is often counterproductive, and compromises long term security for short term needs.

7.3.4 Nonprotective response: Short term time preference behaviour

This brings us to the examination of short term time preference behaviour, a nonprotective response originating from the characteristics discussed above – weak human knowledge assets (such as financial and long term planning skills), low self-efficacy and confidence, and resulting states of passive acceptance and dependency. It is another manifestation of the lack of options faced by asset poor households, who (1) are limited by poor asset profiles and the burdens of poverty and debt (discussed above and in previous chapters), and (2) respond to these pressures by living day-to-day, centring their decision-making on meeting present needs and priorities, regardless of long term repercussions. Ironically, the ability to plan long term may decrease the debt burden and financial strains for asset poor households over the long run, but given the pressures fostering a preference for short term security, this option appears accessible only for households with exceptionally robust human knowledge and psychological assets. Presented below is a household demonstrating short term time preference behaviour, and its role in diminishing overall household financial assets.

A household of nine categorised as Poor in Vinh Tri depends on selling lottery tickets as their primary source of income. Loc, the father of the family, one of the children and a niece who is also a part of the household, work in this capacity, and are able to generate an average of 100,000 VND per day in total. They are able to bring home their earnings on a daily basis. Loc, however, used to be a construction worker, where he on his own, was able to earn 70,000 VND per day. This amount is almost double his current earnings from selling lottery tickets, but as his wages were received weekly, the household was unable to plan their daily spending throughout the week, and thereby chose a job that generates less income but pays daily, not weekly. The household is in debt to several sources, including friends, neighbours and relatives, but they do not keep track of their debts, and instead, pay the loans when the lenders request repayments, either from their daily income or by seeking additional loans from other friends, neighbours, and relatives. (LA2)

The financial strategies of this household reflect short term time preference behaviour, as shown by the predilection towards lower paying work for its provision of daily income versus higher weekly wages. Furthermore, the reliance on debt and lack of long term financial planning skills is indicative of the inclination towards short term security, where meeting daily needs hold a greater sense of urgency than the far off possibility of long term asset accumulation and security. This household was presented as an example of short term time preference behaviour, commonly found among asset poor households, but this nonprotective response is also reflected in other interview excerpts in discussions above on human knowledge assets, particularly on financial skills (section 7.2), passive acceptance (7.3.2), and dependency (7.3.3).

7.4 Human Physical Assets

Thus far in this section, we explored the importance of human psychological assets, particularly that of self-efficacy, and its role in the formation of stress responses. Specifically, we examined how self-efficacy influenced household livelihood outcomes, as well as how self-efficacy itself is shaped by differential environmental stressors in Vinh Tri and Long Thuan. This was followed by an investigation of nonprotective responses – passive acceptance, dependency, and short term time preference behaviour – stemming from weak human psychological assets, engendered not only by the conditions of poverty itself, but furthermore by government policies and programmes (including resettlement programmes) that by design cultivate an environment of dependency and passive acceptance, and push households further into poverty and debt, thereby creating the conditions conducive to these nonprotective behaviours, including a preference for short term over long term security.

In this section, we move on from the mind dimension of human assets (knowledge and psychological assets) to discuss human physical assets – that of ablebodiedness and health – and their impact on household vulnerability. As discussed in Chapter two, health and ablebodiedness were identified to be among the key assets contributing to household asset profiles and wealth, particularly for asset poor households given their dependency on labour intensive income-generating activities.

As the importance of ablebodiedness and health were inseparable when discussing the role of other tangible assets, many such examples were given in the previous chapter – the example of Huy (SG1), who amassed significant debts in large

part due to health care costs for his daughters, and who as a result was forced to sell off his land and migrate to HCMC to work in construction; Kim (LA21) and another Poor household in in Vinh Tri (LA27) whose vulnerability is compounded by a lack of tangible assets, poor health limiting the ability to work, as well as a lack of ablebodied household members able to earn an income given that both households are comprised of only one individual generating income. Chapter six also commented on findings from Vinh Tri and Long Thuan where Better off households show the proclivity to be engaged not only in more profitable income-generating livelihood activities, but were simultaneously characterised by possessing several ablebodied household members generating income, and no significant sources of asset depletion (such as poor health and significant health care costs). Below are additional examples of households whose asset profiles are considerably burdened by poor health and/or health care costs.

Trung's household in Long Thuan was profiled above in section 7.2.1 on human knowledge assets, where his household (categorised as Poor) illustrated the confluence of several weak human knowledge assets – lack of livelihood skills leading to less earnings, poor financial planning skills exemplified by the purchasing of food on credit with interest despite their access to agricultural land, and disproportionately large expenditures on social events. Despite their diverse income streams including their daughter's remittances from HCMC, Trung and his wife are unable to put aside any sizable savings due to the lack of these human assets. Nevertheless, they did formerly have some savings (over 10 million VND), but had been forced to spend it all on their son's health care. Trung spoke of how had they still had the savings, they would have been able to rent larger amounts of land to farm, and invest in raising livestock such as pigs and goats – a lucrative activity barring unforeseen mishaps. Instead, without these savings, Trung was left with no choice but to borrow from several moneylenders to cover land rental costs, and as a result, is still in debt for this loan. (DT6)

This household illustrates the depletion of savings due to health care costs, and the knock on effects as a result of the lack of savings. It is possible that Trung's household may not be in debt now, or in the very least, they would likely have accumulated smaller debts (in the absence of other unforeseen stressors), as they would have been able to diversify their income sources further, and invest their savings into renting land instead of borrowing from money lenders charging high interest rates, and starting the crop cycle in debt.

Beyond illness and injury, old age was furthermore found to be a barrier to income generation, correlated with poor health and increased health spending. Particularly in the agricultural context where the main activities available for income generation are generally labour intensive (even more so for asset poor individuals), elderly individuals are less able to participate in the labour force compared to when they themselves were younger, and compared to their younger counterparts. The example of Hien below, part of a resettled Poor household in Vinh Tri comprised of himself and his wife, showcases the circumstances for households whose main income generators are elderly and dependent on human labour for their main income-generating activities.

'Awhile back my brother-in-law gave us [10,000m²] of land. We worked on it for one year but we couldn't continue so we let a nephew work on [it]. Every year he gives us... a few hundred kilograms of rice... When we lack money, my wife's relative gives us 50,000 or 100,000 but it's not enough because we have to pay for electricity, water, garbage... When we were still healthy we fished but in recent years I have been old and sick so my children don't let me fish anymore. They give me fish; if they give me more I eat more, and vice versa... Now I am always sick so I can't work at all. My children give me 100.000 or 200.000 but I go to the doctor all the time... The government gives us some gifts such as salt, detergent and fish net... I don't have money, if I get sick I won't have money to treat myself...

If [my nephew] has a good crop he gives us more [rice] and vice versa... [But] starting this year he said... he will just give us rice and no money... He also has some health problems so he is very determined. Next year will be difficult for us... Usually he gives 1 -2 million [VND] per year... I have to agree, don't know what else to do.' (LA22)

One of the most striking features of such elderly households is that of dependency – dependency on their children and relatives to meet basic needs, and dependency on local authorities for assistance. Because asset poor households are characterised by a deficit of tangible assets, their ablebodiedness and good health become the primary vehicles through which incomes are generated. As illustrated by Hien's example, elderly individuals largely lose the use of this key asset over time, and particularly for the asset poor, become dependent on their support networks for survival, given their weak asset profiles and shortage of other assets on which to rely on (such as savings and other sources of income). Showcased below is another Poor household in Vinh Tri, further illustrating how poor health depletes household assets and hinders income generation.

'A few years ago my husband... could carry [rice sacks] and glean rice with my son. Now he is too weak to work... [My son] has been sick for awhile... [I have a] heart condition... No, [my husband can't work at all]... I ride my bicycle to the market to buy fish and bring it to Cambodia to sell. I've been sick lately so I haven't gone out much... No, [I didn't glean rice this season]. I get headaches when I stay in the sun... I don't sell too much, just estimate whatever is enough for a day then I stop. Only my son gleans rice now... [But he only works] a few days, then he does light work. He is not strong like others. Frankly, if he was healthy... I wouldn't have to work.' (LA15)

Evident in this case is the burden of household members in poor health, and consequent decline in incomes. Not included in this excerpt are the costs of health care, where the household receives health insurance (as do other Poor households)

and deducted health services in the local commune and district clinics, but receive less subsidies for serious conditions (such as those of the respondent and her husband) requiring costly care and treatment in larger government hospitals or with private service providers.

These households exemplify the ways in which poor health depletes household asset profiles – the deterioration of savings to cover health care expenses, vulnerability of elderly individuals given their poor health and diminished labour capacities, and the cost of household members in poor health and resulting asset depletion due to health care expenses and the inability to generate income. The consequences of poor health and lack of ablebodiedness are far more severe for asset poor households, as their livelihoods are so heavily reliant on human physical assets. Other human knowledge and psychological assets are largely critical to determining the *level* of incomes and assets accumulated, but when it comes down to the bare essentials, income generation is simply impossible (in the given rural agricultural context) without a healthy and labour-ready body.

The reader may have noted the absence of environmental stress in the discussion of human physical assets. This is not due to its irrelevance, but due to a lack of data on the relationship between the two elements. Nevertheless, it is possible to deduce the importance of physical assets to stress adaptation, particularly for measures requiring physical exertion. Let us first examine the human physical assets required in terms of living with and responding to riverbank erosion in Long Thuan. Given the limitations of adaptation measures available in this context, ablebodiedness would be needed to urgently evacuate the house should it be affected,

as well as to reinforce the whole or remaining portion of the house with stilts along the riverbank. However, these measures would be a one-off occurrence, as resettlement is the primary long term adaptation response to erosion in Long Thuan.

In contrast, in Vinh Tri, while the degree of overall damage to household assets may be less severe with land returned to its inhabitants following the subsiding of floods, it is precisely this seasonal nature that may require the more frequent use of human physical assets to survive in this environment. The need to reinforce and maintain one's house to ensure its durability and ability to withstand floods is constant and repeats every year. Moreover, individuals owning assets susceptible to flood damage (such as inland ponds and fruit trees) did speak to the need to consistently be attentive to and maintain the integrity of these assets during flood season. While this study lacks the rich data required to investigate this link in-depth, it is worth noting the postulated relationship of human physical assets to divergent environmental stressors, where the stressor posing more severe and permanent damage does not necessarily require more robust human physical assets when undertaking response and adaptation measures.

7.5 Discussion

This chapter was the last of three exploring key assets integral to household livelihood outcomes and vulnerability in the context of environmental stress. As intangible assets tend to receive less attention compared to tangible assets when

analysing household livelihood outcomes and adaptive responses to environmental stress, the chapter was an attempt to contribute to the literature on the critical role of intangible assets, by adding the dimension of the individual, and their cognitive, psychological, and physical assets to the equation.

In Vinh Tri and Long Thuan, the lack of human knowledge assets was found to hinder the ability of asset poor households to capitalise on and grow their asset profiles over the long term. Financial planning skills and diversified income-generating skills were the primary knowledge assets identified as differentiating livelihood outcomes, and the accumulation and depletion of assets. Low human knowledge assets essentially meant that household assets were poorly managed, inevitably impeding the maintenance and growth of household asset profiles. In terms of knowledge and skills in the context of environmental stress, in situ adaptation measures were widespread and observed to be an integral part of life in the Mekong Delta, passed down from previous generations, particularly for seasonal and regular environmental events such as seasonal flooding.

Identified as a key psychological asset, self-efficacy was found to be an important element shaping livelihood outcomes. Overall, asset rich households were found to have a higher degree of self-efficacy, derived from their rich asset profiles, including the possession of necessary skills to manage assets and engage in livelihood activities generating sufficient levels of income, and the financial skills to make use of financial transactions to grow asset profiles and develop financial plans to benefit the household in the long term. In contrast, the asset poor generally displayed a low sense of self-efficacy, arising from their lack of assets and

corresponding lack of options, pressing daily need to earn enough day-to-day, and dependency on loans, which collectively contribute to the seemingly impossible hurdle of overcoming poverty, and ultimately reinforce their weak sense of self-efficacy.

In terms of environmental hazards, their predictability and the degree of permanent damage posed by hazards were identified as the salient factors shaping the level of security perceived by individuals in relation to the hazard, and therefore most integral in shaping the degree to which individuals felt self-efficacious towards their adaptive capacities. In Vinh Tri and Long Thuan, the degree of unpredictability and severe risk posed by flooding paled in comparison to riverbank erosion. Whereas seasonal flooding adheres to a seasonal pattern and returns the land and other assets generally unharmed at the end of the flood season, riverbank erosion poses the looming threat of sudden and permanent loss, able to strike at any time, and permanently claiming critical assets, particularly land and housing. Government response to seasonal floods in Vinh Tri (as in other parts of the Mekong Delta) is also more established and wider in scope than it is for riverbank erosion in Long Thuan, where it is restricted primarily to resettlement. Thus, individual self-efficacy in the face of riverbank erosion in Long Thuan was found to be limited when compared to the self-efficaciousness with which people live with and respond to seasonal flooding in Vinh Tri.

To further measure the effects of an individual's human psychological assets, the concept of protective and nonprotective responses to perceived risk is adopted (a component of the PMT), whereby the prevalence of nonprotective responses among

asset poor households in Vinh Tri and Long Thuan indicated the pervasiveness of weak psychological assets. I focus on the most prevalent nonprotective behaviours found in both locations – *passive acceptance*, *dependency*, and *short term time preference behaviour*. These nonprotective responses appear to stem from a lack of self-efficacy, in the context of seemingly insurmountable obstacles, a dearth of tangible and intangible assets with which to overcome them, and the need to prioritise short term needs over long term gains. They are moreover rooted in a sense of powerlessness to improve present and future circumstances, fostered by a political structure actively repressing unsanctioned collective expression and civil disobedience, which I see as being connected to a certain degree of independent thought and expression.

Further adding to the structural conditions conducive to these counterproductive behaviours is the reliance of social service and aid receipt on the ‘Poor’ label designated by local officials. This is particularly problematic as, to receive this label, individuals must exhibit their impoverishment and need to their local officials operating in a system overrun by corruption and lack of transparency. Consequently, *dependent security* is often seen by the asset poor as an unavoidable route to survival, resulting in the tendency towards ‘staying poor’ in order to ‘stay secure’ (Wood 2003), at the expense of individual agency, self-efficacy, and self-sufficiency.

In this context, when re-examining the concept of vulnerability shifts caused by resettlement programmes (discussed in Chapter five), in the move to increase household safety and physical security from hazards, vulnerability is ultimately not decreased but shifted to an even greater degree – as human psychological assets,

such as self-efficacy and self-sufficiency, are sacrificed, while nonprotective responses of dependency and dependent security are fostered as a result of resettlement. Human knowledge assets are also diminished, given their inextricable links to psychological assets. Thus, in addition to the vulnerability shift examined in Chapter five, the overall shift is greater in scale when considering these nonprotective responses engendered by resettlement and government aid programmes. Simultaneously, protective responses (including long term planning and activities to grow asset profiles) become all the more inaccessible for the asset poor.

To add to our understanding of nonproductive response, I take note of the literature on the correlation between poverty and nonproductive (or counterproductive) behaviour, and elaborate on a recent study enriching our understanding of this relationship, specifically by expanding our knowledge on the connection between the burden of poverty and how it contributes to the adoption of nonproductive responses. As cognitive capacity is a finite resource, the reasoning goes, when the mind is preoccupied with financial stress, less cognitive resources remain available to devote to other problems at hand. This tells us that the very nature of poverty itself – deprivation – and the related psychological stress of financial burdens, contributes to the cognitive processes inducing individuals to adopt nonprotective responses, ultimately abetting in the perpetuation of the impoverishment cycle.

In the context of environmental stress in Vinh Tri and Long Thuan (and throughout much of the Mekong Delta), this points to the possible confluence of stressors exacerbating vulnerabilities during flood season – the stress caused by

environmental hazards, impoverishment and hunger due to unpredictable and unavailable employment, and poorer decision-making due to strained human psychological assets, which also diminishes the ability to recall and utilise human knowledge assets.

On the final human asset – human physical asset – I discussed the importance of good health and ablebodiedness, particularly for asset poor households whose livelihoods frequently depend on labour-intensive work, where the human body is the main vehicle through which incomes are generated. The economic burden of poor health includes the cost of healthcare and treatment, as well as the indirect costs of income and production losses arising from the household member in poor health, as well as the time required away from income generation by the caretaker(s). While human knowledge and psychological assets are vital to determining the level of incomes and assets acquired, human physical assets are more fundamental in that they are necessary to generate any level of income – virtually no amount of income generation is possible without a healthy and labour-ready body in the given context.⁵²

In terms of the role of human physical assets in responding to environmental stress, I deduce its importance by examining the type of physical exertion required for measures commonly adopted in both locations. Interestingly, although riverbank erosion in Long Thuan is more violent in its sudden occurrence, severity, and permanence of damage, given the limited adaptation measures available, it requires less sustained and one-off use of physical assets, such as reinforcing the house with

⁵² Here, I exclude begging and government or other forms of aid as proactive forms of income-generation.

stilts following its exposure to erosion, and urgent evacuation should erosion occur while people were in the house.

In comparison, seasonal flooding in Vinh Tri may pose an overall milder degree of damage to household assets, but its seasonal nature increases the importance of human physical assets to adapt to and live in this environment. The need to reinforce one's house to maintain its integrity during several months of flooding occurs every year, prolonged throughout the flood season. The same need for constant attention applies to measures to protect one's assets such as inland ponds, livestock, and fruit trees. Hence, I deduce that the severity of the environmental stressor does not necessarily correlate to the need for greater physical exertion or human physical assets when adopting response and adaptation measures.

In sum, this chapter has shown that intangible assets – with a focus on human assets in this thesis – is critical to consider when attempting to gain a multi-dimensional understanding of individuals, their management of household assets and resulting livelihood outcomes, differential response to stressors, and how diverse gradients of vulnerability are generated as a result.

Environmental Stress and Migration: Is There a Link?

8.1 Introduction

In previous chapters, we explored the nexus between rural livelihoods and household assets, vulnerability, and environmental stress. Our interest lay with the rural context, and how people are living in their environments, making a living and managing their assets. This gave us a solid understanding of two rural communes in the Mekong Delta, an area seen by many as being among the most vulnerable in the world to sea level rise (SLR) (Hugo 2008, Warner et al 2008, Oxfam 2011, ADB 2012), a hot spot for ‘environmental migration’ / ‘environmental displacement’ (Carew-Reid 2007, Dasgupta et al 2007, Nicholls et al 2007). While this may indeed be the case, I attempted to counter the broad stroked assumptions and urgent sensationalism with which these claims are often made, by providing empirical evidence and analysis to the diverse ways in which seasonal flooding in the Mekong Delta are affecting people in different locations, their asset differentiated impacts, the range of adaptability with which people have been and currently are living in these environments, and the positive as well as negative repercussions of government adaptation measures, particularly that of resettlement.

This chapter investigates (im)mobility as a response to environmental stress, mediated by the household assets discussed in previous chapters. I start with an overview of the migration dynamics found in Vinh Tri and Long Thuan, to set the

backdrop for the chapter. This is followed by an investigation of the drivers and deterrents of migration as found in Vinh Tri and Long Thuan, further enriched by data from migrants in two key urban destination cities – Can Tho City (CTC) and Ho Chi Minh City (HCMC). Migration drivers discussed include low wages, unemployment, and lack of steady employment in rural origin areas, as well as more lucrative work opportunities in urban destinations. Critical migration deterrents were found to include land and home ownership in places of origin, and government resettlement programmes providing alternative options to migration. Furthermore, the importance of social networks is discussed as a migration facilitator. The remainder of the chapter is devoted to the environmental stress – mobility link found in the four locations.

8.2 Migration Dynamics in Vinh Tri and Long Thuan

To lay the groundwork for the investigation of the environment-migration nexus in this chapter, I first explore the migration dynamics of Vinh Tri and Long Thuan, to gain a better understanding of the migration element before linking it to the variable of environmental stress.

In both locations, the vast majority of respondents had no intention of migrating out of the province in the future, whether it be seasonally, temporarily, or permanently, with only six respondents (two in Vinh Tri, four in Long Thuan) expressing any foreseeable possibilities of migrating in the future. Interestingly, all six respondents were Poor or Near-poor and none were owners of agricultural land.

Whether or not this implies a correlation is not possible to determine given the small sample size, but does imply a possible connection between the tendency to migrate, and asset poverty and landlessness. Table 10 below outlines the migration intentions of the six respondents, some of them quite abstract or weak.

Table 10. Migration intentions of six households with any migration intentions in Vinh Tri and Long Thuan

	P/NP	Area of residence	Migration plans / intentions
LA8	NP	Cluster	Currently undertaking seasonal migration. No intention to migrate permanently.
LA27	P	Rural	Will stay until son finishes school (few more years), then will follow him wherever he goes.
DT1	P	Dyke	Will migrate to HCMC as a last resort. No intention to migrate permanently.
DT5	P	Dyke	Plan to return to factory in Vung Tau once finger is healed (finger injured in an accident at the same factory). No intention to migrate permanently.
DT16	NP	Dyke	Would undertake migration as a last resort. Currently, no intention to migrate permanently.
DT18	P	Dyke	Wants to migrate but can't because of caretaking responsibilities.

Of these six respondents, only two – LA27 and DT5 – view migration as being a real and feasible part of their future plans. One respondent (LA27) is a single parent who foresees herself as becoming dependent on her son after he has graduated from school, and would therefore follow him if / when he decides to migrate. The other respondent (DT5) plans to return to the factory in an urban city where he had been working, from where he is taking a break after injuring his finger onsite. Outside these two individuals expressing any real future possibility of

undertaking migration, only one respondent, LA8, is currently using migration as a livelihood strategy, by migrating seasonally to other regions of the Mekong Delta for hired agricultural work, but is based permanently in Vinh Tri. Another respondent, DT18, would like to migrate, but cannot do so as he is a single parent with a son who is chronically ill, making it difficult to even leave the house to work locally. The remaining two respondents – DT1 and DT16 – see migration as a final resort if they find themselves with no other options to survive locally, and as such, do not have any proactive intentions or desire to migrate.

Overall, among the 54 respondents in Vinh Tri and Long Thuan, given that only six reported any inclination towards adopting migration as a strategy, and of these six, only two saw migration as a concrete and possible part of their futures, migration does not appear to feature prominently in the current lives of the vast majority of respondents. Nevertheless, when examining the six respondents, the reasons for envisaged current and possible future migration scenarios are varied, but do share similar roots in economic factors, whether it is survival in old age as a dependent of one's children, to work temporarily in a factory or seasonally in other rural Mekong Delta areas for hired agricultural work, or migrating should all other livelihood options fail in one's current location.

The data presented above deals with the current circumstances of respondents in Vinh Tri and Long Thuan. However, the average age of the respondents in both locations was 52 years of age, which is informative in terms of their demographic characteristics, and also entails that they may have migrated in the past during their 'prime' years for livelihood output.

Thus, when examining migration histories, the picture becomes quite different, with 23 of 27 households in Vinh Tri and 12 of 27 households in Long Thuan reporting past mobility experiences across provincial borders. Table 11 below outlines the types of mobility undertaken by respondents and their household members in the past. (Some households cited more than one type of migration experience.)

Table 11. Migration histories of household members in Vinh Tri and Long Thuan

Type of mobility	VT	LT
Resettled from Hai Duong as part of 'new economy' programme	5	
Voluntary in-migration from other Mekong Delta provinces due to availability of land, hired agricultural work, and fish	10	
Voluntary in-migration from other provinces outside of the Mekong Delta due to better livelihood opportunities	4	
Voluntary in-migration from within the province due to better livelihood opportunities	3	
Out-migration to cities to work during flood season	1	
Temporary out-migration to cities to work in higher wage jobs		6
Temporary out-migration to other provinces in the Mekong Delta for livelihoods (to rent agricultural land, raise ducks on boat, work as hired agricultural labourer, or street vendor.		4
Lived on boat, moved around the Mekong Delta for hired work and fishing		1
Out-migration for marriage (now returned following divorce)		1

Among the pronounced features of this data is that Vinh Tri in the past, appears to have been a receiving area for migrants from the Mekong Delta and other provinces, when it was less densely populated and more land and hired agricultural work was available, as were fish stocks in the natural waterways. For these same reasons, it was also the receiving area for a 'new economy' resettlement programme,

a government initiative to populate the region and develop its agricultural output. Five households reported being relocated to the area as part of this programme.

In contrast, Hong Ngu appears predominantly to have been a sending area, both to cities and other Mekong Delta provinces. Furthermore, in terms of rural-urban out-migration, Long Thuan showed a higher rate (six households), whereas Vinh Tri only recorded one household. Again, the primary drivers for the vast majority of these mobility experiences were economic, although in-migration into Vinh Tri was also closely tied to the richness and availability of natural resources.

One may now ask – what is the value of such a micro-level analysis of present and past migration dynamics in our study locations? First, what originally appeared to be relatively stagnant migration profiles, were revealed to have been dynamic in the past, with many respondents not engaged in migration in the present, but having done so in the past. This speaks to the dynamic nature of migration, as a fluid and evolving process occurring over one's lifetime. By examining the local level process, we not only gain a clearer understanding of the lives of our respondents, but also that of the historical context in which they live, and how mobility dynamics have been shaped by political, economic, and environmental elements. Second, the contrast in migration profiles and mobility dynamics between Vinh Tri and Long Thuan reflect the range of diversity found even within two bordering provinces of the Mekong Delta, further illustrating the need for a micro-level approach to contextualising not only environmental stress and vulnerability (as discussed in previous chapters), but also that of migration and mobility trends and patterns.

On that note, we now return to the current migration experiences of households in Vinh Tri and Long Thuan, expanding our examination of household mobility beyond the respondent to include other household members. Given the older age range of respondents, this analysis reveals much about the demographic of current migrants and drivers of out-migration from the areas. Of the 54 households in both locations, a total of 19 households reported currently having migrants in their household, eight in Vinh Tri and 11 in Long Thuan. Table 12 below outlines the types of mobility and number of respondents engaging in each type (with some households reporting more than one type of migration).

Table 12. Type of mobility among households in Vinh Tri and Long Thuan

Type of mobility	VT	LT
Working in HCMC (return home only for major holiday)	4	6
Working in Binh Duong / Dong Nai provinces neighbouring HCMC, in industrial zones (return home only for major holiday)	1	2
Working in non-agricultural jobs in other Mekong Delta provinces	2	1
Migrated for marriage and now living in other Mekong Delta province	2	2
Seasonal migration for hired farm work within the Mekong Delta	1	

Two salient features emerge from the current migration trends in Vinh Tri and Long Thuan. First, the majority of migration is rural-urban (first three categories listed in the table pertaining to 16 of 19 households), with individuals moving away from rural agriculture-based jobs to urban hired work, including factory jobs. Second, all current migrants are relatively young, ranging from the late teens to the thirties (excluding marriage migrants, for whom age data was not comprehensibly available). Furthermore, no income or (agricultural) land

differentials were found for households with migrants, with eight Poor households, nine Near-poor, and two Better off; and 14 landless households, one renting land, and four land-owning households. The different types of mobility were also present across income levels and land ownership statuses.

In sum, the migration trends in Vinh Tri and Long Thuan are as follows. Among the few respondents who expressed varying degrees of intention to migrate in the future, all were Poor or Near-poor, and landless, and their reasons for migration revolve around economic factors. When looking at mobility histories however, we see a different migration dynamic reflecting the landscape and economic viability of the two locations several decades ago when many of the respondents were in their 'prime' income-generating years. Vinh Tri was predominantly a receiving area, for both government resettlement programmes to develop the agriculture sector and populate the area, and for migrants from within the Mekong Delta and smaller numbers from other regions, attracted to the area for the livelihood opportunities and abundant resources available, particularly land and fish supplies. On the other hand, Long Thuan was largely a migrant-sending area, including destinations in urban areas, whereas rural-urban migration was relatively uncommon in Vinh Tri at the time. In addition, most of the migration experiences in both locations were economic in nature, while the fertility and abundance of natural resources in Vinh Tri were further pull factors attracting in-migration into the area.

When examining current migrations trends in the two locations, however, both areas show similar patterns – high rates of out-migration of young individuals to HCMC and surrounding industrial zones, choosing an urban livelihood for its

higher pay over agricultural work in rural areas. This trend is representative of the overall migration dynamics in Vietnam, where according to the 2009 Population and Housing Census, the demographic of individuals aged 15-24 years of age accounts for the largest proportion of total internal migrants during 2004-2009, at roughly 40 per cent, most moving to urban areas (from both urban and rural areas) with the median age of all internal migrants for this five year period being 24 years.⁵³ Unfortunately, the exact number of migrants is not available due to the inaccessibility of raw census data, but these trends were verified through the graphs in the cited UNFPA (2011) report, a document based on analysis of census data. These migration patterns were furthermore found across income levels and land ownership statuses in Vinh Tri and Long Thuan. However, it is important to mention that while migration of household members may be occurring at comparable levels for both landowning and landless households, the landowning respondents themselves are remaining on their land, meaning the entire household is not migrating, pointing again to the rooting effect of land ownership its role as a deterrent of migration.

8.3 Drivers and Deterrents of Migration

Having investigated the rural Mekong Delta context through our analysis of Vinh Tri and Long Thuan, we now move on from migrant sending areas to include

⁵³ Again, the census does not include temporary, circular, and undocumented movement, migrants under five years old, and movement in the six months prior to the census date.

migrant receiving areas – CTC and HCMC – a common urban destination for migrants from the Mekong Delta.⁵⁴

In this section, I move on from the context of rural life in the previous chapters to investigate migration dynamics – the key drivers, deterrents, and facilitators for migration – as found in Vinh Tri and Long Thuan, as well as for migrants interviewed in CTC and HCMC, who all in some form were rooted in rural areas of the Mekong Delta prior to their move to these cities. In the following two sub-sections (8.3.1 and 8.3.2), I discuss the two main migration drivers cited by respondents – (1) low income and lack of steady employment in origin areas, and (2) livelihood opportunities in urban destinations. This is followed by two sub-sections (8.3.3 and 8.3.4) on the key migration deterrents found in Vinh Tri and Long Thuan – (1) land and home ownership, and (2) resettlement programmes rooting people in their rural places of residence. Lastly, in sub-section 8.3.5, I discuss social networks, cited by respondents in all four locations as being vital to both facilitating and discouraging migration.

8.3.1 Migration driver: Low income and lack of steady employment in origin areas

Among the migrants interviewed in CTC and HCMC, the most frequently cited reasons for migration are rooted in livelihood difficulties in their places of

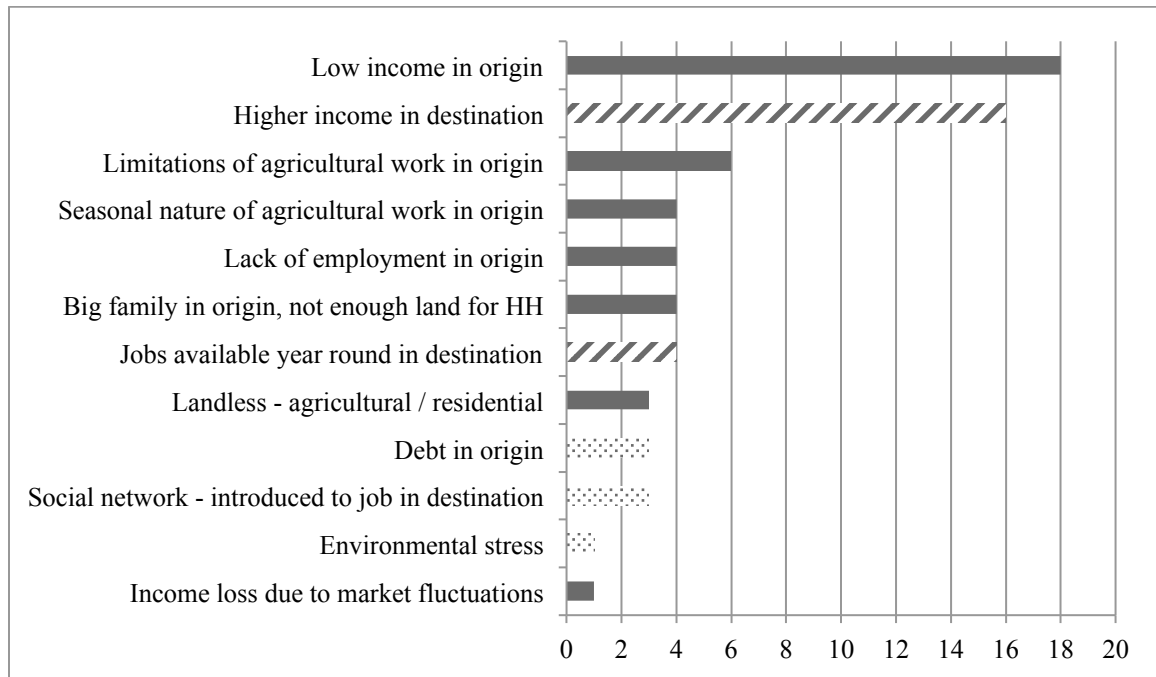
⁵⁴ It is worth noting that migration dynamics of the Mekong Delta are complex and involve short-term, seasonal, to long-term migration within the Delta, to rural and urban destinations, and to other regions of the country beyond the South (CTC) and Southeast (HCMC) to the Central region, and to a lesser degree, to the North.

origin in rural areas of the Mekong Delta, and correspondingly, the availability of higher incomes and consistent work in CTC and HCMC. Figure 5 below outlines the main reasons for migration according to the migrant respondents, with each respondent able to freely cite as many reasons as was applicable to their case. Of the 18 respondents in CTC and HCMC, every one of them cited low incomes in their place of origin as being among the catalysts for their migration to the city. Consequently, the higher incomes in CTC and HCMC emerged as the primary reason migrants chose these locations, with 16 respondents mentioning this factor explicitly. I will elaborate on the latter reason for migration in the next section (8.3.2), but mention it here as the two reasons are interlinked.

Of the other causal factors cited, the following are related to and contribute to low incomes in rural areas of origin: (1) the limitations of rural agricultural work, the predominant livelihood activity available in these areas, particularly for the land poor and landless wage labourers, and the inability to accumulate savings or grow asset profiles in this capacity (CT2,6,8,9, SG2,9); (2) the seasonal nature of agricultural work in the Mekong Delta with flood seasons often translating to less / minimal work available and corresponding decreased incomes, hunger, and deprivation (CT7,8, SG2,7); (3) a general lack of employment, as well as employment outside of agricultural work (CT6,7, SG7,8); and (4) lack of access to housing and agricultural land for several reasons, including inadequate financial assets on the part of the household to purchase land, the lack of unused agricultural being available in the area, (CT7, SG1,4) and/or being a member of a large family

dependent on a limited amount of land (CT3,8,9, SG4). These factors are shown in figure 5, along with other reasons cited for migration.

Figure 5. Reasons for migration and frequency of citation by migrants in Can Tho City and Ho Chi Minh City



In Vinh Tri and Long Thuan, debt was furthermore cited by three respondents as being among the primary reasons for their migration, reflecting the role of debt in these locations as part of the farming cycle and as coping mechanisms during times of stress, as mentioned in Chapters five to seven (CT5,8, SG1).

Hence, while the predominant migration driver explicitly referenced by respondents was that of low incomes in origin areas (and opportunities for higher incomes in destination areas), these other factors shed light on the causes contributing to low incomes in sending areas. Thus, among the twelve total reasons

cited by respondents for their migration, seven were related to low incomes in origin areas (designated by solid bars in figure 5 above) – the limitations (for financial growth) of agricultural work for landless and land poor individuals, the seasonal nature of agricultural work equating to unsteady income outside of crop seasons and during flooded months, unemployment in rural areas, insufficiency of family land when supporting large households, the impoverishment and inability to escape poverty for landless individuals in the rural agricultural context, and exposure to market fluctuations for farmers.

In essence, these conditions are reflective of the ongoing stress and conditions of rural poverty, representative of a typical scenario contributing to rural-urban migration dynamics in Vietnam and many other industrialising countries. Below are some excerpts illustrating the circumstances contributing to low incomes (solid bars in figure 5) in the migrants' places of origin in rural areas of the Mekong Delta, and higher incomes they now earn in CTC and HCMC.⁵⁵

'I migrated because I was having a very hard time back home... [My husband] worked as a blacksmith for someone, but *we spent all he earned*. After we had children, we spent more, electricity and water also cost more. We took care of all the expenses by ourselves, but back home we couldn't earn money, so we moved here. We work as hired workers to make money now... *It's easier to find a job and make money here. Back home we can only work on the fields.*' Van, CTC. (CT6)

'*Our life [in Soc Trang] was very unstable and it was difficult to make money*. I find living here a bit easier... Because *I didn't have any land, just lived in a hut on someone else's land*... It was very difficult so we moved here. Now I mortar... Most [people in Soc Trang] move to Saigon to find jobs. Quite many people go. They migrate because their lives are too difficult... In general I am more comfortable here.' Trung, CTC. (CT7)

'My hometown is in Soc Trang, I used to work on rice fields... I came to Can Tho to work in a café for my niece/nephew... *Working*

⁵⁵ Emphasis in interview excerpts below added by author.

as a hired labourer in my hometown, I would be poor forever... My family only has a few [thousand squared metres] of fields, it isn't enough to feed a large family like us. That's why [my children] had to work to earn extra money (in Binh Duong, an industrial zone) and send money home to bring up their children... In my home village... one month you are employed, the next month you are unemployed, jobs are not available all the time like in cities... It's a better life here. In my hometown I had rice to eat but I didn't have any money to spend. We were... idle after the crops, no work to do. Here, I manage to work and earn money everyday. Trang, CTC. (CT8)

'[We will] stay here for good, because we no longer have any land and nowhere else to go... I used to farm on rice fields... Only had [3,000m²] of fields. *Only farming and net-casting for fish, we did nothing else...* I had to live at my wife's house... but her family is big with many siblings, hardly any room left so we moved away... *We just made enough to get by...* [Most migrants] stay in another region for one or two years and then go back home. They still own their land so they can live there... *If I had [housing] land, I would have stayed there...* No other trade but farming on rice fields... or horticulture... They have little or no income from working as hired labourers there, so they move out here, because there's higher income working here.' Dung, CTC. (CT9)

'It's easier to work and make a living here. *In my home village, the work is exhausting but earns too little money... Although I have to work very hard here, life is better because after tiring work, I have some spare cash.* In my hometown, it's exhausting work, soaked by the rain and in the sun all day long, but one can earn only VND 20-30,000 a day. Here, I work indoors and make VND 50,000 a day... In many cases, [people in my hometown] go to the cities during the idle time between two crops, and when crop season comes, they will stop working here to return home and work on the farm... *If they have houses and land at home, they will return home.* They only move here to work when their family is in financial difficulty.' Vi, HCMC. (SG9)

These excerpts depict the causal factors for low incomes and financial hardships in rural areas of the Mekong Delta, as well as the reasons why migrants are attracted to CTC and HCMC as urban destinations (outlined in figure 5). To better understand the influence of these 'push' variables, we now discuss each factor and how they contribute to low incomes, which, according to the accounts of the

respondents, generated the motivation to migrate out of rural areas of the Mekong Delta.

We first refer to our data from Vinh Tri and Long Thuan in Chapter six, where the three most common livelihood activities were found to be on-farm and off-farm hired work, and small home-based businesses. All of these activities are by nature labour intensive, with low access qualifications, making them accessible for households poor in assets. They are also characterised by low and unpredictable returns, features of rural livelihoods described by migrant respondents as being the reason for leaving to pursue urban livelihoods in CTC and HCMC. Respondents in all four locations described the impoverished life of hired agricultural workers and the impossibility of escaping poverty as a landless wage labourer. The limited availability of alternative job options outside of agricultural hired work (mentioned by six respondents in CTC and HCMC) was furthermore observed during fieldwork in Vinh Tri and Long Thuan.

Also expressed by migrants was the inability to accrue savings as agricultural wage labourers, reflecting accounts by asset poor households in Vinh Tri and Long Thuan, while some migrant respondents described that in contrast, they were able to save and earn extra 'spending money' in CTC and HCMC. Most respondents in CTC and HCMC – ten out of 18 – claimed their incomes had increased following migration (CT2,4,6,7,8, SG2,5,6,8,9), with many referring to the labour intensive nature of agricultural work and contrasting relatively less physically demanding work in the cities, with the former resulting in just enough income to survive, while the latter, although less physically demanding, generated higher incomes and thus

'extra' funds beyond what is needed to cover basic needs. Should the respondents choose, these surplus funds could be put aside as savings.

The seasonal nature of incomes and the lack of jobs available year round in the places of origin described by migrants also corroborate the characteristics of rural livelihoods in the Delta, described in Chapter six, as found in Vinh Tri, a flood-prone area.

The lack of residential and agricultural land as obstacles to growing asset profiles additionally echo findings from Chapters five and six, where agricultural and residential land, including the land surrounding one's house, were identified as critical determinants of livelihood outcomes and wealth. As cited by respondents in all four locations, a household may be landless or land poor for several reasons – lack of tangible assets with which to purchase land, shortage of agricultural land available in the area, or being part of a large family dependent on a limited amount of land. Whatever the reason for one's landlessness, being landless in the rural Mekong Delta context was associated with being poor, across all four locations.

The dominance of low incomes as a push factor for migration from rural Mekong Delta to CTC and HCMC is furthermore supported by findings from Chun and Sang (2012), the UNDP research that took place alongside the fieldwork for this thesis, and as such, is based on data from the same field sites. As part of the study, 200 semi-structured surveys were carried out with migrants in CTC and HCMC, also originating from rural areas of the Mekong Delta. The respondents were asked to state all of the reasons for their decision to migrate to their current location, with multiple answers permitted per respondent. The four most frequently cited factors

were found to be (1) to find work – 26.5%, (2) to find better paying work – 17.6%, (3) to join my family – 15.7%, and (4) because of environmental conditions – 8.4%. Table 13 below presents all of the causal factors for migration cited by respondents.

Table 13. Reasons for migration to Can Tho City and Ho Chi Minh City

	CTC		HCMC		Total	
	N	%	N	%	N	%
To find work	59	30.7	54	23.0	113	26.5
To find supplementary work	16	8.3	9	3.8	25	5.9
To find better paying work	32	16.7	43	18.3	75	17.6
Because my livelihood failed	5	2.6	17	7.2	22	5.2
Because of environmental conditions	2	1.0	34	14.5	36	8.4
To avoid getting sick / injured	1	0.5	3	1.3	4	0.9
For education	24	12.5	11	4.7	35	8.2
For better health care	1	0.5	20	8.5	21	4.9
We fell into debt	1	0.5	1	0.4	2	0.5
To join my family	35	18.2	32	13.6	67	15.7
Availability of land	4	2.1	1	0.4	5	1.2
Availability of housing	4	2.1	3	1.3	7	1.6
More support from family / friends	4	2.1	6	2.6	10	2.3
Others ⁵⁶	4	2.1	1	0.4	5	1.2
Total responses	192	100.0	235	100.0	427	100.0

Of these options, respondents were asked to rank the top three most important, presented in table 14 below. The categories cited as most important in order of frequency were: (1) to find work, (2) to join my family, and (3) to find better paying work. When comparing the numbers between the categories – ‘to find work’ (26.5 per cent) and ‘to find better paying work’ (21.4 per cent) – it is important to

⁵⁶ Includes: want to live in new environment, old house clearance, and promotion.

keep in mind that the distinction between the two options may not have been clearly thought out by the respondent, but ultimately, they are both economic factors and related to livelihoods. Another livelihood-related reason cited by 7.1 per cent of respondents was ‘because my livelihood failed’. Interesting to note is the small number of migrants mentioning the role of the environment (‘because of environmental conditions’) as a reason for migration. The environmental factor and its links to mobility decision-making will be discussed further in section 8.4.

Table 14. Three most important reasons for migration to Can Tho City and HCMC

	CTC					HCMC				
	3 most important reasons (N)			Total		3 most important reasons (N)			Total	
	1	2	3	N	%	1	2	3	N	%
To find work	45	11		56	31.5	42	9	1	52	26.5
To find supplementary work	5	6	4	15	8.4	1	2		3	1.5
To find better paying work	12	16	4	32	18.0	22	17	3	42	21.4
Because my livelihood failed		3	1	4	2.2	7	5	2	14	7.1
Because of environmental conditions	1	1		2	1.1	3	11	8	22	11.2
To avoid getting sick / injured	1			1	0.6		1	1	2	1.0
For education	9	10	5	24	13.5	3	2	4	9	4.6
For better health care	1			1	0.6	3	6	4	13	6.6
We fell into debt		1		1	0.6		1		1	0.5
To join my family	22	6	6	34	19.1	18	11		29	14.8
Availability of land				0	0.0		1		1	0.5
Availability of housing				0	0.0	2		1	3	1.5
More support from family/friends		2	2	4	2.2	2	1	1	4	2.0
Others	3	1		4	2.2			1	1	0.5
Total responses	99	57	22	178	100.0	103	67	26	196	100.0

As outlined in the table below, women outnumbered men in terms of migrating to join family members by 4:1 in CTC and 7:1 in HCMC. This is important in explaining the prevalence of the reason – ‘to join my family’ – for migration to the cities, as some of the female respondents were dependents of their spouses / partners or children, and not the main breadwinner of the household.

Table 15. Three most important reasons for migration by gender

	CTC			HCMC		
	Male	Female	Total	Male	Female	Total
	N	N	N	N	N	N
To find work	24	35	59	24	30	54
To find better paying work	17	15	32	20	23	43
To join my family	7	28	35	4	28	32

These figures are in line with observations made during fieldwork, as far more women migrants were home during the day and available to participate in interviews. While this factor is an important migration driver for the dependent household member, the dependent nature of the variable – ‘to join my family’ – means it is not a primary reason for migration for the household unit as a whole, but is a result of the internal characteristics of the dependent individual, and as such, is not included in the analysis.

8.3.2 Migration driver: Opportunities in urban destinations

Given the saliency of weak livelihoods and earnings as the factors motivating out-migration from rural areas of the Mekong Delta, it is no surprise that the primary reasons for in-migration into CTC and HCMC cited by respondents were higher incomes available in the destination area (as depicted by the striped bar in figure 5 in sub-section 8.3.1). Apart from the explicit citation of higher incomes, another related reason was referenced – that of jobs being available year-round in the destination cities. These two variables correlate to the migration ‘push’ variables discussed in above sub-section 8.3.1, particularly the low incomes in places of origin and seasonal nature of agricultural work and resulting irregular earnings throughout the year.

As mentioned in sub-section 8.3.1, of the 18 respondents in CTC and HCMC, ten respondents reported higher incomes following migration compared to before their move (CT2,4,6,7,8, SG2,5,6,8,9). In addition to the interview excerpts presented in the above section, below are additional samples describing improved incomes and consistent work available in CTC and HCMC, in contrast to the respondents’ places of origin in rural areas of the Mekong Delta.⁵⁷

‘I moved here because I couldn’t make ends meet working [in Ben Tre], couldn’t afford to send my kids to school... We picked coconuts and worked as hired labourers. In the morning we went fishing... for food... *It’s less needy compared to my home village; here we can earn a good income out of our labour, and it can cover our food and other expenses...* If we live in our home village... we can earn only about 120,000 VND a day, doing all the hard work, it’s not enough to make ends meet... Moving here, we earn more than 300,000 VND a day... Our wish is to stay here permanently.’ Vi, HCMC. (SG6)

[I came here because] there were no jobs in [An Giang]. In high-water season, I can’t earn enough to live there... Here jobs are [always] available, while in my hometown, everybody just waits for the rice crop

⁵⁷ Emphasis added by author.

season... In my hometown, most people rely on rice farming, some go fishing... There are few jobs during rainy season, it's idle time. It's not enough to make ends meet so many people migrate to cities, many travel far away to work and go back home for rice harvest time.' Thi, HCMC. (SG7)

In Chapters six and seven, I discussed the convergence of interlinked hardships occurring during flood season in Vinh Tri – seasonal unemployment, decreased and unsteady incomes, indebtedness, and food shortages. The factors cited for both out-migration from rural origins and in-migration to the urban centres reflect this reality. As evidenced by empirical data from all four locations, as well as other studies investigating livelihoods in the Mekong Delta (Nguyen 2007, Oxfam 2008, Dun 2009, McElwee 2010), this is true for much of the asset poor population living in rural regions of the Mekong Delta who are dependent on agricultural activities for income-generation, and thus, are heavily affected by the environmental landscape and its seasonal cycles. This alludes to the contributing role of environmental stress on out-migration from rural Mekong Delta, a connection that will be elaborated on in section 8.5.

Further corroborating the higher income outcomes in destination areas, the UNDP survey findings (Chun and Sang 2012) report an even higher percentage of migrants citing increased incomes post migration, presented in table 16 below. An accumulated total of 92 percent of migrants report having more work opportunities in the cities, and 88.5 percent a higher level of income – an expected result given the wage differential between urban centres and rural areas. In light of these figures, however, the number of migrants able to save more compared to before is relatively lower at 43.2 percent, those saving at the same rate at 46.7 percent, and 10.1 percent

were saving less after migration. These savings figures, appear to be a more accurate reflection of the overall financial state of migrant households, and more closely align the 10/18 proportion of migrants reporting higher overall earnings following migration in this thesis.

Table 16. Livelihood status in Can Tho City and Ho Chi Minh City before and after migration

	Change	CTC		HCMC		Total	
		N	%	N	%	N	%
Availability of jobs	Worse			2	2.0	2	1.0
	The same	10	10.0	4	4.0	14	7.0
	Better	90	90.0	94	94.0	184	92.0
Level of income	Worse	5	5.0	2	2.0	7	3.5
	The same	10	10.0	6	6.0	16	8.0
	Better	85	85.0	92	92.0	177	88.5
Amount of savings	Worse	17	17.0	3	3.0	20	10.1
	The same	35	35.0	58	58.6	93	46.7
	Better	48	48.0	38	38.4	86	43.2

It is well established in the migration literature that economic reasons are the most prevalent drivers of migration (Todaro 1969, Massey 1990, Massey et al 1993, Ellis 2000). What the data from the survey tells us is that the migrant respondents in CTC and HCMC are largely achieving the goal of increased incomes, but a far smaller percentage are making sustainable financial gains through the accrual of savings. Based on the data from this thesis, I postulate that the discrepancy between the rates of higher incomes and savings can be explained by the increased expenditures and cost of living in urban cities, coupled with the lack of natural resources and inability to grow vegetables, fish, or engage in other livelihood

activities or activities contributing to household food consumption common throughout rural areas of the Mekong Delta. Nevertheless, to avoid veering too far off topic, I bring the discussion back to our examination of migration drivers and deterrents.

8.3.3 Migration deterrent: Land ownership as a deterrent of out-migration

We now move onto the relationship between land and home ownership and migration. Before focusing on this relationship however, it is important to think back to the findings in Chapters five and six on the importance of these assets for households, and their role as critical determinants of livelihood outcomes and wealth in rural Vinh Tri and Long Thuan. Land was found to be closely linked to livelihood outcomes including higher incomes, and is an asset that can be used as liquid assets or as collateral, to grow asset profiles, also invaluable during times of need.

Given the significance of one's land and home, it is possible to reason that possessing these assets would in some sense root individuals to where the assets are located, as has been found by other authors (Hutton and Haque 2004, Kothari 2006, and McLeman and Smit 2006). This sub-section explores the degree to which this dynamic was found in Vinh Tri and Long Thuan among non-migrants, and among migrants in CTC and HCMC.

I will first focus on land ownership, then proceed onto the significance of home ownership in influencing migration decision-making. As mentioned in section 8.2 on migration dynamics in Vinh Tri and Long Thuan, all of the respondents who

expressed varying levels of possible migration scenarios in their future consisted of households who did not own any agricultural land. This translated to the *immobility* of these landless respondents, and is important to consider as the migrating individuals referred to above (both respondents and other household members) consisted of landless young individuals below 40 years of age. This consequently means that the landowners (none of whom were currently migrating or had migration plans) are older individuals whose names are on the land use certificate, and remaining on their land.

Data from Chun and Sang (2012) further support this finding and add robustness with its larger sample size, whereby the ownership of agricultural land appeared to be a salient factor rooting individuals to their current location. Tables 17 and 18 below present findings from non-resettled and resettled respondents in Vinh Tri and Long Thuan, outlining their plans for residency in their current location, disaggregated for those who own and do not own agricultural land.

Table 17. Ownership of agricultural land and plans for continued residence – non-resettled sites in Vinh Tri and Long Thuan⁵⁸

Planned duration of residency	Own agricultural land					
	No		Yes		Total	
	N	%	N	%	N	%
Less than four years	2	2.1	5	5.3	7	3.7
As long as possible	37	39.4	16	17.0	53	28.2
Forever	55	58.5	73	77.7	128	68.1
Total	94	100.0	94	100.0	188	100.0

Table 18. Ownership of agricultural land and plans for continued residence – resettlement sites in Vinh Tri and Long Thuan

Planned duration of residency	Own agricultural land					
	No		Yes		Total	
	N	%	N	%	N	%
As long as possible	23	15.4	3	5.9	26	13.0
Forever	126	84.6	48	94.1	174	87.0
Total	149	100.0	51	100.0	200	100.0

Significantly, agricultural landowners among both non-resettled and resettled respondents were more likely to believe they would remain in the commune for the rest of their lives when compared to their landless counterparts. Also interesting to consider is the higher percentage of the landless who desired to stay ‘as long as possible’ compared to the landowners. This may reflect a strong desire to remain where they are, but with a certain degree of uncertainty as to the

⁵⁸ As per Decision no. 58/2007/QĐ-UBND, terms 4 and 5 of Dong Thap province and Decision no. 33/2006/QĐ-UBND, term 8 of Long An province, the quota for residential land ownership is 200-400m² for both provinces. Therefore, 400m² was adopted as a marker delineating ownership of only residential and ownership of both residential and productive land.

No = Households with no ownership of productive land (land area equal to or less than 400m²)
 Yes = Households with ownership of productive land (land area greater than 400m²)

possibility to do so. Nevertheless, with the lack of nuanced data available, it is not possible to explore the feasibility of this latter relationship. Furthermore, the higher percentage of the resettled group, across both the landless and landowners, intending to stay in their current location ‘forever’ is indicative of the importance of home ownership as a deterrent of migration, examined in the next sub-section.

While acknowledging the limitation of small sample size, it may be important to consider this tendency of land ownership tying individuals to their location, as well as the reverse, as reflected among migrant respondents in CTC and HCMC. Of the 18 respondents, only two were landowners – one in each location (CT4, SG5). Strikingly, these two respondents were the only individuals who planned to return to their place of origin, as they had migrated temporarily to the city to earn money at a rate higher than they could in their origin, to make up for losses caused by external shocks – one due to low market prices for fruit farmed from her land, and the other due to a storm that ravaged the household coconut grove. Below are excerpts from their interviews.

‘I intend to work until Tet (lunar new year), because growing trees at home is good... I have a fruit grove at home but fruit prices were too cheap, I lost money so I came to the city to earn money... [I will go back] because I plan to grow star apples starting from next Tet... I have my own orchard and a house... [My father] has 3,000m² of orchards; he gave [his children] all his rice fields... I have more than 1,000m² of orchards... I’ve been saving and will invest my savings in star apple trees... Working like this is very frustrating because the boss is always yelling at me. Since I don’t have money, I must bite the bullet and hold on to this job... To work for myself is much nicer.’ Yen, CTC. (CT4)

‘I am from Ben Tre... A storm destroyed my trees... Because the storm caused too much loss we didn’t have enough to live on so we came here to do business 2-3 years ago. This year the situation has improved, plus the trees are bearing fruit again too... I can earn more money here... My family has 3,600m² of coconut groves... I [also]

have 1,000m² for growing vegetables. But for the last few years I've been living here so I rent out the land... We go back once or twice a month. Our daughters stay home to take care of everything back there... We don't plan to live here permanently... I find living in my hometown very good. We just work here temporarily for 3-5 years.' Van, HCMC. (SG5)

While two households is too small a number from which to draw any general conclusions, the fact that the two landowning migrant households were the only households with concrete plans and intentions to return to their origin does tell us something about the role of land in rooting individuals to a location. Furthermore, these two excerpts can be seen as providing qualitative narrative to the survey findings from Chun and Sang (2012). Hence, what is evident is that for both households, their current priority in CTC and HCMC is to earn enough money to save and bring back home, and that they came to these cities for the opportunity to earn higher incomes. Their future plans, as such, are not to remain in the cities and continue to earn higher incomes, but to return and continue their livelihoods on their land. (We will explore the environmental stress and migration linkage for the latter household in section 8.4.) For these landowners, the purpose of migration is to improve their lives, which are rooted on their land in their places of origin. Working and earning more money in the cities is simply a temporary measure in response to losses incurred by external shocks.

The other 16 respondents in CTC and HCMC were landless (in terms of productive agricultural land) in their places of origin, and overwhelmingly did not have future residency or migration plans, or were hoping to remain in the city permanently. The two exceptions who did have future plans included one migrant who owned residential land on which his household was rooted (where his wife and

children lived), who worked on construction sites in HCMC for the duration of a given project and returned to his home in between jobs (SG1); and another respondent who was saving up to buy land in her husband's hometown and eventually move there to live a rural lifestyle as landowners (CT1). Notably, in both of these cases, their migration and residency plans evolve around home and land ownership.

Of the 16 landless respondents, six respondents did have parents who owned land in the place of origin, but the land was inaccessible as the parents were farming them, or the land was not enough to support their large family (CT2,6, SG2,3,4,8). Two of these respondents did state that if their migration should fail, they would return to their family land as a last resort, as they would have a place to stay (CT2, SG2), but these do not count as migration plans, but are instead contingency plans to fall back on in times of need. Below are some excerpts from the landless respondents.

'My husband is a blacksmith in [a] factory, I am a nail stylist... We bought [this residential land here]... with written agreement... Back home we couldn't earn money, so we moved here... [The family land back home] is my father's land. I have many siblings. He is still taking care of some younger siblings... Yes [I plan to apply for permanent residence here]... It's easier to find a job and make money here. Back home we can only work on the fields all year round.' Van, CTC. (CT6)

'It was difficult to make money [in Soc Trang], plus I didn't have land so I moved here... Our lives were very unstable and it was difficult to make money... We didn't have any plan. We just moved here to work, didn't think about the future... My wife and I work and go home every day. We don't have any plans for the future.' Trung, CTC. (CT7)

'[We plan to] stay here for good, because we no longer have any land and nowhere else to go, we will stay here until the [land clearance] occurs, then we have to move to other place... I farmed on rice fields [in my hometown]. Only had [3,000m²] of fields. Only

farming and net-casting for fish, nothing else... I had to live at my wife's house, but her family is crowded with many siblings, hardly enough room so we moved away, we returned the land... I intend to start the process [of applying for permanent registration here].'
Dung, CTC. (CT9)

'My hometown is in Soc Trang... My family is very poor. My mom is a housewife, my father is a farmer, he works on our rice fields all year round, in his idle time he works for whoever hires him... As long as they don't evict us from the land, we still stay here... it's easier to work and make a living here... I really really want to have permanent resident status here... I will not return to live in my home village.' Vi, HCMC. (SG9)

Hence, the data from this thesis as well as Chun and Sang (2012) point to the rooting factor of agricultural land ownership, where owning land appears to decrease the chances of the entire household permanently leaving the land, with some household members remaining to maintain and live off the land. On the other hand, landlessness in the rural Mekong Delta context often resulted in impoverishment and a hard life as hired farm labourers (as seen in the previous chapters), with the lack of land translating to a weaker bond between individuals and their place of origin. Furthermore, the pull factors attracting individuals to the cities (as mentioned above) – higher and steady year-round incomes, and less labour intensive work – offer incentives to landless individuals who have little or nothing to lose in terms of assets, when leaving their rural areas of residence in the Mekong Delta for urban cities such as CTC and HCMC.

8.3.4 Migration deterrent: Home ownership as a deterrent of out-migration

Having discussed the agricultural land-migration link, I now move onto the role of home ownership and its connection to migration decision-making. As

discussed in Chapter five, the homestead and agricultural land are often owned together in the rural context, but we separate the two types of land here as they are used for different purposes – one for habitation and one for livelihood production – with the home furthermore carrying a significant cultural value and sense of stability and permanence for individuals, in essence, symbolising the foundation of one’s life. Moreover, due to resettlement programmes in the area, ‘ownership’ of a home is linked to a lesser degree to ownership of productive land among resettled populations in Vinh Tri and Long Thuan. When recalling our findings in Chapter five, home ownership was found to be a deterrent for resettlement in Vinh Tri, with homeowners largely preferring to remain on their land and homesteads, despite their repeated exposure to environmental hazards. We may then hypothesise that homeowners would maintain the same connection to their homesteads when it comes to migration decision-making.

Let us first examine the non-resettled homeowners in the two locations and their attitudes toward migration. As examined in Chapter five, in Vinh Tri, of the four non-resettled homeowners (LA5,24,25,26), three expressed their intent to remain in their houses for the rest of their lives, while lacking interest in being resettled or migrating elsewhere. (The topic was not discussed with the one remaining household (LA25)). Below are excerpts from their interviews.

‘I have land already, I don’t need to move. It’s good here, no need to go anywhere.’ Trang, Near-poor, Vinh Tri. Yen, Near-poor, non-resettled. (LA24)

‘I can’t move anywhere. My children are all settled here, so I will live here... Maybe one or two of my children will think [about migrating to the city to work]. It’s hard to earn money here so they may have to go.’ Vi, Poor, Vinh Tri. Thi, Poor, non-resettled. (LA26)

In contrast, in Long Thuan, of the six non-resettled homeowners (DT 21, 22, 23, 24, 26, 27), the majority – five – believed they had no choice but to move into the resettlement dyke due to the encroaching riverbank. (The one remaining homeowner had refused to be resettled as his household has the option of moving within his family's land.) Given the salient environmental pressure exerted on households to resettle, discerning their migration intentions was difficult in this context as most of the homeowners had already been allocated houses on the resettlement dyke and had plans to move in at various times in the future. Thus, we find Long Thuan a difficult location to assess the home-migration relationship, given the overwhelming pressure posed by riverbank erosion to leave origin areas into resettlement sites, and the ubiquitous presence of the resettlement programmes.

Of the total nine non-resettled respondents in Vinh Tri, four were homeowners (as mentioned above) and five were not. From among these five non-homeowning households, three were hoping to be resettled and had applied with the local authorities (LA4,19,27). (A fourth was not eligible due to their temporary residency status (LA1), and a fifth did not discuss the subject during the interview (LA21).) As such, given the pull of resettlement programmes, it is again difficult to ascertain the degree to which migration would be a possibility for these non-homeowning households, given the priority placed on resettlement due to its ready availability.

One can, however, pose the question of how individuals in Long Thuan would have viewed migration had they not had the option to resettle. Among some households who were not resettled immediately following the exposure of their

house to erosion, the coping measures reported were (1) living in increasingly smaller portions of their house left standing, (2) living along side the road where their house had been prior to erosion, and (3) staying with relatives or friends until they were able to move into the resettlement site. None of these measures, as such, point to the feasibility of remaining on the land where they had previously lived, underscoring the very real possibility that these erosion-affected households would have had no other response measure but to move elsewhere. The question of migration distance and destination, however, is not possible to ascertain, save inferring from existing migration routes, and existing social networks that can be called upon for support and possible housing options. These conjectures are, however, based on the absence of government interventions, which in the context of Vietnam, is highly unlikely.

Thus, among the non-resettled respondents in Vinh Tri and Long Thuan, what we are able to discern is that homeowners in Vinh Tri appear to be tied to their homesteads and do not intend to leave on a permanent basis, whether it is to be resettled, or to migrate elsewhere. The comparison between the non-resettled groups in the two locations speak to the differential influence of environmental stressors, where individuals in Vinh Tri are able to continue living on their land despite the impacts of seasonal flooding by employing adaptation measures they are accustomed to carrying out every year, whereas riverbank erosion in Long Thuan renders continued settlement on the land impossible. This leaves the question of whether the absence of resettlement programmes in Long Thuan would have

resulted in higher rates of out-migration from the area. This point will be explored further in section 8.5 below.

We now examine the migration intentions of resettled respondents in Vinh Tri and Long Thuan, and how their ‘home ownership’ as a result of resettlement is shaping their attitudes toward migration. First, let us look at the broader trends by examining the larger data set in Chun and Sang (2012) comparing resettled and non-resettled households and their intended duration of stay in their current location. Table 19 below presents the planned duration of residence in the current location for the 388 survey respondents among resettled and non-resettled respondents in Vinh Tri and Long Thuan. In both provinces, a higher percentage of the resettled group intended to live permanently in their current location, suggesting the possible role of home ownership as a deterring factor for migration.

Table 19. Planned duration of residence in current location in Vinh Tri and Long Thuan

	Vinh Tri		Long Thuan		Total			
	Rural	Resettled	Rural	Resettled	Rural		Resettled	
	%	%	%	%	N	%	N	%
< 4 years	1.0		6.8		7	3.7		
As long as possible	17.0	3.0	40.9	23.0	53	28.2	26	13.0
Permanently	82.0	97.0	52.3	77.0	128	68.1	174	87.0
Total	100.0	100.0	100.0	100.0	188	100.0	200	100.0

To further illustrate the role of home ownership among other variables rooting resettled individuals to their current location, we now turn to the interviews conducted for this thesis. Similar to the figures in Chun and Sang (2012), of the 18

resettled respondents in each location, the vast majority – 14 respondents in Vinh Tri and 15 in Long Thuan – planned to remain permanently in their homes in the resettlement sites (LA2, 7, 8, 9, 11, 12, 13, 15, 16, 17, 18, 20, 22, 23, DT1, 2, 3, 4, 5, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20). Below, table 20 outlines the main reasons cited by respondents as to why they would remain in their current homes.⁵⁹

Table 20. Factors rooting resettled respondents in Vinh Tri and Long Thuan to their location

	VT	LT	Tot
Have a house here	6	6	12
Own agricultural land here	3		3
This is 'home', where ancestors and respondent is from		4	4
Too expensive to move		2	2
Children going to school here	2		2

The dominance of 'home ownership' as a factor tying individuals to their current location is notable, in that it vastly outnumbers other reasons cited. Below are some interview excerpts illustrating the role of home ownership in deterring permanent out-migration among resettled respondents from Vinh Tri and Long Thuan.

'If we move, we will live on someone else's land... We already live here, we can work bit by bit, if we move it's difficult to buy a piece of land [to live on].' Tran, Near-poor, cluster, Vinh Tri. (LA8)

'I will live here permanently as I have no other land to move to.' Thi, Near-poor, dyke, Long Thuan. (DT12)

⁵⁹ Not all respondents explicitly described the reason they would remain in their homes permanently, so these households were not included in the table. Some respondents mentioned more than one reason for their rootedness, with each reason being included in the table.

‘I will live here permanently because I am poor and the government provided me this house.’ Nguyen, Poor, dyke, Long Thuan. (DT14)

‘I will live here, even if I move somewhere to work, later I will still come back here to live. If I can earn good money somewhere I’d like to spend it on strengthening and improving this house, I don’t want to leave.’ Trung, Poor, dyke, Long Thuan. (DT18)

Given that debt was a prominent feature of the resettlement programmes (as discussed in Chapter five), it is important to consider as a factor increasing a household’s obligation to remain in the allocated houses in resettlement sites. It can, nevertheless, be ruled out as resettled individuals do have the option to forgo the house and leave the resettlement site should they decide it to be impossible to repay loans owed to government agencies. It is also possible to sell the house, effectively transferring the loan to the new owner. In cases where loans are received from private individuals or entities however, the pressure to repay debts would be greater. This study, however, lacks the data to explore this relationship.

Additionally, according to Circular No. 25/2004 of Vinh Tri province, the practice of selling, mortgaging, or transferring ownership of the housing foundation or house is prohibited during the first 10 year period, but the implementation of this rule seems inconsistent as interviews were conducted with respondents engaged in such activities. Relevant legal policies were not obtainable in Long Thuan.

Overall, whether intended or not, what is clear is that the promise of ‘home ownership’ in nearby resettlement sites is presenting an attractive alternative option to migration, and to a certain extent, is decreasing the degree to which migration is considered as an option for households, at least for core household members under whose name the house is registered. Further supporting this view

are other case studies illustrating that land and homeowners are less prone to migrating compared to the landless (Belcher and Bates 1983, McLeman and Smit 2006, Quarantelli 1982).

Moreover, as discussed in Chapter five, the cultural significance of owning a permanent house in a safe location is influential to household decision-making, as reflected by the Vietnamese saying recited by six of the total 36 resettled respondents in both locations – ‘When one has a home to settle down in, then it is possible to start one’s career.’ When such a critical asset, normally beyond the reach of asset poor households, is offered through a government programme, many individuals find the opportunity hard to resist, and therefore move into these homesteads, into a permanent home, which by definition includes the element of long term or permanent residency in the location.

In this context, it may be pertinent to consider whether government resettlement programmes are then, in some sense, rooting people to their rural areas of origin and decreasing out-migration flows, under the label of climate change adaptation and disaster risk reduction. While it is not possible to meaningfully explore this possible link within the bounds of this thesis, it may not be a far-fetched notion given that resettlement and the construction of resettlement clusters and dykes in the Mekong Delta feature in socioeconomic development plans for the region, where one resettlement site may host households relocated for both environmental and development reasons. This was the case in Vinh Tri, where the resettlement cluster and dyke housed people who had been resettled from flood-prone areas as well as to make way for development projects. Hence, while I do not

pursue this line of inquiry further given the lack of data with which to draw broader generalizations, it is nevertheless important to consider the broader policy context in which resettlement programmes are occurring, particularly within a political environment where managed migration and population distribution is normalised and prevalent.

8.3.5 Migration facilitator: Social networks

Thus far in this section, we discussed migration drivers (low incomes and contributing factors in origin area, and livelihood opportunities in urban destinations) and deterrents (land and home ownership in origin areas). I now move on to examine a migration ‘facilitator’ – social networks – labelled as a facilitator, not driver or deterrent, as social networks were integral to shaping the *nature* of the migration (such as the destination, and the specific jobs and areas of residence in the destination) and construed migration as being an attractive and unattractive measure depending on the type of information relayed by social networks.

Well-established in existing migration literature (Massey 1990), migrants frequently move to locations where they have existing social relations (relatives, friends, acquaintances) and are introduced to their jobs and/or residences through these individuals. Of the 18 migrant respondents in CTC and HCMC, only one migrant explicitly cited moving without knowing anyone in the area, but this migrant was characterised as being relatively marginalised and with an overall weak social network. The remaining migrants either had relatives, friends or

acquaintances living in the destination area, and/or were introduced by these networks to their job.

Furthermore, five of the 18 migrants spoke of actively helping other migrants from their origin areas, either by finding them employment and places to live, or by sharing other information, for example, about good schools in the area. Respondents in Vinh Tri and Long Thuan with prior migration experience also spoke of how their social networks facilitated their migration. Below are some profiles of households in CTC and HCMC and the role of networks in shaping the features of their migration, as well as their role in facilitating the migration of other migrants sharing the same hometown.

Thi and her husband moved to CTC as her husband was introduced to a job on a construction site by friends. Because he is experienced in doing construction work, over time, he has built connections and is now able to continue working on construction sites in CTC as people call for him to join when work becomes available. (CT2)

Loc moved to CTC with his wife because his parents' house had become overcrowded given their large family. His brother was already living in CTC and owned a house, so they left and moved directly into his brother's house for nine years before moving into their own house last year. One of Loc's nephews also wanted to study in CTC so he passed on useful information about the schools. When a sibling wanted to move to the city as well, Loc told him about advertisements he had seen posted for vacancies. (CT3)

Yen accompanied her son to CTC after he was introduced to a factory job by his cousin, who was already working there. (CT4)

Trung, who lives and works on a construction site, travels to HCMC, Tra Vinh, and Ca Mau (both provinces in the Mekong Delta) throughout the year whenever any of his friends who work with him calls him about a job. In between jobs, he returns home to Bac Lieu (in the Mekong Delta). He has built up a network among construction workers so he receives calls to join when there are jobs available. (SG1)

Kim came to HCMC to apprentice with and live with her aunt, who runs a hair salon. She lived with her aunt in this capacity for 6-7 years, eventually opened up her own shop, and is now married to a

man from HCMC and settled in the city. Kim recruits young women from her hometown to apprentice with her, just as she did with her aunt, to assist her business, but also to help out poor households and women from back home (SG3).

What is also interesting to note about these networks is the localised nature of the migrant-future migrant link, in that the information sharing and provision of assistance appear to occur predominantly among old and new migrants from the same geographical town. Simply being from the same province did not emerge as a bonding factor; the support network was almost always directed towards individuals from one's local 'hometown' (most likely one's commune), whereby one's common area of origin was commensurate to a stronger level of trust and sense of fraternity, particularly in the context of meeting in a relatively foreign place among unfamiliar people, characterised by an overall weaker social fabric typical of urban areas.

Overall, social networks were critical in determining whether or not an individual chose to migrate, the destination, as well as the job and residence taken up in the destination. In some sense, these networks and information channels are also essential migration drivers as they provide the extra pull factor for individuals to make informed decisions as they will know something about what they are headed towards, rather than taking a leap of faith into the unknown.

8.4 Environmental Stress and (Im)mobility Link: Empirical Evidence

Up to this point in this chapter, we examined the drivers, deterrents, and facilitators of migration. These discussions were important to lay the groundwork

for the section we enter now, on the link between (im)mobility and environmental stress. As we know from previous chapters, rural life in the Mekong Delta is multifaceted, with households juggling multiple stressors at various times and durations throughout the year. We use the household's asset profile as the lens through which household vulnerability is analysed, which revealed the importance and role of certain assets in determining livelihood outcomes, and the gradated effects of different environmental stressors for households in the context of various livelihood strategies and vulnerability shaped by divergent asset profiles. The effects of resettlement programmes in Vinh Tri and Long Thuan were also assessed in this context.

All of these discussions are critical as they detail the nuanced context in which migration decisions are made – by deciphering the key 'internal' elements (assets) shaping household livelihoods and strategies, as well as the 'external' factors exerting pressure / influence on households (i.e. environmental stress, market fluctuations), as experienced at the local level. Having explored the complexities and components of the context within which migration strategies are formulated, we now turn our attention to focus on the relationship between environmental stress and mobility decision-making at the household level, as found in Vinh Tri and Long Thuan.

As discussed in sub-section 8.2, among the 54 respondents in Vinh Tri and Long Thuan, very few respondents expressed any intention of migrating permanently out of the province in the future. Nevertheless, 19 households – eight in Vinh Tri and 11 in Long Thuan – currently reported having migrant household

members, the type of migration outlined in table 12 in the same sub-section. What is notable about these households is that much of the migration decision-making was not framed as being a result of natural hazards and environmental stressors in their current location, with the exception of seasonal migration occurring during flood season. Table 21 below outlines the characteristics of migration dynamics perceived by respondents in their communes in Vinh Tri and Long Thuan.⁶⁰

⁶⁰ I refer to the respondents' opinion on overall migration trends in their areas, as opposed to the experience of migration in their own households, as the latter was not consistently available in the data collected. I furthermore limit this sample to households with migrants, as they have first-hand experience with migration, and offer the point of view of someone with 'insider' knowledge / experience.

Table 21. Characteristics of migration dynamics as identified by respondents in Vinh Tri and Long Thuan

		VT	LT	Tot
1	In-migration from other Mekong Delta provinces for hired farm work or to rent land (LA1,5,10,12,13,17)	6		6
2	Seasonal migration occurring during flood season (LA2,3,7,8,9,13,17,23, DT15,21,24)	8	3	11
3	Predominantly young people are migrating (LA3,9,11,17,24,26, DT,14,16,20, 22,23,24,26)	6	7	13
4	Out-migration to cities or industrial zones (LA13,20,23,24,26, DT1,2,3, 4,6,14,16,20,21,22,23,24,26)	5	13	18
5	Out-migration because of low incomes, lack of jobs, and irregular work here (LA24, DT1,5,6,19,22, 23,26)	1	7	8
6	Out-migration because of lack of land available to farm here (LA26)	1		1
7	Out-migration to earn money to repay debts (LA16,24, DT3, 11,20)	2	3	5
8	Out-migration because of lack of work due to increased mechanisation of agriculture (DT5,20)		2	2
9	Migration to destination where relatives live (LA10,12,23, DT15)	3	1	4
10	Only wealthy can migrate / undertake certain type of migration (LA12,13,14,17,19, DT11)	5	1	6
11	Most migrants are poor and/or landless (LA16,17,23, DT16,19,21,22,23,26)	3	6	9
12	Out-migration because of environmental stress / impacts (LA4, DT1)	1	1	2
13	People migrating due to economic, not environmental causes (LA7,9,11,13,16,17,23,DT16)	7	1	8

Let us first examine point 12 and 13, pertaining to the direct causality between environmental stress and migration. Of the 54 respondents, only two perceived any type of migration as a direct result of environmental factors, out of their communes. One non-resettled respondent in Vinh Tri believed that more people had left for industrial zones, particularly Binh Duong, following the heavy floods of 2011 (LA4). Another resettled respondent in Long Thuan (DT1) felt that

some people from the commune had left to work in HCMC and Binh Duong (only returning during the holidays) as the number of jobs in the area had decreased as a result of agricultural land being lost to riverbank erosion. The eight respondents specifically commenting on migration from their towns as being a result of economic factors, not environmental, had responded in this manner following questions as to whether people were migrating due to environmental stress. Below are some quotes from these eight respondents.

‘No, [people don’t migrate because of environmental conditions]. Because during that season, there are no job opportunities here, everybody has found ways to survive for several months... Young people don’t go to the big city to be workers because the salary is too low.’ Nguyen, Poor, cluster, Vinh Tri. (LA9)

‘[People who migrate] are rich so they move to look for more land available here. Or some who live here think their income will be higher if they buy mountain land to grow coffee or pepper [elsewhere]. Not because of environmental problems.’ Lanh, Near-poor, dyke, Vinh Tri. (LA13)

‘Storms and strong wind often blow roofs away. Water rises to a higher level, and for a longer period of time, which affects daily activities of the residents... No, people move away mostly due to economic reasons, not environmental impacts.’ Nguyen, Near-poor, dyke, Vinh Tri. (LA23)

Hence, the number of people perceiving a link between environmental conditions and migration in their area was minimal. Despite the small number, nevertheless, I would argue that seasonal migration (item two in the table) is by nature a type of environmental migration, if the mobility does in fact overlap in time and duration with seasonal changes. While it is temporary, it is a type of mobility decision made on the part of households largely determined by environmental factors. Interviews show that the most direct cause of seasonal migration is viewed by respondents as being economic – the lack of jobs and income available during

flood season. While this is true, the lack of jobs and income is brought on by the onset of flood season, so in essence, seasonal flooding is a dominant driver of seasonal migration in Vinh Tri. Moreover, it is important to keep in mind that seasonal migration is not a new or recent phenomenon, but is embedded in the livelihood and cultural fabric throughout the Mekong Delta. Given this context, it is possible to postulate that should seasonal floods become more severe, longer in duration, or change in other ways to exert greater stress on livelihoods, an increase in seasonal migration may result in response.

As was noted in previous chapters, seasonal floods do not affect Long Thuan directly, but the three respondents identifying this item in Long Thuan may likely have been referring to neighbouring communes. Below are quotes from some respondents who identified item two – seasonal migration occurring during flood season – in Vinh Tri and Long Thuan.

‘There is no work here during flooding season. Those who have nets can fish, those without nets go elsewhere or to the cities to find jobs. There is always work available there (in the cities), so people work as hired labourers there and come back here at the end of the [flood] season.’ Trung, Near-poor, cluster, Vinh Tri. (LA7)

‘[Young people] travel far away to look for jobs, usually for several months then come back. When the [flood] season starts, off they go, and at the end of the [flood] season, they return home.’ Nguyen, Poor, cluster, Vinh Tri. (LA9)

‘During high-water periods, without the third rice crop⁶¹, people will leave their village and return home for the rice crop season.’ Kim, Near-poor, Long Thuan. (DT21)

‘During the high water period, there are no job available so people travel away to work... They go to Ho Chi Minh City... Binh Duong, some other industrial zones.’ Nguyen, Better off, Long Thuan. (DT24)

61 Many farmers in the Mekong Delta are able to plant and harvest three rice crops a year. Others who do not have (sufficiently high) dykes, or are restricted by the landscape typically harvest two crops a year.

When we consider item five in the environmental context of the Mekong Delta – the view that people are migrating out of the area due to low incomes, lack of jobs, and unsteady employment – it may appear that environmental factors are playing an influential role, particularly in terms of the irregular nature of employment. Important to note, however, is that only one respondent in Long Thuan (DT6) mentioned the unsteady aspect of employment (none in Vinh Tri where widespread seasonal flooding occurs), with the remaining seven noting only the lack of jobs and low incomes. Furthermore, none of these respondents overlap with those who identified item two on the presence of seasonal out-migration from their area. As such, I rule out the seasonal nature of employment as shaped by environmental factors when considering this item. Below are some interview excerpts from these eight respondents.

‘There aren’t enough fields here, no work, no jobs. Young women transplant rice, young men cut and carry rice but now people use machines so not many jobs are available.’ Yen, Near-poor, Vinh Tri. (LA24)

‘Usually poor people [migrate]. Their income here is not stable so they move somewhere else to earn more money... Usually they leave for a long time... Because they have stable jobs there they can’t come back often.’ Tran, Poor, Dyke, Long Thuan. (DT19)

‘A lot of people migrated... Young people usually go to the city to work, since they can’t earn much working here as hired labourers... Here the employment is not available all the time. Young people [in] the city can earn about 4-5 million VND a month, they can earn and have some spare cash of about 2-3 million VND a month. [Here] they would be employed only once in a while, and could earn only some tens of thousands a day, not enough to get by.’ Minh, Near-poor, Long Thuan. (DT23)

‘In this village, many people go to the city to work... There are no jobs available here so people move to the city to earn their living... Only the elderly stay home, all young people leave.’ Trinh, Poor, Long Thuan. (DT26)

Hence, overall, the migration drivers pertaining to this item – out-migration due to low incomes, lack of jobs, and irregular work – can be attributed to economic factors and motivations. While the other items of the table largely reflect findings discussed in previous chapters and earlier on in this chapter, items 10 and 11 have not yet been addressed and reveal an asset and wealth-differentiated component to the mobility options available for different groups. Of the six respondents who saw migration as a possibility available only for wealthy individuals, all were Poor or Near-Poor and referring to (1) migration as remaining beyond their reach as they could not afford to move, or (2) migration among wealthier individuals who had moved to buy land, and for some, who were also farming more lucrative crops on their newly purchased land such as coffee and pepper corn. Below are some interview excerpts.

‘Some families sold their land and fields to move to Dong Nai, Dac Nong, they bought land there... [They are from] here and other villages as well. About five or six families... They have money and estimate that productivity here is not as good as up there. Only rich people move.’ Lanh, Near-poor, dyke, Vinh Tri. (LA13)

‘Those with money, they go to the East to find work, others usually work for factories during flooding season. [People with money] leave home during flooding season and come back to work on their fields... Those who go all year round and only come back for [the lunar new year] are poor people, because they can’t find anything to do here except for only one rice crop... Many, six out of ten young people. More and more of them leave for jobs every year, especially since more factories were built in the cities.’ Tran, Poor, dyke, Vinh Tri. (LA17)

As alluded to by the last respondent, the nine respondents who spoke of migration as being for poor individuals, were referring to asset poor and landless individuals migrating either permanently, temporarily, or seasonally due to the lack of jobs, steady employment, and low wages available in the commune for low skilled

hired agricultural workers. While this group is affected to some degree by the seasonal nature of the environmental landscape, particularly in Vinh Tri, the drivers for their migration are mixed with other critical factors such as the root causes for low wages and lack of available jobs due to the high supply of low skilled workers. Some of the respondents noted that many poor migrants were also leaving in an attempt to earn enough to pay off debts, further highlighting the financial burdens faced by asset poor migrants. Below are excerpts from respondents referring to the migration trend among asset poor individuals.

‘Mostly poor people [migrate]. They move to the city to try to earn more money to pay for their debts... Usually they leave because they are poor and can’t find work here. To work as a hired labourer everyday is enough for basic living but if no one hires them for 1-2 months in a row they need to go somewhere to find work.’ Trung, Poor, Dyke, Vinh Tri. (LA16)

‘Most of [the migrants] don’t have any land... However, some people migrated when no one hired them as labourers... The majority of them left home to work, tried to save up some money, then returned to their home village here to build a house as a guarantee... When people were needy, they would migrate. Most of them left for Binh Duong or to the city (HCMC) to work.’ Thi, Near-poor, Long Thuan. (DT21)

‘The majority of people who migrated are people who don’t have any farm land. Those with field land would never leave their home village.’ Minh, Near-poor, Long Thuan. (DT23)

Consequently, ‘asset rich migration’ and ‘asset poor migration’ emerge as two distinct types of migration, with an element of opportunism and proactive strategizing on the part of asset rich households who migrate to take advantage of opportunities to grow their asset profiles elsewhere. These movements usually involve some type of business transaction involving tangible assets and long-term investments that are calculated to provide profits beyond what is available in their places of origin. In contrast, while the asset poor may also be seen as seizing

opportunities in destination areas, their migration most frequently results in an exchange of one type of hired work for another, where accruing savings may become possible post-migration, but the degree to which they are able to grow their asset profiles is incremental. Additionally, due to the level of earnings possible as a hired worker, the higher expenditures in urban destinations sometimes counteract their increased earnings, as discussed in the previous section. Similar findings were reported by Rafique et al (2006) in West Bengal, whereby landless households tended to undertake seasonal migration during the off season to meet daily needs, while wealthier households were utilising migration as a strategy to increase savings and make investments.

Returning to the relationship between environmental stress and mobility, when we examine the reasons for migration among the migrant respondents in CTC and HCMC, three of the 18 respondents (CT8, SG2,7) specified the seasonal nature of agricultural work and not having steady work year round as being among the reasons for their migration to the city. While acknowledging the environmental element inherent in this migration driver, the direct causal link is again economic in nature, and mediated by environmental factors.

Of the migrant respondents, one respondent in HCMC exhibited the most direct link between her migration and environmental factors, by clearly identifying a severe storm in Ben Tre as being the catalyst for her migration. The storm had destroyed the majority of her household's coconut groves, and as she already had a son who had been working in HCMC selling coconuts from their hometown, it was relatively easy for her and her husband to start selling coconuts in HCMC. They

planned to work in HCMC for three to five more years, to earn enough money to compensate for the damage caused by the storm, after which they plan to return to Ben Tre where both of their daughters have remained to care for the house and continue attending school. Below is an excerpt from the interview.

'I am from Ben Tre and came here to work. A storm destroyed my trees and caused us great loss so my family moved here and rent a place to earn a living... Because the storm caused too much loss we didn't have enough to live on so we came here to do business 2-3 years ago... 70-80 percent of Ben Tre was affected by the storm so lots of people were in trouble. They migrated to find work... Now trees have mostly recovered, they bear fruit again, much better than a few years ago. Some families lost everything... The government provided some support to fix houses... My family has 3,600m² land for growing coconut. The coconut grove was damaged 70%. The coconuts that were bearing fruit were broken in half, same with bananas trees. It looked like a dessert and everything was levelled to the ground. The newly built house was damaged about 70%.' (SG5)

This respondent was seemingly relatively easy to identify as being an 'environmental migrant' as the environmental stressor instigating her migration was a sudden onset hazard that caused clearly visible and measurable damage over a short period of time. Conversely, this highlights one of the critical difficulties when attempting to untangle environmental stress from other factors in deciphering the causality for migration in a context of slow onset environmental hazards such as SLR or drought.

Nevertheless, we discuss this migrant in environmental terms as this was her narrative as described during the interview. It is important to point out that she and her husband moved to HCMC to base themselves there for several years in 2009, when the storm occurred in 2007 – a full two years after the disaster. Between 2007 and 2009, they changed their livelihoods from growing coconuts to delivering them

to HCMC by boat from Ben Tre, during which time they realised they would be able to increase their income by selling the boat and renting a place from which to sell the produce in HCMC.

Furthermore, she described other households as also migrating out of Ben Tre following the storm, but after three to four months and not immediately following the storm, due to the need to clean up and undertake post-disaster reconstruction for their damaged housing and land, in some cases with government disaster aid.

Therefore, based on our data, while sudden onset hazards are generally easier to assign causality compared to slow onset events, it is still far from straightforward, depending on the point in time in question on one's migration trajectory (for example, had we met the respondent three years ago, she would have been transporting coconuts from Ben Tre to HCMC while based in Ben Tre, not HCMC). To some degree, seasonal migration is more easy to identify, if the seasonal / environmental variable overlaps in time and duration with the migration undertaken. But again, there is much room for the 'seasonal migration' to end up becoming permanent, or leading to other jobs elsewhere, among other possibilities.

Taking a step back, however, what is most striking about the migrant respondents and the role of environmental stress in their migration decision-making is the fact that only one migrant household was found to exhibit a seemingly clear causal link, and even then, the relationship was tenuous given the amount of time (two years) between the environmental event and point of migration, the nature of which had also changed over time.

We now turn to findings from Chun and Sang (2012) to supplement our investigation of the environment-migration connection. In both the rural and resettled group in Vinh Tri, environmental conditions appear to play a minor / indirect role when respondents were asked about the likelihood of moving elsewhere to avoid environmental stress (table 22 below).

Table 22. Likelihood of moving elsewhere to avoid stressful environmental conditions among resettled and non-resettled respondents in Vinh Tri and Long Thuan

	Vinh Tri		Long Thuan		Total			
	Rural	Resettled	Rural	Resettled	Rural		Resettled	
	%	%	%	%	N	%	N	%
Very likely	2.0	1.0	26.1	3.0	25	13.3	4	2.0
Somewhat likely	10.0	6.0	51.1	11.0	55	29.3	17	8.5
Not at all	88.0	93.0	22.7	86.0	108	57.4	179	89.5
Total	100.0	100.0	100.0	100.0	188	100.0	200	100.0

While the vast majority of respondents in Vinh Tri answered that it is ‘not at all’ likely for them to leave the area to avoid stressful environmental conditions, a notable 51.1 percent of non-resettled respondents in Long Thuan did answer that it was ‘somewhat likely’, while 26.1 percent felt it was ‘very likely’. These figures provide a striking overview of the degree of pressure exerted by riverbank erosion among those who have not yet been resettled, and remain exposed to its effects. Reflected in these figures is the view that remaining in their current areas of residence would not be possible among non-resettled Long Thuan residents. This speaks to the differential nature of the environmental stressor, which in Long Thuan, causes permanent and irreversible damage, ultimately claiming the land

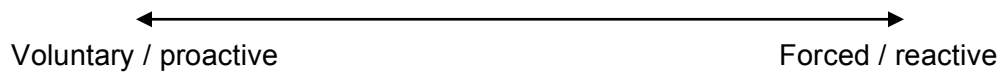
itself, eventually rendering continued habitation in the area impossible. In comparison is the seasonal nature of flooding in Vinh Tri, where the land is returned to its inhabitants at the end of flood season, with existing adaptation measures being sufficient enough for its residents to remain in the area year round. Along these lines, as discussed in Chapter five, riverbank erosion was found to be the main variable forcing people to leave their homesteads and land in Long Thuan for resettlement sites, while the pressure of flooding in Vinh Tri was not enough on its own to push people to leave their homes and land.

Thus, table 22 reflects the differing environmental conditions in Vinh Tri and Long Thuan, and show that according to individual perceptions, seasonal flooding in Vinh Tri generally does not exert enough pressure *on its own* to push people to migrate out of an area, while riverbank erosion in Long Thuan does. These findings may well have been reflected in the interviews conducted for this thesis, but due to the prevalence of resettlement programmes in both locations, it is not possible to know how respondents would have felt about the environment-migration link without the ready option available to them to resettle into permanent houses nearby. If the findings from Chapter five were any indication, given the overwhelming desire for non-resettled landless (and non-homeowning) respondents to resettle, the incentives to migrate may have been higher in the absence of these programmes, particularly in Long Thuan, where the physical land itself was gradually forcing people off their lands and turning land owners landless.

If these findings were applied to the question of to what degree environmental stress can cause forced migration, compared to flooding, riverbank

erosion could be categorized as more likely to do so. Conceptually speaking, we can view migration along a spectrum from voluntary / proactive migration to forced / reactive migration (figure 6). In the context of Vinh Tri and Long Thuan, riverbank erosion in Long Thuan would then fall further towards the forced / reactive end of the continuum (Richmond 2003) in relation to seasonal flooding in Vinh Tri.

Figure 6. Voluntary – forced migration continuum



Considering that low incomes (and contributing factors such as lack of jobs and irregular employment) was identified as a key driver for migration out of rural areas of the Mekong Delta as discussed in sub-section 8.3.1, and rural livelihoods are largely shaped by natural resources and environmental conditions, we now further examine the effect of environmental stress on livelihoods in Vinh Tri and Long Thuan with results from the 188 surveys from Chun and Sang (2012), on the degree to which environmental stress is negatively impacting household livelihoods in the two locations. According to table 23 below, a sizable portion of respondents, more among the non-resettled group than resettled, responded that environmental stressors were affecting their livelihoods ‘a lot’.

Table 23. Effect of environmental stress on household’s livelihood of respondents by types of households and provinces

	Vinh Tri		Long Thuan		Total			
	Rural	Resettled	Rural	Resettled	Rural		Resettled	
	%	%	%	%	N	%	N	%
Damage severely	3.0	1.0	3.4	2.0	6	3.2	3	1.5
A lot	49.0	35.0	50.0	36.0	93	49.5	71	35.5
Somewhat	32.0	30.0	22.7	33.0	52	27.7	63	31.5
Not at all	15.0	31.0	23.9	29.0	36	19.1	60	30.0
Positive impact	1.0	3.0	0.0	0.0	1	0.5	3	1.5
Total	100.0	100.0	100.0	100.0	188	100.0	200	100.0

Interestingly, the highest percentages were reported in the ‘a lot’ category, with the ‘somewhat’ category showing considerable representation as well. Although the vast majority of respondents for this thesis did not draw a direct correlation between environmental stress and migration, if we infer from the data of poor livelihood outcomes being a key migration driver, and environmental conditions are negatively affecting livelihoods to such a large degree, it is possible to reason that environmental stressors in both locations are inducing migration to a certain extent, mediated by its impact on livelihoods.

8.5 Discussion

Among the prominent themes arising from this chapter is the importance of home and land ownership and their role as deterrents of out-migration. This also echoes findings from Chapters five and six on housing and agricultural land as key

assets in Vinh Tri, critical in shaping one's desire to be resettled, with home and land owners expressing disinterest in being resettled, as their asset profiles are robust enough to enable them to remain on their land.

Consequently, in light of the importance of these assets and the greater options they provide for households to remain where they are, we consider the concept of *geography of exposure* (briefly examined in Chapter five) and its connection to mobility options. Whereby asset rich individuals tend to have access to land less exposed to environmental hazards, the asset poor are often left with no options but to take up residence on affordable or marginal land, which also tend to be more hazard-prone (Adger 1999, Few 2003). This points to the socially constructed nature of hazard exposure, and by extension, migration and mobility. If on the one hand we have individuals owning housing and land who are more resilient in the face of environmental hazards and have a greater capacity to remain on their homestead, on the other hand, are the asset poor and landless households who not only reside in areas more prone to hazard exposure, but also lack critical assets enabling them to remain in their current location. This results in the greater desire to be resettled, as well as circumstances pushing for their migration out of the area.

This is not to say that asset rich individuals do not migrate, but when they do, the nature of their mobility is fundamentally different from that of asset poor individuals, characterised by a greater sense of agency and opportunities to grow one's asset profile. The asset differentiated nature of migration was discussed in this chapter, with 'asset poor migration' predominantly resulting in one type of hired labour for another, while 'asset rich migration' often involved the transaction of

significant assets as part of a strategy to grow already robust asset profiles over the long term. In other words, the asset poor and asset rich continue to play out their social status roles in their areas of destination, with the asset poor limited to lower paying work (relative to other jobs in the destination) while the asset rich are able to use their asset base to invest in more assets and grow their asset profiles at a rate significantly higher than their asset poor counterparts.

Whether or not the asset poor have the assets with which to fund their migration is also critical to consider as the very poor often do not have the resources and means with which to migrate, pointing to possibly the most vulnerable group in the face of environmental stress – the poorest of the poor – who tend to reside in the most hazard-prone areas, and are least able to adapt to stress in situ or move elsewhere due to the limitations of their weak asset profiles (Pottier 1993, Kothari 2003, Black 2011, Foresight 2011).

In view of the possible ‘immobility trap’ that the most asset poor may find themselves in (Foresight 2011), we consider the importance of resettlement programmes, despite their many flaws and tendencies to create vulnerability shifts as discussed in Chapter five. For asset poor households who do not own land on which they are able to move within, and who lack other critical assets such as housing and financial assets to use as leverage during times of stress / need, what options would be available to them if they are neither able to adapt in situ while maintaining a basic level of living, or migrate elsewhere as they lack the assets to facilitate their migration? For these households, the resettlement programmes appear to be a third option, which while they may create shifts in vulnerability, do

result in greater physical security away from environmental hazards. The need for physical shelter and security from hazards is especially poignant in contexts such as encroaching riverbank erosion in Long Thuan.

Beyond the most asset poor, when thinking of the degree to which environmental stressors can induce various forms of migration, one may postulate that Vinh Tri and Long Thuan would have experienced higher rates of migration (of various kinds) had the option to resettle not been present. I make this remark based on several findings presented in this study. First, the cultural and practical importance of a safe and permanent house was salient, and the possession of this asset (as offered by resettlement programmes) was shown to increase the rootedness of individuals to their location. Second, in an area experiencing riverbank erosion such as Long Thuan, other than resettlement, migration appeared to be the only other option possible for survival, particularly for the asset poor. This included former landowners whose land had been completely eroded away resulting in their household now being land poor or landless. Lastly, for the slower onset environmental stressors such as seasonal flooding, particularly in the rural agricultural context, they are a vital element shaping livelihoods, and as the main reason for migration cited by migrants tend to be poor livelihood outcomes, the two are inevitably interlinked. As such, in the Mekong Delta context, it is possible to postulate that environmental stress is inducing out-migration from rural origin areas to urban centres, mediated by its effects on rural livelihoods.

In terms of environmental stress as a migration driver, findings from Vinh Tri, Long Thuan, CTC, and HCMC show the link to be tentative, with the most

convincing type of migration reflective of the link being that of seasonal migration. Overwhelmingly, however, environmental influences on migration decision-making appear to be mediated by economic factors, and the negative repercussions of environmental stress on livelihoods. Nevertheless, should environmental conditions worsen in the future, for example, with seasonal floods becoming more intense and lasting for longer periods, the likelihood of an increased uptake of such seasonal movements as a response measure is feasible.

When stepping back from examining this causal link, in the context of the migration dynamics discussed at the beginning of the chapter, the broader picture is that of mobility and migration in the Mekong Delta and Vietnam having been on the increase for the past several decades, with overall migration trends shifting from rural destinations to urban centres, and much of the current migrant population being comprised of young people seeking higher incomes in urban centres and thriving industrial zones. This is occurring in Vietnam in the context of government initiatives and focus on urbanization and economic growth, as outlined in Chapter three. Thus, when we zoom in on the environmental change-migration nexus, we are doing so in this broader context, and if we are to extrapolate any generalisations from this chapter, environmental drivers (while differentiated across environmental contexts and household asset profiles) appear to be secondary to greater economic processes when shaping migration decision-making at the micro individual and household level, and mobility trends at a macro scale.

The Environment in Context: Reflections and Conclusions

9.1 On the Environment in Context

This thesis has been an attempt to explore the following questions: How is environmental stress affecting the lives of individuals and households living in areas deemed to be vulnerable to climate change? How important and disparate is the environmental variable from other aspects of life – is the environment in fact a dominant stressor overshadowing others? Finally, are people migrating as a result of environmental stress and change? If so, what is the nature of the causal relationship, and how are migration dynamics manifested? This chapter brings together the main findings and themes of the thesis to address these questions.

In some sense, the questions capture the evolution of the thesis, from its inception to its present form. Initially, the relationship of focus was that of environmental change and migration. My interest in the linkage was a response to the broad sweeping claims regarding a direct causal link, particularly from the development and policy arenas, often rooted in questionable research findings (Gemenne 2011), in tandem with a ‘common sense’ approach (Black et al 2011) based on assumptions, not empirical evidence. Perhaps invariably, given the complexity of migration studies, my focus then graduated towards the nature of the migration and mobility processes to which I was referring, opening up a Pandora’s box of

variegation, in terms of not only migration and mobility processes, but also how migration decision-making occurs within the household, its intersection with livelihoods and livelihood strategies, and how external stressors, of which environmental stress now appeared to be only one of many, influenced this relationship.

By unpacking these many relationships and attempting to decipher how the various factors affect households, I was finally led to the last conceptual shift of the thesis, towards the concepts of vulnerability, sustainable livelihoods, and ultimately, asset vulnerability. Vulnerability was a concept I found myself repeatedly returning to, given its analytical power to describe ‘states of susceptibility to harm, powerlessness, and marginality of both physical and social systems’ (Adger 2006), which in my mind, encapsulated the state of households living in conditions of environmental stress in a holistic manner. Nevertheless, given the conceptual ‘fuzziness’ of the term and difficulties of measurement, I turned to the assets component of the SLF as a possible way to think about and disaggregate the way vulnerability may be manifested at the household level, through the types of assets – human, social, physical, natural, financial, and political. On the path to combining vulnerability with the household assets-based approach of the SLF, I stumbled upon the concept of asset vulnerability, which essentially embodied my lines of reasoning. This brings us to the thesis in its current form, broadened in scope from an initial focus on the environmental stress-migration nexus, to a comprehensive investigation of rural household livelihoods, assets, and vulnerability, and how households are interacting with and responding to complex conditions of external

stress (including environmental stress) and employing differentiated livelihood strategies (including migration).

Thus, in this chapter, I draw together the main findings of the thesis and discuss questions and scope for future research in this area. I will first highlight the main findings, and in doing so, their counterintuitive nature. Namely, while flooding is framed as an aberrant threat to communities by development practitioners and policy makers, it is conversely a normal part of life for people in the Mekong Delta – not without its hazardous elements, but nevertheless, a regular and accepted part of life for which people have developed adaptation measures. Hence, in this way, like vulnerability, the concept of environmental stress itself is socially and politically constructed, as opposed to being an objective force as advocated by proponents of climate change and climate change-induced displacement. This is not to deny or argue against the adverse effects of climate change, which are most certainly occurring. Instead, I take issue with the lack of nuance with which environmental stress and their local impacts is discussed in such circles. If we seek to improve the lives of those living in areas we have designated as ‘hotspots’, should we not first attempt to understand the stressors from the point of view of the individuals we are supposedly concerned about? Consequently, given that local Mekong Delta residents themselves do not get a seat at the policymaking table and do not take an active part in determining key development agendas, the view of floods and sea level rise (SLR) as high risk crises that will inevitably push people to leave the region persist.

Accordingly, the ‘counterintuitive’ circumstances we find in Vinh Tri and Long Thuan are those of multiple stressors shaping rural life and livelihoods, with environmental stress coexisting alongside and sometimes overshadowed by other stressors, such as the multi-faceted pressures of poverty, depletion of natural resources due to development, increased mechanisation of agricultural production and resulting decrease in labour demand, and the ripple effect of market fluctuations. In addition, flooding is furthermore integral to the cycle of seasons in the Delta, as seasonal floods are necessary to nourish fields with their sediment and bring fish to the area. As such, the picture of life in the Mekong Delta is not necessarily one of floods disrupting ‘normal life’; floods are on the contrary considered to be a *part* of normal life, to which people have developed adaptation measures over generations. I now elaborate four points in the following sections, starting with the value of micro-scale analyses, followed by the need for a holistic approach to vulnerability, resettlement, and mobility and migration. The chapter then rounds off with a reflection on how the findings from this thesis relate to the broader global context, and thoughts on remaining research questions and areas for future inquiries.

9.2 On Micro-scale Analysis

The study points to the critical importance of micro-level analyses, and the need to base policies and interventions on a solid understanding of the local context. As mentioned above, broad stroked assumptions on how environmental conditions are affecting households do not necessarily align with the realities on the ground or

accurately reflect the lives of households and individuals working and living in these conditions, as we saw in Chapters five and six. At an even more basic level, as discussed in Chapter six, environmental hazards themselves manifest differently depending on the geographic landscape. This calls into question the appropriateness of large-scale mapping and scenarios when informing policies and programmes to be implemented at the local level.

In policy and development circles concerned with SLR and its potential effects on 'hotspots' and 'vulnerable' regions, several scenario maps of the Mekong Delta commonly surface depicting the projected areas of future permanent inundation, with swaths of flooded areas typically assumed to correlate with population displacement. When looking at Vinh Tri and Long Thuan, however, what is evident is that although both locations do experience seasonal flooding, the most obvious and prevalent environmental stressor in the region, the hazard interacts with the landscapes of the two locations very differently. As elaborated in Chapter six, while Vinh Tri is located on a flood plain and is therefore inundated during flood season, Long Thuan is located on higher ground and experiences seasonal floods differently, predominantly by way of riverbank erosion. Meanwhile, some of the communes neighbouring Long Thuan are also inundated during flood season. In another example, while some areas of Long Thuan and other communes are experiencing erosion and incrementally losing land, neighbouring communes are seeing the formation of new land, as sand and sediment are deposited along the shore as a result of the flow of the Tien River. These two locations alone bring to

the forefront the diverse and dynamic ways in which flooding is manifested depending on the local geographical landscape.

Furthermore, these projections and scenarios tend to ignore current initiatives being undertaken (not to mention future possibilities) on the part of the government under climate change adaptation goals, but also community-based and individual measures for adaptation. As discussed in Chapters three and five, resettlement is a cornerstone of the Vietnamese government's strategy for climate change adaptation in the Mekong Delta, particularly in response to projected SLR, translating to the construction of increasing numbers of flood-proof residential dykes and clusters and infrastructure facilitating the continued residence of people in origin areas, not their displacement / migration out of the area. Moreover, individuals in the Mekong Delta have long taken initiatives to strengthen their resilience to environmental hazards, and for those who can afford it, both official and unofficial dyke building is common throughout the region. All of these activities alter the landscape and affect water flows substantially – none of which are taken into account in current large-scale mappings and projections of SLR.

Along similar lines, the assumption that people living in flood-prone areas are characterised by a broadly encompassing notion of vulnerability to environmental stress is likewise far from the complex realities on the ground. On this topic, in Chapters five to seven, we explored the differentiation of vulnerability, livelihood outcomes, and hazard exposure as mediated by asset profiles. Assets accessible to households were found to determine not only the nature of their vulnerability (and resilience), but also the response measures available to them, ultimately shaping the

degree of self-sufficiency with which they are able to conduct their lives and respond to stress and shocks.

For example, in Chapters five and six, we found that in Long Thuan, while the vast majority of households had no option but to leave their homesteads and land in the face of encroaching riverbank erosion, land rich households had the option to remain on their land outside the resettlement sites. Another example is the critical role of self-efficacy discussed in Chapter seven, whereby this human psychological asset was found to be integral in shaping how asset profiles are managed, and how one responds to stress and shocks. In this way, the value of the asset vulnerability concept was illustrated, when attempting to understand the micro-level processes of vulnerability at the household level, including the effect of external (including environmental) stressors.

9.3 On a Holistic Approach to Vulnerability

In light of the discussions above on the nuanced and variegated realities of life in the Mekong Delta and the processes through which differentiated vulnerability is engendered, we now turn our attention to the importance of a holistic approach to vulnerability. Whereas the prevailing approach to government and development interventions tend to be sectoral and therefore siloed in nature, decreasing overall vulnerabilities while augmenting resilience requires a sophisticated understanding of the intricacies and interconnectivities between the

various factors contributing to vulnerability, and by extension, hindering long term and sustainable resilience.

While acknowledging the difficulties of coordination across government ministries and the sector-based nature of funding allocation by international development donors, one cannot help but note the complex nature of vulnerability found in Vinh Tri and Long Thuan, and potential unforeseen outcomes of an intervention targeting one sector while ignoring other aspects of rural vulnerability and livelihoods. An example of this was seen in the resettlement programmes in both locations, and the resulting vulnerability shifts, whereby targeted vulnerabilities such as housing conditions and exposure to environmental hazards were ameliorated, but at the cost other assets critical to maintaining long term resilience, including livelihood security, financial assets, and human psychological assets, particularly self-efficacy.

Moreover, if we view hazard risk according to the following equation: *Risk = Hazard x Vulnerability* (Wisner et al 2004, Naude et al 2009), then to flesh out the *risk* component of environmental hazards, it is fundamental to understand (1) the graduated nature of the hazard as it presents itself at the local level, and (2) the processes and elements shaping individual and household vulnerability. To do this, I propose the lens of asset vulnerability, and offer the following downscaled household level adaptation of the above equation, where household level risk is a product of the hazard and vulnerability, a function of the household's asset profile.

$$\mathbf{Risk_{Household} = Hazard \times Vulnerability (Asset Profile)}$$

When simplified, the equation looks like the following:

$$\mathbf{R}_{hh} = \mathbf{H} \times \mathbf{V}(\mathbf{AP})$$

By utilising the lens of asset vulnerability, what we found in Vinh Tri and Long Thuan were a range of external stressors exerting differential pressure on household asset profiles. Hence, we were able to identify key assets – land, housing, and human assets – found to be integral to livelihood outcomes and shaping the range of options available to individuals when responding to stress and shocks.

In terms of the differential impact of flooding and riverbank erosion in the two locations, table 24 below presents an overview of the overall perception and response of individuals to the two hazards, as seen through the lens of the three coordinates of vulnerability as mentioned in Chapter two (Bohle et al 1994, Pelling 1999).

Table 24. Three coordinates of vulnerability: comparison of flooding and riverbank erosion in Vinh Tri and Long Thuan

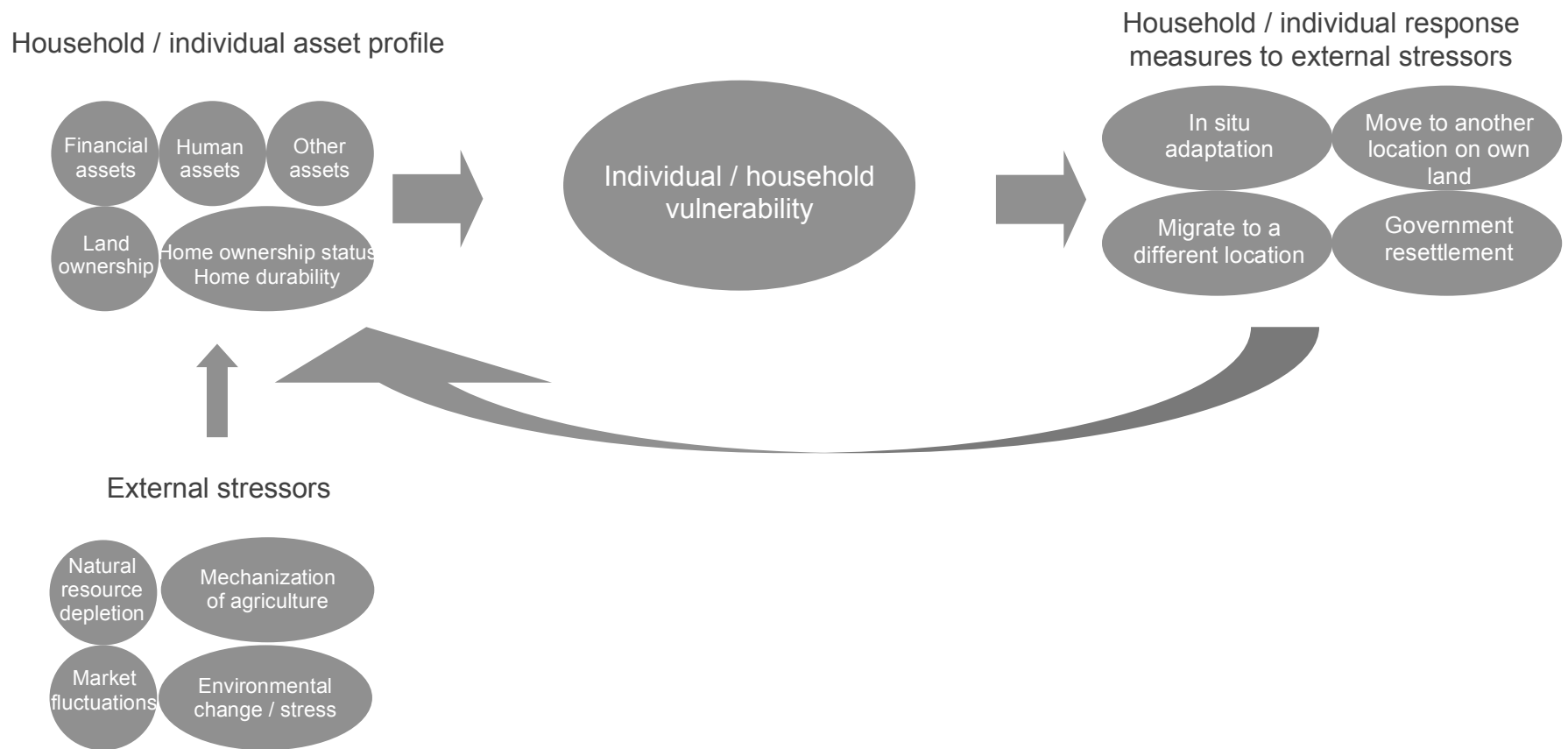
	Exposure to hazard	Capacity to cope	Potentiality for recovery
Flooding in Vinh Tri	Occurs every year Low level of uncertainty in terms of when and where the floods will occur, some uncertainty as to severity and duration	Same coping strategies are in general applied every year Accustomed to a certain level of 'inconvenience' during flood season	Barring severe damage, the regular pattern of life continues. Biggest difficulty is livelihood damage and debts incurred during / as a result of losses brought on by floods
Riverbank erosion in Long Thuan	Occurs incrementally as well as suddenly, with little or no warning High level of uncertainty in terms of when and to what degree erosion will occur	Limited range of coping strategies are available, given the irreversible nature of asset loss	Recovery is not possible <i>in situ</i> due to the permanent loss of land Households with sufficient assets can move further inland on their land or purchase additional land Resettlement programs are vital for continued survival in the area, particularly for asset poor households

Thus, I propose a holistic approach to assessing the integrated characteristics of vulnerability and designing interventions, as this would enable us to understand the variegated ways in which diverse stressors (including environmental stressors) are undermining household resilience across the asset wealth spectrum, identify key assets and points for intervention, and ultimately bring us closer to sustainably

decreasing vulnerability and building the resilience of households to stress and shocks. In this way, we would avoid focusing on certain assets and stressors (i.e. environmental stressors) while ignoring others, which, as illustrated by our discussions on resettlement in Chapter five, would potentially result in vulnerability shifts, not the overall amelioration of vulnerability.

Figure 7 below (also presented in Chapter five) outlines the proposed process of interaction between household vulnerability, external stress, and household response measures, whereby a household / individual's asset profile, mediated by the attributes of environmental stressors among other stressors, shapes the nature of a household's vulnerability and the range of adaptation options available to them (from various types of in situ adaptation to resettlement). The cycle is then replicated, with response measures in turn transforming household asset profiles and vulnerability, and subsequent responses.

Figure 7. Household asset profile, vulnerability, and multiple responses to external stress



9.4 On Resettlement

Having examined the 'big picture', at how vulnerability is manifested in a heterogeneous manner across asset wealth statuses and environmental contexts in the rural Mekong Delta, we now move onto discuss the topic of resettlement, one of the many individual and household response measures to environmental stress in this context. We focus on resettlement given its central role in the Vietnamese government's strategy for climate change adaptation, and resulting prevalence throughout the Mekong Delta.

In Chapter five, resettlement was shown to have mixed outcomes in Vinh Tri and Hong Ngu, resulting in vulnerability shifts, where certain vulnerabilities are supplanted by others. A meaningful exercise may then be to pose the question of whether these vulnerability shifts result in 'neutral' states, whereby one's vulnerability remains in equilibrium, or whether it decreases, or is exacerbated. While it may be impossible to quantify vulnerability shifts, particularly within the scope of this thesis, I would argue that while short term vulnerability may have been improved through the provision of a safe house away from environmental hazards, the double impoverishment of increased debt and decreased income caused by resettlement may enhance long term vulnerability, ultimately undermining long term resilience and sustainable development. Moreover, human psychological assets may be weakened in such circumstances in the long term, when dependency on local authorities is heightened, for example through indebtedness, and self-sufficiency is degraded (as discussed in Chapter seven). I mention this here as psychological assets

are critical and are the means through which one views the world and makes decisions – critical elements when considering the production and reproduction of individual and household vulnerability, and on the inverse, resilience.

Given these questionable outcomes of resettlement, one may consider whether an alternative scenario may be possible, and along this line of reasoning, I surmise three possible ways forward – through the re-evaluation and improvement of the current approach to resettlement; through the abandonment of resettlement as a climate change adaptation measure; or by interweaving both approaches by improving the resettlement process in cases where resettlement is the only feasible option, while strengthening in situ adaptation measures for those whom resettlement is not necessary. Based on the findings of this thesis, the last approach would appear to be the most suitable and promising.

I do not propose the complete abandonment of resettlement, as even if we are to accept that current resettlement programmes in the Mekong Delta result in increased overall vulnerability of households and are therefore counterproductive for sustainable development of the region, one cannot ignore the fact that in some cases it seems to be a necessary (or the only) option, best illustrated in this study by the circumstances in Long Thuan. Without current resettlement programs, where would the residents of Long Thuan have gone? Would their inevitable forced migration have resulted in even greater vulnerabilities? Given that through resettlement, they were able to continue living in the same commune, and to a large extent, continue their livelihood activities and maintain their social fabric, the option

to resettle appears to be more desirable in this case, to the outcomes of forced migration or displacement.

Having said this, given the political economy of Vietnam where mobility is approached by the government largely as a process to be managed, it is highly unlikely that such a large portion of a commune would be left to their own devices while faced with a chronic situation of riverbank erosion. In this context, resettlement is not only a cornerstone of the government's climate change adaptation strategy, but it is equally integral to their rural development and urbanization goals. As such, as mentioned in Chapter eight, while a household may be resettled for environmental reasons, it is important to note that they are simultaneously fulfilling the government's development and urbanization goals. More evidence of resettlement serving this two-pronged purpose is seen in resettlement sites including households relocated for environmental reasons, but also those who were moved to make way for development projects, as found in Vinh Tri.

In a way, this may be viewed as mainstreaming climate change into development strategies (albeit through a relatively heavy-handed approach), as suggested by climate change and disaster risk management policies. For example, the eight 'specific objectives' of the National Target Program to Respond to Climate Change for the 2009-2015 period⁶² include the following objective – 'To mainstream climate change issues into socio-economic, sectoral and local development strategies, plans and planning' – and includes provisions to mainstream climate change into the

62 Prime Minister's Decision No. 158/2008/QĐ-TTg. Approved 2 December 2008.

Socio-Economic Development Strategy for 2011-2020 and Socio-Economic Development Plan for 2011-2015. The National Strategy for Natural Disaster Prevention, Response and Mitigation to 2020⁶³ furthermore has nine ‘specific objectives’, one of which is – ‘Complete the relocation, arrangement and stabilization of the life for people in disaster prone areas according to the planning approved by authorized government agencies. Up to 2010, manage to relocate all populations from flash flood and landslide high-risk areas and dangerous areas to safe places.’

While mainstreaming climate change into development strategies is laudable, the heavy-handed approach with which resettlement is implemented under the label of climate change adaptation and disaster risk management is of concern, and does serve yet another purpose – that of regulating migration, particularly from rural areas to urban cities.

9.5 On Mobility and Migration

This brings us to the topic of mobility and migration in the context of environmental stress, and takes us full circle back to one of the key questions posed in the first section of this chapter, and one which the thesis grapples with throughout – Are people migrating as a result of environmental stress and change? In some ways, this thesis is an exercise in attempting to answer this question by exploring the internal (assets) and external (stressors) elements shaping the lives of people living in contexts of environmental stress, and how they are connected to

63 Prime Minister’s Decision No. 172/2007/QD-TTg. Approved 16 November 2007.

mobility and migration decision-making. As in the outcomes for resettlement, we find that the findings for the environmental stress-migration link are equally differentiated and complex.

Overall, the most generalizable relationship appears to be that of environmental stress inducing migration for some, mediated by its pressure on livelihoods. In the Mekong Delta, this broadly translates to the lack of employment during flood season, resulting in greater impoverishment and hunger during this time of the year. In terms of mobility, the confusion surrounding whether to label people moving for these reasons as ‘economic migrants’ or ‘environmental migrants’ just highlights the complexities, and concurrently, the difficulty of assigning causation to one variable.

Another salient finding from Vinh Tri and Long Thuan was the importance and differentiating role of assets, as discussed in Chapter eight. Some assets, namely ownership of land and housing, were found to dampen out-migration, while a key driver of migration was that of economic opportunities present in urban centres. When people did migrate, the nature of their migration was largely determined by their asset wealth, with asset wealthy households exercising a greater degree of agency and undertaking migration to participate in financial asset transactions to significantly grow their asset profile, while the asset poor were typically exchanging one type of hired work for another.

These findings highlight the significance of assets and their differentiating effects on households in their access to mobility options. If this is the case, what options are available for the poorest of the poor? If we apply the notion of *geography*

of exposure, the poorest individuals live in marginalised and hazard-prone areas. Furthermore, as this thesis has shown, the most asset poor are endowed with the least capacities and assets with which to respond to stress and are therefore least able to adapt in situ to environmental stress in a robust and sustainable way. The poorest individuals are also unable to migrate given their lack of assets with which to fund and carry out the migration. Thus according to this reasoning, they are essentially stuck – trapped in poverty, in their current location unable to migrate, and having no option but to continue living in hazard-prone areas while unable to adapt in a robust and sustainable way. Hence, while the question of mobility in the context of environmental change and stress is important, equally critical, and perhaps even more so, is the question of immobility – in other words, who is not able to move?

This is where the value of resettlement is particularly salient, by offering the poorest households a means through which they are able to live in a safe house away from exposure to hazards. While the paradox of resulting vulnerability shifts is a critical consideration as mentioned above, in some environmental contexts such as erosion-prone areas of Long Thuan, households are essentially left with two response options – resettle inland by way of government programmes, or migrate elsewhere. This is where for the poorest of the poor, in circumstances where they have (close to) no options available to adapt to current conditions of environmental stress, resettlement sites may provide the basic security and safety they would not have been able to obtain on their own.

For other households who do have the capacity to migrate, I postulate that both Vinh Tri and Long Thuan would have seen a greater degree of out-migration without the local government resettlement programmes, with erosion-affected households in Long Thuan left with no option but to leave their origin areas, and therefore potentially more prone to migrate. In this way, resettlement may be a key disincentive for migration, comparable with housing and land ownership among asset rich households, through its offer of a 'home', whether or not one eventually received the official land use certificate. The housing offered by resettlement programmes appears to increase individuals' rootedness to their origin areas, not only for the protection they provide against environmental stress, but also by way of the cultural significance of being a home owner, particularly of a home that is permanent and safe from hazards.

9.6 Findings Within the Broader Context

Given these empirical findings from the Mekong Delta, we may now ask how or whether they apply to other contexts. As Vietnam is a command and centrally planned economy constituting a distinctive political economy, are these findings transferable to a free market economy such as, for example, Bangladesh and the Ganges Delta? I would argue that they are, particularly as the conceptual framework for analysis is asset vulnerability. The knowledge of what makes households vulnerable through an asset-differentiated lens in Vinh Tri and Long Thuan – most prominently the lack of agricultural land, adequate housing, and weak

human assets, and the differential impacts of environmental stressors as mediated by variegated household asset profiles – gives us a nuanced and detailed understanding of rural life in these parts of the Mekong Delta. I say this, of course, with a caveat regarding the generalizability of my findings, given the limitations of this study as discussed in Chapter four, not to mention the ethical considerations.

Nevertheless, while the political economy of Vietnam is distinct, power inequalities are not unique to this particular political structure. Moreover, the focus on household level asset profiles gives us the building blocks with which to analyse rural livelihoods and differential household vulnerability (including issues of access and entitlements such as land and housing rights) across contexts and countries. Variations in the prominence of certain assets over others may also be insightful when comparing different contexts, as this may tell us something about not only the location in question, but also the place with which it is being compared to. The same applies to environmental stressors, and their diverse impacts and interactions with households. Moreover, given the prevalence of resettlement programmes in Vietnam, much can be learned from these experiences for countries that are considering the uptake or expansion of this option.

9.7 Remaining Research Questions

Where does this now leave us? Given my preference for holistic approaches to understanding how people are living in conditions of environmental stress, I would propose two areas that would benefit from further investigation. Firstly, it

appears our focus on the environmental change-migration link in empirical studies may be setting us up to devote a disproportionate amount of attention on one particular causal link while ignoring other important variables and relationships that may emerge during fieldwork were we to use a broader conceptual framework. It is important to note that this does not include policy-oriented, legal, and normative research, given the necessity to define and categorise individuals and processes. Instead, I refer to empirical studies designed to capture the complex realities of complex individuals and groups.

This is, perhaps, where the value of a conceptual framework such as asset vulnerability lies, which provides us with measurable units (assets) that can be applied to various levels (individuals, households, other groups). Moreover, by using concrete measurements to capture the broad state and process of vulnerability, it leaves room for the researcher to explore multiple variables and their relationships, originating from both internal (household / individual assets) and external (stressors, structures, institutions) sources. While this is admittedly a personal preference, I believe that taking a step back from a focus on one causal link to gain a wide view of multiple and variegated micro-level processes will help us to better understand what makes individuals living in conditions of environmental stress and change vulnerable, and what can be done (concretely, through the identification of asset-based vulnerabilities) to strengthen their resilience.

**APPENDIX A.
SEMI-STRUCTURED SURVEY – RURAL HOUSEHOLDS**

Take to interview – questionnaire, compensation, recording device, camera.

Ask if agree to recording interview.

Ask if you can take pictures of the house (inside and outside, and surrounding environment).

1. Date and time (24 hr clock): [_____] [____:____]
2. Interviewer name: [_____]
3. Name and ID of respondent: [_____]
4. Respondent age: [_____]
5. Respondent gender: [_____] Phone number: _____
6. Respondent ethnicity: [_____]
7. Respondent address: [_____]

Information specific to selected household:

8. How many floors does the house have? [____]
9. What is the total squared meter area of the house? [_____]
10. How many people live in the house? [____]
11. How many squared meters is the area surrounding your house ? [_____]
12. What is the roof of the house made of?
 - Metal Asbestos-cement sheets (A/C sheets) Ceramic tiles
 - Cement Thatch / Palm leaf Corrugated tin (darker)
 - Corrugated aluminum (lighter) Corrugated plastic
 - Other: [_____]
13. What is the floor of the house made of? Cement Earth Ceramic tiles
 Wood Palm / Bamboo Other: [_____]
14. What is your main source of drinking water?
 Piped water Drilled well Dug well Rain water River/canal Bought
 Other: [_____]
15. What is your main source of water for other purposes (washing, cooking, etc)?
 Piped water Drilled well Dug well Rain water River/canal Bought
 Other: [_____]
16. What kind of toilet does your household have?
 Flush toilet Pour flush Pond toilet Other No toilet
17. How does your household mainly disposes garbage?

Burn Bury Dump in the garden Thrown to river/canal
 Other: [_____]

I. DEMOGRAPHIC PROFILE

1.1 Composition

Please list everyone you consider to be part of your HH. People with whom you regularly share food and other resources (e.g. money), even if you don't live with them all the time.

ID	Name	Age	Sex	Relationship to you	Level of education	Address
00-Resp						
01						
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1.2 Legal documentation

Which of the following documents do you and your spouse have? <i>(Ask all and mark all mentioned) (NOTE: DK – Don't know; RA – Refuse to answer)</i>		
	a. Respondent	b. Spouse / Partner
Birth certificate	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA
HH registration book	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA
Temporary resident's permit	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA
National ID card	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA
Marriage license	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA
Land deed	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA
Poverty book	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA
Health insurance	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA
Other _____	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA

Other _____	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA
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1.3 Residency

The goal is to understand the level of rootedness of the household in their area of residence (sending area).

How long have you lived here? Were you born here? Have you lived anywhere else? When and where have you lived?

Do your parents and in-laws live here? Were they born here?

Has your household lived anywhere else? When and where has your household lived? Why did you return to this commune? What did your household members do when you lived elsewhere?

Do any household members live elsewhere? Who? Where do they live? How often do they return to this town?

II. LIVELIHOODS AND ASSETS

These questions aim to understand households' livelihood strategies, livelihood processes and their evolution.

2.1 Income generation

What do your household members do to earn income? Which income generating activities are the most important? *(Rank top 3)*

How much do you earn from each activity?

Do you have any savings?

Do you have any supplemental income generating activities? *(Livestock, petty trade, etc)*

Do you receive any remittances from anyone not living with you?

Do you receive / give money assistance to family members who no longer live with you? *(E.g. children who have married, other relatives, non-relatives)*

What is your total income? *(Calculate together with respondent).*

2.2 Land and farming activities

The aim here is to understand land ownership and agricultural activities.

Are you presently renting, squatting, living with other family, or do you own your dwelling?

Are you paying any money / goods for your accommodation? How much?

Do you own / rent / use any land? Does your household own, borrow, rent, or mortgage ("co") the land?

What do you do on this land?

Do you grow food for household consumption? How much of your food can you grow on your own? (E.g. most, half, very little, etc) On which land?

Do you use any communal land for income generation that does not belong to anyone in the community? (E.g. forest, river, canal, unused plot of land, etc)

2.3 Livestock

What types of animals do you have? How many? Do you generate any income from them? Do they help you to earn your livelihood?

2.4 Other assets

These questions hope to grasp the importance of certain household assets over others, how they are managed, and the evolution of their importance over time.

What kind of tools / equipment are the most important for your income generating activities? (*Rank top 5*) (E.g. boat, tractor, motorbike, specific farming tools, fertilizer, cow to plough the field, etc.) What do they cost you to maintain / purchase them? Do you own all your tools / equipment? If not, where do you get them from? Does it cost you anything to use them?
Do you have sufficient water and irrigation for your livestock and farming activities?

2.5 Expenditures

Here, we are investigating household expenditures, including spending outside of livelihoods, including social and other activities.

What do you do when you are not working? And the other household members?

Do you need to spend money on any of your household's income generating activities? (E.g. equipment, fees, materials, etc.)

What are the other main expenditures outside of work? (E.g. social activities, special events, etc.)

How much do you pay per month for electricity, water, and taxes (specify the kind of tax)?

Where do you get your drinking water? How much does it cost you?

2.6 Housing and residency

Do you own / rent this house / room? Did you buy / build it? When? How much did it cost? (Cost of house, but also extra costs – administrative, land tax, “informal” fees, etc.)

What is your KT status? (KT1-4 or temporary / permanent). Can you tell me the history of your residency status? Were you ever a different status? When and where?

Do you want to change your residency status? To what and why?

What are you not satisfied with now? What would be better if you were a different status? What do you need to do to obtain this new status? What are the difficulties to obtaining the new status, if any?

2.7 Reproductive expenditures

What are the top 3-4 expenditures for the household (including livelihood related expenses)? *(Rank top 3-4) [Prompt – food, education, health care, rent for house / land, livelihood input]*

2.8 Evolution of livelihoods

Have there been any changes in the past 5 years in your livelihood activities? *[Prompt – Have some income generating activities have become more important than others because of certain changes in the past few years? Is your farm more / less productive than it used to be? Are certain things more / less reliable than they used to be?*

Have there been any changes in your household expenditures? *[Prompt – Have you had to spend money on things you didn't need to before? Are certain things easier / harder than before?]*

In your opinion, what brought about these changes?

When did these changes occur?

Did your household take any actions to adjust to these changes? *(Actions after event)*

Does your household take any actions to prevent damages? *(Actions before event)*

How much did it cost your household to take these actions? Where did you get the money?

What will your household do if these conditions worsen?

2.9 Debt

Do you have any debts? Why? Who do you borrow from? Elaborate circumstances that led to your debt. How has this debt affected your HH?

2.10 Health

What kind of health problems does your HH have? Is there anything that triggers the health problems? Was it caused by anything in particular (including environmental events)? Were you comfortable paying for health care? How much did it cost you? Who mainly took care of the sick HH member? What would the caretaker normally do without sickness in the HH? How much time does the caretaker spend looking after the sick HH member?

Elaborate the preventive measures you took to prevent any negative health impacts.

III. ENVIRONMENTAL STRESS

3.1 Environmental conditions

These questions aim to understand the environmental conditions and the frequency and intensity of different stresses.

What environmental stresses / events has your household experienced in the last 5 years?
Can you specify what kind of event and when they occurred?

How often have they occurred in the past 5 years? For how long do they last?

Are they becoming more / less intense? *(Describe changes)*

Are they becoming more / less frequent? *(Describe changes)*

3.2 Impact and response

How have these environmental stresses impacted your household (livelihoods, housing, lifestyle, household resources)? *[Prompts – illness / injury / death, evacuation / migration / displacement, harm to livelihoods, loss of employment, etc]*

What did your household do to recover from these stresses / events? How long did it take you to recover? Is life getting easier / harder now because of environmental conditions?

3.3 Coping and adaptation

Has your household taken any measures to prevent the harmful effects of these environmental events?

Do you think you will take any more measures to better prepare for environmental stresses in the future?

Do any of your household members do things differently or do different things now as a result of these environmental stresses?

Have you received any assistance from the local authorities or other organizations (including mass organizations and NGOs)? *[Prompt – early warning, relief, evacuation, resettlement, compensation, etc]*

How much has this assistance helped your household? Do you think it is adequate or do you think more should be done to help your household and community?

IV. MIGRATION STRATEGIES

Have any of your household members migrated to live or work somewhere else? (Includes temporary and seasonal migration) Where? When? For how long? Do you think any of your household members will migrate to live or work somewhere else in the future? Who? Where? When? For how long?

Why did those household members migrate and not others? *[Prompt – why certain HH members are deemed better as migrants than others]*

Have people in this commune migrated to other places to live or work? (Includes temporary and seasonal migration) Who is migrating? Where? When? For how long? Do you think people in this town will migrate to other places in the future? Where? When? For how long?

Who is migrating and who is staying? [*Prompt – which HHs can migrate, and which cannot? Important to understand who cannot migrate despite their desire to.*]

What are the things that are encouraging people to move away from this town? What does the place of destination offer that this town does not? Why are people migrating to these places and not others?

How much are environmental stress and events affecting people's decision to migrate?

If any of your household members are thinking of migrating, what kinds of developments would make you want to remain here and not migrate?

Is there any pattern to the migration? E.g. where people are moving to, information channels, time of year when they migrate (season, after environmental event, etc).

V. GOVERNMENT POLICIES & PROGRAMS

These questions seek to understand households' experiences with and perceptions of government policies and programs.

5.1 Government response

Do you think that the government (local and national levels) is aware of the impacts of changing environmental conditions on your livelihoods?

What kinds of actions have national/local governments taken/are they taking to help you when disasters have happened/are happening now? [*Prompt – early warning, disaster relief, mitigation/adaptation, resettlement, compensation, etc.*]

Have these actions helped? How have they helped?

Should they do more? What actions would you like the government to take to help you in the future when disasters happen?

Have mass organizations (Women's Union, Farmer's Union, Youth Union, etc) taken any actions to help you? What have they done? Should they do more?

5.2 Community participation

Have you / others in your town been consulted by local authorities on government plans? (E.g. getting your opinion on how or where programs should be carried out.)

Who from your town was involved? How were they involved?

What do you think of the plans and how they are carried out?

Do you think anything can be done to improve the way plans are designed and carried out? If so, what can be done?

Have you / others in your town been consulted by mass organizations / other organizations (e.g. NGOs) on projects helping the community to adapt to environmental conditions?

(E.g. getting your opinion on how or where programs should be carried out.)

What kinds of organizations are they?

What actions are they taking?

Who from your town was involved? How were they involved?

What do you think of the programs and how they are carried out?

Do you think anything can be done to improve the way programs are designed and carried out? If so, what can be done?

5.3 Resettlement

Are there any government resettlement programs in your town?

What kinds of households are resettled? To where?

Do you feel that the process of resettlement is fair? Why / why not?

Is anyone from your household participating in the program?

If not, would you consider being resettled in the future?

What is good about the program? What is not so good about it?

Do you know anything about the resettlement site? What is life like for people who are resettled? What is better / worse about their lives after resettlement? [*Prompt – housing, livelihoods and income, quality of life, etc*]

How did you get this information?

Do any resettled people return to your town or go elsewhere?

Are resettled people involved in planning for and designing the resettlement site? If so, how are they involved?

Do you think the process of planning and implementing resettlement projects can be improved? How?

TAKE PICTURES OF HOUSE – INSIDE AND OUTSIDE, AND SURROUNDING ENVIRONMENT

**APPENDIX B.
SEMI-STRUCTURED SURVEY – RESETTLED HOUSEHOLDS**

Take to interview – questionnaire, compensation, recording device, camera.

Ask if agree to recording interview.

Ask if you can take pictures of the house (inside and outside, and surrounding environment).

1. Date and time (24 hr clock): [_____] [____:____]
2. Interviewer name: [_____]
3. Name and ID of respondent: [_____]
4. Respondent age: [_____]
5. Respondent gender: [_____] Phone number: _____
6. Respondent ethnicity: [_____]
7. Respondent address: [_____]

Information specific to selected household:

8. How many floors does the house have? [____]
9. What is the total squared meter area of the house? [_____]
10. How many people live in the house? [____]
11. How many squared meters is the area surrounding your house ? [_____]
12. What is the roof of the house made of?
 - Metal Asbestos-cement sheets (A/C sheets) Ceramic tiles
 - Cement Thatch / Palm leaf Corrugated tin (darker)
 - Corrugated aluminum (lighter) Corrugated plastic
 - Other: [_____]
13. What is the floor of the house made of? Cement Earth Ceramic tiles
 Wood Palm / Bamboo Other: [_____]
14. What is your main source of drinking water?
 Piped water Drilled well Dug well Rain water River/canal Bought
 Other: [_____]
15. What is your main source of water for other purposes (washing, cooking, etc)?
 Piped water Drilled well Dug well Rain water River/canal Bought
 Other: [_____]
16. What kind of toilet does your household have?
 Flush toilet Pour flush Pond toilet Other No toilet
17. How does your household mainly disposes garbage?

Burn Bury Dump in the garden Thrown to river/canal
 18. Other: [_____]

I. DEMOGRAPHIC PROFILE

1.1 Composition

Please list everyone you consider to be part of your HH. People with whom you regularly share food and other resources (e.g. money), even if you don't live with them all the time.

ID	Name	Age	Sex	Relationship to you	Level of education	Address
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01						
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13						
14						
15						

1.2 Legal documentation

Which of the following documents do you and your spouse have? (Ask all and mark all mentioned) (NOTE: DK – Don't know; RA – Refuse to answer)		
	c. Respondent	d. Spouse / Partner
Birth certificate	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA
HH registration book	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA
Temporary resident's permit	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA
National ID card	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA
Marriage license	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA

Land deed	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA
Poverty book	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA
Health insurance	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA
Other _____	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA
Other _____	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> DK <input type="radio"/> RA

II. RESETTLEMENT AND RESIDENCE EXPERIENCE

Goal is to understand the resettlement experience.

2.1 Current residency

How long have you lived here? When did you move here? Where are you from originally? (Describe migration history if lived in several places.) Where do your parents / in-laws live? Where did they live / grow up?

Among your household members, who moved here with you? Do any of your HH members live elsewhere? Who? Where? Why?

When you moved here, did you plan to stay here long? How long did you intend to stay?

Now do you think you will move anywhere else from here or go back to your hometown?

Do you ever live anywhere else temporary for any reason? For example at certain times of the year? Maybe to generate income?

2.2 Previous residencies

Where else have you and your HH lived? (Including short term / seasonal migration)

What did you do while living there?

Why did you move here?

2.3 Migration strategies

The aim of these questions is to understand the migration status of household members, and factors contributing to migration.

Has anyone in your household migrated anywhere to live / work? (Permanent, temporary, seasonal) Are any of your household members thinking about moving elsewhere to live / work?

What about other people living in this town? Are people moving elsewhere to live / work? (Permanent, temporary, seasonal)

What are the reasons people are moving away from this area?

2.4 Mobility

The aim of these questions is to (1) further understand migration strategies, as well as (2) the nature of the links of the migrant with their place of origin, if any.

Do you ever go back to your hometown? When and how often? Why do you go back?

Do you stay in touch with your family / friends? How? How often?
Do you send them anything (ie remittances)? Do they send you things (ie money to support you)?

2.5 Resettlement experience

Who are the other people who have been resettled here? [*Prompt – income level, area of origin, other commonalities*]

Can you describe the process of how you became involved in the resettlement program?

What kind of assistance did you receive from the government or other organizations?
What do you think can be improved with the process of planning and implementation of resettlement programs?

Were you consulted during the planning and resettlement process? (E.g. design of houses, location of resettlement site, etc.)

Were there any difficulties when you first arrived here? What was hard?
Are these difficulties still affecting your life? Have they changed / improved / gotten worse?

How do you feel about living here now? Do you feel settled or like an outsider?
What are the good and bad things about living here for you?

2.6 Settlement

Here, we want to explore the settlement experience and livelihood of the resettled, and the formation and evolution of different factors and processes.

What did you do when you first came to this town?

Do you own / rent this house? Did you buy / build it? When? How much did it cost?
(Cost of house, but also extra costs – administrative, land tax, “informal” fees, etc.)

Did you need to take out a loan to pay for the land plot and house? How much? What is the interest rate and repayment plan? Is this loan enough to pay for the entire house or do you need to take out additional loans?

Have you made any of the repayment? If so, how much? Do you have a plan for repayment? If so, what is it?

Do you think it will be easy / difficult to make the repayment according to the deadline?
Why is it easy / difficult?

What is your KT status? (KT1-4 or temporary / permanent). Were you ever a different status? When and where?

Do you want to change your residency status? To what and why?

What are you not satisfied with now? What would be better if you were a different status? What do you need to do to obtain this new status? What are the difficulties to obtaining the new status, if any?

2.7 Comparison between place of origin and destination

How is life different for you now than it was back in your hometown? What's better? What's worse?

Are you happy with your decision to resettle here? Why / why not?

What are living conditions like now back in your hometown? Are they getting better / worse? How do you know this?

How are living conditions here compared to where you used to live? What is better / worse? [*Prompt – housing, environment, infrastructure, access to clean water and electricity, access to public services, etc*]

How can your living conditions be improved? [*Prompt – housing, environment, infrastructure, access to clean water and electricity, access to public services, etc*]

Are people in your hometown able to find jobs? Are they able to find jobs that pay decently? How do you know this?

How is your ability to make an income here compared to where you used to live? What is better / worse?

Is there anything that the local authorities can do to make income generation easier for your household?

III. LIVELIHOODS AND ASSETS

3.1 Income generation

What kind of work do you and your household members do now? How did you find these jobs? Was it easy / difficult?

Do you have other sources of income? [*Prompt – savings, supplementary income, remittances, housing rental*]

Was this the work you had when you first arrived? What did you do when you first arrived? How did you find this work?

What kind of other jobs have you had since you moved here? Why did you change jobs?

Will you change your work again?

What about other household members? (*Ask same questions about other household members, unless there is not enough time.*)

How does your income level compare now to how much you used to make before moving here?

Have you received any assistance from the government / other organizations to help you generate more income (e.g. vocational training, seed money, equipment, etc)

What is your total income? (*Calculate together with respondent*).

3.2 Expenditures

Here, we are investigating household expenditures, including spending outside of livelihoods in the resettlement area, including social and other activities.

What do you do when you are not working? And the other household members?
How are these activities similar to / different from what you used to do before resettling here?

Do you need to spend money on any of your household's income generating activities? (E.g. equipment, fees, materials, etc.)
How does this compare to how much expenditure used to go into income generating activities before you moved here?

What are the other main expenditures outside of work? (E.g. social activities, special events, etc.)
How does this compare to your expenditures before you moved here?

How much do you pay per month for electricity, water, and taxes (specify the kind of tax)?

3.3 Social assets

How do you get along with your neighbors? How about the local authorities?

Have you made friends in this town?
Who are your friends? Where are they from? How did you meet them?

3.3 Debt

Do you have any debts? Why? Who do you borrow from? Elaborate circumstances that led to your debt. How has this debt affected your HH?

3.4 Health

What kind of health problems does your HH have? Is there anything that triggers the health problems? Was it caused by anything in particular (including environmental events)? Were you comfortable paying for health care? How much did it cost you? Who mainly took care of the sick HH member? What would the caretaker normally do without sickness in the HH? How much time does the caretaker spend looking after the sick HH member?

Elaborate the preventive measures you took to prevent any negative health impacts.

IV. ENVIRONMENTAL STRESS

4.1 Environmental conditions in place of origin

What are environmental conditions like back in your hometown?

Do you think the environmental events are getting better / worse? Why? [*Specify specific environmental factors.*]

Do you think these changes are affecting people's living conditions and ability to make a good living?

Do you think these changes are making other people in your hometown think about being resettled?

Do you think people are migrating to other places because of the environmental condition?

TAKE PICTURES OF HOUSE – INSIDE AND OUTSIDE, AND SURROUNDING ENVIRONMENT

**APPENDIX C.
SEMI-STRUCTURED SURVEY – URBAN MIGRANTS**

Take to interview – questionnaire, compensation, recording device, camera.

Ask if agree to recording interview.

Ask if you can take pictures of the house (inside and outside, and surrounding environment).

1. Date and time (24 hr clock): [_____] [____ : ____]
2. Interviewer name: [_____]
3. Name and ID of respondent: [_____]
4. Respondent age: [_____]
5. Respondent gender: [_____] Phone number: _____
6. Respondent ethnicity: [_____]
7. Respondent address: [_____]

Information specific to selected household:

8. What is the total squared meter area of the house / apartment / room? [_____]
9. How many people live in this house / apartment / room? [____]
10. How many squared meters is the area surrounding your house (if applicable)? [_____]
11. What is the roof of the house made of?
 - Metal
 - Asbestos-cement sheets (A/C sheets)
 - Ceramic tiles
 - Cement
 - Thatch / Palm leaf
 - Corrugated tin (darker)
 - Corrugated aluminum (lighter)
 - Corrugated plastic
 - Other: [_____]
12. What is the floor of the house made of?
 - Cement
 - Earth
 - Ceramic tiles
 - Wood
 - Palm / Bamboo
 - Other: [_____]
13. What is your main source of drinking water?
 - Piped water
 - Drilled well
 - Dug well
 - Rain water
 - River/canal
 - Bought
 - Other: [_____]
14. What is your main source of water for other purposes (washing, cooking, etc)?
 - Piped water
 - Drilled well
 - Dug well
 - Rain water
 - River/canal
 - Bought
 - Other: [_____]
15. What kind of toilet does your household have?
 - Flush toilet
 - Pour flush
 - Pond toilet
 - Other
 - No toilet
16. How does your household mainly disposes garbage?

II. MIGRATION AND RESIDENCE EXPERIENCE

Goal is to understand migration history and reasons for migration, if any.

2.1 Current residency

How long have you lived here? When did you come to this town? Were you born here?
Did your parents / in-laws live here? If not, where did they live / grow up?
Do any of your HH members live elsewhere? Who? Where? Why?
When you moved here, did you plan to stay here long? How long did you intend to stay?
Now do you think you will move anywhere else from here or go back to your hometown?
Do you ever live anywhere else temporary for any reason? For example at certain times of the year?

2.2 Previous residencies

Where else have you and your HH lived? (Including short term / seasonal migration)
What did you do while living there?
Why did you leave?

2.3 Migration strategies

The aim of these questions is to understand the migration status of household members, and factors contributing to migration.

Has anyone in your household migrated anywhere to live / work? (Permanent, temporary, seasonal) Are any of your household members thinking about moving elsewhere to live / work?

What about other people from your town? Are people moving elsewhere to live / work?

What are the reasons people are moving away from this area?

2.3.1 Migration of other household members

Have any of your other household members left your hometown to come here or go elsewhere? Who? To where? When? [*Prompt – push and pull factors, but do not emphasize environmental reasons*]

If yes – Why did they come here / go elsewhere?

If no – Do they want to move but can't? Or do they want to stay where they are? If they want to move, what do you think is preventing them from moving?

Did you help or encourage them to move here / elsewhere?

Do you think they will eventually return to their hometown? If yes, how long will they stay where they are before returning home?

2.4 Mobility

The aim of these questions is to (1) further understand migration strategies, as well as (2) the nature of the links of the migrant with their place of origin, if any.

Do you ever go back to your hometown? When and how often? Why do you go back?
Do you stay in touch with your family / friends? How? How often?
Do you send them anything (ie remittances)? Do they send you things (ie money to support you)?

2.5 Migration patterns

Have other people from your old town left? Who? Why? To where?
Did you give them any information to help them to migrate, or any other kind of assistance?

What kinds of people migrate to this area? From where – any specific places in particular (the town you're from?), or from many different places?

2.6 Settlement

Here, we want to explore the settlement experience and livelihood of the urban migrant, and the formation and evolution of different factors and processes.

What did you do when you first came to this town?

Where did you first live in this town? Did you live with anyone else (e.g. relatives, co-villagers)?

Where else did you live in this town? Why did you move? Do you think you will move again?

Do you own / rent this house / room? Did you buy / build it? When? How much did it cost? (Cost of house, but also extra costs – administrative, land tax, “informal” fees, etc.)

What is your KT status? (KT1-4 or temporary / permanent). Can you tell me the history of your residency status? Were you ever a different status? When and where?

Do you want to change your residency status? To what and why?

What are you not satisfied with now? What would be better if you were a different status? What do you need to do to obtain this new status? What are the difficulties to obtaining the new status, if any?

2.7 Migration experience

Were there any difficulties when you first arrived in this city? What was hard?

How do you feel about living here now? Do you feel settled or like an outsider?
What are the good and bad things about living here for you?

2.8 Comparison between place of origin and destination

How is life different for you now than it was back in your hometown? What's better?
What's worse?

Are you happy with your decision to come to this city? Why / why not?

What are living conditions like now back in your hometown? Are they getting better / worse? How do you know this?

Are people in your hometown able to find jobs? Are they able to find jobs that pay decently? How do you know this?

III. LIVELIHOODS AND ASSETS

3.1 Income generation

What kind of work do you and your household members do now? How did you find these jobs? Was it easy / difficult?

Do you have other sources of income? [*Prompt – savings, supplementary income, remittances, housing rental*]

Was this the work you had when you first arrived? What did you do when you first arrived? How did you find this work?

What kind of other jobs have you had since you moved here? Why did you change jobs? Will you change your work again?

What about other household members? (*Ask same questions about other household members, unless there is not enough time.*)

What is your total income? (*Calculate together with respondent.*)

3.2 Expenditures

Here, we are investigating household expenditures, including spending outside of livelihoods in an urban context, including social and other activities.

What do you do when you are not working? And the other household members?

Do you need to spend money on any of your household's income generating activities? (E.g. equipment, fees, materials, etc.)

What are the other main expenditures outside of work? (E.g. social activities, special events, etc.)

How much do you pay per month for electricity, water, and taxes (specify the kind of tax)?

3.3 Social assets

How do you get along with your neighbors? How about the local authorities?

Have you made friends in this town?

Who are your friends? Where are they from? How did you meet them?

3.4 Debt

Do you have any debts? Why? Who do you borrow from? Elaborate circumstances that led to your debt. How has this debt affected your HH?

3.5 Health

What kind of health problems does your HH have? Is there anything that triggers the health problems? Was it caused by anything in particular (including environmental events)? Were you comfortable paying for health care? How much did it cost you? Who mainly took care of the sick HH member? What would the caretaker normally do without sickness in the HH? How much time does the caretaker spend looking after the sick HH member?

Elaborate the preventive measures you took to prevent any negative health impacts.

IV. ENVIRONMENTAL STRESS

4.1 Environmental conditions in place of origin

What are environmental conditions like back in your hometown?

Do you think the environmental events are getting better / worse? Why? [*Specify specific environmental factors.*]

Do you think these changes are affecting people's living conditions and ability to make a good living?

Do you think these changes are making other people in your hometown think about leaving? Do you think people are moving to other places because of the environmental condition?

TAKE PICTURES OF HOUSE – INSIDE AND OUTSIDE, AND SURROUNDING ENVIRONMENT

**APPENDIX D.
FOCUS GROUP DISCUSSIONS – RURAL SENDING AREA**

Take to interview – questionnaire, compensation, recording device, camera.

Ask if agree to recording interview.

1. Date and time (24 hr clock): [_____] [____ : ____]
2. FGD facilitator name: [_____]
3. Composition of group: [_____]
4. Group gender: [_____]
5. Group ethnicity: [_____]
6. Location description: [_____]

Conduct the Focus Group interview as a conversation try and not to lead the discussion too much. Encourage participation. Give everyone the opportunity to be heard and contribute. Try to capture the range of responses - and the disagreements that may emerge on the issues. Ask the participants to ‘vote’ with stones/tallies when you are trying to get a sense of the weight of different views and opinions. Use black boards or flip charts to draw the geography of the village or to note key issues. Use the guide as an aide not a survey instrument. Adapt the order of the topics and the way you open up discussion to the context and the group’s dynamics.

1. Mapping the community and its history

This introductory section gets the focus group participants talking about their locality. It is important to get the people to express the things that are important to them.

First of all I would like you to tell me about your village, and the community that lives here, what the locality is like to live in, and something about its history.

What are the main places of importance?

Ask participants to identify places of interest

- *public facilities*: govt offices, school, clinic, market place, agricultural extension offices
- *farm land*: e.g. communal grazing, woodland, why these are located where they are, how they are managed and who manages them, how the lands are accessed, condition of the lands.
- *water*: location of rivers, canals, wells – how these are managed and accessed, condition of the water sources.
- *boundaries*: where are the village boundaries

What are the most important places in the village?

Ask participants for their different priorities, what is important to them and why as a community but also for different subgroups – use a ‘voting’ system if this helps.

2. Hazard Mapping

This section seeks to establish how the community perceives the hazards and environmental stresses to which it is exposed and the significance of these phenomena for their lives.

I would like you to tell me about some of the factors that have an impact on your livelihoods and agricultural production. In particular I would like to understand any environmental problems that you are experiencing and how they may be affecting your farming and your livelihood.

What hazards and environmental stresses do you experience?

Let participants list all the hazards and problems.

What are the most important hazards/stresses? What kinds of impacts have they had on the community?

Get the participants to prioritize the hazards/stresses – this can be done by ‘voting’ to ensure the ranking is participatory. Then ask them to elaborate the impacts and losses – plus role of disaster relief, mitigation and adaptation measures.

Have these hazards/stresses and problems gotten worse in the last few years and if so how?

How have these changes affected the community?

Encourage the group to discuss why the different hazards have different impacts on different segments of the community and ensure that different members of the group get involved. Elicit the different responses and the extent to which migration has become one of the response mechanisms.

If migration is identified as a key response (skip if migration not mentioned as one of main responses):

What are the most important factors that are encouraging people to migrate out of this area? (Permanent, temporary, seasonal)

Get the participants to prioritize the factors – this can be done by ‘voting’ to ensure the ranking is participatory. Then ask them to elaborate on the push and pull factors – why people are migrating out, but also why they are migrating to certain places.

3. Social structure and differentiation

The aim of this part of the focus group discussion is to develop understanding and insights into the social stratification of the community, some assessment of wealth ranking and the factors which determine these characteristics. This information will also help in understanding how different households adapt and respond to economic and environmental changes.

I would like you to tell me about your community and the livelihoods of people here.

How do people earn a living? What factors make people better or worse off in this community?

Ask participants about ‘indicators’ such as land/livestock ownership, level of education, receiving government / NGO assistance, family size, family structure (e.g. widows or single headed households), role of remittances, other income generation, non-farming work.

Are some of these factors most important in making you better or worse off?

Try to establish which factors and why. Try to find out how do people get access to/ownership of assets such as land, livestock

How would you describe a wealthy household, an average household, a poor household in your community? *Ask the participants to describe these different categories and the significant variables and assets that differentiate them.*

Are these different groups getting better or worse off in the last few years?

Encourage the group to discuss how socio-economic statuses have changed, if at all, and what factors explain these changes; ensure that different members of the group get involved.

4. Community facilities and actors

This part of the focus group discussion, builds on the previous discussion on social structure by eliciting information on the services that are available, and in particular how the community residents value and use different facilities and their significance. It also seeks to understand community dynamics especially in relation to environmental hazards and stresses.

I would like you to tell me about the community facilities and how important they are to you.

What services and facilities are available in this community?

Ask participants to identify available services – e.g. clinic, school, agricultural extension, government assistance, civil society organizations (local/national/international, food/other forms of assistance, disaster relief and mitigation, other kinds of support/advice

Are some of these services and facilities more important for the community? Which factors and why?

Then get the participants to prioritize the services and facilities by ‘voting’.

Do some members of the community use these facilities and services more than others?

Elicit if different social groups attach different priorities to them. Ask the participants to describe which groups use which facilities and why.

How did some of these services get provided? If the community wants a new service or facility how do you get this provided?

In discussion, elicit how community needs are formulated, who are the main actors involved.

We talked earlier about the hazards and environmental stresses the community faces. Has the community been involved in discussions with the government or NGOs on ways of dealing with these factors? How has the community been involved? Including resettlement projects.

Elicit the kinds of actions that have been talked about and the actions taken. Also how the community decides on/formulates its plans, who is involved and their roles? What are the outcomes are in terms of improved resilience or not? Again, ensure that different members of the group are involved.

5. Migration and non-migration

This part of the focus group discussion seeks to understand who is migrating and who is not in the community; and among those who would migrate if they had a choice, the factors that enable some people to migrate and those that inhibit others from migrating.

I would like you to tell me about who is migrating and who is not, and why.

Who is migrating out of this commune? Why? To where? For how long? (*Remember! Migration includes temporary and seasonal movements.*)

Ask participants to identify the types of people who are migrating, and why. For example:

- *Young people, couples, individuals, families, etc.*
- *Income level – very poor, poor, average, well-off, etc.*
- *People working in certain livelihood sectors*
- *People who have relatives / friends in destination areas*

Ask participants to identify places where people are migrating to, and why.

- *Which provinces / cities*
- *Are people leaving because there aren't enough jobs? Or because their income is too low?*
- *Are there any reasons that other places seem to be more attractive than this place? What are the reasons?*

Ask participants about the duration and timing of migration.

- *Do people migrate permanently, temporarily (for how long?), or seasonally?*
- *Are there any times of the year when people tend to migrate more than at other times?*
- *Are there any times of the year when people tend to come back?*

**APPENDIX E.
FOCUS GROUP DISCUSSIONS – RESETTLEMENT AREA**

Take to interview – questionnaire, compensation, recording device, camera.

Ask if agree to recording interview.

1. Date and time (24 hr clock): [_____] [____ : ____]
7. FGD facilitator name: [_____]
8. Composition of group: [_____]
9. Group gender: [_____]
10. Group ethnicity:
[_____]
11. Location description:
[_____]

Conduct the Focus Group interview as a conversation try and not to lead the discussion too much. Encourage participation. Give everyone the opportunity to be heard and contribute. Try to capture the range of responses - and the disagreements that may emerge on the issues. Ask the participants to 'vote' with stones/tallies when you are trying to get a sense of the weight of different views and opinions. Use black boards or flip charts to draw the geography of the village or to note key issues. Use the guide as an aide not a survey instrument. Adapt the order of the topics and the way you open up discussion to the context and the group's dynamics.

1. Mapping the community and its history

This introductory section gets the focus group participants talking about their locality, focusing on resettlement site. It is important to get the people to express the things that are important to them.

First of all I would like you to tell me about your resettlement site and the community that lives here, what the locality is like to live in, and something about its history.

What are the main places of importance?

Ask participants to identify places of interest

- *public facilities*: govt offices, school, clinic, market place, agricultural extension offices (distance and accessibility)

- *farm land*: e.g. communal grazing, woodland, why these are located where they are, how they are managed and who manages them, how the lands are accessed, condition of the lands.

- *water*: location of rivers, canals, wells – how these are managed and accessed, condition of the water sources.

- *boundaries*: where are the resettlement site boundaries

- *transportation*: how far from resettlement site and by which way to access transportation

What are the most important places in the resettlement site?

Ask participants for their different priorities, what is important to them and why as a community but also for different subgroups – use a ‘voting’ system if this helps.

What is better or worse in this resettlement site compared to the area of origin? Rank.

Can you describe the steps you needed to take during the resettlement process (in chronological order)? *For example, (1) People’s committee informs HHs by posting information in commune office → (2) HH submits application to People’s committee → (3) Village committee assessed applications → (4) Commune committee approved applications → (5) District committee approved applications → (6) District People’s committee assigned houses → (7) HH signed contract with bank*

2. Hazard Mapping

This section seeks to establish how the community perceives the hazards and environmental stresses to which it is exposed and the significance of these phenomena for their lives.

I would like you to tell me about some of the factors that have an impact on your livelihoods and agricultural production. In particular I would like to understand any environmental problems that you are experiencing and how they may be affecting your livelihood.

What hazards and environmental stresses do you experience? This includes pollution, and other man-made environmental stresses.

Let participants list all the hazards and problems.

What are the most important hazards/stresses? What kinds of impacts have they had on the community?

Get the participants to prioritize the hazards/stresses – this can be done by ‘voting’ to ensure the ranking is participatory. Then ask them to elaborate the impacts and losses – plus role of disaster relief, mitigation and adaptation measures.

Have these hazards/stresses and problems gotten worse in the last few years and if so how?

How have these changes affected the community?

Encourage the group to discuss why the different hazards have different impacts on different segments of the community and ensure that different members of the group get involved. Elicit the different responses and the extent to which migration has become one of the response mechanisms.

If migration is identified as a key response (skip if migration not mentioned as one of main responses):

What are the most important factors that are encouraging people to migrate out of this area? (Permanent, temporary, seasonal)

Get the participants to prioritize the factors – this can be done by ‘voting’ to ensure the ranking is participatory. Then ask them to elaborate on the push and pull factors – why people are migrating out, but also why they are migrating to certain places.

3. Social structure and differentiation

The aim of this part of the focus group discussion is to develop understanding and insights into the social stratification of the community, some assessment of wealth ranking and the factors which determine these characteristics. This information will also help in understanding how different households adapt and respond to economic and environmental changes.

I would like you to tell me about your community and the livelihoods of people here.

How do people earn a living? What factors make people better or worse off in this community?
Ask participants about 'indicators' such as land/livestock ownership, level of education, receiving government / NGO assistance, family size, family structure (e.g. widows or single headed households), role of remittances, other income generation, non-farming work.

Are some of these factors most important in making you better or worse off?
Try to establish which factors and why. Try to find out how do people get access to/ownership of assets such as land, livestock

How would you describe a wealthy household, an average household, a poor household in your community? *Ask the participants to describe these different categories and the significant variables and assets that differentiate them.*

Are these different groups getting better or worse off in the last few years?
Encourage the group to discuss how socio-economic statuses have changed, if at all, and what factors explain these changes; ensure that different members of the group get involved.

4. Community facilities and actors

This part of the focus group discussion, builds on the previous discussion on social structure by eliciting information on the services that are available, and in particular how the community residents value and use different facilities and their significance. It also seeks to understand community dynamics especially in relation to environmental hazards and stresses.

I would like you to tell me about the community facilities and how important they are to you.

What services and facilities are available in this community? What is the level of their quality?
Ask participants to identify available services – e.g. clinic, school, agricultural extension, government assistance, civil society organizations (local/national/international, food/other forms of assistance, disaster relief and mitigation, other kinds of support/advice

Are some of these services and facilities more important for the community? Which factors and why?
Then get the participants to prioritize the services and facilities by 'voting'.

Do some members of the community use these facilities and services more than others?
Elicit if different social groups attach different priorities to them. Ask the participants to describe which groups use which facilities and why.

How did some of these services get provided? If the community wants a new service or facility how do you get this provided?

In discussion, elicit how community needs are formulated, who are the main actors involved.

5. Life compared to the place of origin and resources needed

This part of the focus group discussion seeks to understand how the resettlement site compares to the place of origin, in terms of the perception of the resettled group.

I would like you to tell me about the quality of life here in this resettlement site, compared to where you used to live.

What is better about life now?

Get the participants to prioritize and rank. Then ask them to elaborate on each item.

What is worse about life now?

Get the participants to prioritize and rank. Then ask them to elaborate on each item.

**APPENDIX F.
FOCUS GROUP DISCUSSIONS – URBAN AREA**

Take to interview – questionnaire, compensation, recording device, camera.

Ask if agree to recording interview.

18. Date and time (24 hr clock): [_____] [____ : ____]

19. FGD facilitator name: [_____]

20. Composition of group: [_____]

21. Group gender: [_____]

22. Group ethnicity: [_____]

23. Location description: [_____]

Conduct the Focus Group interview as a conversation try and not to lead the discussion too much. Encourage participation. Give everyone the opportunity to be heard and contribute. Try to capture the range of responses - and the disagreements that may emerge on the issues. Ask the participants to ‘vote’ with stones/tallies when you are trying to get a sense of the weight of different views and opinions. Use black boards or flip charts to draw the geography of the village or to note key issues. Use the guide as an aide not a survey instrument. Adapt the order of the topics and the way you open up discussion to the context and the group’s dynamics.

1. Mapping the community

This introductory section gets the focus group participants talking about their locality. It is important to get the people to express the things that are important to them.

First of all I would like you to tell me about your town, and the community that lives here, what the locality is like to live in.

What is it like being a migrant here?

Ask participants to discuss their opinions about the following, and how they compare with their place of origin

- *Housing:* availability, conditions, utilities, price, location, etc
- *Employment:* wages, benefits, working conditions, access to information
- *Social structure:* place in society (where they live and work), relationship with local authorities, access to social services (health care, education, utilities, social welfare programs)

2. Social structure and differentiation

The aim of this part of the focus group discussion is to develop understanding and insights into the social stratification of the community, some assessment of wealth ranking and the factors which

determine these characteristics. This information will also help in understanding how different households / individuals adapt and respond to stressors.

I would like you to tell me about your community and the livelihoods of people here.

How do people earn a living? What factors make people better or worse off among migrants in this community?

Ask participants about 'indicators' such as main income, savings, level of education, receiving government / NGO assistance, family size, family structure (e.g. widows or single headed households), role of remittances / money sent to migrants from place of origin, other income generation, KT status.

Are some of these factors most important in making you better or worse off?

Try to establish which factors and why. Try to find out how do people get access to/ownership of assets such as land, livestock, housing, motorbike.

How would you describe a wealthy household, an average household, a poor household in your community? *Ask the participants to describe these different categories and the significant variables and assets that differentiate them.*

Are these different groups getting better or worse off in the last few years?

Encourage the group to discuss how socio-economic statuses have changed, if at all, and what factors explain these changes; ensure that different members of the group get involved.

3. Community facilities and actors

This part of the focus group discussion, builds on the previous discussion on social structure by eliciting information on the services that are available, and in particular how the community residents value and use different facilities and their significance.

I would like you to tell me about the community facilities and how important they are to you.

What services and facilities are available to you?

Ask participants to identify available services – e.g. clinic, school, government assistance, agriculture extension, civil society organizations (local/national/international, food/other forms of assistance, disaster relief and mitigation, other kinds of support/advice

Are some of these services and facilities more important for you? Which factors and why?

Then get the participants to prioritize the services and facilities by 'voting'.

Do some members of the community use these facilities and services more than others?

Elicit if different social groups attach different priorities to them. Ask the participants to describe which groups use which facilities and why.

How did some of these services get provided? If the community wants a new service or facility how do you get this provided?

In discussion, elicit how community needs are formulated, who are the main actors involved.

APPENDIX G.

KII questions – Officials in Long An and Dong Thap provinces

Environmental stress

Can you describe the climate trend in your province for the past 10 years? Have you seen any trends (more intense / frequent / unpredictable flooding)? Can you get the climate data (esp flooding) for the district / province for the past 10+years?

If there has been a change in flooding (/ climate), what do you think is the reason? CC, infrastructure development upstream (in VN or other Mekong countries)?

Can you show us on a map where the most severe flooding occurs?

What are the most important methods to adapt to SLR? Same for increasingly erratic storms? What about non-infrastructure methods?

Are there any CCA / DRM programs / policies at the district / provincial level? Can you tell us about them? Can we get a copy of the policies?

Do you know if and how your province / district / commune will be affected by SLR? Are there any prevention measures in place? Adaptation measures?

Resettlement

Can you outline the different resettlement programs in your district and under which policies they fall? Eg – Nat'l Target Program to Respond to CC (mentions researching and proposing solutions and plans on migration, resettlement and life security for residents in the most vulnerable areas caused by CC and SLR), Nat'l Strategy for Nat Dis Prev, Resp and Mitigation to 2020 (MARD and CCFSC leading agencies) (One of 9 objectives is the relocation of people in disaster prone areas)

Are there any provincial / district level policies on resettlement?

What are the priority areas (geographic and hazard type) and population groups targeted for relocation? How have they changed over the years?

Do you have guidelines for selection? Is it possible to have a copy?

Do you have guidelines for implementation? What are they? In practice, is the guideline followed? What are the challenges, if any? Is it possible to have a copy?

- Selection criteria, loan rates, repayment schedule, what HH is provided with, what is expected of the HH

How do you reach the target population?

What is the selection procedure and who is on the selection committees? (Starting with info dissemination, HH application (docs required), selection committee at village level, commune level, etc)

What kind of guidance do you receive from the provincial / central levels in planning for and implementing resettlement projects, if any? Any guidelines / technical assistance? What are the procedures from central to district levels? (Chronological steps)

Where does funding come from for resettlement programs? Central funding? Provincial funding? Outside sources (eg WB, ADB)?

Are there sufficient funds?

Any assessments done in the area of origin and destination prior to resettlement? How is the resettlement site chosen?

Are there any problems with current resettlement projects? Were any lessons learned from past projects? What concerns do you see as needing to be addressed?

Do you people are better off after resettlement? How so? If they have any difficulties after resettlement, what are they? What needs to be done?

After resettlement, how is the HH registration status of the HH decided? KT1-4 or temporary / permanent?

What is the current status of resettlement projects in the district / province?

Can you give us a list of the resettlement projects, how many clusters / dykes were built, and how many houses were built?

Is it possible to see any statistics for number of people resettled, by location, by year? Also future plans for resettlement?

Is it possible to see plans / maps of the resettlement clusters / dykes?

What communes / hamlets would you recommend we focus on for the research? We are looking for 2 areas – (1) one in experiencing environmental stress, with high out-migration rates, and also targeted for resettlement; (2) the other a nearby resettlement site (both clusters and dykes).

Migration

Are you seeing any trends of out-migration from your province? Is any of the migration caused by environmental factors? What are they? Over what kind of time line? Not only sudden onset but also slow degradation.

The NTP-RCC identifies the need to conduct vul assessments at the sectoral, regional and community levels. Have there been any that have shed light on the effect of environmental factors on migration?

Do you think that migration is a positive / negative adaptation strategy in response to climatic stresses? If negative, in what way? If positive, what do you think can be done to support this process in sending and receiving areas?

Are there any provincial / district level policies on migration?

Are there any plans in the works to develop policies / programs to bolster migration as an adaptation strategy, or to help those who may be pushed to migrate because of environmental conditions?

Is it possible to see data on in- and out-migration figures in the district? (From police?)

Evacuation

What systems of early warning are in place?

What systems of evacuation are in place? How are people evacuated and supported?

What happened during last year's floods?

APPENDIX H.

KII questions – Officials in Can Tho province and HCMC

Resettlement

HCMC. Recently read about a new plan to build 11,000 new resettlement apartments in HCMC. Can you tell us about these plans (when, where, who), and what will be prioritized in urban planning? Can we see any documents relating to this plan? Recently a resettlement apartment building was completed in Thy Tiem New Urgan Area in HCMC's D2. Can you explain the procedures, who is targeted, etc. Any documents available?

(“Initially, the city will invest in power, water and traffic infrastructure at several resettlement areas in the south of the city such as in Phuoc Kieng Commune of Nha Be District and Phong Phu Commune of Binh Chanh District developed by South Saigon Development Corporation (SADECO) and BinhChanh Construction Investment Shareholding Company (BCCI) respectively.”)

Migration

Are you seeing any trends of in-migration into your city? What are the reasons that people migrate here?

Do you see any cases of people migrating here because of environmental stress (floods, drought, etc)? Over what kind of time line (immediately following event, some time after)? Not only sudden onset but also slow degradation. Please elaborate.

Are there any provincial / district level policies on migration? Possible to have copies?

What are the difficulties faced by your department when it comes to migration / issues related to migrants?

What do you think is better for the migrants here compared to their hometown?

What do you think is harder for the migrants here compared to their hometown?

Can you describe the different types of migrants you see in your city? (Income level, occupation, gender, geographic origin, age, etc.)

Do you think that migration is a positive / negative adaptation strategy in response to climatic stresses? If negative, in what way? If positive, what do you think can be done to support this process in sending and receiving areas (your city)?

Are there any plans in the works to develop policies / programs to help migrants? Or to help those who may be pushed to migrate because of environmental conditions / other reasons?

How do you think the HH registration system helps / hinders migrants in your city? Is it easy / difficult for them to get proper registration?

What are the HH registration procedures? Can we have a copy of the procedures and policy? (Process, required documents, fees, eligibility criteria, types of permits, etc.)

Is it possible to see data on in- and out-migration figures in the district? (From police?)

Evacuation

What systems of early warning are in place?

What systems of evacuation are in place? How are people evacuated and supported?

APPENDIX I. LIST OF RESPONDENTS

Vinh Tri commune, Long An province

	Pseudonym	Wealth category	Non-resettled / Resettled	Gender
LA1	Linh	Near-poor	Non-resettled	Male
LA2	Oanh	Poor	Resettled, cluster	Female
LA3	Phuong	Poor	Resettled, cluster	Female
LA4	Quyen	Near-poor	Non-resettled	Female
LA5	Hien	Near-poor	Non-resettled	Female
LA6	Hoang	Better off	Resettled, cluster	Male
LA7	Trung	Near-poor	Resettled, cluster	Male
LA8	Tran	Near-poor	Resettled, cluster	Male
LA9	Nguyen	Poor	Resettled, cluster	Male
LA10	Trang	Better off	Resettled, dyke	Female
LA11	Dung	Better off	Resettled, dyke	Male
LA12	Nhi	Near-poor	Resettled, dyke	Female
LA13	Lanh	Near-poor	Resettled, dyke	Female
LA14	Luc	Near-poor	Resettled, dyke	Male
LA15	Van	Poor	Resettled, dyke	Female
LA16	Trung	Poor	Resettled, dyke	Male
LA17	Trung	Poor	Resettled, dyke	Male
LA18	Le	Poor	Resettled, dyke	Female
LA19	Vi	Poor	Non-resettled	Female
LA20	Trang	Near-poor	Resettled, cluster	Male
LA21	Kim	Near-poor	Non-resettled	Female
LA22	Hien	Poor	Resettled, cluster	Male
LA23	Nguyen	Near-poor	Resettled, dyke	Male
LA24	Yen	Near-poor	Non-resettled	Female
LA25	My	Near-poor	Non-resettled	Female
LA26	Thi	Poor	Non-resettled	Female
LA27	Chi	Poor	Non-resettled	Female

Long Thuan commune, Dong Thap province

	Pseudonym	Wealth category	Non-resettled / Resettled	Gender
DT1	Van	Poor	Resettled, dyke	Female
DT2	Xoan	Better off	Resettled, dyke	Female
DT3	Thanh	Poor	Resettled, dyke	Female
DT4	Oanh	Poor	Resettled, dyke	Female
DT5	Linh	Poor	Resettled, dyke	Male
DT6	Trung	Poor	Non-resettled	Male
DT7	Dao	Near-poor	Non-resettled	Male
DT8	Nguyen	Better off	Resettled, dyke	Male
DT9	Tam	Near-poor	Resettled, dyke	Female
DT10	Nam	Better off	Resettled, dyke	Male
DT11	Van	Near-poor	Resettled, dyke	Female
DT12	Thi	Near-poor	Resettled, dyke	Female
DT13	Duc	Near-poor	Resettled, dyke	Male
DT14	Nguyen	Poor	Resettled, dyke	Male
DT15	Thi	Poor	Resettled, dyke	Female
DT16	Trung	Near-poor	Resettled, dyke	Male
DT17	Yen	Poor	Resettled, dyke	Female
DT18	Trung	Poor	Resettled, dyke	Male
DT19	Tran	Poor	Resettled, dyke	Male
DT20	Hao	Near-poor	Resettled, dyke	Male
DT21	Thi	Near-poor	Non-resettled	Female
DT22	Nguyen	Near-poor	Non-resettled	Male
DT23	Minh	Near-poor	Non-resettled	Male
DT24	Nguyen	Better off	Non-resettled	Male
DT25	Van	Poor	Non-resettled	Female
DT26	Trinh	Poor	Non-resettled	Female
DT27	Loc	Poor	Non-resettled	Male

Can Tho City

	Pseudonym	Gender
CT1	Thinh	Female
CT2	Trinh	Female
CT3	Truan	Male
CT4	Yen	Female
CT5	Nhi	Female
CT6	Van	Female
CT7	Trung	Male
CT8	Trang	Female
CT9	Dung	Male

Ho Chi Minh City

	Pseudonym	Gender
SG1	Huy	Male
SG2	Phong	Male
SG3	Lieu	Female
SG4	Chau	Female
SG5	Van	Female
SG6	Vi	Female
SG7	Thi	Female
SG8	Dao	Male
SG9	Vi	Female

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