

Vulnerability to Environmental Stress: Household Livelihoods, Assets and Mobility in the Mekong Delta, Viet Nam

No. 51

**IOM
MIGRATION
RESEARCH
SERIES**



International Organization for Migration (IOM)

The opinions expressed in the report are those of the authors and do not necessarily reflect the views of the International Organization for Migration (IOM). The designations employed and the presentation of material throughout the report do not imply the expression of any opinion whatsoever on the part of IOM concerning the legal status of any country, territory, city or area, or of its authorities, or concerning its frontiers or boundaries.

IOM is committed to the principle that humane and orderly migration benefits migrants and society. As an intergovernmental organization, IOM acts with its partners in the international community to: assist in meeting the operational challenges of migration; advance understanding of migration issues; encourage social and economic development through migration; and uphold the human dignity and well-being of migrants.

Publisher: International Organization for Migration
17 route des Morillons
P.O. Box 17
1211 Geneva 19
Switzerland
Tel.: +41 22 717 91 11
Fax: +41 22 798 61 50
E-mail: hq@iom.int
Internet: <http://www.iom.int>

ISSN 1607-338X
ISBN 978-92-9068-702-3
© 2014 International Organization for Migration (IOM)

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise without the prior written permission of the publisher.

Vulnerability to Environmental Stress: Household Livelihoods, Assets and Mobility in the Mekong Delta, Viet Nam

Jane M. Chun

Green Templeton College, University of Oxford



International Organization for Migration (IOM)

Acknowledgements

The author wishes to thank UNDP Viet Nam, in particular, Ian Wilderspin and Koos Neefjes, for kindly agreeing to sponsor the author's fieldwork. The research would not have been possible without their support.

The author extends her gratitude to Mr Le Thanh Sang for his instrumental role in the field, in addition to his valuable insights and collegial partnership.

A very special thank you goes to Professor Roger Zetter and Mr Jeremy Farrar for their support throughout the DPhil process. Roger's guidance played a critical role throughout all stages of the author's research.

Finally, the author extends a heartfelt thank you to the respondents who shared their experiences, knowledge, and time – from the individuals in the study sites, to government officials at all levels. Their participation forms the bedrock of this research.

Contents

Acknowledgements	iii
Abstract.....	vii
1. Introduction.....	1
2. The Mekong Delta and Research Sites.....	3
3. Conceptual Frameworks	5
3.1. Vulnerability and political ecology	5
3.2. Sustainable Livelihoods Framework and household assets	7
3.3. Asset vulnerability.....	7
4. Methodology	11
4.1. Site selection	11
4.2. Sampling.....	12
5. Findings	15
5.1. The homestead.....	15
5.2. Agricultural land	18
5.3. Human assets.....	20
5.4. Relocation and vulnerability shifts	25
5.5. Environmental stress and (im)mobility	29
6. Reflections and Conclusions.....	41
6.1. The environment in context	41
6.2. A holistic and micro-scale approach to vulnerability.....	42
6.3. Mobility and migration.....	43
Bibliography	45
Endnotes	51

Abstract

Potential mass displacements as a result of climate change and, in particular, sea level rise, have gained increasing attention in the last several years. Forecasts on future population displacement are often based on broad assumptions derived from macro-scale geographical data, viewing individuals' vulnerability to hazards through the lens of their physical proximity to hazard-prone areas.

This paper argues for a more nuanced approach to understanding vulnerability and household response measures (including mobility) in contexts of environmental stress, and proposes asset vulnerability as a framework to decipher differentiations of vulnerability across households, in an effort to increase the resilience of populations, rather than increase or shift vulnerabilities.

In two rural areas of the Mekong Delta, environmental stress is found to be only one of many stressors. Key household assets determining household vulnerability are identified, as along with critical assets that shape mobility decision-making and outcomes. An analysis of government relocation programmes targeting households susceptible to hazards sheds further light on the process of vulnerability shifts, as opposed to the intended decrease in overall vulnerability. Finally, we are led to consider those who are trapped by their poor household asset profiles – they who are least able to either adapt to stressors in situ or migrate elsewhere.

I. Introduction

The topic of global environmental change (GEC) is receiving increasing attention from a range of stakeholders. Its effects are already far-reaching, and it is estimated a wide gamut of sectors will be strained, such as those involving water resources, food security and health. Given that the broader social, economic and political systems we live in shape our access to resources, the impacts of GEC will inevitably be unevenly distributed among population groups (McDonald, 2010). Nevertheless, much uncertainty remains regarding how these effects will manifest at the local level (Oliver-Smith, 2009).

Rooted in part in advocacy efforts to raise awareness regarding the negative effects of GEC, its potentially catastrophic effects, including mass displacements of people, have been used to bring attention to the issue. Some authors have, in this context, cited questionable estimates for future displacement (Foresight, 2011; Gemenne, 2011). Recent years have seen more authors, including migration scholars, refuting such broad-stroked claims with more nuanced approaches. This report – informed by the Author’s PhD thesis – aims to contribute to this body of research with empirical findings from the Mekong Delta, Viet Nam. The *asset vulnerability* framework is used to examine the intersections between environmental stress and change, vulnerability, livelihoods and human mobility. With specific regard to mobility, the study focuses on two types: (a) rural-to-urban migration and (b) government relocation programmes targeting poor households living in what are deemed to be hazard-prone areas.

To examine the lives of vulnerable households living in contexts of environmental change and stress, multiple variables exacerbating underlying household vulnerability are explored, along with the range of response measures available to different groups, including mobility. In this way, rather than attempting to answer the more frequently posed question of whether or not environmental stress or change cause people to migrate, we take a step back to

examine the context comprehensively, and turn our attention to understanding the variables exacerbating *differential vulnerability*. The Author emphasizes the importance of the term “differential,” given the diversity of populations, whether it is in terms of wealth, gender, ethnicity or other factors, and the disparate ways in which different groups experience vulnerability. This nuanced approach to understanding vulnerability enables a more complex and realistic understanding of the lives of people living in areas experiencing environmental stress, and facilitates the development of informed interventions and policies to strengthen the resilience of susceptible populations.

To this end, the following questions are posed:

- a. How does environmental stress affect the lives and vulnerability of individuals and households in areas deemed to be susceptible to the negative impacts of GEC?
- b. How important and disparate is the environmental variable from other sources of stress – is environmental change, in fact, a dominant stressor overshadowing others?
- c. Do people migrate as a result of environmental stress and change? If so, what is the nature of the causal relationship, and how are migration dynamics manifested?
- d. Lastly, what are the vulnerabilities and livelihood outcomes of government relocation programmes falling under broader national climate change adaptation strategies?

2. The Mekong Delta and Research Sites

Viet Nam encompasses an area of 331,690 sq km, spanning 16 degrees of latitude, bordered by the South China Sea on the east, having over 3,200 km of coastline, and neighboured by China, Laos and Cambodia. The Mekong Delta region, 80 per cent of which lies in Viet Nam, is the most downstream portion of the Mekong Basin, which passes through or is adjacent to six countries – namely, China, Burma, Laos, Thailand, Cambodia and Viet Nam. The Mekong River itself extends 4,200 km from the Tibetan plateau to the Mekong Delta in Viet Nam, and is drained by a network of distributaries into the South China Sea (Sneddon and Nguyen, 2001). Covering 13 provinces and inhabited by over 17 million people – 20 per cent of the country’s total population – much of the delta is covered by low-lying floodplains lying 0.5 to 3 metres above sea level (Dun, 2009; GSO, 2012). With variations in duration and intensity across locations, the July–November wet season floods roughly 47 per cent of the region at its peak (Sneddon and Nguyen, 2001).

As the “rice bowl” of Viet Nam, the Mekong Delta remains the most vital agricultural region of Viet Nam, with the Mekong River’s seasonal floods covering 40 per cent of cultivable land, providing the region with nutrient-rich soils, natural fish catchments and waterways essential to livelihoods (Be et al., 2007).

Nevertheless, the last four decades have seen an increased frequency of severe floods that had previously occurred on average only once every 50 years (Dun, 2009). The most extreme recent floods occurred in 2011, causing serious loss and damage in seven provinces, affecting over 600,000 people, damaging 11,768 acres of rice fields and secondary crops, causing 85 casualties, and prompting the evacuation of nearly 13,000 families (IFRC, 2012).

As such, Viet Nam is often cited as one of the most vulnerable countries in the world to severe and possibly permanent inundation, sea level rise and saline water intrusion (Hugo, 2008; Warner et al., 2008; ADB, 2012). Rising sea levels are projected to exert significant pressure on the Mekong Delta and Ho Chi Minh City (the biggest urban centre in Viet Nam), portions of the Red River Delta, and considerable parts of other coastal areas. The Mekong Delta, a crucial driver of economic growth, could lose 37.8 per cent of its land to saline water inundation (UNDP, 2003). Consequently, the Mekong Delta in Viet Nam and Cambodia is cited by some sources to be among the world's hotspots as regards potential displacement due to sea level rise (IPCC, 2007).

It is important to note, nevertheless, that such projections typically overlook current and future socioeconomic developments, adaptation measures at the central down to local levels, and potential changes in upstream countries that may alter the flow patterns of the Mekong River.

3. Conceptual Frameworks

This section explores the conceptual frameworks informing this study. The two concepts underpinning the study – *vulnerability and political ecology* – are first explored. Against this backdrop, the “household assets” aspect of the Sustainable Livelihoods Framework is further incorporated, ultimately leading to the notion of asset vulnerability, the primary conceptual framework employed in the study. While rooted in the concepts of vulnerability and political ecology, asset vulnerability is proposed as a practical approach through which household vulnerability can be measured, using household assets as an analytical lens and unit of measurement.

3.1. Vulnerability and political ecology

The concept of vulnerability is found across numerous disciplines and stems from diverse epistemological and methodological approaches. The social sciences generally view vulnerability as being socially constructed, emphasizing the inequality between groups, which shapes their access to resources and entitlements.¹ Given that inequalities result from broader political, economic and social forces – for example, ethnic or gender discrimination, lack of political rights among certain groups of people, and land and housing policies favouring some at the expense of others – the role of such structures tend to feature prominently in studies of social vulnerability. In the context of environmental hazards, these broader structures are what cause 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). This is precisely the space of interest for political ecology – the area of study investigating the nexus between political, economic and social factors with environmental issues.

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...” (Brooks, 2003). The interaction of the hazard with underlying vulnerabilities of an individual/group is then what generates the disaster, not the hazard in and of itself, or simply the geographic location of populations in relation to the hazard (Cardona, 2004). Understanding and addressing underlying vulnerabilities is therefore critical to transforming the root causes keeping individuals in states of susceptibility to harm (Wisner et al., 2004: 49, 61; Leary et al., 2008; Lewis, 1999).

Similarly, the concept of *geography of hazard* dictates that not only are the poor more often exposed to hazards, they are also more prone to suffering when a hazard occurs. Not only do the poor have fewer resources to draw upon to coping with the effects of environmental stress, their homes are often located on marginalized and hazard-prone land. As a result, they are at greater risk of getting trapped in the cycle of capital loss, whereby each hazard encountered further deteriorates their ability to withstand future environmental events (Chambers, 1995). For example, the Viet Nam chapter of the *International Federation of Red Cross and Red Crescent Societies (IFRC) World Disasters Report 2001* documents a pattern of the same families being devastated by floods, repeatedly losing homes and livelihoods, and trapped in a cycle of vulnerability to these events.

It may be important to mention at this juncture that “vulnerable population” is at times considered to be synonymous with “poor population,” but this is a misguided use of the term, as vulnerability refers not to one’s lack of resources, 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 within a context of interwoven social, economic and political factors. Vulnerability can then be said to be a more accurate measurement of exposure to risk when examining livelihood and mobility outcomes in conditions of environmental stress.

Having said this, while poverty and vulnerability to natural hazards do refer to two distinct states, they do nevertheless often coincide (Few, 2003; Wisner et al., 2004; Adger et al., 2004). Given that poverty is a manifestation of unequal access to resources, it may be viewed as a proxy for access to assets and entitlements, as, more often than not, poor households find themselves marginalized in conditions of vulnerability, having no option but to passively accept their difficult circumstances (Swift, 1989; Chambers, 1995).

3.2. Sustainable Livelihoods Framework and household assets

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 “assets” (measurable variables) and their role in determining differential vulnerability and household livelihood outcomes, including mobility decision-making.

Sustainable livelihoods approaches seek to understand the dynamic lives of rural people and their environments at various levels (local, national and international) and dimensions (economic, social and political) (Carney, 1999). Of the many approaches that exist, the most well-known is the Sustainable Livelihoods Framework of the UK Department for International Development (DFID, 1999).

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 of political and human ecology.² The five categories of assets are: human, social, natural, physical and financial (with some authors adding a sixth – political). This component of the SLF – household assets – is adapted in this study to measure household vulnerability and the many ways vulnerability is manifested and experienced by households of varying characteristics.

3.3. Asset vulnerability

By considering the broader concepts of vulnerability and political ecology (section 3.1) alongside the household assets element of the SLF (section 3.2), we arrive at the concept of *asset vulnerability*. Asset vulnerability enables the exploration of household vulnerability through the lens of measurable household assets and *household asset profiles*. Naturally, households will have access to different assets to varying degrees, resulting in differential vulnerability. A household’s capacity to respond to opportunities, as well as stress, is therefore determined by its asset portfolio – that is, the collection of its assets – and their strategic management, or, in other words, “livelihood strategies” (Heltberg et al., 2008; Prowse, 2008).

In the natural hazards context, households either maintain their current livelihood activities or respond to environmental stress by reorganizing their assets, for example, by drawing on savings, reinforcing the house structure, minimizing expenditures, migrating to either non-flooded or flooded areas for income generation, or seeking support from relatives and neighbours. Moreover, given that most asset-poor households generally tend to lack critical assets (such as savings and substantial income) and those they do have access to are characterized by poor quality and quantity (such as temporary housing made of weak materials, and minimal or lack of land on which to generate sizable incomes) (Heltberg et al., 2009), they are, as a result, less able to recover from shocks and stress. Consequently, asset-poor households tend to be more vulnerable, as they lack a robust means of resistance to stress and shocks – translating to greater susceptibility to the effects of hazards when compared to their asset-rich counterparts.

According to the SLF, natural assets refer to natural resources, including rivers, canals, forests, and communal land. Physical assets, on the other hand, include housing, equipment used in livelihoods, vehicles for transportation, and basic goods such as clothing. Financial assets refer to cash, savings, loans, remittances and pensions. Social assets refer to social networks and relationships that can be a source of support in times of need, ranging from family and neighbours to service-providing institutions. Political assets include political leverage, agency and access to political processes, including representation, bargaining power and the ability to voice opinions to affect change.

While most of these asset types are found in existing literature, human assets remain in the periphery in the discourse on natural hazards and livelihoods, but are a key asset explored in this study.³ Predominantly categorized into one of three types – physical, knowledge and psychological – human assets refer to an individual's dimensions of capability, that is, the means through which the individual him- or herself is an asset able to contribute to the household livelihood.

Among the *human physical assets*, health and able-bodiedness are among the key factors shaping asset poverty and household vulnerability (Woodward et al., 2000). While healthy household members who are able to work and generate income form the foundation of a household's asset accumulation and growth, the economic burden of poor health includes not only the direct financial costs of health care and treatment, but also the indirect costs of income and production losses caused not only by a household member in poor health, but also that of the caretaker(s) devoting their time to the household's health matters rather than income generation (Ellis, 2000). These losses include travel costs, particularly for more severe conditions requiring specialized care

in urban centres (Russell, 2005). Furthermore, as asset-poor households tend to be dependent on labour-intensive work, healthy household members are all the more critical for these households' survival and ability to generate income (Woodward et al., 2000). The importance of healthy family members for livelihoods is apparent across all sites in this study.

Human knowledge assets pertain to an individual's knowledge and skills, acquired through formal and informal education, and fundamental for the uptake and management of livelihood activities (DFID, 1999). Examples include basic financial management skills, knowledge and skills required to generate income, and knowledge passed down from past generations regarding local ecosystem and agricultural practices.

Human psychological assets also play an influential role in shaping household livelihood outcomes and individual responses to stress. Components of the Protection Motivation Theory – a model used by psychologists to explain cognitive processes and decision-making that gives rise to protection motivation in response to particular threats (Bubeck et al., 2012). It has primarily been applied in recent times to analyse and anticipate behaviour relating to personal health, but has also been used in relation to environmental hazards.

The two cognitive processes involved are *threat appraisal* and *coping appraisal*. The former refers to an individual's perception of risk, while the latter describes an individual's thoughts about "the benefits of possible actions" and their "competence to carry them out" (Bubeck et al., 2012). Across numerous studies investigating the link between risk perceptions and preventative behaviour, coping appraisal has been established to be a far better predictor of protection motivation and behaviour (i.e. the motivation and uptake of measures to mitigate risk) compared to the process of threat appraisal (Bubeck et al., 2012). Hence, low coping appraisal appears to explain the adoption of non-protective (counterproductive) responses by individuals, even in the context of high risk perception.

A component of coping appraisal, *self-efficacy*, emerged in this study as an important indicator for risk mitigation behaviour in the context of environmental stress. Self-efficacy refers to an individual's assessment of his or her own ability to successfully carry out a particular measure (Bubeck et al., 2012), and is associated with agency and the degree of self-confidence a person feels regarding his or her abilities. Influenced by self-efficacy are the types of responses chosen or 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, may explain to some degree the differential responses to stress of households with seemingly comparable asset profiles.

The responses arising from these cognitive processes can be categorized into either protective or non-protective responses (Bubeck et al., 2012). Non-protective responses (in other words, “counter-productive behaviour”) are described by a range of studies as correlating with poverty and as an element in perpetuating the cycle of poverty. The relationship between poverty and non-protective (or counter-productive) behaviour is, in part, explained by the external conditions of poverty, such as predatory lenders targeting poor neighbourhoods, 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 (Mani et al., 2013).

Furthermore, some authors propose that when the mind is preoccupied with financial stress, fewer cognitive resources remain available to devote to other problems at hand (Mani et al., 2013). Mani et al. (2013), for example, found that in Tamil Nadu, after controlling for other potential factors, sugarcane farmers performed either better or worse on cognitive tests, depending on whether it was administered pre- or post-harvest, which coincide with when they were poorer or wealthier.

Consequently, this knowledge expands our understanding of how poverty may be reproduced and protracted, (partially) by means of non-protective responses undertaken by the asset-poor, and more importantly, the conditions contributing to the adoption of such counter-productive measures, including the multiplier effect of environmental stress and conditions that lead to poor livelihood outcomes.

In contrast, individuals with rich asset profiles maintain greater certainty and control over future events due to their ownership and power over resources and assets. In this context, *dependency*, as discussed in section 5.3.2, 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 (Wood, 2003).

Likewise, as described in section 5.3.2, the lack of predictable assets for the asset-poor contributes to another non-protective response – *short-term time preference behaviour* – whereby the needs of daily life outweigh long-term planning and prospects. These non-protective responses are further 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).

4. Methodology

4.1. Site selection

As discussed in section 2, the Mekong Delta region was selected to examine the link between displacement and severe flooding and sea level rise, and to empirically investigate how people are living in such conditions of environmental stress. Two rural communes were selected: (a) Vinh Tri commune, Vinh Hung District, Long An Province, and (b) Long Thuan commune, Hong Ngu District, Dong Thap Province – both upstream areas in the delta that are susceptible to heavy seasonal floods (which bring freshwater from the Mekong River, with flood regimes further influenced by tidal activities). The primary environmental stressors consist of seasonal flooding in Vinh Tri commune, and riverbank erosion as a result of flooding in Long Thuan commune. The two communes both contain (a) rural areas experiencing environmental stressors common in the Mekong Delta region, and (b) government relocation sites intended primarily for those affected by these hazards (with relocated households overwhelmingly originating from within the same commune). Relocating under a government relocation programme was deemed to be an important type of mobility to include in the study, given it is one of the policy pillars of climate change adaptation adopted by the Vietnamese Government, and is being considered by an increasing number of other national governments.⁴

In addition to Vinh Tri and Long Thuan communes – located in rural areas of the Mekong Delta – two urban cities were also included to better understand migration experiences and decision-making from both rural sending areas and urban receiving areas. The migration route of focus was rural–urban migration, rather than other flows such as rural–rural and urban–rural. This type of flow was chosen due to its prevalence, with the 2009 Viet Nam Population and

Housing Census reporting 8.9 per cent of the urban population as comprising of rural–urban migrants (GSO, 2011).

Can Tho City was included in the study, as it is the largest urban centre within the Mekong Delta. For comparative purposes, Ho Chi Minh City was also included given its size as the largest urban city in Viet Nam and its relative proximity to the Mekong Delta. Moreover, Ho Chi Minh City has the highest in-migration rates of any province or city in the country (GSO, 2011). Industrial zones and areas surrounding large-scale factories were avoided in order to access a sample of migrants from a broader age bracket and with diverse livelihoods and migration experiences. Both cities have well-established migration routes from the Mekong Delta (Taylor, 2004) – which was important given that existing migration corridors are typically the paths taken by new migrants (Resurreccion, 2007). Hence, the assumption is made that should future increase of outmigration occur as a result of environmental change, these existing migration corridors will, at least initially, be most popular. An Khanh Ward, Ninh Kieu District, Can Tho City, and Ward 15, district 8, Ho Chi Minh City were chosen due to their high numbers of migrants from rural areas of the Mekong Delta.

4.2. Sampling

A “mixed methods” approach involving non-probability sampling methods was used. Purposive sampling was first used to select the provinces of interest and sample groups: inhabitants of rural migrant-sending areas (“rural migrant-sending”); inhabitants of rural areas who had been relocated within their communes (“rural-relocated”); and migrants from rural areas living in urban centres (“urban migrants”). The selection criteria for each sample group – rural migrant-sending, rural-relocated, and urban migrants – were as follows:

Table 1. Sample groups and selection criteria

Sample group	Selection criteria
Rural migrant-sending	Living in rural areas classified as experiencing severe environmental stress, and predominantly from poor or near-poor income categories; includes households that have migrants or none; depend on a mix of livelihoods, including agriculture, aquaculture and off-farm activities.
Rural-relocated	Living in government relocation sites intended primarily for those deemed to be vulnerable to environmental stress, and predominantly from poor or near-poor income categories; includes households that have migrants or none; depend on a mix of livelihoods including agriculture, aquaculture and off-farm.
Urban migrants	Originally from rural areas of the Mekong Delta where livelihoods were formerly agriculture- or aquaculture-based; includes families not living in a factory boarding house; depend on a mix of livelihoods among the respondents.

Table 2, below, outlines the sample sizes by sample group, data collection method and study site.

Table 2. Sample groups by size, method and location

Data collection method	Rural migrant-sending	Rural relocated	Urban migrant	Total
In-depth interviews	18	36	18	72
	9 VT	18 VT	9 CTC	
	9 LT	18 LT	9 HCMC	
Focus group discussions	4	6	4	14
	2 VT	4 VT	2 CTC	
	2 LT	2 LT	2 HCMC	

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

Three qualitative tools were adopted – in-depth interview (IDI), focus group discussion (FGD) and key informant interview (KII). Three variations were developed for each tool, each corresponding to a sample group. KIIs were conducted with government and mass organization⁵ officials at the national, provincial, district and commune/ward levels.

Households falling under the “poor” and “near-poor” categories (according to district poverty lines) were targeted as they tend to be more vulnerable and exposed to the effects of environmental stress compared to wealthier individuals. Three and four interview respondents, respectively, from Vinh Tri and Long Thuan were in the “better off” category, while the rest were in the “poor” and “near-poor” categories (11 poor and 12 near-poor in Vinh Tri;

13 poor and 10 near-poor in Long Thuan). All FGDs involved individuals from poor and near-poor households.

5. Findings

This section discusses the key household assets identified as critical determinants of household vulnerability in Vinh Tri and Long Thuan. These assets are found to mediate livelihood outcomes, vulnerability and mobility decision-making in conditions of environmental stress. Two tangible assets – homestead and agricultural land – are first examined. The concept of vulnerability shifts – whereby certain types of vulnerability are exchanged for others, to avoid a decrease in overall vulnerability – is furthermore proposed in relation to relocation outcomes. This leads us to question the aptness of government relocation programmes as a pervasive strategy for climate change adaptation in the Mekong Delta region.

Following the discussion of tangible assets, key intangible assets – specifically, human assets – are examined. Finally, mobility and migration dynamics and outcomes are explored.

5.1. The homestead

“When one has a home to settle down in, then it is possible to start one’s career.” This Vietnamese saying was commonly recited by respondents in Vinh Tri and Long Thuan. Reflecting the cultural significance of living in a safe and long-term home, the phrase speaks about what it means to own a “permanent” house – that is, in effect, the establishment of the foundations of one’s life.

Against this backdrop, government relocation programmes targeting poor and hazard-prone households are often seen as opportunities to gain ownership of a permanent home – normally beyond the reach of most asset-poor households, which tend to live on land that is not their own, in temporary houses made of weak materials such as thatched leaves and bamboo, susceptible

to damage and collapse from the elements. Hence, the two factors – (a) the importance of home ownership for individuals and (b) access to a durable home provided by relocation programmes – are interlinked, with cultural values pertaining to home ownership often increasing the attractiveness of relocation programmes.

In both Vinh Tri and Long Thuan, a pattern emerged among non-relocated respondents who did not own homes – the vast majority wished to be relocated so they could live in “stable” and “permanent” homes. This was true for three of five respondents from Vinh Tri (relevant data for the remaining two households were not available), and both respondents falling under this category in Long Thuan. In essence, among the non-relocated respondents who did not own homes (and on whom relevant data was available), every individual saw relocation as an opportunity for home ownership, and was keen to participate in relocation programmes.

In contrast to non-homeowners, of the remaining four individuals who owned houses in Vinh Tri, three expressed disinterest in being relocated and intended to remain in their homes permanently, despite repeated exposure to environmental hazards, especially flooding, and subsequent livelihood losses (relevant data for the remaining household was not available). Below is an excerpt of what a homeowner in Vinh Tri who is uninterested in the relocation programme said, as the family is already in possession of a home and sees nothing to gain by relocating, despite exposure to floods and storms.

“I built an inland pond to raise fish but they floated away because the pond was flooded... I lost the 5 million dong⁶ [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 grew 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 disorganized [in the relocation site]... There is only enough space to live, no land to grow vegetables.”
(Near-poor, non-relocated respondent, Vinh Tri)

This excerpt is representative of the sentiments of other homeowners interviewed in Vinh Tri, who, despite their repeated exposure to environmental change and stress, planned to remain in their places of residence. Homeowners in rural areas are particularly likely to own some amount of land (which ranges

in size from a yard to larger plots of agricultural land), as was the case for the respondents in this study. Hence, while homeowners could have maintained their agricultural land while moving their residence to the relocation site, they expressed a sense of rootedness to their “home,” referring to both their homestead and land.

While respondents in Long Thuan viewed the home as an equally valuable asset, the nature of the dominant environmental stressor, namely, riverbank erosion, produced a different set of options for residents than those available to residents of Vinh Tri. In contrast to Vinh Tri, homeowners interviewed in Long Thuan had no option but to relocate due to the eroding riverbank and the certainty of their houses and land, in the near future, collapsing into the river. Given these circumstances, the majority (five out of six homeowners) felt they had no other option but to move to the relocation site. The sixth homeowner refused to move to the relocate site, as his family owned large amounts of land, and they were able to move inland and still remaining on their own land. Below are excerpts from interviews with homeowners who had not yet moved into the relocation site, but who were scheduled to do so.

“[Our house] was large [before the erosion took some of our house and land]... [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 relocation area. We can relocate there in advance, so we don’t have to worry too much because there is a stable house for us.” (Near-poor, non-relocated respondent, Long Thuan)

“Now I am trying to gather enough money to build a house [on the relocation site]... 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 [there]... Erosion is risky. On the other hand, if [people] move to the relocation area, there is no land for farming and livestock production. In the past, erosion affected 10 per cent of their lives, now it affects 100 per cent... 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.” (Near-poor, non-relocated respondent, Long Thuan)

Hence, while environmental stress affected households across the income spectrum in both locations, in contrast to Vinh Tri, environmental stress on its own (riverbank erosion) was forcing home and landowners in Long Thuan to relocate from their areas of residence. Access to the only possible self-sufficient in situ⁷ adaptation measure – moving inland by their own means – is limited

to households with sufficiently rich asset profiles, particularly those that own substantial amounts of land or have the financial assets with which to purchase more land. The wealth threshold to remain in situ is then much higher in Long Thuan than in Vinh Tri. Consequently, the importance and need for relocation programmes in Long Thuan is far more pronounced across all income categories, as a result of the local environmental context.

Findings among relocated respondents in both locations echo those of their non-relocated counterparts. Of the 36 relocated respondents in Vinh Tri and Long Thuan, 12 and 15, respectively, spoke of two converging factors – how life is now better overall due to their “permanent” houses, and how they are now safe from environmental hazards.

Of the 18 relocated respondents in Vinh Tri, 6 owned homesteads in their place of origin, with none of the homeowners expressing any considerable loss or damage as a result of floods or other hazards. Tellingly, none of the relocated homeowners had been relocated for reasons related primarily to protection from environmental stress: four had been relocated to make way for development projects; the fifth was landless when they were initially relocated, but had recently inherited housing and land from a relative; and the sixth was able to purchase a housing plot on the relocation site through their connections with local officials.

In contrast, in Long Thuan, 13 of 18 relocated respondents expressed that they had been keen to relocate, as their houses had already been or were faced with imminent erosion. Of the four home and landowning respondents, two had lost all of their land to erosion prior to relocation, while the other two stated they would not have moved to the dyke had it not been for the imminent threat of erosion on their homes. While acknowledging the small sample size, what is clear is the pressure of erosion eventually leaving people with no option but to relinquish their properties in Long Thuan.

These findings from the relocated respondents affirm those from the non-relocated group – flooding on its own is not a significant driver pushing individuals to relocate from their homes and land, whereas riverbank erosion leaves home- and landowners with no other option but to leave their properties.

5.2. Agricultural land

Among the key determinants of wealth in Vinh Tri and Long Thuan, access to agricultural land use was found to be among the most important. Tables 3

and 4 summarize the range and average of household incomes per person, categorized by the household's degree of access to land use. Only households whose income information was available and whose livelihoods depended fully or in part on agricultural activities were included.

Table 3. Income by household's access to land (Vinh Tri)

Land access	Number of households	Annual income range per person (VND)	Annual income average per person (VND)
Landless	7	1.6–3.12 million	2.3 million ⁸
Rent land	1	5.14 million	5.14 million ⁹
Own land	4	5.16–14.45 million	7.96 million ¹⁰

Table 4. Incomes by category of land access – Long Thuan

Land access	Number of households	Annual income range per person (VND)	Annual income average per person (VND)
Landless	5	1.8–4.8 million	3.42 million ¹¹
Rent land	3	4.7–12 million	8.9 million ¹²
Own land	1	12.9 million	12.9 million ¹³

These tables depict how households' level of land access changes along the income spectrum, with landless households reporting the smallest income, landowners the largest, and those renting land in between.

Providing further evidence of the importance of land access and ownership for rural household economies, four households (one in Vinh Tri, one in CTC, and two in HCMC) reported previously owning land, but having to sell their land to pay for health care or to pay off debts. As a result, they reported now being landless, but had they not possessed land at the time of the illness or debt, they would have had no choice but to take out loans from private moneylenders, leaving them trapped in a cycle of indebtedness. This suggests the role of land ownership as a possible buffer against household debt. In contrast, chronic indebtedness was prevalent among landless wage labourers in Vinh Tri and Long Thuan, who were unable to amass significant savings for use during times of shock/stress and were therefore left with no option but to take out loans during times of need.

In large part due to the nature of income generation options available to landless individuals, most of whom in Vinh Tri and Long Thuan are engaged as low-wage, hired agricultural labour, and repeatedly deplored their salaried jobs as the path to "staying stuck in poverty." Without an asset base to use as collateral (such as land or savings) or that could facilitate the generation of

substantial income, it remains difficult to expand livelihoods, leaving asset-poor households to survive on daily wages without the ability to accrue savings to grow their asset profiles, which might provide a degree of security for use during periods of stress/shock. Furthermore, hired work wages are irregular and seasonal in nature, and labour is susceptible to decreased demand as a result of market fluctuations or increased mechanization of agriculture. This constant state of uncertainty and lack of stability were found to be common features among asset-poor, landless households, making them all the more susceptible to stressors (such as severe flooding, poor health, or increased mechanization) and undermining long-term livelihoods and resilience. In contrast, among landowners and wealthier households, land was often strategically used to grow household asset profiles and wealth.

5.3. Human assets

As explained in section 3.3, human assets refer to resources stemming from the human body and mind. This section discusses the findings of the study as they relate to the various categories of human assets, focusing first on human knowledge assets, followed by human psychological assets, and then by human physical assets.

5.3.1. Human knowledge assets

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. The absence of financial planning skills among many “poor” households hindered their ability to capitalize on and grow their already weak asset profiles in the long term, affecting overall livelihood outcomes. In contrast, households who did possess such skills appeared to be forming better informed, long-term strategies leading to higher incomes.

Formulating financial plans to spend less and save more, or to invest in future payoffs, were lacking among the “poor” income group, due in part to the limitations of their small earnings, but also due to a lack of skills in this regard. This, in essence, appeared to lead to less-informed decision-making, resulting in other household assets being poorly managed.

Skills related to income generation were another common human knowledge asset found to differentiate livelihood outcomes, particularly in terms of the ability to diversify and increase incomes. Income generation skills possessed

by households dictated the types of livelihood activities accessible to them, whereby a lack of such knowledge in the rural context tends to translate to labour intensive work characterized by low and unsteady returns.

In terms of knowledge and skills in the context of environmental stress, in situ adaptation measures – such as the construction of stilt houses in flood- and erosion-prone areas, and elevating furniture to avoid flood damage – passed down from previous generations were observed to be an integral part of life in the Mekong Delta.

5.3.2. Human psychological assets

We now move on to the psychological dimension of human assets. The investigation begins with an exploration of self-efficacy, and its relationship to the formation of stress responses (as discussed in section 3.3).

In both Vinh Tri and Long Thuan, robust protective measures tended to increase in frequency and effectiveness with greater wealth, enabled by both rich asset profiles and a strong sense of self-efficacy and agency. This was evident among asset-rich households, which were found to enjoy a greater range of options in their life decisions and more able to strategically and proactively manage their asset profiles, resulting in the growth of their asset base in the long term.

Examples included landowners having the option to remain on their land compared to the asset-poor, who have no choice but to relocate and leave their homesteads, and asset-rich households using their land as leverage to purchase a house in relocation sites, whereas the lives of asset-poor households were characterized by chronic financial burdens arising from low and unpredictable incomes, lack of savings, the needs of day-to-day survival, and unmanageable debt.

The differentiating role of human psychological assets was made particularly clear when looking at respondents who deviated from the patterns observed among other asset-poor/-rich individuals (i.e. the outliers). In these cases, the livelihood outcomes departed from the trend shown by asset-poor and -rich households, maintaining weak and strong livelihood outcomes, respectively. It is postulated that these anomalous outcomes were in large part determined by individual psychological assets such as self-efficacy, self-sufficiency, and adaptability, regardless of the current status of the household's tangible asset profiles. Knowledge assets, such as financial planning skills, were also found to be either present or lacking in tandem with psychological assets.

The differential characteristics of seasonal flooding and riverbank erosion predominant in Vinh Tri and Long Thuan, respectively, were also observed to influence individuals' sense of self-efficacy in considering and adopting adaptation measures. Certain aspects of the hazards – most notably their predictability, and the degree and permanency of the loss and damage they cause – shaped the feasibility of continued habitation in the current location. Consequently, they were critical in shaping the level of security perceived by individuals, and thus influential in determining the degree to which they felt self-efficacious towards their adaptive capacities.

On the whole, 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 – with floods arriving earlier and lasting longer than normal, high water levels, and coinciding irregular rainfall patterns – people were accustomed to seasonal floods and took preventive and adaptive measures every year. While severe floods do cause greater damage, these measures are generally effective at preventing loss of life and assets. Seasonal flooding is understood to be a part of life in the Mekong Delta, and therefore does not create a high degree of uncertainty. Moreover, the Government's infrastructure and capacity for flood response – which includes the annual distribution of aid during flood season – is well established. The aid, however, involves one-off distribution of cash, food and basic supplies, and does not contribute significantly to the long-term transformation of vulnerability to disasters.

In contrast to the seasonal nature of occurrence and relative predictability of flooding in Vinh Tri, riverbank erosion in Long Thuan was perceived as 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 the relocation of people to relocation 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. As such, self-efficacy in the face of riverbank erosion in Long Thuan was vastly restricted in comparison to seasonal flooding in Vinh Tri.

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 by the burdens of poverty (as discussed in section 3.3). The capacity of an individual to respond

to stress fluctuates depending on his or her financial status at the time (Mani et al., 2012), as the convergence of pressures exacerbates vulnerabilities during flood season in the Mekong Delta – environmental stress and its various impacts, greater impoverishment due to lack of employment, and poorer decision-making as a result of weakened human psychological assets, which, in turn, deteriorates access to human knowledge assets.

Nonprotective response: passive acceptance and dependency

Moving on from the discussion of self-efficacy, the attention now shifts to the concepts of protective and non-protective responses, adapted from the Protection Motivation Theory (PMT) (as discussed in section 3.3). The most commonly found non-protective responses are explored – passive acceptance, dependency and short-term time preference behaviour.

In both Vinh Tri and Long Thuan, a lack of self-efficacy (and confidence) was repeatedly expressed by asset-poor respondents through an attitude of passive acceptance of their current state. The reason for the prevalence of this attitude is not explored in this study, but its links to another salient non-protective response – dependency – appear to be mutually reinforcing.

Both passive acceptance and dependency are amplified by a political system that does not encourage individual agency and empowerment; the problem is further compounded by the structure of the social service, welfare and aid delivery systems, which are contingent on households' official classification as either "poor" or "near-poor" and/or "vulnerable" (which include widows, single mothers and elderly individuals) by local officials. As such, disaster aid and relocation programmes are often limited to "poor" and "near-poor" households susceptible to hazards. While not without its benefits, it is possible to postulate that the current system also fosters dependency among asset-poor households. In a system characterized by ambiguity and lack of transparency, the need to exhibit one's impoverishment and need may add to the conditions fostering these non-protective responses. Thus, while the asset-poor may wish to escape poverty, the Government's designation of a Poor household as "poor" is simultaneously coveted among those in the lower income range for the benefits and government assistance it entails, serving as an incentives to stay poor in order to be secure.

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 need, which ranged from livelihood failure and damage caused by natural hazards, to illness in the

household. The perception of local authorities as “caretakers” was pronounced, with a few respondents exhibiting resentment when support was not extended (following personal failures such as failure of crops or husbandry).

Non-protective response: Short-term time preference behaviour

Short-term time preference behaviour is another non-protective response found in both locations, another manifestation of the lack of options faced by asset-poor households. According to Wood (2003), “short-term security” dictates daily life for the poor, superseding necessary strategies and resource allocation for long-term enhancement, prohibiting individuals from escaping an asset-based poverty trap. Correspondingly, Heltberg et al. (2008) argue that in response to environmental stress, assets are used for coping in the short term, at the expense of long-term yield and adaptation. Moreover, Wood (2003) states that given the lack of assets and options, and the detrimental effect of any shock or livelihood failure on already weak asset profiles, strategies employed by the asset-poor tend to be risk-averse and remain within the scope of the “familiar and controllable” rather than that of maximizing opportunities.

All of these aspects of short-term time preference behaviour were prevalent among the asset-poor in Vinh Tri and Long Thuan, and the significance of these nonprotective responses in the context of overarching cultural systems and values remain an area for further research.

5.3.3. Human physical assets

Moving on from the mind dimension of human assets (knowledge and psychological assets), human physical assets – that of able-bodiedness and health – and their impact on household vulnerability are now investigated. As discussed in section 3.3, health and able-bodiedness have been identified to be among the key assets contributing to household asset profiles and wealth.

Households in the “better off” income category tended to be engaged not only in more profitable income-generating livelihood activities, but were simultaneously characterized by the possession of several able-bodied household members generating income, and no significant sources of asset depletion (such as poor health and significant health-care costs).

Poor health and old age, on the other hand, were found to correlate with decreased income and increased health spending. While other human knowledge and psychological assets are largely critical to determining the level

of incomes and assets accumulated, income generation was simply impossible (in the given rural agricultural context) without a healthy and labour-ready household member, particularly for labour-dependent, asset-poor households.

In terms of the importance of human physical assets in responding to environmental stress, and given the limitations of adaptation measures available in Long Thuan, able-bodiedness would be needed, for example, to urgently evacuate the house should it be affected, as well as to reinforce the house with stilts along the riverbank. These measures would nevertheless be a one-off occurrence, as relocation 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, the seasonal nature of flooding requires more frequent use of human physical assets to survive – the need to reinforce and maintain one’s house to ensure its durability to floods is constant and recurs every year.

5.4. Relocation and vulnerability shifts

Given that relocation is a prominent feature of the Vietnamese Government’s strategy for climate change adaptation throughout the Mekong Delta (and in other regions), understanding its effects on household vulnerability is of critical importance. As discussed in section 5.1, interviews with both relocated and non-relocated respondents revealed the value placed on home ownership, particularly one that is sturdy and made of more durable materials. While relocation programmes have been able to provide households with this asset, they have done so often at the cost of other assets – most notably financial assets and human assets – ultimately shifting vulnerabilities from certain assets to others, rather than ameliorating overall vulnerability.

For instance, decreased incomes and increased debt were salient features of relocation programmes in Vinh Tri and Long Thuan. Of the 36 relocated households, a third (n=12) reported decreased incomes post-relocation, followed by 11 whose incomes had remained unchanged, and 7 who saw increased incomes. Below are interview excerpts from Vinh Tri and Long Thuan relocation sites illustrating the vulnerability shifts arising from relocation.

“When we lived by the river, our income was better because [we were] 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 chickens and a pig in our old place; here we can’t keep any livestock, so our income decreased.” (Poor, relocated respondent, Vinh Tri)

“We used to make wine and raise pigs [before relocation] ... [These activities] are not allowed here, so we stopped. ... I am satisfied with the demand for hired workers and housing, 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.” (Near-poor, relocated respondent, Vinh Tri)

“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 [sic] chickens or ducks. 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. (Poor, relocated respondent, Long Thuan)

Because we are poor, we didn’t own land elsewhere. ... We needed to move here. ... 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. (Poor, relocated respondent, Long Thuan)

As illustrated by these excerpts, the discontinuation of some or all previous income-generating activities destabilizes household livelihoods, entailing not only decreased incomes, but also diminished self-sufficiency. In terms of household asset profiles, the dislocation of livelihoods translates to a conglomeration of interlinked and deteriorated assets – be they financial (e.g. decreased daily incomes and capacity to save, moving costs, and substantial loans incurred as part of the relocation process), social (e.g. disintegration of social support networks vital for employment, and loans and assistance, particularly during times of stress) or human assets (increased dependency on government aid, and weakened psychological assets such as self-sufficiency and sense of self-efficacy).

Interestingly, the impact of relocation on livelihoods was not found to correlate with income level, with households in the “poor,” “near-poor,” and “better off” categories found across income outcomes. Nevertheless, all respondents who had access to agricultural land – four landowners and one renter –reported that incomes stayed the same or improved. As landowners are able to continue their livelihood activities (which already generate incomes far beyond that of landless wage labourers), relocation 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 relocation sites, which is made all the more difficult given the deterioration of their asset profiles resulting from the relocation process.

Regardless, certain characteristics of relocation sites produced either positive or negative livelihood outcomes for different households. For instance, the dense population and a change in local employers led to new opportunities for some, while for others these created additional obstacles. These differential impacts nevertheless depended on household asset profiles and related income-generating activities. In general, while some shop owners, vendors and lottery ticket sellers tended to benefit from the more compact living arrangements in relocation sites, other hired agricultural labourers suffered a decline in the demand for their labour due to increased competition and a surplus of labourers in the area.

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

When people are moved away from natural assets essential for their livelihoods, some respond by returning to their places of origin to continue their usual livelihood activities that utilize 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 relocation programmes to move people away from hazard-prone areas. In fact, for those returning to their previous flood-prone areas of residence to fish and/or raise fish, they do so precisely during the time of year when floods occur. These examples offer further support to the argument for a nuanced approach to climate change adaptation, designed to meet the practical needs of people, taking the local human ecology in consideration. Below is an example from an interview excerpt with a relocated respondent in Vinh Tri:

“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.
(Near-poor, relocated respondent, Vinh Tri)

Further contributing to the financial pressures of relocation are the basic costs built into the design of government relocation programmes. When households are selected to participate in the programmes, they are correspondingly entitled to receive low-interest, long-term government loans to pay for the costs of: (a) the housing plot and (b) the construction of the house. When taking into account this loan-centred structure of relocation programmes, the significant size of these loans and the low income groups (“poor” and “near-poor”) targeted for such programmes, the overall consequences for the 23 households experiencing diminished or no change in household incomes translate to an even greater degree of long-term impoverishment. Of these 23 households, 10 were in the “poor” category, 9 “near-poor,” and 4 “better off.” Given that much of the “poor” and “near-poor” population struggle to consistently earn enough to meet their daily needs and accrue any savings, the financial 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 relocation far outweighs the capacity for repayment.

Of the 36 relocated households, all but three had debts for their housing plots and/or house construction as part of the relocation process. These debts were perceived by many households to be beyond the possibility of repayment. Three households that did not have debts for housing costs were in the “Better off” category or owned agricultural land and had been able to pay off the full loan amount by selling their land or by using it as collateral, pointing to the asset-differentiated burden of debt and, inversely, capacity for wealth accumulation.

Moreover, all of this takes place in an environment where the cost of living, including utilities and management fees, is higher than it was prior to relocation. Hence, the convergence of multiple debts, increased costs of living, and decreased incomes intensify the effects of shifted vulnerabilities.

Unmanageable debt not only has financial repercussions for the household’s asset profile, but furthermore keeps a household in a state of uncertainty, as the legal land use certificate is received by the households only upon making full repayment of all loans to the Government. This means that households invest heavily in building homes for themselves, and reside there without the certainty of legal ownership. Moreover, this uncertainty, coupled with a lack of transparency on the part of local authorities, fuels a sense of dependency among asset-poor households. There is a prevailing hope that local officials will eventually “have pity on their situation” and “forgive their debts,” and turn he

loans into de facto housing grants. Hence, human, social and political assets are deteriorated, by way of increased dependency on local authorities, and by the overall lack of legal protection and certainty. Meanwhile, protective responses (such as long-term planning and activities to grow asset profiles) are pushed further away from the realm of possibility.

Despite these negative repercussions, households may nevertheless choose to relocate for several reasons. First, the voluntariness of relocation is questionable within the political system of Viet Nam. Second, in some areas, including Long Thuan, the local policy was such that if a household refused to relocate and was later affected by environmental stress (usually, riverbank erosion in the case of Long Thuan), they would not be entitled to government support or assistance. Third, it is possible to postulate that a lack of human assets could explain the increasing the number of people who chose the relocation option instead of migrating elsewhere or remaining in their current location. The prevailing levels of dependency on local authorities and passive acceptance of one's circumstances could be seen to dampen the motivation of individuals to respond to situations in an independent and self-sufficient manner. Instead, the default response for such individuals tends to be that of following local government initiatives – in this case, relocation. Fourth, the opportunity to own a permanent house, normally beyond the means of asset-poor households, is a strong incentive for households to relocate, and by extension, remain in their current commune and hometown. Lastly, it is possible to postulate that the household registration system – *ho khau* – plays a role in rooting households to their current area of residence, given the psychological sense of security provided by being a (permanent) “resident” of an area, as opposed to a “temporary resident,” as referred to by several respondents. The “resident” status is further accompanied by the practical benefits of enhanced access to social services in the commune and district, monetary and in-kind gifts from local authorities in celebration of holidays, and the right to receive government aid.

5.5. Environmental stress and (im)mobility

The previous sections explored the nexus between rural livelihoods and households assets, vulnerability and environmental stress. The interest of this study lies in the rural context, and how people are living in their environments, making a living and managing their assets. The positive and negative repercussions of government adaptation measures, particularly that of relocation, were also discussed. This section now focuses on (im)mobility as a response to environmental stress – and specifically that of migration rather than relocation, as mediated by the household assets discussed in previous sections.

A micro-level approach is taken to analyse migration dynamics, to better understand the changing nature of migration and the diversity found even between two bordering provinces of the Mekong Delta. This is followed by an investigation of the drivers, deterrents and facilitators of migration found in Vinh Tri and Long Thuan, supported by data from migrants in Can Tho City and Ho Chi Minh City. Lastly, the discussion progresses to the link between environmental stress and mobility as found in the four locations.

5.5.1. Migration dynamics in Vinh Tri and Long Thuan

Among the 54 respondents in Vinh Tri and Long Thuan, only two respondents saw migration as a real possibility in their futures, with only one respondent found currently migrating (seasonally, to other regions of the Mekong Delta for hired agricultural work). All three of these respondents saw migration as a livelihood strategy to improve household incomes. Nevertheless, given the average age of the respondents was 52, inquiring into their migration histories was revealing, with 23 of 27 households in Vinh Tri and 12 of 27 households in Long Thuan reporting past mobility experiences across provincial borders. Furthermore, a total of 19 households reported currently having migrants in their household (summarized in Table 5).¹⁴

Table 5. Type of mobility currently occurring within households in Vinh Tri and Long Thuan

Type of mobility	Vinh Tri	Long Thuan
Working in HCMC (returning home only for major holidays)	4	6
Working in industrial zones in either of Ho Chi Minh City's neighbouring provinces of Binh Duong and Dong Nai, (returning 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 provinces	2	2
Seasonal migration for hired farm work within the Mekong Delta	1	

Two salient features emerged from these current migration trends. First, the migration of household members is mostly 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 migrant household members are relatively young, ranging from the late teens to the thirties (excluding marriage migrants). Furthermore, no income or (agricultural) land differentials or differences in the type of mobility were found for households with migrants.

In sum, the migration trends in Vinh Tri and Long Thuan reflect migration experiences rooted in economic pursuits, with both areas showing similar current patterns – high rates of outmigration 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 overall migration dynamics in Viet Nam, where, according to the 2009 Population and Housing Census, the demographic of individuals aged 15 to 24 years accounts for the largest proportion (roughly 40%) of total internal migrants during the 2004–2009 period, with most moving to urban areas (from both urban and rural areas). The median age of all internal migrants for this five-year period was 24 years.

5.5.2. Migration drivers: pursuit of improved livelihoods

Among the migrants interviewed in Can Tho City and Ho Chi Minh City, the most frequently cited reasons for migration were rooted in rural poverty and livelihood difficulties in their places of origin in the Mekong Delta and, correspondingly, the availability of higher incomes and stable jobs in these two cities. Of the 18 respondents, all cited incomes in their place of origin among the catalysts for their migration to the city. Accordingly, 16 respondents mentioned higher incomes in Can Tho City and Ho Chi Minh City as the primary reason for choosing these destinations.

Other causal factors cited that were related to low incomes in rural areas of origin included the following: (a) the limitations of rural agricultural work (the predominant livelihood activity in these areas available to the asset-poor), and the resulting inability to accumulate savings or grow asset profiles; (b) 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; (c) lack of employment, including outside of agricultural work; (d) lack of access to housing and agricultural land; and (e) debt. 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 Viet Nam and many other industrializing countries. Respondents in all four study sites 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 was furthermore observed during fieldwork in Vinh Tri and Long Thuan.

Most respondents (10 out of 18) in Can Tho City and Ho Chi Minh claimed their incomes and savings had increased following migration, and many also noted the labour-intensive nature of agricultural work in contrast to the relatively less physically demanding work in cities.

“I migrated because I was having a very hard time back home. ... We spent all of what [my husband] earned. After we had children, we spent more, electricity and water also cost more. ... 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 in the fields.” (Respondent, Can Tho City)

“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. ... Working 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. ... Here, I manage to work and earn money every day.” (Respondent, Can Tho City)

“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.” (Respondent, Ho Chi Min City)

The seasonal nature of incomes and the unavailability of year-round jobs described by migrants corroborate the characteristics of rural livelihoods in the Delta, particularly as found in Vinh Tri, a flood-prone area.

The convergence of interlinked hardships occurring during flood season in Vinh Tri as discussed in section 5.3.2. – characterized by seasonal unemployment, decreased and unsteady incomes, indebtedness and food shortages – are reflected in the migration drivers cited by respondents in all four locations. This alludes to the contributing role of environmental stress on outmigration from rural Mekong Delta, elaborated below in section 5.5.5.

5.5.3. Migration deterrents: Land and the homestead

Land and home ownership were found to root individuals to their place of residence in Vinh Tri and Long Thuan, with currently mobile individuals (both respondents and other household members) consisting of landless young people below 40 years of age. Comparable findings emerged in Can Tho City and Ho Chi Minh City. Of the 18 respondents, only 2 were landowners. 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 enough to make up for losses caused by external shocks (low market prices impacting a fruit farm, and damage caused by a storm to a coconut grove). For these landowners, working in the cities is a temporary measure to improve their lives, which are rooted on their land in their places of origin.

The other 16 respondents in Can Tho City and Ho Chi Minh City did not own land or homes in their places of origin, and, overwhelmingly, did not have future residency or migration plans back home, or were hoping to remain in the city permanently. The two exceptions were one migrant who owned residential (but no agricultural) land on which his wife and children lived, and another who was saving up to buy land in her husband's hometown. Notably, in both of these cases, their migration and residency plans evolved around home and land ownership.

Hence, owning property appears to decrease the chances of the entire household to permanently leave, with some household members remaining to maintain and live off the land. Alternatively, non-ownership of land in their rural hometowns signified a weaker bond between individuals and their place of origin. This reinforces the significance of land and homesteads discussed in sections 5.1. and 5.2. Furthermore, the pull factors attracting individuals to the cities offer incentives to landless individuals who have few or no assets to lose if they leave their rural areas of residence.

"I have land already, I don't need to move. It's good here, no need to go anywhere." (Near-poor, non-relocated respondent, Vinh Tri)

"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]." (Near-poor, relocated respondent, Vinh Tri)

"I will live here permanently as I have no other land to move to." (Near-poor, relocated respondent, Long Thuan)

"I will live here permanently because I am poor and the government provided me this house." (Poor, relocated respondent, Long Thuan)

In light of these findings, one may ask how individuals in Long Thuan – in circumstances making it impossible to continue residing in their current homes – would have viewed migration in the absence of the option to relocate. Among the households who had not been relocated immediately following the exposure of their houses to riverbank erosion, the coping measures reported were: (a) living in increasingly smaller portions of their house left standing; (b) living alongside the road where their house had been prior to erosion; and (c) staying with relatives or friends until they were able to move to the relocation site. None of these measures point to the feasibility of remaining on the land where they had previously lived, underscoring the 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. This leaves the question of whether the absence of relocation programmes in Long Thuan would have resulted in higher rates of outmigration from the area.

Whether intentional or not, what is clear is that the promise of home ownership in nearby relocation sites presents an attractive alternative option to migration, and to a certain extent, decreases the degree to which migration is considered as an option by households – at least for core household members under whose name the house is registered. As shown in Table 6, of the 36 relocated respondents interviewed in Vinh Tri and Long Thuan, 19 planned to remain permanently in their homes in the relocation sites, with home ownership being the primary factor tying individuals to their current place of residence. The table outlines the main reasons cited by respondents as to why they would remain in their current homes.¹⁵

Table 6. Factors rooting relocated respondents who planned to remain in their current place of residence in Vinh Tri and Long Thuan

	Vinh Tri	Long Thuan	Total
The respondent has a house there.	6	6	12
The respondent owns agricultural land there.	3		3
The respondent calls the place “home,” as it is where he/she and his/her ancestors are from.		4	4
It is too expensive for the respondent to move.		2	2
The respondent’s children go to school there.	2		2

In this context, it may be pertinent to consider whether government relocation programmes are in some sense rooting people to their rural areas of origin and decreasing outmigration flows, under the label of climate change adaptation and disaster risk reduction. While remaining an area for further investigation, it may not be a far-fetched notion given that relocation and the construction of relocation clusters and dykes in the Mekong Delta feature in socioeconomic development plans for the region, where one relocation site may host households relocated for both environmental and development reasons. This was the case in Vinh Tri, where the relocation sites housed people who had been relocated from flood-prone areas, as well as to make way for development projects.

5.5.4. Migration facilitator: Social networks

Well-established in existing migration literature, migrants frequently move to locations where they have existing social relations (relatives, friends and acquaintances) and are often introduced to jobs and/or residences through these individuals. Likewise, this study found social networks to be integral to shaping key characteristics of migration – whether or not an individual chooses to migrate (depending on the information received) and determining the destination, as well as the job and residence taken up at the destination.

Of the 18 migrant respondents in Can Tho City and Ho Chi Minh City, only one reported to have moved without knowing anyone in the destination city beforehand. This migrant was characterized as being relatively marginalized (a divorced single mother) and possessing 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 jobs. Below are some profiles of migrant households in Can Tho City and HO Chi Minh City and the role that networks played in shaping their migration, as well as their role in facilitating the migration of other migrants originating from the same hometown.

- a. Thi and her husband moved to Can Tho City as her husband was introduced to a job on a construction site by friends. Because he is experienced in doing construction work, he was able to build connections over time and is now able to continue working on construction sites in Can Tho City, as people call for him to join when work becomes available.

- b. Loc moved to CTC because his parents' house had become overcrowded, as they had a large family. His brother was already living in Can Tho City and owned a house, so he (with his wife and children) moved into his brother's house and lived there for nine years before moving into their own house last year. One of Loc's nephews also wanted to study in Can Tho City, so he passed on useful information about the schools. When a sibling wanted to move to the city as well, Loc told him about job advertisements that he had seen posted.
- c. Yen accompanied her son to Can Tho City after he was introduced to a factory job by his cousin, who was already working there.
- d. Kim came to Ho Chi Minh City to apprentice and live with her aunt, who owns a hair salon. She lived with her aunt in this capacity for 6 or 7 years, eventually opened up her own shop, and is now married to a local man and has 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, as well as to support poor households and women from back home. (HCMC respondent)

Interestingly, these networks were extremely localized. Simply being from the same province did not emerge as a bonding factor; support was almost always directed towards individuals from the same hometown (for example, one's commune). Sharing a common hometown led to a stronger level of trust and sense of fraternity, particularly when meeting in a relatively foreign place among unfamiliar people, characterized by an overall weaker social fabric typical of urban areas.

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, rather than risk taking a leap of faith into the unknown.

5.5.5. Environmental stress and (im)mobility: Is there a link?

Up to this point in section 5.5., this report has examined the drivers, deterrents and facilitators of migration. These discussions were important, as they lay the groundwork for the discussion now on the link between (im)mobility and environmental stress. As illustrated by the findings thus far, rural life in the Mekong Delta is multifaceted, with households juggling multiple stressors at various times and durations throughout the year. The household's asset profile is used as the lens through which to analyse household vulnerability. This approach revealed the importance and role of certain assets in determining

livelihood outcomes, and the varying effects of different environmental stressors for households in the context of various livelihood strategies and vulnerability shaped by divergent asset profiles. The effects of relocation programmes in Vinh Tri and Long Thuan were also assessed in this context.

Table 7 outlines the perception by 54 respondents in Vinh Tri and Long Thuan of the overall migration dynamics within their communes. Opinions on overall migration trends, rather than the experience of migration in their own households, in the local commune are listed, as the latter was not consistently available from the data collected.¹⁶

Table 7. Characteristics of migration dynamics in Vinh Tri and Long Thuan as identified by respondents

	Vinh Tri	Long Thuan	Total
1. Outmigration to cities or industrial zones.	5	13	18
2. Predominantly young people are migrating.	6	7	13
3. Seasonal migration during flood season.	8	3	11
4. Most migrants are poor and/or landless.	3	6	9
5. People migrating due to economic, not environmental causes.	7	1	8
6. Outmigration because of low incomes, lack of jobs, and irregular work here. ¹⁷	1	7	8
7. Only the wealthy can migrate / undertake certain type of migration.	5	1	6
8. In-migration from other Mekong Delta provinces for hired farm work or to rent land.	6	0	6
9. Outmigration to earn money to repay debts.	2	3	5
10. Migration to destination where relatives live.	3	1	4
11. Outmigration because of lack of work due to increased mechanization of agriculture.		2	2
12. Outmigration because of environmental stress/impacts.	1	1	2
13. Outmigration because of lack of land available to farm here.	1	0	1

When asked why residents from their communes had migrated out of the area, only two respondents explicitly mentioned environmental stress as a factor (item 12). Nevertheless, seasonal migration (item 3) is by nature a type of environmental migration – while temporary and viewed by respondents as stemming from economic need, it is a mobility decision largely determined by environmental factors. Thus, in essence, seasonal flooding can be seen as a dominant driver of seasonal migration in Vinh Tri. It is nevertheless important

to keep in mind that seasonal migration is not a recent phenomenon, but is embedded in the livelihood and cultural fabric throughout the Mekong Delta. Within 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.¹⁸

Items 10 and 11 allude to asset-differentiated types of migration – “asset-rich migration” and “asset-poor migration.” Of the six respondents who saw migration as a possibility available only for wealthy individuals, all were “poor” or “near-poor” and referred to either: (a) migration as remaining beyond their reach (i.e. they could not afford to move), or (b) migration among wealthier individuals who had moved to buy land, including some who were also farming more lucrative crops on their newly purchased land.

The nine respondents who spoke of migration as being for poor individuals were referring to asset-poor and landless individuals migrating due to the lack of jobs and steady employment, and the low wages paid to low-skilled hired agricultural workers. While this group is affected to some degree by the flood season, particularly in Vinh Tri, the drivers for their migration are mixed with other critical factors, such as the root causes of low wages, and the lack of available jobs due to the large 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.

In contrast, asset-rich migration suggests an element of opportunism and proactive strategizing on the part of asset-rich households that 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 asset-poor migrants may also be seen as seizing opportunities in destination areas, their migration frequently results in an exchange of one type of hired work for another where accruing savings may become possible, but the degree to which they are able to grow their asset profiles is incremental. Additionally, the higher expenditures in urban destinations sometimes balance out any increase in earnings.

Returning to the relationship between the mobility of the migrant respondents in Can Tho City and Ho Chi Minh City, and the environmental stress they had experienced, 3 out of 18 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. At any rate, this type of seasonal migration may be seen primarily as a type of environmental migration (as also seen in Vinh Tri, reflected in Table 7, item 2).

Of the migrant respondents, one in Ho Chi Minh City exhibited the most direct link between her migration and environmental factors – by identifying a severe storm in Ben Tre Province as being the catalyst for her migration. The storm had destroyed the majority of her household’s coconut groves; as such, she and her husband moved to sell coconuts in Ho Chi Minh City. They planned to work in the city for a few more years to compensate for the damage caused by the storm, after which they planned to return to Ben Tre, where their daughters had remained to care for the house and continue attending school.

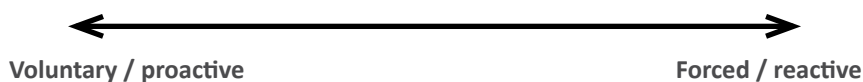
This respondent appears on the outset to be an “environmental migrant,” with a sudden-onset hazard causing visible and measurable damage over a short period of time and precipitating her migration. (This conversely highlights one of the critical difficulties when attempting to decipher the causality for migration in a context of slow-onset hazards.) However, she moved to the city in 2009, while the storm occurred in 2007 – a gap of two full years. During the interim, she changed her livelihood from growing coconuts to delivering them to Ho Chi Minh City by boat.

Furthermore, she described other households as also migrating out of Ben Tre, but within three to four months following the storm, due to the need to clean up and undertake post-disaster reconstruction, in some cases with government disaster aid. Therefore, while sudden-onset hazards are generally easier to assign causality compared to slow-onset events, it is far from straightforward, depending on the point in time it occurs in one’s migration trajectory.

What is most striking about the migrant respondents and the role of environmental stress is the fact that only one migrant household was found to exhibit a direct causal link, and even then, the relationship was tenuous given the amount of time between the hazard and point of migration, and the effective coping strategies that had been employed in the interim.

When reflecting on the findings from Vinh Tri and Long Thuan, if it is asked to what degree environmental stress can cause forced migration, compared to flooding, riverbank erosion could be categorized as more likely to do so. If migration is viewed along a spectrum from voluntary/proactive to forced/reactive (Richmond 1993), migration prompted by riverbank erosion in Long Thuan would fall further towards the forced/reactive end of the continuum than would migration influenced by seasonal flooding in Vinh Tri (Figure 1).

Figure 1. Voluntary–forced migration continuum



As discussed in section 5.5.2., low incomes (and accompanying factors such as lack of jobs and irregular employment) was identified as a key driver of migration out of rural areas in the Mekong Delta. If this is the case, pairing this information with the effect of environmental stress on livelihoods in Vinh Tri and Long Thuan gives us some insight into the degree to which environmental stress may be inducing outmigration from the two locations. To do this, reference is made to a study conducted by the author for the United Nations Development Programme (UNDP) Viet Nam in the same two communes. According to the results of the 188 surveys from Chun and Sang (2012), a sizable portion of respondents responded that environmental stressors were affecting their livelihoods “a lot.”

Table 8. Effect of environmental stress on household’s livelihood of respondents by types of households and provinces

	Vinh Tri		Long Thuan		Total			
	Rural	Relocated	Rural	Relocated	Rural		Relocated	
	%	%	%	%	<i>n</i>	%	<i>n</i>	%
Damaged 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

Source: Chun and Sang, 2012.

Interestingly, the highest percentages were reported in the “a lot” category, with the “somewhat” category showing considerable representation as well. Hence, as poor livelihood outcomes were found to be a key migration driver from rural areas of the Mekong Delta to CTC Can Tho City and Ho Chi Minh City, and environmental conditions (including stressors coinciding with flood season) are negatively affecting livelihoods to a large degree, it is possible to reason that environmental stressors in both Vinh Tri and Long Thuan are inducing migration to a certain extent, mediated by their impact on livelihoods. This dynamic is then further nuanced by household asset profiles and critical assets shaping differential household vulnerability and resilience to external stressors, and available response measures.

6. Reflections and Conclusions

6.1. The environment in context

While flooding is often framed by the international community and policymakers as an abnormal threat to communities, it is instead a normal part of the ebb and flow of life in the Mekong Delta. Although not without its hazardous elements, it is nevertheless a regular and accepted part of life for which people have developed adaptation measures. This is not to negate the adverse effects of global environmental change or its long-term effects which will render certain regions uninhabitable, but, rather, to highlight the socially and politically constructed nature of the concept of environmental stress and the lack of nuanced understanding of the way environmental events are framed in international discussions. It may then be meaningful to reflect on what may have been when the complex perspectives of the very individuals affected by environmental stress and their local impacts, do not play a more central role in the deliberations herein.

Accordingly, the circumstances found 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 multifaceted pressures of poverty, depletion of natural resources due to development, increased mechanization of agricultural production, and the ripple effect of market fluctuations. Furthermore, flooding is an integral part of the seasonal cycle, which nourishes the land with nutrient-rich sediment and ushers fish into the area. In this way, 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 across generations.

6.2. A holistic and micro-scale approach to vulnerability

Findings from this study highlight the importance of micro-level analyses, and the need to base policies and interventions on a solid understanding of the local context. As mentioned above (Section 6.1.), broad-stroked assumptions on how environmental conditions are affecting households do not necessarily align with realities on the ground, or furthermore, reflect how hazards themselves manifest differently depending on the geographic landscape, as evidenced by how seasonal flooding interacts with the landscapes of the two locations very differently. This calls into question the appropriateness of large-scale mapping and scenarios when informing current policies and programmes to implement at the local level. While such macro-scale approaches are valuable and necessary, in terms of local impacts and vulnerability, they lack the precision of micro-scale data and may be of greater use if paired with and informed by the knowledge of local processes.

It is furthermore difficult for large-scale projections and scenarios to account for current adaptation initiatives being undertaken (not to mention future possibilities) by the Government, communities and individuals, particularly given the dearth of systematic data and information available in countries such as Viet Nam. For example, as relocation is a cornerstone of the Vietnamese government's strategy for climate change adaptation in the Mekong Delta, increasing numbers of flood-proof relocation sites and infrastructure are being built to facilitate the continued residence of people in origin areas, with critical implications for their displacement and migration outcomes. When inferring from this study's findings, such development policies and programmes may well decrease potential displacement and migration flows from the Mekong Delta. Furthermore, individuals have long taken initiatives to strengthen their resilience to hazards, and for those who can afford it, both official and unofficial dyke building is common throughout the region. All of these activities also alter the landscape and affect water flows.

Likewise, the assumption that people living in flood-prone areas are characterized by a broadly encompassing notion of vulnerability to environmental stress does not reflect the complex realities for the individuals whom we speak of. This study explored the differentiation of vulnerability, livelihood outcomes, and hazard exposure as mediated by household asset profiles. It was found that assets accessible to households determine not only the nature of their vulnerability (and resilience), but, correspondingly, the response measures available to them, subsequently shaped the degree of self-sufficiency with which they are able to conduct their lives and respond to stress and shocks.

While the difficulties of coordination across government ministries and the sector-based nature of funding allocation cannot be ignored, one cannot help but note the complex nature of vulnerability found in Vinh Tri and Long Thuan, and the unplanned outcomes of an intervention targeting one sector while ignoring other facets of vulnerability and rural livelihoods. The relocation programmes in both locations provided a stark example of such vulnerability shifts and their long term repercussions.

If hazard risk is viewed according to the following equation, as found in the hazards literature: Risk = Hazard x Vulnerability (Wisner et al., 2004; Naude et al., 2009), to flesh out the risk component of environmental hazards, it is fundamental to understand: (a) the graduated nature of the hazard as it presents itself at the local level; and (b) the processes and elements shaping individual and household vulnerability. The lens of asset vulnerability is proposed in this regard, resulting in the following downscaled household level adaptation of the equation, where household level risk is a product of the hazard and vulnerability, a function of the household's asset profile.

RiskHousehold = Hazard x Vulnerability (Asset Profile)

Through the lens of asset vulnerability, the study found various external stressors exerting differential pressure on household asset profiles in Vinh Tri and Long Thuan. Key assets integral to livelihood outcomes were furthermore identified, shaping the range of options available to individuals when responding to external stress and shocks. As such, a holistic approach to assessing vulnerability and, subsequently, designing interventions would facilitate a more appropriate response to the diverse stressors (including environmental stressors) undermining household resilience across the asset wealth spectrum. By identifying key assets and appropriate points of entry for intervention, we would ultimately be able to sustainably decrease vulnerability and build resilience in an informed manner, rather than produce vulnerability shifts, as has occurred through current government relocation programmes in the Mekong Delta.

6.3. Mobility and migration

The findings on mobility and migration outcomes in the context of environmental stress are differentiated and complex. On the whole, the most generalizable relationship is that of environmental stress inducing migration for some, mediated by its pressure on livelihoods. In the Mekong Delta context, this process is most evident during flood season, a period of decreased employment opportunities for those dependent on agricultural activities, resulting in greater impoverishment and hunger.

The study also explored the importance and differentiating role of assets, as drivers and deterrents of migration, and determining the nature of such movements. Notably, the most asset-poor have access to the least capacities and assets with which to respond to stress. They are, as a result, least able to adapt in situ to environmental stress in a robust way, while simultaneously unable to migrate from the area, given their lack of assets with which to fund and carry out the migration. The most asset-poor are then 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 sustainable way.¹⁹

This is where the value of relocation is pronounced, by providing the most vulnerable households, with the option to live in a safe house protecting them from hazard exposure. While the paradox of resulting vulnerability shifts is significant, it can be minimized with good planning, at the same time providing the basic security and safety otherwise inaccessible to the most asset-poor.

Bibliography

Adger, W. N., et al.

2004 *New Indicators of Vulnerability and Adaptive Capacity*. Tyndall Centre for Climate Change Research, Technical Report 7.

Asian Development Bank (ADB)

2012 *Addressing Climate Change and Migration in Asia and the Pacific*. ADB, Mandaluyong City.

Be, T.T., S.B. Tan and F. Miller (eds.)

2007 *Challenges to Sustainable Development in the Mekong Delta: Regional and National Policy Issues and Research Needs*. Sumernet, Siam Tongkit Company, Bangkok.

Black, R., et al.

2011 Climate change: Migration as adaptation. *Nature*. 478(7370): 447-449.

Brooks, N.

2003 *Vulnerability, Risk and Adaptation: A Conceptual Framework*. Tyndall Centre for Climate Change Research, Working Paper 38.

Bubeck, P., W. J. W. Botzen and J. Aerts

2012 A review of risk perceptions and other factors that influence flood mitigation behavior. *Risk Analysis*, 32(9):1481–1495.

- Cardona, O. D.
2004 The need for rethinking the concepts of vulnerability and risk from a holistic perspective: A necessary review and criticism for effective risk management. In: *Mapping Vulnerability: Disasters, Development and People* (G. Bankoff, G. Frerks, and D. Hilhorst, eds.). Earthscan, London.
- Carney, D.
1999 *Approaches to Sustainable Livelihoods for the Rural Poor*. ODI Poverty Briefing 2.
- Chambers, R.
1995 Poverty and livelihoods: whose reality counts? *Environment and Urbanization*, 7(1):173–204.
- Chun, J. M. and L. T. Sang
2012 *Research and Policy Dialogue on Climate Change, Migration and Relocation in Vietnam: Final Report*. UN Viet Nam, Hanoi.
- Department for International Development (DIFD)
1999 Sustainable livelihoods guidance sheets. Available from www.livelihoods.org (accessed 1 May 2010).
- Dun, O.
2009 *Vietnam Case Study Report: Linkages between Flooding, Migration and Relocation*. UNU-EHS Environmental Change and Forced Migration Scenarios (EACH-FOR).
- Ellis, F.
2000 *Rural Livelihoods and Diversity in Developing Countries*. Oxford University Press, Oxford.
- Few, R.
2003 Flooding, vulnerability and coping strategies: local responses to a global threat. *Progress in Development Studies*, 3(1):43–58.
- Foresight: Migration and Global Environmental Change*
2011 Final Project Report. The Government Office for Science, London.

Gemenne, F.

- 2011 Why the numbers don't add up: A review of estimates and predictions of people displaced by environmental changes. *Global Environmental Change*, 21(S1):S41–49.

General Statistics Office (GSO), Ministry of Planning and Investment

- 2011 *Migration and Urbanization in Vietnam: Patterns, Trends and Differentials. Viet Nam Population and Housing Census 2009*. Statistical Publishing House, Hanoi.

- 2012 Area, population and population density in 2012 by province. Available from http://www.gso.gov.vn/default_en.aspx?tabid=467&idmid=3&ItemID=14459 (accessed 15 May 2014).

Heltberg, R., S. L. Jorgensen and P. B. Siegel

- 2008 *Climate Change, Human Vulnerability, and Social Risk Management*. Paper presented at the Workshop on Social Aspects of Climate Change, Washington, DC, 5-6 March.

- 2009 Addressing human vulnerability to climate change: Toward a 'no-regrets' approach. *Global Environmental Change*, 19(1):89–99.

Hilhorst, D. and G. Bankoff

- 2004 Mapping vulnerability. In: *Mapping Vulnerability: Disasters, Development and People* (G. Bankoff, G. Frerks, and D. Hilhorst, eds.). Earthscan, London.

Hugo, G. J.

- 2008 *Migration, Development and Environment*. IOM Migration Research Series No. 35, International Organization for Migration, Geneva.

International Federation of Red Cross and Red Crescent Societies (IFRC)

- 2012 *Emergency Appeal, Viet Nam: Mekong Delta Floods*. Revised emergency appeal no. MDRNV009, 24 July.

Intergovernmental Panel on Climate Change (IPCC)

- 2007 *Climate change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. (M. Parry, O. Canziani, J. Palutikof, P. van der Linden and C. E. Hanson, eds.). Cambridge University Press, Cambridge.

Leary, N. J., et al.

- 2008 For whom the bell tolls: Vulnerabilities in a changing climate. In: *Climate Change and Vulnerability* (N. Leary, C. Conde, J. Kulkarni, A. Nyong and J. Pulhin, eds.). Earthscan, London.

Lewis, J.

- 1999 *Development in Disaster-Prone Places: Studies of Vulnerability*. Intermediate Technology Publications, London.

Mani, A., et al.

- 2013 Poverty impedes cognitive function. *Science*, 341(6149):976–980.

McDonald, B.

- 2010 Global health and human security: Addressing impacts from globalization and environmental change. In: *Global Environmental Change and Human Security* (R. A. Matthew, J. Barnett, B. McDonald and K. L. O'Brien, eds.). MIT Press, Cambridge.

Naude, W., A. Santos-Paulino and M. McGillivray

- 2009 Measuring vulnerability: An overview and introduction. *Oxford Development Studies*, 37(3):183–191.

Oliver-Smith, A.

- 2009 *Sea Level Rise and the Vulnerability of Coastal People: Responding to the Local Challenges of Global Climate Change in the 21st Century*. InterSecTions No.7/2009, UNU-EHS.

Prowse, M. and L. Scott

- 2008 Assets and Adaptation: An Emerging Debate. *IDS Bulletin*, 39(4):42–52.

Resurreccion, B. and H. Thi Van Khanh

- 2007 Able to come and go: Reproducing gender in female rural-urban migration in the Red River Delta. *Population, Space and Place* 13(3):211–224.

Richmond, A.

- 1993 Reactive migration: Sociological perspectives on refugee movements. *Journal of Refugee Studies*, 6(1):7–24.

- Russell, S.
2005 Illuminating cases: Understanding the economic burden of illness through case study household research. *Health Policy and Planning*, 20(5):277–289.
- Sen, A.
1984 *Resources, Values and Development*. Basil Blackwell, Oxford.
- Sneddon, C. and T. Binh Nguyen
2001 Politics, ecology and water: the Mekong Delta and development of the Lower Mekong Basin. In: *Living with Environmental Change: Social Vulnerability, Adaptation and Resilience in Vietnam* (W. N. Adger, P. M. Kelly and H. Ninh Nguyen, eds.). Routledge, New York.
- Swift, J.
1989 Why are rural people vulnerable to famine?" *IDS Bulletin*, 20(2):8–15.
- Taylor, P.
2004 Redressing disadvantage or re-arranging inequality? Development interventions and local responses in the Mekong Delta. In: *Social Inequality in Vietnam and the Challenges to Reform* (P. Taylor, ed.). Institute of Southeast Asian Studies, Singapore.
- United Nations Development Programme (UNDP)
2003 *World Vulnerability Report*. UNDP, New York.
- Warner, K., O. Dun and M. Stal
2008 Field observations and empirical research. *Forced Migration Review*, 31:1 –15.
- Wisner, B., et al.
2004 *At Risk: Natural Hazards, People's Vulnerability and Disasters*. Routledge, London.
- Wood, G.
2003 Staying Secure, Staying Poor: The 'Faustian Bargain'. *World Development*, 31(3):455–471.

Woodward, A., et al.

2000 Protecting human health in a changing world: The role of social and economic development. *Bulletin of the World Health Organization*, 78(9).

Endnotes

1. Entitlements are “the set of alternative commodity bundles that a person can command in a society using the totality of rights and opportunities that he or she faces” (Sen, 1984).
2. Human ecology is the study of the relationship between humans and their environment.
3. This report focuses on human assets while excluding other intangible assets (human, social and political), as questions on social and political assets were beyond the scope of this study.
4. Relocation sites in the Mekong Delta typically fall under the categories of dykes and clusters. Dykes are areas along rivers, canals, and ditches, and historically have been the most popular type of location for houses in the Mekong Delta. Clusters are areas where houses are clustered in groups on higher land, and have also been a relatively common type of location.
5. Mass organizations, such as the Fatherland Front, Women’s Union, Farmers’ 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.
6. The Vietnamese dong (VND) is the national currency of Viet Nam.
7. In the original, or existing, position or place.
8. Equivalent to USD 180, according to a Google search on 19 January 2014.
9. Equivalent to USD 242, according to a Google search on 19 January 2014.
10. Equivalent to USD 374, according to a Google search on 19 January 2014.
11. Equivalent to USD 161 in current value, according to Google search on 19 January 2014.
12. Equivalent to USD 418 in current value, according to Google search on 19 January 2014.
13. Equivalent to USD 606 in current value, according to Google search on 19 January 2014.

14. Some respondents reported more than one type of migration.
15. Some respondents were omitted as they did not describe the reason for their plans to remain in their homes. Some respondents mentioned more than one reason for their rootedness, with each reason included in the table.
16. The table is limited to households with migrants, as they have first-hand experience with migration, and offer the point of view of someone with “insider” knowledge/experience.
17. While this item may appear to have been influenced by environmental factors, particularly in terms of the irregular nature of employment, none of the respondents overlapped with those identifying item 2, and, as such, environmental factors are ruled out when considering this item. Instead, the pertaining migration drivers can be attributed to economic factors and motivations.
18. The long-term effects of sea level rise and the possible effects of areas becoming uninhabitable are beyond the scope of this study.
19. Similar conclusions were also cited by Black et al., 2011 and Foresight, 2011.

IOM Migration Research Series

1. *Myths and Realities of Chinese Irregular Migration*
Ronald Skeldon, December 2000
2. *Combating Trafficking in South-East Asia: A Review of Policy and Programme Responses*
Annuska Derks, December 2000
3. *The Role of Regional Consultative Processes in Managing International Migration*
Amanda Klekowski von Koppenfels, May 2001
4. *The Return and Reintegration of Rejected Asylum Seekers and Irregular Migrants: An Analysis of Government Assisted Return Programmes in Selected European Countries*
Khalid Koser, May 2001
5. *Harnessing the Potential of Migration and Return to Promote Development*
Savina Ammassari and Richard Black, August 2001
6. *Recent Trends in Chinese Migration to Europe: Fujianese Migration in Perspective*
Frank N. Pieke, March 2002
7. *Trafficking for Sexual Exploitation: The Case of the Russian Federation*
Donna M. Hughes, June 2002
8. *The Migration-Development Nexus: Evidence and Policy Options*
Ninna Nyberg-Sorensen, Nicholas Van Hear and Poul Engberg-Pedersen, July 2002
9. *A Review of Data on Trafficking in the Republic of Korea*
June J.H. Lee, August 2002
10. *Moroccan Migration Dynamics: Prospects for the Future*
Rob van der Erf and Liesbeth Heering, August 2002
11. *Journeys of Jeopardy: A Review of Research on Trafficking in Women and Children in Europe*
Elizabeth Kelly, November 2002

12. *Irregular Migration in Turkey*
Ahmet İçduygu, February 2003
13. *Bordering on Control: Combating Irregular Migration in North America and Europe*
Philip Martin, April 2003
14. *Migration and Development: A Perspective from Asia*
Graeme Hugo, November 2003
15. *Is Trafficking in Human Beings Demand Driven? A Multi-Country Pilot Study*
Bridget Anderson and Julia O'Connell Davidson, December 2003
16. *Migration from Latin America to Europe: Trends and Policy Challenges*
Adela Pellegrino, May 2004
17. *The Development Potential of Zimbabweans in the Diaspora: A Survey of Zimbabweans Living in the UK and South Africa*
Alice Bloch, January 2005
18. *Dynamics of Remittance Utilization in Bangladesh*
Tom de Bruyn, January 2005
19. *Internal Migration and Development: A Global Perspective*
Priya Deshingkar and Sven Grimm, February 2005
20. *The Millennium Development Goals and Migration*
Erica Usher, April 2005
21. *Migration and Development: New Strategic Outlooks and Practical Ways Forward: The Cases of Angola and Zambia*
Dr Savina Ammassari, May 2005
22. *Migration and Development: Opportunities and Challenges for Policymakers*
Macha Farrant, Anna MacDonald, Dhananjayan Sriskandarajah, April 2006
23. *Migration, Human Smuggling and Trafficking from Nigeria to Europe*
Jorgen Carling, September 2006

24. *Domestic Migrant Remittances in China: Distribution, Channels and Livelihoods*
Rachel Murphy, September 2006
25. *Remittances in the Great Lakes Region*
Tom de Bruyn and Johan Wets, October 2006
26. *Engaging Diasporas as Development Partners for Home and Destination Countries: Challenges for Policymakers*
Dina Ionesco, November 2006
27. *Migration and Poverty Alleviation in China*
WANG Dewen and CAI Fang, March 2007
28. *A Study of Migrant-Sending Households in Serbia Receiving Remittances from Switzerland*
Nilim Baruah and Jennifer Petree, April 2007
29. *Trafficking in Human Beings and the 2006 World Cup in Germany*
Jana Hennig, Sarah Craggs, Frank Laczko and Fred Larsson, April 2007
30. *Migration, Development and Natural Disasters: Insights from the Indian Ocean Tsunami*
Asmita Naik, Elca Stigter and Frank Laczko, June 2007
31. *Migration and Climate Change*
Oli Brown, January 2008
32. *Irregular Migration from West Africa to the Maghreb and the European Union: An Overview of Recent Trends*
Hein de Haas, April 2008
33. *Climate Change and Migration: Improving Methodologies to Estimate Flows*
Dominic Kniveton, Kerstin Schmidt-Verkerk, Christopher Smith, and Richard Black, April 2008
34. *Migration and Development: Achieving Policy Coherence*
Asmita Naik, Jobst Koehler, Frank Laczko, September 2008
35. *Migration, Development and Environment*
Frank Laczko, November 2008

36. *IOM Global Database Thematic Research Series: Trafficking of men – A trend less considered: The case of Belarus and Ukraine*
Rebecca Surtees, December 2008
37. *The Impact of Financial Crises on International Migration: Lessons Learned*
Khalid Koser, December 2009
38. *An Assessment of Principal Regional Consultative Processes on Migration*
Professor Randall Hansen, January 2010
39. *Angola: A Study of the Impact of Remittances from Portugal and South Africa*
Sandra Paola Alvarez Tinajero, February 2010
40. *Migrant Resource Centres: An Initial Assessment*
Paul Tacon, Elizabeth Warn, April 2010
41. *The Role of Migrant Care Workers in Ageing Societies: Report on Research Findings in the United Kingdom, Ireland, Canada and the United States*
Sarah Spencer, Susan Martin, Ivy Lynn Bourgeault, Eamon O’Shea, December 2010
42. *Climate Change, Migration and Critical International Security Considerations*
Robert McLeman, January 2011
43. *Gallup World Poll: The Many Faces of Global Migration*
Neli Esipova, Julie Ray, Anita Pugliese, PhD, November 2011
44. *Ending the 2006 Internal Displacement Crisis in Timor-Leste: Between Humanitarian Aid and Transitional Justice*
Peter Van der Auweraert, June 2012
45. *Regional Inter-State Consultation Mechanisms on Migration: Approaches, Recent Activities and Implications for Global Governance of Migration*
Charles Harns, April 2013
46. *Migration and Development within the South: New Evidence from African, Caribbean and Pacific countries*
September 2013

47. *Displaced Youth's Role in Sustainable Return: Lessons from South Sudan*
Marisa O. Ensor, October 2013
48. *Mobility of Health Professionals to, from and within the European Union*
Caroline Schultz and Barbara Rijks, February 2014
49. *The South–South remittance corridor between Argentina and Bolivia*
Matteo Mandrile, March 2014
50. *A New Global Partnership for Development: Factoring in the Contribution of Migration*
Elaine McGregor, Melissa Siegel, Nora Ragab, Teresa Juzwiak,
September 2014
51. *Vulnerability to Environmental Stress: Household Livelihoods, Assets and Mobility in the Mekong Delta, Viet Nam*
Jane M. Chun, December 2014

Migration Policy Practice

(Volume IV, Number 4, October–November 2014)



2014/42 pages/ ISSN 2223-5248/English
Available for PDF download

Labour migration supports economic equality because migrants do not depress wages – nor do they take jobs away. Rather, they foster employment and innovation and make natives more productive. In his lead article for this issue of Migration Policy Practice, Klaus Zimmermann, Director of Institut zur Zukunft der Arbeit (IZA, Institute for the Study of Labor) and winner of the EIB Prize 2013 of the European Investment Bank, outlines his vision for the future of both labour migration and asylum policy in the European Union (EU). According to Zimmermann, labour mobility is desirable because, in economic terms, it contributes to an optimal allocation of resources – and thus plays a crucial role in generating higher output and welfare. Such mobility ensures a quick adjustment of labour markets, especially at the regional level. Migrants need to have and maintain different talents and abilities if they are to increase their host economy's growth potential. Furthermore, all developed economies face a strong and increasing excess demand for skilled labour. This is brought

about by technological change, population ageing and, in the case of Europe, by a substantial decline in the future native European workforce. These upcoming needs clearly cannot be satisfied sufficiently by the local labour force or by the educational system in individual countries. With regard to forced migration, the new European Commission President, Jean-Claude Juncker, stressed that European core values must also be respected when it comes to asylum policy. The first step must be to agree on a transparent quota system guaranteeing a balanced distribution of asylum-seekers across EU member countries. Countries like Germany and Sweden have accepted above-average numbers of asylum applications over the past years, while France and the United Kingdom have been rather reluctant. The definition of a "fair share" must account for the economic strength of each country. Another aspect is becoming increasingly important: many of those who come to Europe for humanitarian reasons are endowed with valuable "human capital." They have good skills and professional qualifications, and – as Germany's President Joachim Gauck has put it – they are "highly mobile, flexible, multilingual, motivated and willing to take risks." However, until recently, they have been effectively barred from seeking employment. In line with what many experts have long demanded, Germany has now eased the restrictions on labour market access for refugees. This gives them a chance to earn their own living, to develop their professional skills further and to achieve social integration. The next logical step is to allow qualified refugees to enter into the regular immigration process. According to Zimmermann, the new EU Commissioner for Migration and Home Affairs, Dimitris Avramopoulos, would be well advised to further develop the EU Blue Card Directive along these lines. After all, his declared goal is to "help Europe address skills shortages and attract the talents it needs." Other articles in this issue of Migration Policy Practice focus on: the key provisions and implications of the new legislation on forced marriage within migrant communities in the United Kingdom (by Richard Lewis, from the Institute for European Studies at Vrije Universiteit Brussel); an analysis of how asylum-seekers currently in Ireland's Direct Provision system engage with the idea of assisted voluntary return to their countries of origin (by Liam Coakley, from the Department of Geography at University College Cork); and a discussion of the issues raised in the consultative process related to migration and development in Nigeria (by Nnamdi Iwuora, from IOM Nigeria). This issue of Migration Policy Practice also includes frequently asked questions (FAQs) on tracking lives lost during migration. This draws from a report released by IOM earlier this year which provides the first annual global compilation of data on migrant deaths along sea, desert and other migratory routes. The FAQs address, inter alia, key questions concerning the process of tracking migrant deaths, what we know about those who die, and why we should count them.

IOM publications are available from:

International Organization for Migration, Research and Publications Unit
17 route des Morillons, P.O. Box 17, 1211 Geneva 19, Switzerland
Te.l: +41 22 717 91 11; Fax: +41 22 798 61 50; E-mail: pubsales@iom.int

IOM publications are sold through the online bookstore at:
<http://publications.iom.int/bookstore>

IOM accepts credit card payments in two major currencies (EUR and USD). Payments may also be made by international bank draft or money order payable to International Organization for Migration, Publications Unit, Geneva.



Migration, Environment and Climate Change: Evidence for Policy (MECLEP) GLOSSARY

2014/42 page (English, French, Spanish)
Available for PDF download

Migration's potential contribution to environmental and climate change adaptation has been recognized at both the regional and global levels. Alongside institutional recognition of migration's relevance to adaptation, however, there is also a need for further empirical research on the link between migration and climate change. The "Migration, environment and climate change: Evidence for policy" (MECLEP) project responds to this need by exploring the main means by which migration can contribute to adaptation strategies.

This Glossary, prepared as part of the MECLEP project, addresses key terms of the two separate but interdependent fields of migration and environmental change. Concepts such as adaptation, resilience and coping come into the picture and must be carefully considered in research and policymaking within the framework of human mobility and environmental change.

The MECLEP Glossary is divided into two parts: The first section focuses on more mobility-related terms, whereas the second links to more environmental and climate change terminology relevant in the context of mobility.

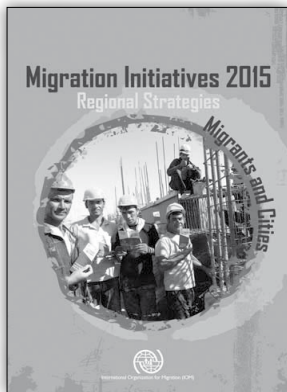
Given the fluid nature of terminology and definitions, this Glossary should be viewed as a working document subject to review and updates. Nonetheless, we hope that stakeholders and researchers alike will see it as a useful resource for future studies and policymaking.

IOM publications are available from:

International Organization for Migration, Research and Publications Unit
17 route des Morillons, P.O. Box 17, 1211 Geneva 19, Switzerland
Te.l: +41 22 717 91 11; Fax: +41 22 798 61 50; E-mail: pubsales@iom.int

IOM publications are sold through the online bookstore at:
<http://publications.iom.int/bookstore>

IOM accepts credit card payments in two major currencies (EUR and USD). Payments may also be made by international bank draft or money order payable to International Organization for Migration, Publications Unit, Geneva.



Migration Initiatives 2015: Regional Strategies

2014/392 pages

English

Available for PDF download

Migration Initiatives 2015 presents the Organization's nine regional strategies in a printed format. These strategies provide an overview of the regional context, capacity, partners, key trends and challenges. The publication comes with a CD which, in addition, contains a summary of IOM's current and intended responses and funding requirements for 2015 to address the wide range of evolving migration needs through programmes managed by IOM Country and Regional Offices, as well as by Headquarters.

IOM publications are available from:

International Organization for Migration, Research and Publications Unit
17 route des Morillons, P.O. Box 17, 1211 Geneva 19, Switzerland
Te.l: +41 22 717 91 11; Fax: +41 22 798 61 50; E-mail: pubsales@iom.int

IOM publications are sold through the online bookstore at:
<http://publications.iom.int/bookstore>

IOM accepts credit card payments in two major currencies (EUR and USD). Payments may also be made by international bank draft or money order payable to International Organization for Migration, Publications Unit, Geneva.

IOM Migration Research Series (MRS)

Editor: **Frank Laczko**

Head, Migration Research Division
International Organization for Migration
17 route des Morillons
P.O. Box 17
1211 Geneva 19
Switzerland
Tel.: +41 22 717 91 11
E-mail: flaczko@iom.int

Titles in the series are available from:

International Organization for Migration, Publications Unit
17 route des Morillons, P.O. Box 17, 1211 Geneva 19, Switzerland
Tel.: +41 22 717 91 11; Fax: +41 22 798 61 50; E-mail: pubsales@iom.int
①The MRS can be downloaded for free or purchased from IOM website at
<http://publications.iom.int/bookstore>.

Single issue: USD 16 + postage

*Payments may also be made by international bank draft or money order payable to
International Organization for Migration, Publications Unit, Geneva.*

Also available online at:
<http://publications.iom.int/bookstore>

Climate change negotiations have put migration, displacement and planned relocation, as a direct or indirect result of climate change, in the spotlight. The Cancun Agreement in 2010 called for enhanced understanding of human mobility and climate change, and, more recently, the Intergovernmental Panel on Climate Change 2014 assessment report acknowledged migration as an effective adaptation strategy in response to both extreme weather events and longer-term climate change. Despite increased awareness, there is a call for more empirical evidence and case studies for better understanding of and to inform policymaking on human mobility and climate change.

This study explores vulnerability and household response measures in the context of environmental stress in the Mekong Delta of Viet Nam. Displacement estimates are often based on broad assumptions derived from macro-scale geographical data, viewing individuals' vulnerability to hazards through the lens of their physical proximity to hazard-prone areas. Given that household assets shape responses to opportunities and threats, this report examines key household assets which determine household vulnerability and livelihood outcomes, and are critical for mobility decision-making in the face of environmental change.

The report also provides analysis of government relocation programmes targeting households susceptible to hazards and draws attention to the most asset-poor, who are often trapped and are least able to either adapt to stressors in situ or migrate elsewhere.



ISSN 1607-338X
ISBN 978-92-9068-702-3



USD 16