Coastal Cambodians on the move: the interplay of migration, social wellbeing and resilience in three fishing communities

Furqan Asif

A thesis submitted in partial fulfillment of the requirements for the Doctorate in Philosophy degree in International Development

School of International Development & Global Studies
Faculty of Social Sciences
University of Ottawa

Abstract

Small-scale fishing communities along Cambodia's coast have relied on marine resources as a mainstay of their livelihood for decades. However, in the last ten to fifteen years, a confluence of shocks such as increased fishing pressure, the rapid rise of commercial fisheries in the Gulf of Thailand, illegal, underreported and unregulated fishing, climate change and, more recently, sand mining, have contributed to a progressive decline in catch. Such challenges demand that fishers harness social traits of adaptability, responsiveness, persistence, planning, inter alia. In other words, there is a need for fishers and their households to demonstrate resilience in the face of such challenges. Though a contested term, scholars working within human-environment relations have adopted the concept of social-ecological resilience, acknowledging that the social aspects of resilience have been relatively under-addressed. Relatedly, studies on fishers and fishing communities have shown the important contribution fishing plays in fulfilling social and psychological needs, i.e. wellbeing, and how fishing is more than 'just' a livelihood. While evidence for this connection between fishing and wellbeing has been shown across different regions, the nature of this relationship is not as clear for coastal communities in Cambodia.

Meanwhile, Cambodia has exhibited rapid economic growth (and foreign direct investment) over the past decade. Part of this has been through the creation of Special Economic Zones (SEZs) across the country. The creation of the SEZs and thus, the resultant labour demand has catalyzed migration of Cambodians to secondary cities and to the capital, Phnom Penh. Unlike other parts of the country, the experience of the lives of people on the move from the coastal regions of Cambodia remains less understood. Through qualitative work completed among three coastal fishing villages in Koh Kong province in southwest Cambodia, I aim to contribute to a better understanding of the social dimensions of resilience by using a multidimensional (material, subjective, and relational) social wellbeing framework to not only better understand how migration affects the wellbeing of those who leave and those who stay, but also the implications on fishing as 'a way of life'. My research focuses on understanding the role fishing plays, and the degree to which it impacts the wellbeing of fishers and their households in coastal Cambodia, in the context of migration. My empirical findings problematize the notion that fishing as a way of life supplants other dimensions (e.g. material/income) as observed elsewhere by considering out-migration of villagers from the fishing village.

I find that the draw of alternative economic opportunities outside the coastal village has resulted in shifting values and opinions towards fishing as a livelihood particularly by younger villagers and has catalyzed their out migration. As a livelihood strategy, migration plays a crucial role in supplementing income from fishing and, in some cases, forms a critical lifeline for the poorest households. I also show how life in the coastal fishing village is filled with trade-offs and difficult choices people must navigate and negotiate, including tensions between various aspects within subjective dimensions of wellbeing. My thesis reveals the important, and sometimes dominant, influence of subjective and psycho-social factors on coastal villagers' resilience and how this changes the way some view fishing itself. As such this research shows that adopting a social wellbeing lens can not only result in a better understanding of the impact of migration on coastal fishing communities in Cambodia but also broaden understanding of social resilience, for villagers and migrants who are facing a sea of environmental and economic change.

Table of contents

List of tables

List of figures

Note: all chapter cover photos were taken by the author.

Acknowledgements

When you're working on a long-term project such as a doctoral dissertation, there are bound to be many—friends, mentors, advisors, colleagues, and organizations—that have played a role in some way in helping you to get to the end. Of course, my case is no exception. At the same time, because of this, these acknowledgements are bound to be non-exhaustive so if I have somehow overlooked any of you, my dear friends and colleagues, please accept my apologies in advance.

First and foremost, I want to extend my gratitude and appreciation to my doctoral supervisor, Melissa Marschke. From the beginning, she remained my champion and made every effort in supporting my ideas as they meandered and evolved (as par for the course), giving me incisive comments and feedback on my thinking while gently nudging me forward, both in my analysis and writing, especially during those particularly tough periods! Whether it was pushing for me to be part of the Urban Climate Resilience in Southeast Asia (UCRSEA) project at the initial throes of my research journey or connecting me to key folks in Cambodia and elsewhere, she extended her help and, in my opinion, went above and beyond what a supervisor is expected to do. Indeed, her support and model of supervision has become a template and inspiration for me for the day comes where I am supervising a graduate student. Melissa, I could not have done this without your amazing, steadfast, and patient support over all these years. Thank you, a million times over. You have played a critical role towards shaping me into becoming the academic I am today, and the one that I will be over the coming years.

Thanks are also due to the entire UCRSEA project team, including but not limited to, the two co-directors, Amrita Deniere, Pakamas Thinphanga, and Angie Agulto for all of her administrative and logistics assistance, along with all of the wonderful graduate students I had the opportunity to meet (and befriend): Danny Marks for his advice and for taking me 'under his wing' in our time together in Bangkok; Jonathan De Luca for his friendship and support; Joanna Kocsis for her friendship and comradery; Carli Melo for the various nerdy (and non-nerdy) conversations; and to the entire UCRSEA Virtual Seminar crew, some of whom took the time to read and comment on some of my very initial writing.

I also want to extend a big thank you to all of my graduate student pals that either were there for me in solidarity (and friendship) by way of us doing our doctorate together or providing input on some of my work: Adrian Murray; Paola Ortiz; Begench Yazlyyev; Kirsten van Houten; Yasmine Benbelaid; Iftekhar Haque; Remy Chhem—the uOttawa crew!—and Yvonne Su. I also owe profound gratitude to the all of the fine folks (present and past) at the helm of the School of International Development and Global Studies (SIDGS) at uOttawa who provided both moral and critical administrative support: Lauchlan Munro and Sanni Yaya for their leadership during their respective tenure as Director; Anick Mineault, Tiffany Carrière, Katherine Belley, Josée Carbonneau, and Alexis Cawadias-McGeadie for their support on the administrative side of things and for always having my back. Thanks also to the entire SIDGS faculty for their informal academic mentorship, words of advice, and general support.

Even though people say it, you don't appreciate it until you are in the thick of it: academic writing is tough! And in light of this, I want to extend a big thanks to the Office of Vice Provost, Graduate and Postdoctoral Studies and Vice-President (Academic Affairs) at uOttawa for providing me and my fellow graduate students with writing support through the writing bootcamps, writing retreats (Lake Shift), and those weekly Friday writing sessions at Hagen Hall—they were so instrumental at times in keeping my writing progress going! One of the unexpected surprises of participating in these writing retreats and groups is that I made some good friends, in particular: Catrine Demers; Marie-Hélène Eddie; and Alyshea Cummins: thank you for your continued friendship, support, solidarity, and—of course—the endless laughs!

Throughout all of this, I could not have gotten here without the wonderful support and encouragement of my family. Mom, Dad, and younger bro: even though I know all of you may not fully understand what I was up to or what my research entailed in depth, you were always proud of all of my accomplishments and milestones all the same and that means the world to me. From the bottom my heart, thank you—I love you.

I owe a debt of gratitude and a want to extend warm thanks to all of my thesis committee members—Jean-François Rousseau, Nathan Young, Jackie Dawson, and Jennifer Silver—for not only taking the time to thoughtfully read my thesis but also provide their constructive and supportive comments that have allowed me to refine and strengthen it. In this respect, I consider the final product to truly be a product of a peer-review process.

This research would not have been possible (quite literally) if it were not for Mr. Sina Thor, my wonderful, trusty research assistant and translator. For the better part of a year, I benefitted from his excellent skills in navigating the challenges we faced throughout fieldwork, whether it was finding and setting up meetings with key folks or haggling doggedly with boat drivers to make sure I was not being ripped off. His adept translation skills were equally matched with his social skills (and his ability to 'read' people) in helping us navigate conversations and access. For all of this and the memories, random photos and videos, thank you so much Sina—because of you I was able to experience, know and understand Cambodia in a way that is difficult to put into words. And for that, I thank you, dear friend.

On this last point, I want to end by extending my deep and heartfelt thanks to all the Cambodians—fishers, villagers, young migrants, government officials, and NGO staff—who took time out of their day to talk to us, share their knowledge, observations, and their lives (in particular, my two host families in Koh Sralao and Koh Kapic). Their generosity of spirit and resilience is an inspiration, and something I will forever be grateful for. Through their eyes and words, Cambodia became a second home and will always hold a special place in my heart. To all of you: អរគុណច្រើន—*aw-koon ch'ran*!

Furqan Asif

Ottawa, Ontario, Canada
December 1, 2019

Chapter 1 – Coastal Cambodians on the move

1.1 Introduction

Globally, the state of marine fisheries has been deteriorating: the share of fish stocks within biologically sustainable levels has decreased from 90% in 1974 to 68.6% in 2013, with fully fished stocks making up 58.1% of the total number and 31.4% of stocks fished at biologically unsustainable levels i.e. overfished (FAO, 2016)[1]. In many parts of the world, the ecological landscape of marine fisheries is rapidly changing, largely due to impacts of climate change (e.g. via altering fish distributions) (Cheung et al., 2009, 2013; Perry et al., 2010) globalization (e.g. rapid increase in commercial fisheries) (Perry et al., 2011), and relatedly, overfishing (FAO, 2016). The result has been a decrease in species' abundance and diversity, thereby decreasing fish catch for fishers[2]. The people these impacts are affecting are largely small-scale fishers and their communities, which collectively make up roughly *half* of the world's 51 million fishers, most of them in developing countries[3]. More importantly, if we view the entire value chain, globally *hundreds of millions of people* depend on small-scale fisheries[4] (SSF) as a contribution to their livelihood (Jentoft et al., 2017). As the depletion and deterioration of marine fisheries has continued, it has led to the deterioration of livelihoods and, thus exacerbating of poverty for small-scale fishers, a large portion being part of coastal fishing communities (Cheung et al., 2009; Garces et al., 2008; Nayak et al., 2014; Rice & Garcia, 2011).

For Southeast Asia, the significance and implications of these changes and challenges also goes beyond livelihoods: fish account for half of total dietary animal protein for the people living in this region (FAO, 2014). Within Southeast Asia, arguably no where else are these trends brought to bear more than in Cambodia. Fish and fisheries in Cambodia are centrally important to the lives of Cambodians. By one estimate, the country is among the highest in per capita consumption of fish in Southeast Asia—up to 63.5 kg/capita/year, representing over 81.6% of dietary animal protein. Moreover, the fisheries sector in the country employs, directly and indirectly, up to six million people (full-time, part-time and seasonal) (FAO, 2014). In other words, fish and fisheries contribute to the health and wealth, respectively, of a large portion of the country's population.

Fisheries in Cambodia usually tends to be synonymous with inland freshwater fisheries, specifically the Tonle Sap lake. This focus is for good reason since freshwater fisheries make up the bulk of the sector both in terms of catch (484,800 tonnes in 2014 vs. 122,250 tonnes for

---

[1] The stagnation of marine fish stocks in the context of increased demand for, and consumption of, seafood has been made up in large part from the rapid growth in aquaculture to the point that this sector now provides half of all fish for human consumption (FAO, 2016).

[2] The gender-neutral descriptor for someone who fishes will be used throughout the thesis in recognition of the fact that, although the majority of those who "do" fishing are men, women play important roles in fishing (e.g. secondary aspects such as crab peeling, processing, etc.) and are often involved directly in fishing itself, in many cases alongside their partner.

[3] While the exact number is not certain, estimates have been made. For more information, see http://www.fao.org/fishery/ssf/people/en

[4] While there are diverse and varying definitions of this term and delineations between SSF and other terms such as inshore, coastal, subsistence, artisanal, etc. (e.g. Allison & Ellis, 2001; Berkes et al., 2001; D. S. Johnson, 2006), I define SSF in the Cambodia case to be linked to boat horsepower relative to the types of engine used in the area (between 5 and 30 horsepower), distance from shore (typically a few kilometers), and time away from village (usually several hours at a time).

marine) and livelihoods (ODC, 2015). At the same time, the marine fisheries sector is also important from a human development perspective since it supports the livelihood of thousands of households. Over the last two decades, marine fisheries output has been on the rise with a near doubling of catch (33,100 tonnes in 1993 to 75,000 tonnes in 2009) (FAO, 2011). The increase in marine fisheries capture has been concomitant with a rise in the number of fishing boats, both national and foreign, but also a significant number of non-licensed vessels, which has put further pressure on coastal ecosystems (Doma, 2011; Teh et al., 2014). The increased fishing pressure has brought along with it destructive fishing practices[5] (e.g. cyanide fishing, illegal trawling in shallow fish nursery areas), causing contamination of the marine environment, habitat degradation, and increasing conflict among fishers (Kurien, 2014).

One of the consequences of the bias towards inland fisheries, in terms of research, is that the coastal SSF sector, and thus, coastal fishing communities, has had less attention over the last few decades. Over this period, the coastal region and its marine ecological landscape has progressively worsened. A bevy of overlapping factors have played a role: overexploitation of fish stocks, illegal, underreported, unregulated (IUU) fishing (Bann, 1997), destructive fishing practices, e.g. cyanide fishing (Marschke & Nong, 2003), climate change (IUCN, 2012, 2013), and sand mining (Lamb et al., 2019; Marschke, 2012). Combined, they have had a dramatic negative impact on the livelihoods of thousands of households in coastal fishing villages (see Kurien, 2014; Marschke et al., 2014).

The people who live on the coast are unique in many ways from the rest of the country's population. While most Cambodians live on the mainland, either in rural or urban areas, coastal Cambodians live at the interface where the land meets the sea, belonging neither solely to the sea nor to the land, but both at the same time. Making their lives by the sea, coastal villagers have an intimate connection with the environment and have learned over time how to interpret its signals (Berkes, 1999). On a certain level, this is borne out of necessity as their livelihood (quite literally) is dependent on understanding and being in tune with their environment. For example, interpreting climatic signs that indicate impeding storms, which would determine whether they go fishing or stay at home, within the safety of the mangrove estuaries, or knowing the best places to go to set up fishing nets and set crab traps. In this sense, the livelihood (i.e. fishing) of coastal fishers can be understood as being 'environmentally temperamental', mediated by a host of environmental conditions (e.g. tides, weather, and climate).

On top of such temperamentality, villagers in coastal communities have had to respond and adapt for decades with ecological changes that have directly impacted their livelihood. While historically, adaptation has involved livelihood diversification within the village (Marschke, 2005), within the latter half of the last decade, a different adaptation strategy has been emerging: migration. Such a shift has occurred as an outcome of the country's rapid economic growth (GDP growth averaging 8% annually over 1997-2017) (World Bank, 2018a). One of the outcomes of such development for the coastal region, specifically in the provincial capital of

[5] Despite a fishery law which bans trawling in near-shore areas, most trawlers are small and unsuitable in offshore areas. As a result, most trawling is done illegally in the same places of small-scale fishing activity, and this dynamic has traditionally been a primary catalyst for conflict between these two groups of marine fishers in Cambodia (Gillett, 2004).

Koh Kong (located in the province of the same name), has been the establishment of the Neang Kok Koh Kong Special Economic Zone (SEZ) in 2005 on the outskirts of the city, near the Thai border. As of 2014, the Koh Kong SEZ had four firms operating within it, altogether employing approximately 4,000 workers (Warr & Menon, 2015)[6]. The establishment of the SEZ in the provincial capital has catalyzed the migration of Cambodians not only from other provinces within the country, but also more recently, from the coastal fishing communities dotting the coastal province. Such emerging economic opportunities have ostensibly brought hope for villagers to improve their socio-economic situation. Before the Koh Kong SEZ, there were few alternative livelihood opportunities in the provincial capital and coastal villagers would largely migrate to Thailand or elsewhere within Cambodia to find work, if they did at all (Marschke, 2012).

Partly because of the relatively recent nature of increased socio-economic development in this part of the country, the nature of migration of people from coastal fishing households in Kong Kong remains largely undocumented and understudied. In general, there has been little attention paid to internal migration from small-scale fishing communities to other areas of Cambodia, with a few notable exceptions (e.g. Heinonen, 2006; Kheang, 2013), although these focus exclusively on inland—not coastal—fisheries (i.e. the Tonle Sap Lake region). As such, my research contributes to existing knowledge on internal migration within Cambodia by bringing in the coastal context, including understanding drivers of migration, migrant destinations, migrant livelihoods, and individual/household outcomes, through a focus on coastal villagers in Koh Kong.

The challenges associated with making a livelihood in fishing favour and select for key traits and characteristics among fishers: adaptability/flexibility, responsiveness, persistence, consistency, and planning (among others). At the same time, there are external forces, beyond the control of coastal villagers, that are reducing the saliency of the above characteristics. Thus far, there has been research completed on the ability of marine/coastal ecosystems to respond, adapt, and transform (i.e. their 'resilience') in the face of environmental stressors (e.g. coastal/marine resource governance) (Armitage, 2017). At same time, there is also a need to focus on understanding the ability of fishers to respond, adapt, and transform (i.e. their 'resilience') in the face of environmentally mediated stressors (e.g. decreasing catch due to declining resource base and environment). In other words, a better understanding of the *social* resilience of Cambodian fishers and coastal villagers and their households is needed.

[6] Overall, Cambodia has nine SEZs with 145 firms operating, employing ~68,000 people. The primary purpose of the government's establishing of the SEZs was to promote diversification within the manufacturing sector, and to facilitate economic linkages between urban and rural areas with an emphasis on promoting industrial investment outside of Phnom Penh (Warr & Menon, 2015).

1.2 Research objectives

The objectives of my research are to:

1. Further understanding of migration as a livelihood strategy in coastal fishing communities vis-à-vis coastal Cambodia.
2. Integrate migration and social wellbeing to understand individual and collective motivations, benefits, and trade-offs within small-scale fishing communities in Cambodia.
3. Adopt and incorporate social wellbeing, both conceptually and methodologically, with social resilience as a framework to interpret the motivations, decisions, and experiences of coastal Cambodians, both those who leave and those who stay.

To do this, I ask the following questions:

1. How have coastal villagers responded to recent socio-economic and ecological changes?;
2. Where does migration fit within existing household livelihood strategies/responses?;
3. What impact does migration have on the wellbeing of those who leave but also those who remain in the villages?; and
4. How does migration affect the ability of coastal fishing households to cope/adapt to change (i.e. their social resilience)?

Though a contested term and concept within the social sciences (Davidson, 2010), resilience has been adopted among human geographers and those working within human-environment relations. Resilience is conceptualized as being composed of two 'sides'—one social and the other ecological—of the same coin, commonly termed social-ecological resilience. Social resilience is the ability of individuals or communities to cope with external stresses, shocks or disturbances precipitated by social, political and/or environmental change (N. Adger et al., 2002; Brown, 2013). Ecological resilience, on the other hand, is the ability of ecosystems to maintain their structure/function in the face of shocks or disturbance (N. Adger, 2000; Holling, 1973). Work on resilience has traditionally been biased towards the ecological (chiefly due to its origins in ecology) to the chagrin of many scholars who have called for greater consideration of the social (e.g. A. V. Bahadur et al., 2013; Christophe Béné et al., 2012, 2014; Cote & Nightingale, 2012; Davidson, 2010). Thus, the social aspects of resilience have been relatively under-addressed. My doctoral research contributes to addressing this gap by employing the concept of social wellbeing within my methodology as a way of understanding social resilience. Specially, I do this by focusing on three select coastal small-scale fishing villages in Koh Kong, Cambodia, and looking at wellbeing outcomes connected to outmigration of villagers. Given that the ecological dimensions of coastal fisheries and communities are relatively better understood (as outlined above), my research also contributes to a better understanding of the social dimensions, and in doing so, paint a more complete picture of resilience in the context of coastal fishing communities whose members are increasingly on the move.

Speaking to aspects of the social dimension, studies on fishers and fishing communities have shown how fishing plays an important role in contributing to fulfilling social and psychological needs, in areas of overall job satisfaction and self-actualization wherein fishers see fishing not just as a livelihood but as 'a way of life' (Coulthard et al., 2011). In other words, it is argued that

fishing contributes to people's overall (social) wellbeing. In some cases, studies show that most fishers would not leave fishing for an alternative occupation, pointing to reasons related to both income and non-income dimensions (R. B. Pollnac et al., 2001; Seara et al., 2017). While the evidence for the connection between fishing and wellbeing has been shown in different regions such as: i) Southeast Asia (the Philippines, Vietnam, Indonesia, and Thailand); ii) Caribbean (Belize, Nicaragua, Dominican Republic); and iii) Afro-India (Senegal, Guinea Bissau, and India) (R. Pollnac et al., 2012; R. B. Pollnac et al., 2001), the nature of fishing being more than a livelihood and its effect on wellbeing is not as clear for coastal communities in Cambodia. Elucidation of this relationship is not as straightforward as it is complicated by migration of coastal villagers out of the fishing village to the provincial capital and beyond. Therefore, in understanding wellbeing in the Cambodian coastal context, it becomes essential to understand the nature of migration and how this phenomenon affects wellbeing, not only for those who leave, but also for those who stay. My research further probes and questions this notion, i.e. that fishing as a way of life supplants other dimensions (e.g. material/income) as observed elsewhere, by considering outmigration of Cambodian coastal villagers from the fishing village and its social implications. My research contributes to a better understanding of the relationship between fishing and wellbeing by investigating the role fishing plays, and how it impacts the wellbeing of fishers and their households in coastal Cambodia, in the context of migration.

I focus specifically on migration since there is currently little known about migration of people from coastal households, what they are doing after migrating, and the ways in which their life has changed—materially, relationally, and subjectively—after leaving the village. To answer such questions, I methodologically employ the concept of social wellbeing (i.e. a '3D wellbeing' approach), which divides wellbeing into three dimensions: material, relational, and subjective (Gough & McGregor, 2007). Social well-being is defined as a 'state of being' between individuals and the environment that culminates vis-à-vis fulfillment of 'human needs', the meaningful pursuit of individual and collective goals, and overall life satisfaction (Armitage et al., 2012; Gough et al., 2007b). This research builds on relatively recent conceptually-focused arguments by other resilience scholars who advocate for the use wellbeing and its potential for informing social-ecological resilience (Armitage et al., 2012).

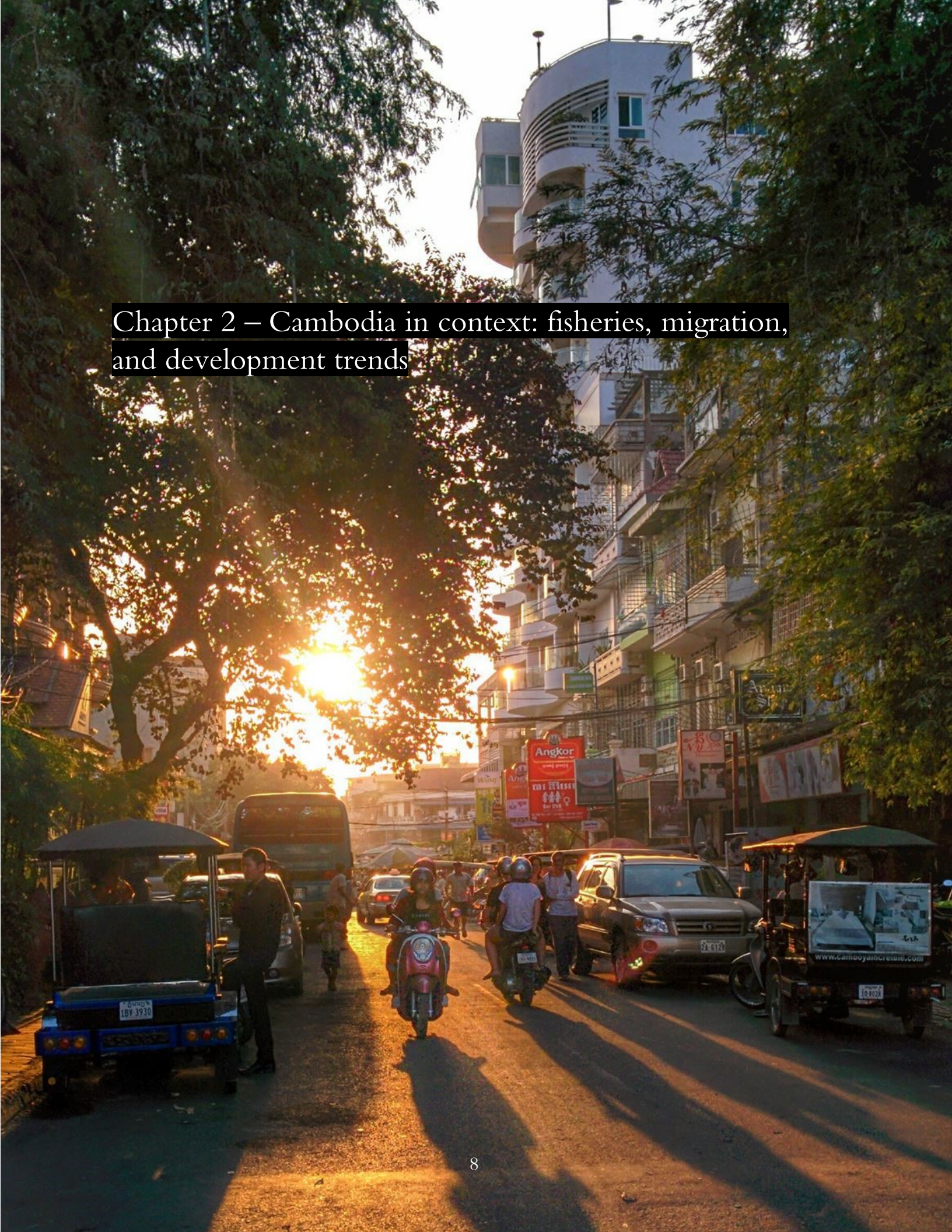
Now, more than ever, coastal fishing communities in Cambodia are facing significant social-ecological change. On the one hand, decadal trends of decreasing fish catch have meant less income and more debt, meanwhile new economic opportunities inland offer the promise of stable monthly income. On the other, people are migrating out from the village, leaving behind their families and the coast. By employing social wellbeing, this study uses a people-centred approach to inform our understanding of migration and the complexity of coupled ecological and social systems.

1.3 Outline

The thesis is divided into seven subsequent chapters. The following two chapters set the stage for the reader: chapter two provides a contextual overview of Cambodia focus on fisheries, migration, and general development trends within the country—all of which are important for the reader to be aware of and allows them to better situate my research. Chapter three shifts to focus on the key literature that is drawn upon for the theory and concepts used, namely bringing in relevant theoretical perspectives on migration; resilience, including its origins, transformations as a concept, and gaps in resilience thinking; and social wellbeing, as both a concept and lens with which to understand social-ecological systems like coastal fisheries and the communities that rely on them. Chapter four covers and explains how I went about conducting my research, starting with an exposition of my positionality and epistemological evolution as an environmental social scientist, discussing the sites of study in Cambodia, data collection, analysis, and limitations.

The remaining thesis covers the empirical and analytical arenas, starting with chapter five which provides a description for the reader of what life is like in a Cambodian fishing village and then moving on to describing the three villages of focus and the two main urban locations in Cambodia where villagers migrated to. Chapter six focuses on migration and both the process of leaving the coast and the characteristics of migration across the three villages, including a typology of migration as a livelihood strategy. From there follow the next two chapters, drawing from empirics and weaving in the analytical, starting with chapter seven which brings together livelihoods and migration and analyzes the two from a social wellbeing lens. This dovetails into the concluding chapter, focusing on the interplay of migration, social wellbeing, and resilience and how our understandings of these three areas are expounded further using the case of coastal Cambodia and the implications on coastal fishing individuals/households and their future.

Chapter 2 – Cambodia in context: fisheries, migration, and development trends



2.1 Introduction

The objective of this chapter is to provide a brief profile of key areas of Cambodia that will serve as the contextual foundation for the thesis, and to contribute to a more comprehensive understanding of the country and its dynamics. While the focus of my research is coastal fisheries, this chapter gives a broader overview of fisheries in Cambodia so that the reader is better situated to understand and appreciate coastal fisheries. The following sections will overview recent trends in demography, livelihoods (in general but fisheries, in particular), economic history/outcomes (e.g. growth/inequality), and migration in Cambodia (including showing the regional context).

2.2 Demography

Cambodia's population has been steadily increasing, at a rate of 1.6% (2010-2015) with most recent estimates (2015) showing a total of 15.7 million people (World Bank, 2018c). Of this, 12.4 million are rural and the rest (3.3 million) are urban. In other words, Cambodia has been, and remains, largely rural. The urban population has been increasing at a modest pace (18.6% in 2000 to 20.7% in 2015) (UN DESA, 2017). While the country is expected to urbanize to levels above 30% by 2050 (UN DESA, 2014), it will remain one of Asia's least urbanized countries by mid-century. With a population of 1.7 million, the country's capital, Phnom Penh, is the largest urban area in the country with over half of the urban population.

The most recent demographic data available indicate two major trends emerging. First, Cambodians are on the move. Rural-to-urban migration accounted for the 70% population increase in Phnom Penh between 1998 and 2013 while the share of rural households (marginally) decreased (from 80.5% in 2008 to 78.6% in 2013) (ADB, 2014). A study on rural-urban migration found that half of rural out-migration was to Phnom Penh and one-third was international, mostly to Thailand (They & Treleaven, 2012). An average net loss of 4% was observed as a share of population for 90% of the villages surveyed. Not surprisingly, for villages that were situated closer to national roads and had access to amenities (e.g. electricity), the out-migration rate was lower. Those who do migrate from their village tend to be predominantly younger adults which has caused a "greying" of the rural population. Related to this, the second trend is that Cambodians are getting older. While the bulk (65%) of the population is split almost evenly between two age groups (15-29 years and under 15), the dependency ratio (i.e. proportion of working-age people to the very young and elderly non-working population) is decreasing. By 2030, it is expected that 1.2 million Cambodians (6% of the overall population) will be 65 years of age or older, with the number increasing steadily thereafter (ADB, 2014). Nevertheless, the large working-age population base represents a substantial demographic dividend and a significant source of labour.

While the official unemployment rate is ostensibly very low (0.1%), this does not capture the reality of informal employment, unemployment, and underemployment in Cambodia (see McKay et al., 2016). About one-third of the employed population is classified as 'skilled agricultural, forestry, and fishery workers', followed by 'craft and related worker' (23%), and a minority (16%) as 'service and sales workers'. For the first two categories, the gender ratio is very similar, but for the third occupation, there are twice as many women than men (21% vs. 11%) employed (NIS, 2016). Occupations varied by geography with Phnom Penh and urban

areas in general having about one-third of the employed population as 'service and sales workers' whereas 'skilled agricultural, forestry, and fishery workers' made up the largest occupation in rural areas (43%). This was rounded out by 'craft and related workers' occupation, which was roughly the same between urban and rural areas.

2.3 Livelihoods

The livelihood landscape for Cambodia remains heavily tied to ecosystem services: 85% of the rural population (i.e. most of the country) is, in one way or another, dependent on natural resources which are tied to the seasonal availability of water, fish, and other animals and plants (Un et al., 2015). In other words, for most Cambodians, rural livelihoods orbit around rice cultivation, fishing, and collection of products from the wild (e.g. aquatic animals and plants; non-timber forest products)[7]. Thus, employment within a natural-resources dependent sector (e.g. agriculture, fisheries) remains one of the most dominant from which they earn a living.

While many Cambodians live off the land, the ownership of agriculture land varies across the country[8] and is very male-dominated (about 13% was owned by women in 2015) (NIS, 2016). In 2015, the majority (~60%) of households owned less than one hectare (ha) of agricultural land and about a quarter owned between one to three hectares. For many Cambodians, owning land is tied to financial security (e.g. can be portioned and sold off or distributed among family members) and plays an important socio-cultural role. However, while the relatively small amount of land owned by some Cambodians may be large enough to have a subsistence living, it is often not enough to earn a good income. There are two implications that stem from this. One is that this means many Cambodians are often working as labourers on other people's land or renting/sharecropping, with either route offering very little promise of upward economic mobility. A second consequence (potentially tied to the first) is that the lack of land and income security acts as one of the potential catalysts for migration for people or entire households.

The other is environmental change. In a country where most of the population and their livelihood is dependent in some way on natural resources, fluctuations in climate and weather patterns can have widespread negative impacts. Across Cambodia, farmers point to growing

---

[7] Rice was the dominant crop across the country, with 73% of the land area devoted to its production. Production varied according to the season with the wet season production being generally higher (~ five million tonnes) than in the dry season (1.38 million tonnes) (NIS, 2016). Just over half (57%) of all households in Cambodia were engaging in livestock and poultry raising, with Phnom Penh being the lowest share (1%) and the Plateau and Mountain zones the highest (70%) (NIS, 2016). The most common types of livestock raised were chickens (53%), duck (38%), and cattle (6%). In addition, forestry and hunting provided a livelihood for 69% of all households in Cambodia (NIS, 2016). Livestock value chains represented an average net income of $130[7] with a 70% profit margin (less than capture fishery value chains) (Mousset et al., 2016). The most common activity was collecting root crops, fruit, and vegetables (38% of all households), followed by firewood (37%); other common activities included collection of rattan, bamboo, and palm leaves (NIS, 2016). Economically, households earned an average net income of $471 per year with vegetables, fruit, cassava, and rice constituting 96% of crop income (rice alone made up about 50%) (Mousset et al., 2016).

[8] The largest share is in the Tonle Sap region (1,550 hectares) and Plain zone (1,025 hectares) with the lowest being in the coastal zone (215 hectares), excluding Phnom Penh (13 hectares)[8]. Reflecting the floodplain topography, land used for agriculture varies dramatically according to the season. During the wet season, roughly 2.3 million hectares of land is utilized (~15% of this is by households headed by women) whereas in the dry season, about 311,000 hectares is used (33,000 of which is by women household heads) (NIS, 2016).

erratic patterns of rainfall (i.e. sometimes too little, other times, too much) which make it difficult to predict and plan their farming, and often forces them to take on large crop losses (Parsons, 2016a). One of the most recent weather-related occurrences was the 2015/2016 El Niño event, which resulted in unseasonably low precipitation and increased temperatures. By April 2016, the hotter and drier conditions led to drought conditions for much of the country, putting significant financial pressure on, and increasing water insecurity for, poor households. Out of 2,400 households surveyed, 57% of those from the coastal region and 47% from Plateau region reported water shortages (WFP, 2016). Crop losses due to the drought led to a 22% decline in household paddy and cassava production (WFP, 2016). In response to this, many households put more money towards buying more seeds and agriculture activities. For some this meant taking on additional loans, with an average household debt of $1,282. This was a substantial financial burden given that this level of debt amounted to 33% of the average monthly household income in 2015 ($432) (NIS, 2016). In addition, 62% of households reported income losses of about 19% between 2015 and 2016 and poor households spent 12% of their non-food budget (44,000 Khmer riel, KHR, or $31[9]) in one month on water (WFP, 2016). Faced with rising costs, environmental distress, and falling returns, the view on farming as a livelihood has become evermore unappealing, particularly for farmers in Cambodia who are "depending on the sky" (Bylander, 2013, p. 140). One outcome of the combination of recurring environmental shocks and farming becoming less desirable has been the acute increase in sales of agricultural land over the last two decades (Parsons, 2016b), with much of the land being acquired by well-off farmers who have multiple plots in various locations—combined they help reduce their vulnerability to shocks and crop losses.

For those who manage to eek out a livelihood on the agrarian landscape, they must also contend with the upfront (and rising) costs of farming. Combined with contending with environmentally-mediated crop shortages or losses, many Cambodians have taken on mounting household liabilities/debt. At the country level, 38% of households reported having debt or liabilities in 2015 (the average from 2011-2015 was 36%). While households in Phnom Penh had the lowest levels of debt (9.7% in 2015), the share of indebted household's in other urban areas was significantly higher (31.4% in 2015), while rural areas had the highest share of households in debt (43.2% in 2015) (NIS, 2016). The average size of a loan in Cambodia was reported to be 5,157,000 KHR (~$1,289) but this amount was dwarfed by households in Phnom Penh who had an average outstanding loan of 10,270,000 KHR (~$2,568) and higher than those in rural areas (4,600,000 KHR or ~$1,150) (NIS, 2016). In other words, indebtedness is widespread in rural areas compared to urban areas, and in the latter, households have much higher debt burdens on an absolute level. Households in Cambodia obtained loans primarily from the bank (57%) in 2015, followed by NGOs or microfinance institutions (20%), money lenders (11%), and relatives (6%). In the capital, an even higher number (67%) of households obtained their loans from the bank and very few from money lenders and NGOs or microfinance institutions (3% and 6%, respectively). Rural households followed a similar distribution of loan sources: 57% from the bank and 21% from NGOs or microfinance, with a small share from relatives and money lender sources, 6% and 11%, respectively (NIS, 2016). Overall this pattern

[9] ~1,400 KHR = $1 USD

indicates the increasing availability and ease of access to credit, in particular the explosion of microfinance in the countryside (Bylander, 2014), has fueled increasing debt levels across both urban and rural households[10].

Altogether, a lack of land security or adequate land ownership alongside environmental change and increasing household debt can combine in various configurations to 'pull' people out of natural resource-based livelihoods in rural areas and into the city. As Parsons (2016a) notes, "rather than assuaging risk of Cambodia's worsening natural environment, the burgeoning debt landscape has instead transformed it from a socio-ecological to a socio-economic phenomenon, as each new shock sees more debt taken up and more migration taking place" (p. 147).

2.5 Fisheries

2.5.1 Inland Fisheries sector

Nowhere else in Cambodia is the importance of fish underscored more than Tonle Sap Lake, the largest freshwater lake in Southeast Asia (during the rainy season, May-October, its surface area spans 15,780km^2), and its surrounding region, which supports one of the most productive capture fisheries in the world and provides much of the animal protein intake (47-80%) for Cambodians (Asian Development Bank, 2005; Estepa et al., 2016; Hap et al., 2016; Sensereivorth & Rady, 2013). Being the most intensive in the world in terms of catch per individual, the Cambodian inland fisheries sector is instrumentally important to the income, livelihoods and subsistence of a large portion of the population (Baran, 2005; Baran & Gallego, 2015). Between 2000 and 2014, inland and marine fisheries catch, despite fluctuating year to year, has risen, while aquaculture has increased by a factor of eight (Hap et al., 2016) (Table 1). When looking at overall fisheries production, the primacy of inland fisheries becomes clear: 69% is freshwater (inland), 16% marine, and 15% is from aquaculture (Baran & Gallego, 2015). Despite the surge of aquaculture, capture fisheries still dominate supply with six to eight times more production.

Overall, fisheries production is worth $200-300 million per year[11] (at point of landing and harvesting) while processing and trade of fisheries products makes up 8-12% of Cambodia's GDP[12] (exports of fish are valued up to $100 million per year) (MAFF, 2010). Thus, the fisheries sector overall, and the inland fisheries specifically, is an important pillar of the country's economy.

[10] Further complicating this are recent findings from a study by Bylander (2015b) which shows that a) microfinance loans are used for non-productive purposes and repaid not via microenterprise but by wage labour (within and outside the country); b) microcredit is used in concert with informal (high interest) credit systems; and c) borrowers struggle to pay back loans, ultimately increasing their vulnerability.

[11] Estimates based on market value, such as those by IFReDI (2013) suggest that the total value of freshwater and aquatic fisheries is U$1 billion per year (based on a price of $1.60/kg).

[12] Since there is no systematic countrywide assessment of the price of fish per kilogram, this likely results in the undervaluation of fisheries contribution to the country's GDP (Baran & Gallego, 2015).

Table 1. Fisheries production (in tonnes) by in capture fisheries (inland and marine) and aquaculture in Cambodia (2000-2014). Source: (Fisheries Administration as cited in Hap et al., 2016)

Year	*Inland capture*	*Marine capture*	*Aquaculture*
2000	245,600	36,000	14,410
2001	385,000	42,000	13,857
2002	360,300	45,850	14,547
2003	308,750	54,750	18,410
2004	250,000	55,800	20,760
2005	324,000	60,000	25,915
2006	422,000	60,500	34,160
2007	395,000	63,500	35,190
2008	365,000	66,000	39,925
2009	390,000	75,000	49,925
2010	405,000	85,000	59,935
2011	445,000	91,000	71,908
2012	509,000	99,000	73,900
2013	528,000	110,000	90,000
2014	505,005	120,250	110,055

While the trend of fisheries production and its economic importance is clear and well known in marine ecosystems, there is less known about inland tropical fisheries (in general) with respect to the relationship between fishing pressure and general decline in fish catch and aquatic biodiversity (Bahadur et al., 2017). This is due largely to two factors. One is that there is limited availability of reliable data which makes it challenging to map out relationships between fishery management, diversity, and ecosystem health (Allan et al., 2005). The second is rooted in practicalities insofar as inland fisheries consist of many migratory species, thereby making survey and interpretation challenging. To complicate matters, if a general assessment were to be made according to official statistics (Table 1), one could conclude that the trajectory of fisheries production is on an increase, despite a general decline in fish catch worldwide that started to be recognized in the 1950s (Daniel Pauly et al., 2002). In part, this paradox can be explained by the "fishing down the food web" theory as proposed by Pauly, Christensen, Dalsgaard, Froese and Torres (1998). It explains how, over time, fishing depletes higher tropic level fish (larger, commercially desirable) which results in switching to fish at lower tropic levels (smaller, yet faster growing), continuing further down after each level is depleted. In the case of Cambodia, the Tonle Sap has been characterized as an "indiscriminate fishery" i.e. fish stocks are exploited evenly and across trophic levels in the whole ecosystem (McCann et al., 2016). As such, at the community level, this so-called indiscriminate fishery is seen as highly productive, even though at the species level it is unsustainable. Elements of both of these principles in terms of outcome[13]

[13] It is important to note here that the mechanisms proposed for effects observed differ between the two theories: whereas "fishing down the food web" explains changes in fish population due to the behaviour of fishers i.e.

were reflected in a recent survey conducted by Bahadur et al. (2017) involving 169 fishing households in 26 fishery-dependent villages on the west side of Tonle Sap Lake. They showed that even though fishers reported the total size of their catch being consistent, there was a dramatic reduction in the size of individual fish and in the diversity of species caught. As argued by McCann et al. (2016), this reduced diversity puts the Tonle Sap fishery, and fishing households, at significant risk and makes both the ecosystem and the livelihoods that depend on it, increasingly vulnerable to impacts by environmental change vis-à-vis climate change and expanding hydropower development (Arias et al., 2012).

At the livelihoods level, fisheries in Cambodia employs at its peak i.e. August – December, about six million people or just under 50% of the total population (full-time, part-time, and seasonal combined) (Estepa et al., 2016; Un et al., 2015). While this number may seem surprisingly high, it can be explained by two lines of reasoning. One is that according to the Food and Agriculture Organization (FAO), approximately 64% of all rural households in Cambodia were engaged in fishing in 2011 (FAO, 2011). The second is that 85% of households are categorized as rural. Thus, by extension, the bulk of households in Cambodia engage in fishing, to varying degrees (Baran et al., 2014). In many of these cases, fishing is a means to diversify rural livelihood portfolios and is seen as an easy way to hedge or mitigate against risk of crop failures, and thus food insecurity, since it requires modest capital investment and generally no land ownership or tenure arrangements (McKenney & Tola, 2002; Mousset & Baran, 2016). From example, a survey conducted by Mousset et al. (2016) found that about one-third of households in the Tonle Sap and Lowland regions[14] mitigated the risk of food insecurity by choosing to fish. In addition, fish provide an important contribution towards addressing micronutrient deficiencies, especially for the poorest (in some cases serving as the only source of food and income) (Kawarazuka & Béné, 2010; Un et al., 2015).

The importance of fish to food security is highlighted by a recent study on fish consumption rates which found that households ate fish five times a week (Mousset et al., 2016), with per capita fish consumption ranging from 32.3 kg/person/year (Hortle, 2007) and 34.8 kg/person/year (Mousset et al., 2016), up to 57.8 kg/person/year (IFReDI, 2013). The most recent and comprehensive survey to date in Cambodia's fishing-dependent areas (around Tonle Sap lake; Upper Mekong; and lowland areas downstream) focusing on assessing the contribution of fish to the welfare of rural communities found that fish plays an important, albeit variable, role for households (Mousset & Baran, 2016). For those in the Tonle Sap region, fishing was the second most important source of income after rice farming and a main source of food, although its consumption was "elastic" due to seasonal variability (Mousset & Baran, 2016). For people in the Upper Mekong, fishing was seen as an additional source of income for those who

targeting of high-value top predators, indiscriminate fisheries does not give agency to fishers, explaining that changes to species emerge inevitably as a result of faster reproductive rates of selected species. Nevertheless, as Bahadur et al. (2017) state "the reality of fishing behaviour is likely to be somewhere on a continuum between purely indiscriminate and selective or a mixture of behaviours…" (p. 457).

[14] Cambodia features a total of five agro-ecological zones: the coast, the Tonle Sap Lake and its floodplains, the lowland plains, the Mekong River mainstream, and the northeast plateau and uplands (Un et al., 2015).

have their own boats and money to buy fishing gear (the very poor rely on it only for daily subsistence) (Estepa et al., 2016).

Meanwhile in the lowlands, in cases of droughts, floods, and storms which destroyed most of the crops, fish and other aquatic plants and animals were the only food source (Estepa et al., 2016). In other words, fish matters for many Cambodians but how it matters varies across the country, even within the inland fisheries sector. Despite the differences, the commonalities across the areas were that a) fish is the primary source of protein, both in quantity and frequency within the diet and; b) fishing is a mitigation strategy against food insecurity (75% of fish caught and processed is for household consumption) (Mousset & Baran, 2016). From the survey of 747 households in 37 villages (representative of ~3.7 million people), households caught an average of 216 kg of fish (worth $333) in a year with a net annual income of $170 (representing ~5% of the total average net income of $2,917) after selling 57% of their catch. Those in the Tonle Sap region captured the highest average income ($269) while households with a higher fishing dependency tended to have the highest annual fish catch (500 kg) and income from fish ($444) (Mousset et al., 2016). On average, household debt was $465 with an average monthly interest rate of 2.1% (Mousset et al., 2016). In sum, fish and fishing, particularly inland fisheries, provide Cambodians across the country a crucial avenue towards meeting both dietary and economic wellbeing.

2.5.2 Coastal fisheries

Compared to inland fisheries, far less is known (in terms of livelihoods and management) on coastal fisheries partly because the sector is overshadowed by the dominant inland sector, and as a result, less research and attention is paid to the coastal. In many ways, fishing in Cambodia as a livelihood often being synonymous with the Tonle Sap area, yet despite this, the coastal region of Cambodia also plays a significant and integral part of livelihoods and income for many Cambodians. Coastal communities in Cambodia have relied on marine resources as the basis of their livelihood for decades (Som, 1999). The importance of coastal fisheries is reflected in data from the 2015 Cambodia Socio-Economic Survey (CSES), which showed that the proportion of coastal households who engaged in fishing as one of their livelihood activities was the third highest in the country (53%) (the other two categories were not significantly higher: plateau/mountain zone ~58%, followed by Tonle Sap at 54%) (NIS, 2016).

For those Cambodians for who fishing is a primary livelihood, there are tangible costs involved given the 'basics' that are required to do fishing (e.g. boat, engine, different types of gear, netting, bait, etc.). In considering the cost of fish cultivation and fishing nationally, the largest share of costs for households across Cambodia were from three sources: a) repair and maintenance of nets and traps (33%); b) repair and maintenance of boat (18%); c) and boat fuel (20%). While the plateau/mountain region of the country had the highest share for the first category (72%), Phnom Penh and the coastal zone had the highest boat fuel costs, 57% and 41%, respectively (NIS, 2016). With fishers having to travel further out to sea because of declining catch in nearshore areas (Marschke, 2012), this portends a rising, and costly, expense which can become a significant factor for the economic viability of fishing trips. In other words, with a rise in fuel costs, being a coastal fisher has the potential to be more 'expensive' than being an inland fisher.

Fish and fishing contribute not only to the income and livelihood portfolio but also the food security of many Cambodians, particularly so for those on the coast. The 2015 CSES showed that, overall, 52% of households surveyed sold seafood for income while 41% ate what they caught or cultivated. For those in Phnom Penh, most (89%) of the catch was sold, followed by coastal households who sold most of their catch (78%), and about half from Plain and Tonle Sap regions (NIS, 2016). In the coastal context, this underlines the critical importance and connection fish and fishing have to the household income of coastal villagers. Among the coastal provinces of Koh Kong, Sihanoukville, Kampot, and Kep, average yearly fish consumption is 90.3 kg/person/year—in other words, 42% higher than the national average (IFReDI, 2013). Overall, these insights show how fish are 'used' differently within coastal fisheries compared to the inland sector, i.e. the stronger reliance and connection of fish to livelihoods and income for coastal households. Inland fisheries households have access to land in addition to water which allows them to engage in farming and collect natural resources from terrestrial sources (especially income-deficient households) (Mousset & Baran, 2016), whereas coastal fishing households (many who live above the water) have relatively fewer options in this respect. This shows that within the rural landscape of Cambodia, fishing forms an especially integral part of livelihood, income, and food security for households in the coastal region of the country.

Other studies have echoed the high dependence on fishing as a livelihood for coastal communities. The results of a 2013 study estimating fisher density in Cambodia shows that Koh Kong province (where my study takes place) has the highest density of fishers by a wide margin and that coastal provinces in general (e.g. Sinhanoukville, Kep) have some of the highest density of fishers (Figure 1) (Nasielski et al., 2013). Higher fish dependency in these coastal areas can be partly attributed to their proximity to marine resources along with limited alternative livelihood options.[15]

The start of high fish dependency can be traced back to the late 1980s and early 1990s, in parallel with the ousting of the Khmer Rouge regime, when fisheries re-emerged as the general population became mobile and were free to move throughout the country[16]. Many Cambodians sought opportunities to rebuild and make a life where they could earn good money and provide for their family, especially those who had lost their land. For such people and others looking to make a life, this came in the form of information that the coastal region was rife with opportunities to make a good living because there was an abundance of natural resources (for fishing and farming) (Marschke, 2005; MoE Cambodia, 2000). For others, migrating to the coastal area was a response to fewer livelihood opportunities elsewhere (e.g. improved forest management produced an increase in migration of people to the coastal area) (MoE Cambodia, 2000; Vicheth et al., 1997). Even though the historical data is unavailable, we know through oral interviews that fishing was an active and important livelihood pre-Khmer Rouge regime. Some of the earliest data from the 80s indicates coastal fishing increasing over a 10-year period,

[15] The higher fisher density of Koh Kong province can also partly be attributed to the province having the largest stretch of coastline compared to other coastal provinces i.e. more places to support coastal fishing communities.
[16] The exception here, during the time of the regime, would be those who were in the army of the Khmer Rouge regime who had the necessary permissions (and connections) to move within the country or stay behind as in the case of the capital, Phnom Penh (Chandler, 2000).

where there was an almost 200% increase in the number of coastal fishing boats in Cambodia (from 2,618 in 1984 to 7,825 in 1994), with the overwhelming majority of these being small-scale (DOF and Tana (1994), as cited in Som, 1999).

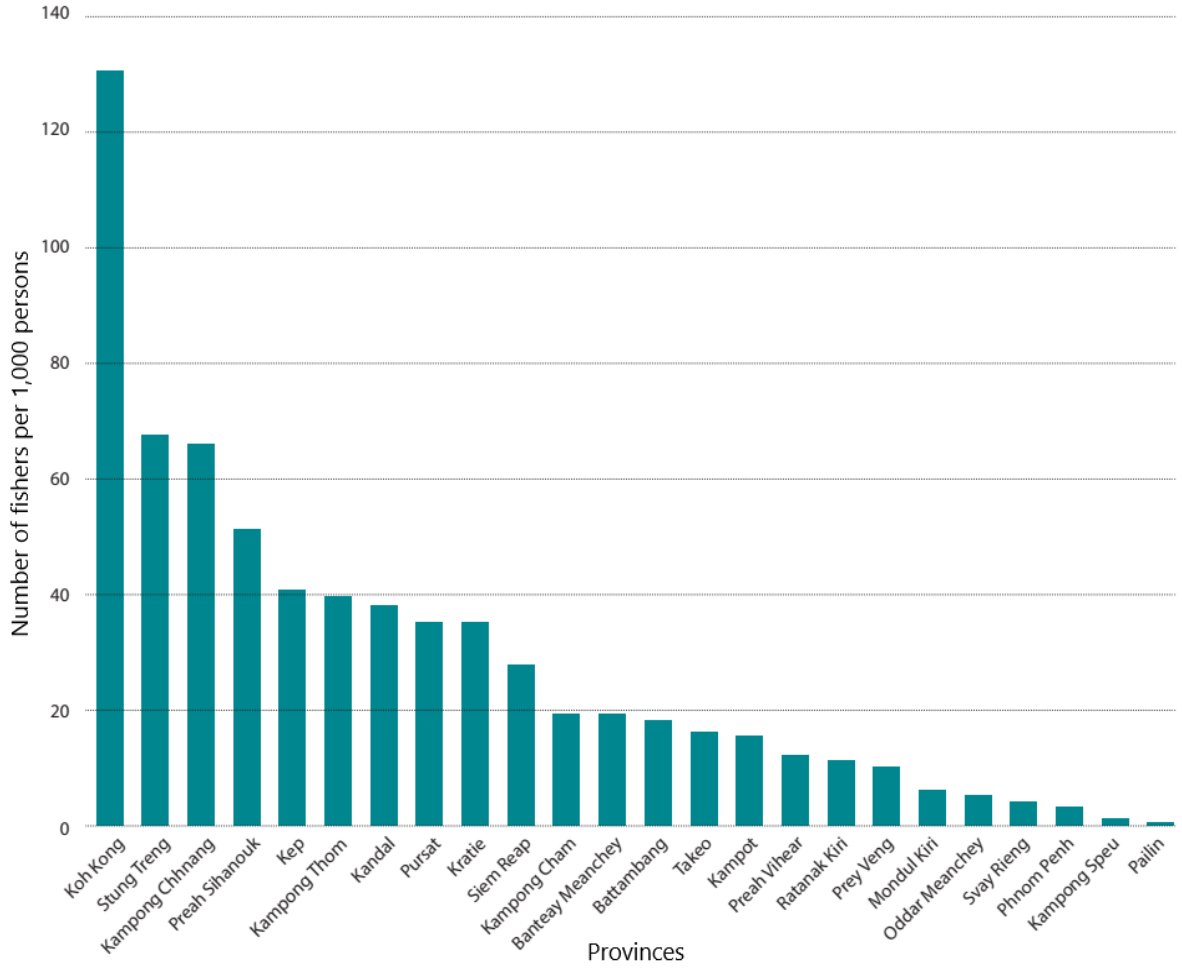


Figure 1. Fisher density by province in Cambodia. Source: Baran et al. (2014), data: Nasielski et al. (2013).

As a result, there was a steady influx of Cambodians from other parts of the country to the coastal region starting in the early 80s and continuing into the 90s and early 2000s (Marschke, 2005, 2012; MoE Cambodia, 2000) (Figure 2). As more people moved to the coast, more people took up fishing, putting increasing pressure on the near shore coastal resources and causing fishers to go out farther to sea and for longer periods. Nevertheless, total marine catch increased into the 2000s, particularly in the provinces of Sihanoukville and Koh Kong (Figure 3). In 2011, Koh Kong province, for example, was among the top three provinces with some of the highest total fish catch in the country (45,000 – 56,000 tonnes) (FiA, 2011).

While increasing fishing pressure because of population increases along the coast certainly contributed to the increase in marine catch observed (and subsequent decline in marine

resources), this likely had a modest impact compared to the effect of the rise in industrial fisheries in the Gulf of Thailand, which already began in the 1960s. This is reflected in data from surveys showing that the Catch Per Unit Effort (CPUE) for the Gulf of Thailand declined steadily from 1961 to 1990, highlighting heavy fishing pressure that came with the introduction of more intensive fishing methods such as trawling and, later, purse seining. The data also shows that the CPUE is now at a level that is only 9% of the original CPUE measured in the 1960s (DoF Thailand, 2015).

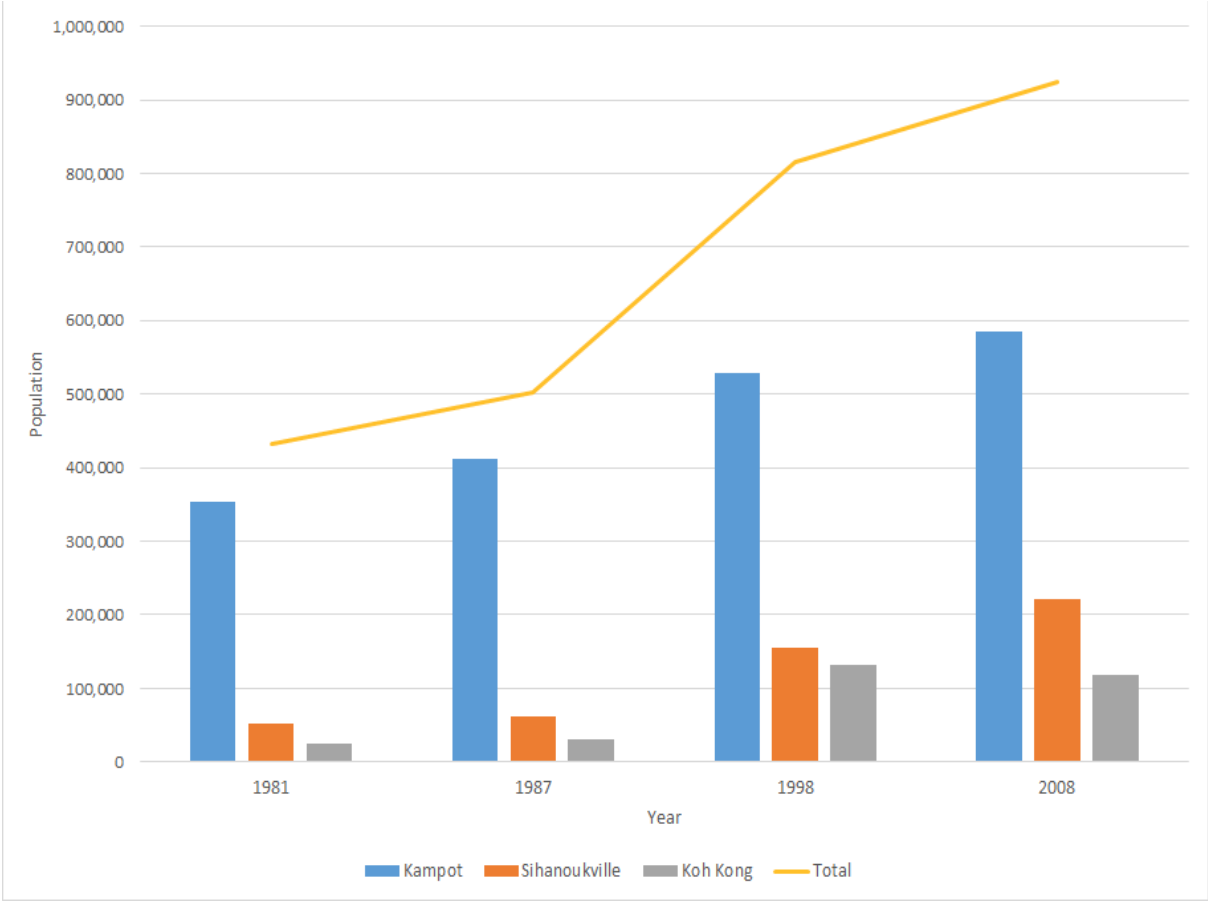


Figure 2. Population of three coastal provinces across four periods: 1981, 1987, 1998 and 2008. Data collated from Lahmeyer (2003); NIS (1998); NIS (2009) and graphed by author. Note: data between 1998-2008 not available given the country census cycle.

On the surface, the general trend of increasing marine fisheries production observed in Cambodia (Table 1; Figure 3) may seem at odds with the generally recognized fisheries decline, across Asia and globally (Associated Press, 2018; FAO, 2016; Worm & Branch, 2012). The increase can be explained by various factors, some occurring in parallel: increases in fishing effort; the expansion of geographic extent of fishing activities; and increase in biomass of the fishery due to 'fishing down' effects—that is, the removal of larger species with longer lifespans which opens up room for higher biomass, small, fast-recruiting species with shorter lifespans (D. Pauly, 1998; Pomeroy et al., 2016). While the weight of factors may be different according to the country, across Southeast Asia, the trend has been slight, yet consistent yearly increases (~2-4 %) (Pomeroy et al., 2016). However, it is important to point out that this is likely explained by

increasing fishing intensity and the trend of many ASEAN states' fishing fleets encroaching onto neighbouring countries' exclusive economic zone (EEZ) to fish given that their own waters are likely overfished.

Not only does this (and other related issues) speak to broader transboundary issues (e.g. fish stock distributions, habitat linkages, global trade) that are part of capture fisheries but also the challenge of maritime enforcement and management (Delgado, 2003; Garces et al., 2008; Pomeroy et al., 2016). Overall, production from marine fisheries is expected to decrease by as much as 30% by 2050 due to global ocean warming and changes in primary production (Cheung et al., 2013, 2016).

Coastal fishing communities in Cambodia have been feeling the gradual decline in fisheries resources since the 1990s (Bann, 1997). The initial signs of decline arose through an overall abuse and unsustainable use of coastal resources. For example, destructive fishing practices such as dynamite and cyanide fishing along with shrimp aquaculture in the 1990s all had an acute negative impact on local marine resources and ecology (both were phased out eventually because they were unsustainable and unproductive, respectively) (Marschke, 2005; MoE Cambodia, 2000). At the same time, charcoal production from mangroves became quite popular because it proved to be a lucrative (and relatively easy given the low upfront capital costs of buying a charcoal kiln) livelihood activity for many coastal villagers and households (see Sideth et al., 2000). However, the destruction of such ecologically critical mangrove forests was also eroding the marine resources that coastal villagers relied on for their sustenance and which played an important role in contributing to their food security. In the early 2000s, the government placed a ban on charcoal production because of its negative impacts on biodiversity and marine resources, which was supported via implementation of community-based natural resource management (Marschke, 1999, 2005; Nong & Marschke, 2006).

Starting in the mid-2000s, one of the ongoing challenges for coastal communities has been sand mining activity occurring along the coast and within the mangrove estuary environment, which has had widespread ecological impacts and exacerbated the progressive decline in catch, according to fishers (Marschke, 2014). While a ban on inland sand mining was put in place in the late 2000s, sand mining was alleged to have been halted in coastal region (Koh Kong specifically) according to the government in 2016 (Narim & Paviour, 2016), however, it was 'officially' banned in 2017 (Lamb et al., 2019). It is uncertain to what degree such rhetoric will translate into action, especially given that as far back as a decade ago, the Prime Minister had called for an export ban for sand given its environmental impacts (Vong, 2009). Meanwhile, coastal villagers and a local environmental NGO have documented evidence that the activity may still be ongoing while subverting the law (Thompson, 2017). On a macro level, coastal communities face threats from stressors related to environmental change. Recently, this has been in the form of droughts: 2016 marked the year where the country confronted its worst drought in 50 years, according to the National Committee for Disaster Management (NCDM)—19 provinces were classified as being in serious condition needing "immediate intervention" (Chakrya et al., 2016; Crothers, 2016). On top of this, seasonal weather patterns have started to shift, becoming less predictable. Typically, the 'rainy season' in Cambodia begins in May and lasts until October. Lately though, changes in weather patterns and events such as El Niño have

prolonged the 'dry season', stoking fears of drought (Muyhong, 2015). In 2014, hundreds of families living in the coastal province of Koh Kong were affected by drought and lack of clean water (Chakrya, 2014).

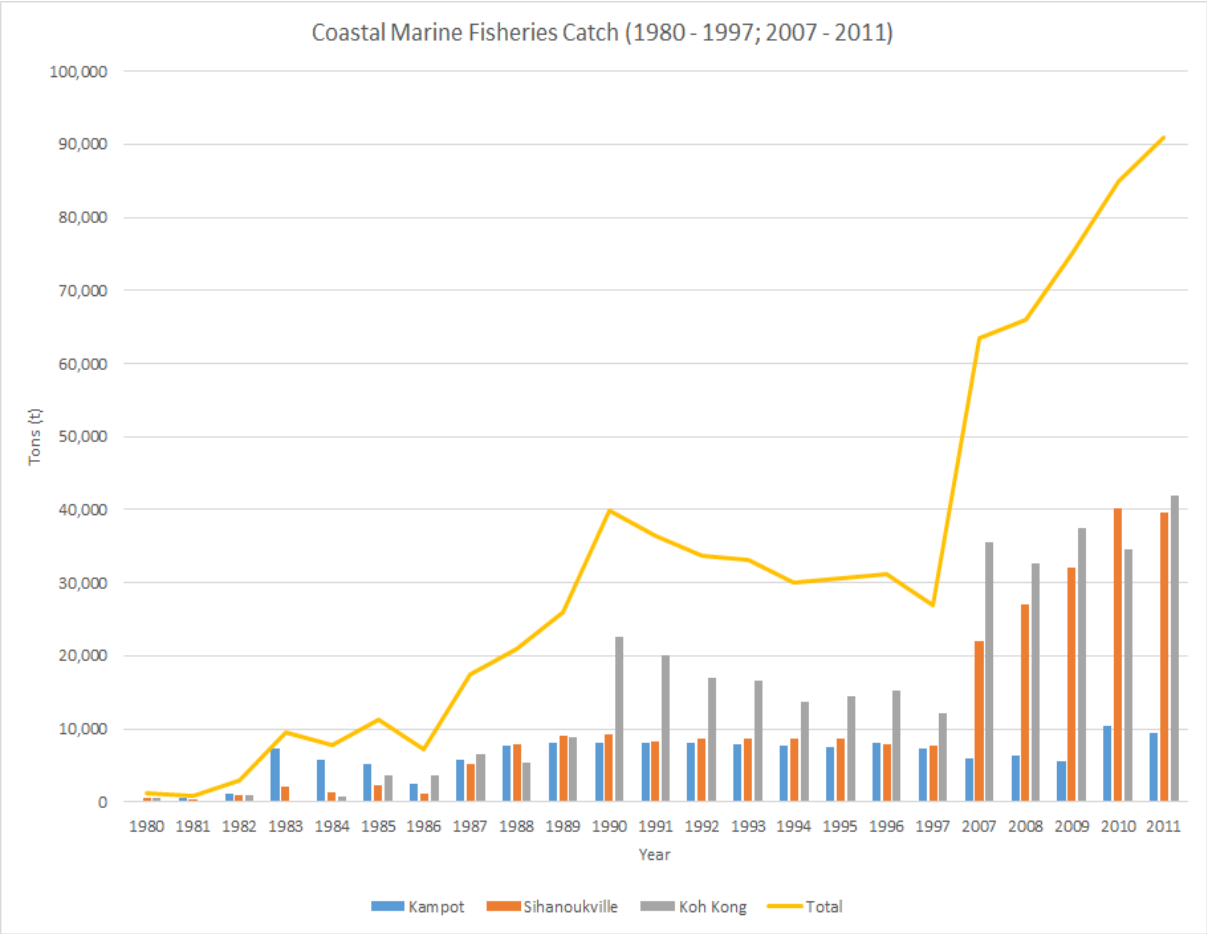


Figure 3. Coastal marine catch for two periods: 1980 – 1997 and 2007 – 2011. Source: graph by author, data from DOF and Tana (1994), in Som (1999) and Sensereivorth & Rady (2013).

For coastal communities who rely largely on rainfall for their freshwater, these droughts and prolonged dry seasons have contributed to water stress and strained fresh water supplies. This has forced some coastal villages to increasingly import freshwater (an added, and relatively costly, expense). These environmental challenges compound the difficulty of the lives and livelihoods of coastal fishing households who have faced negative impacts on catch levels from overfishing (FAO, 2014; Froese et al., 2012) and, more recently, sand mining (Len & Retka, 2018).

In response to these combined factors that have made it increasingly difficult to make a living off of fishing, coastal fishing communities have responded actively and adopted various adaptation strategies such as livelihood diversification (Marschke, 2012) and strategies to protect or conserve their environment (e.g. planting mangroves) being the main responses (Bann, 1997; IDRC, 1997; Marschke, 1999). Another strategy has been in the form of increased mobility, as has been observed in coastal fisheries around the world, mediated by impacts of climate change on marine resources (Savo et al., 2017). For some fishers, this means changing their fishing grounds and labor patterns, which usually means going farther out to sea (e.g. Khan et al., 2010

in Bangladesh). In other cases where this is not possible or the impacts of climatic and/or environmental change are too widespread (reflected in a sustained decline in catch), fishers or those in their household are compelled to leave their village, either within the country or beyond (Savo et al., 2017; Cambodia: Heinonen, 2006b; Kheang, 2013b for inland fisheries; Asif, 2017 for coastal).

Historically, the southwest region of Cambodia (and indeed, the country as a whole) is no stranger to migration. People have always been moving in and out of the region (e.g. post-Khmer Rouge), drawn to the abundant natural resources, mostly to Thailand given its proximity and ease of access (Marschke, 2005). Some coastal fishing households have been successful in remaining in the village, being able to carve out a living by diversifying their livelihood activities, as mentioned earlier (Marschke, 2012). For some members of coastal fishing households, many who face uncertainty (in terms of catch) and risk (financial and climate-related) in earning a livelihood, emerging economic opportunities can act as a pull factor. This has occurred in the backdrop of steadfast economic growth in key industries (e.g. textiles; manufacturing), which has been in parallel with (and has partly fueled) urbanization of primary urban areas (e.g. Phnom Penh) and, more recently, secondary cities (e.g. Sihanoukville, Poi Pet, and Koh Kong) (Warr & Menon, 2015).

Foreign direct investment (FDI) has played a dominant role in this picture (US State Department, 2015). This has come in two forms. The first is in the creation of key industries such as Cambodia's garment sector which accounts for roughly 600,000 jobs (38% of total secondary industry employment) (Warr & Menon, 2015). The second form has been the role FDI has played in the development of special economic zones (SEZ) in cities across the country, particularly secondary cities (e.g. Koh Kong; Poi Pet)[17]. Such investments have led to the creation of an additional 68,000 jobs (Warr & Menon, 2015). In many cases, these jobs offer either equal or higher pay in generally better labour conditions. Combined, these factors have, in the last two decades, catalyzed the migration of people to secondary cities and to the capital (Peou, 2016). Taken altogether, the importance and significance of focusing on coastal areas becomes clear, as they form the landscape on which environmental change, forces of urbanization, and people's mobilities (or lack thereof) intersect.

2.5.3 Fisheries management

Historically, fisheries management in Cambodia has a long pedigree, initially institutionalized by the French during King Norodom's reign (1864-1904) via leasing of fishing rights in certain areas. Within this system, the King collected arbitrary taxes on fishing and, under the protectorate, he continued the practice while paying a portion to the French (Jones & Sok, 2015). Traders and investors would purchase use-rights and sub-lease them to others, with the sub-leasing sometimes continuing in a successive chain. By 1889, the French put in place a system to enable direct collection of payments and by 1900, formalized the fishing lot system (Sok, 2014). As early as the 1900s, documents from the colonial administration showed that

[17] In 2014, there were nine SEZs operating in the country with 20 more green-lighted to be created. It should be noted that, unlike many other countries, the Cambodian government has left the establishment and management of SEZs to private sector developers (Warr & Menon, 2015).

certain species were facing stock declines, yet despite these observations, no conservation measures were enacted (Marschke, 2012). Perhaps is was partly because the system generated a sizeable amount of revenue for the colonial administration (and Cambodian royalty), making up one-ninth of the French Protectorate's annual budget in 1910 (Degen et al. 2000 as cited in Marschke, 2012). This colonial lot system was maintained by the first two post-independence regimes, overseen by the Department of Fisheries (DoF) after its establishment in 1960 (after branching off from the Department of Hydrology, Forestry, Wildlife, and Fisheries formed in 1953). During this decade, fishing also became modernized and more intensified via introduction of motorized boats and better gear (e.g. nylon filaments for bag and seine nets for large-scale fisheries).

Under the Democratic Kampuchea (DK) regime (1975-79), commercial fishing was abandoned while small-scale fishing was neglected but some fishing lots continued under Khmer Rouge fishing units (fish was exported to Thailand and supplied to collectives, cadres, and officials in Phnom Penh) (Jones & Sok, 2015; Sok, 2014). By 1987, facing financial strain, the People's Republic of Kampuchea (PRK) reintroduced fishing lots to generate revenue. The PRK and the State of Cambodia (1979-93) did so by putting in place the Fisheries Law and a sub-decree on fishing lot leasing. In practice, the "competitive bidding" process was abused and manipulated, while many lot concessionaries and (sub)leases ignoring rules and regulations (e.g. permitted fishing season, activities, and gear) (Sok, 2014).

In 2001, Prime Minister Hun Sen initiated a reform which reallocated 56% of lot areas (representing over half a million hectares) to community fisheries and others as protected areas, which spurred donors to pressure the government towards further improving fisheries governance and decentralization within the fisheries sector, in general (Jones & Sok, 2015; Marschke, 2012)[18]. This was followed a few years later by the community fisheries sub-decree to institutionalize community representation in fisheries management. In 2005, there were 162 lots covering an area of 852,900 ha. Another fisheries reform (internally known as "deep fisheries reform") in 2012 via sub-decree ultimately led to the cancellation of all private fishing lots, reflecting an overall shift from large-scale commercial management to decentralized community-based management (Baran et al., 2014; Jones & Sok, 2015)[19]. With this, more than one million ha were transferred from private ownership to community fisheries (CFi). As of 2013, there are 516 CFi, with 228 of those in the Tonle Sap floodplain and 358 of which are registered by the Ministry of Agriculture, Forestry and Fisheries (MAFF) (Figure 4) (Baran et al., 2014; ODC, 2016). Overall, the most recent reforms represented one of the most significant policy shifts within natural resource management and rural development in Cambodia (Baran & Gallego, 2015). Among the fishery management tools, fish refuges have been supported as a means to manage fish resources; for example, 50 small scale protected areas were created in 2012 after the

[18] After 2001, the Asian Development Bank (ADB) attached conditions to its financial support to the fisheries sector that were predicated on the fishing lot reforms (Jones & Sok, 2015).

[19] There was also a political component as the decision was partly made, by the prime minster, in response to public demand for greater and equal access to the fishery (K. Bahadur et al., 2017). This was a response to the growing local complaints, conflict, and violence over lot lease's alongside reducing revenue for the government (Jones & Sok, 2015). Before 2012, concessionaires and operators of fishing lots held considerable power and control of fisheries (see Sok, 2014).

removal of fishing lots and 764 commune fish refuges have been created which bring together fishing access regulation and aquaculture enhancement techniques based on stocking (Baran et al., 2014). All things considered, the impact and implications of these reforms is uncertain given their temporally recent nature, although there are calls for governance processes that consider and integrate the complex social-ecological dynamics and livelihoods to make fisheries more inclusive (Jones & Sok, 2015).

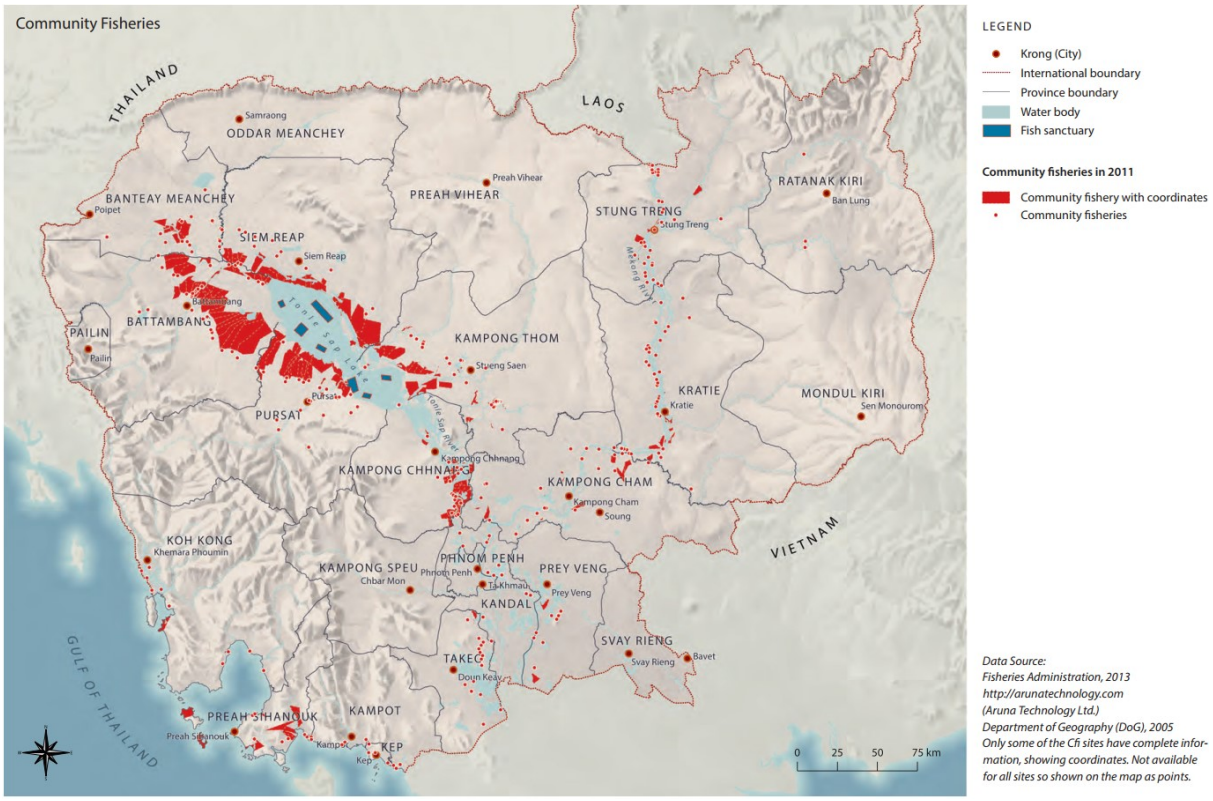


Figure 4. Cambodia's community fisheries (in 2011). Source: Baran et al. (2014)

In contrast to inland/Tonle Sap fisheries, coastal fisheries were not part of the parcelling off and lot leasing system during neither the colonial administration nor any post-independence government, in part because of efficacy in revenue collection since most of the population lived in the flood plain region around Tonle Sap (Marschke, 2012). Given the sparse record on coastal resources and management during both colonial and post-colonial periods, what we do know is from oral histories from the 1950s and 60s which indicate that fishing was small-scale and Cambodians would sell their catch to people from Thailand, Vietnam, and Singapore (Marschke, 1999). As such, in general, not much is known about the coastal fisheries sector and management of coastal resources prior to the Khmer Rouge regime. Post-regime and the decade that followed saw the emergence of community-based management practices (e.g. IDRC, 1997, 2000, 2003), coinciding with (not coincidentally) an influx of donor, and thus, foreign NGO interest and presence. What can be said on fisheries (and resource) management for the coastal region before this period is that local resource activities were probably led by village and higher-level government officials (Marschke, 1999). In other words, by and large, there were no systematic or specific fisheries management activities (e.g. liming gear types, protecting specific breeding

habitats, limiting access, etc.) taking place within coastal fishing villages; rather, the focus was on protecting the overall aquatic habitat i.e. mangrove forest areas and estuarine environments (Marschke, 2012).

2.6 Unevenly divided: Cambodia's economic growth

By all accounts, Cambodia has dramatically evolved, both politically and economically, from a post-conflict society reeling from internal strife and genocide to a country that has embraced the neoclassical/neoliberal economic policies historically advocated for by international financial institutions (IFIs). Cambodia's economic boom years started towards the end of 2003 coinciding with the consolidation of power by Prime Minister Hun Sen and his ruling Cambodian People's Party (CPP) hegemonic assertion of political authority and patrimonial rule (Milne & Mahanty, 2015; Slocomb, 2010). From 2005 to 2007, the country's average GDP growth was about 11% (the first year of this period, 2005, saw a 13.3% growth rate which was, at the time, second only to China) (ADB, 2014). Looking deeper into these numbers, however, reveals that this meteoric growth was based on a very narrow set of industries, principally textiles/clothing, tourism, and construction. In addition to being susceptible to external shocks, the economic benefit of this form of development was extremely unevenly distributed, primarily benefitting urban areas (Slocomb, 2010). For instance, in 2004, only 5% of the population in the country's capital was below the poverty line compared to 21% in other urban areas and 34% in rural areas (Engvall et al., 2007). Another case in point: rural poverty rates were only marginally lower over a similar period where Cambodia showed double-digit GDP growth, 33.7% in 2004 to 30.6% in 2007 (World Bank, 2009). This trend has continued with incomes in urban areas rising rapidly and outpacing rural areas; as a result, poverty in present-day Cambodia has become synonymous with the rural (Runsinarith, 2011).

Cambodia's pursuit of economic growth, a large portion vis-à-vis foreign direct investment (FDI)[20], has had a marginally positive impact on the country's rural class. This has taken different forms over the past few decades. In the timber boom period of the 90s and 2000s, farmers and communities were pushed out of forests and lost access to important natural resources for their livelihood. Much of the logging over this period was tacitly supported (i.e. unofficially) by the government with many of the individuals involved having ties to the ruling CPP (Milne, 2015). In other cases, agricultural land has been taken by politically-connected individuals and their families, often backed by military support (Slocomb, 2010). And more recently, farmers have been squeezed out by property development, particularly on the outskirts of the capital and in major tourist centres. In a country where the majority (79% as of 2016) of the population resides in rural areas (World Bank, 2018d), the country's economic growth (and pursuant policies) has fueled this bifurcation, giving rise to an unevenly divided socioeconomic landscape.

Economic growth in Cambodia (and the specific industries and policies to support it) can be best understood from a political economy lens. Understanding the deeper reasons for the

[20] China is by far Cambodia's biggest source of FDI: in 2015, the country contributed more than the total of all other countries combined (~$900 million vs. ~600 million). Moreover, over a four year period (2011-2015), Chinese firms gave about $5 billion in loans and investment to Cambodia, representing about 70% of total industrial investment in the country (The Economist, 2017).

outcomes described above involves recognizing the persistence and importance of the patronage system in Cambodia, and how it has been intricately woven into social relations and norms of Cambodian culture since pre-industrial times (Slocomb, 2010). As such, this system is what has ensured elite capture of the political space in post-Khmer Rouge Cambodia. The net result is that the patronage system "effectively marries power and wealth and distributes the benefits of both in ever-diminishing returns down the hierarchy, the *khsae* or strings that tie the beneficiaries to their individual patron" (Slocomb, 2010, p. 298).

2.7 Migration and Cambodia: in regional context

In order to appreciate the current state of migration in Cambodia (which I visit in section 2.8), it is worth understanding how migration has been influenced by wider regional trends and policies put in place by other Southeast Asian nations. Starting in the 1960s and expanding into the 70s and 80s, following decolonization, migration began to take shape with two groups of countries emerging—those under either Communism or Socialism (Vietnam, Cambodia, Myanmar, and Lao PDR) and those who under open market-oriented/export economies (Singapore, Malaysia, Thailand, the Philippines, and Indonesia) (Kaur, 2010a). As newly industrialized countries (NICs), Singapore, Malaysia, and Thailand adopted export-led industrial policies in the 1970s and 1980s, opening their borders to foreign manufacturing production and, with this, started to face labour shortages (Kaur, 2004)[21]. This catalyzed labour migration as these countries looked to other countries, including Cambodia, to fil the gap, with the trend continuing into the 1990s (Kaur, 2010a).

By the late 1990s, Cambodia as a country was emerging from a brutal genocidal regime and regaining a foothold socioeconomically, and following other nations in the region, started to adopt trade liberalization policies and joined the Association of Southeast Asian Nations (ASEAN). This created the resultant labour migration system as reflected in Table 2, which shows how Cambodia was part of the group of countries that exported labour (people) to other countries, principally Thailand in its case (Kaur, 2010b; Orbeta & Gonzales, 2013). One labour migration pattern revolved around the Mekong region states with Thailand as the central destination country and Myanmar, Cambodia, Lao PDR, and Vietnam serving as suppliers of labour (mostly so-called 'unskilled' labour, e.g. construction, agriculture, or domestic work)[22]. Overall, the patterns show how migration itself was mediated by the *kind* of labour demand (unskilled/low-skill vs. high-skilled) as dictated by migrant destination countries and influenced which migrant sending countries were drawn upon. At the same time, this relationship is also a reflection of the relative socio-economic differences between countries, especially Cambodia of the 90s, in Southeast Asia.

---

[21] In this decade, following the oil shocks, many of the Gulf nations embarked on ambitious and large-scale construction and development projects which drew large numbers of migrant workers from South and Southeast Asia. Many Southeast Asian countries such as Thailand, the Philippines, and Indonesia saw the economic opportunity this presented, and subsequently established migrant worker programs (Kaur, 2010b).

[22] The other pattern focused on the Malay region where Malaysia, Singapore, and Brunei acted as major destination countries for migrants from Indonesia and the Philippines (partly for more high-skilled labour) (Pasadilla, 2011).

Table 2. An overview of the labour migration system of Southeast Asia.

Country Groupings	***Migration corridors***	***Growth sub-regions in ASEAN***
Emigration The Philippines, Cambodia, Myanmar, Lao PDR, Vietnam, and Indonesia	Mekong sub-regional Destination country: Thailand <u>Sending countries:</u> Myanmar, Cambodia, Lao PDR, and Vietnam	1. Sijori Growth Triangle (partnership between Singapore, Johor state in Malaysia and Riau province in Indonesia) 2. Brunei–Indonesia–Malaysia–Philippines East ASEAN growth area (BIMPEAGA)
Immigration Singapore, Brunei, Malaysia, and Thailand	ASEAN <u>Destination countries:</u> Malaysia, Singapore, and Brunei	3. Northern ASEAN (Malaysia, Indonesia, and Thailand)

Source: Adapted from ILO (2014); Kaur (2010b); and Pasadilla (2011)

This labour migration system reflects a two-tiered labour migration policy framework where, on one level, certain countries (e.g. Japan; Korea) seek highly-skilled migrants, while, on the other, other countries (e.g. Singapore; Thailand) attempt to control/manage unskilled or low-skilled workers (e.g. temporary contract migrants) (Kaur, 2010b). The latter group, while economically beneficial (and, in certain cases vital) to the host country, are nevertheless politically seen as "undesirable" and thus, prevented from settling or, at the extreme, from having due rights as migrants (Kaur & Metcalfe, 2006; Kneebone, 2010; Pasadilla, 2011). One of the consequences of 'accepting the labour but not the people' is that it has revealed issues of gender, ethnicity, and abuse and exploitation of migrant labourers (Allison et al., 2012; Human Rights Watch, 2011; Kaur, 2010a; Tang, 2005). This has resulted in newfound insights into the political economy of labour migration building on earlier work (e.g. Sjaastad, 1962) along with the mobilization of civil society and non-governmental organizations in supporting rights of migrant workers, especially given the often-little social protection measures afforded to them (e.g. NIER, 2015 for Cambodia).

For many Cambodians, along with others from poorer Southeast Asian countries such as Myanmar, the impetus to migrate to another country for work is based on limited opportunities in their own countries. With that said, the opportunities available depends partly on where someone is from. For example, Filipinos and Indonesians have access to higher skilled opportunities (facilitated by higher overall education levels) compared to Cambodians or Burmese who fill low skill jobs. In either case, however, economic factors are a primary driver of migration. At the same time, deteriorating environmental conditions in these (and other) countries have made more traditional livelihoods such as farming or fishing (or both) untenable. As a result, environmental factors have started to play a larger role as another driver of migration in the region (Cambodia: Oudry et al., 2016; Indonesia: Kramer et al., 2002; Vietnam: Dun, 2014).

Looking at how the share of intra-ASEAN migration outflows compare to the total global migration outflows shows that in the case of Cambodia, the share of migration within the region

has been historically dominant and has reach levels close to 70% (Figure 6). In other words, migration is predominantly confined to the region for Cambodia, and within mainland Southeast Asia, Cambodia (along with Lao PDR and Myanmar) has shown the most dramatic increase in migrant outflows over the past two decades, from 350,485 in 2010 to 1,144,226 in 2017 (66% going to Thailand in the latter case) (World Bank, 2017).

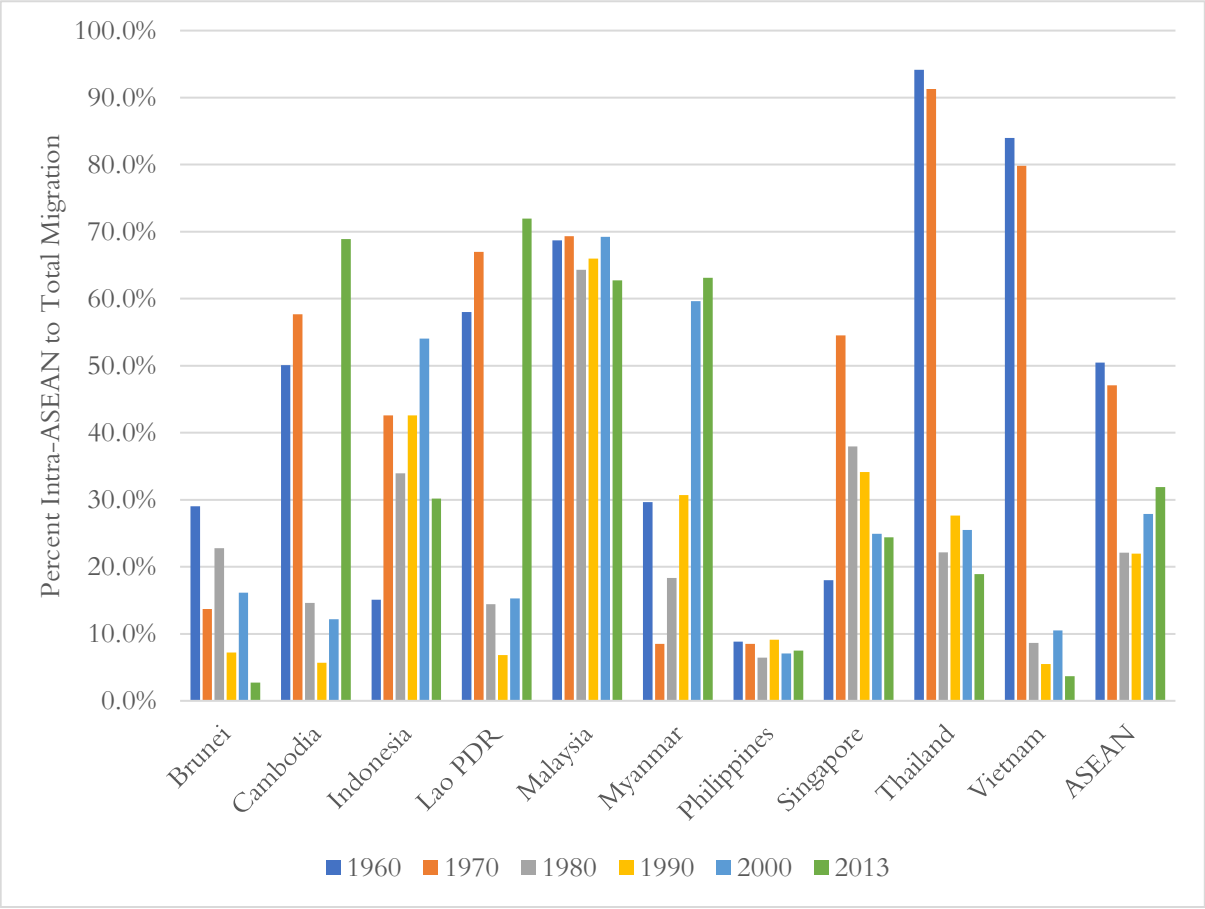


Figure 5. Percent of Intra-ASEAN migration to total global migration by country, 1960-2013. Source: graph by author, data from Bilateral Migration Database 1960-2000 and Bilateral Migration Matrix 2013 (World Bank, 2017).

2.8 Migration and Cambodia: historical perspective and contemporary characteristics

Despite the benefits of the recent economic growth being spread unevenly, the pockets where it has been occurring represent emerging economic opportunities which have catalyzed migration within the country. But to appreciate migration in contemporary Cambodia, it is worth looking at the larger picture of how migration has evolved and the factors that have influenced it. Historically, the story of migration in Cambodia is complex, largely being a mix of obligatory and spontaneous population movements starting in the 1950s under the Sihanouk government where forced, state-driven settlement occurred on the premise of agrarian development schemes, and then later in the 1970s under the Khmer Rouge regime which resettled farmers from the southwest to the northwest of Cambodia (Pilgrim et al., 2012). From the late 20th century onward, when it comes to migration in Cambodia, it is difficult to cover

the topic without reference to, and consideration of, the Khmer Rouge period as a critical inflection point not only on the country's demographic trajectory but also on how that period affected and influenced population movements after this traumatic period.

While information is limited on migration patterns in the early 20th century, what can be said is that there was little interaction between rural and urban areas, the two having distinct identities and economies (Kiernan, 2002). When the French colonialists left in 1954 and Cambodia gained independence at the end of 1953, Cambodians migrated to the cities, which were, up until that point, made up of foreign bureaucrats, immigrants (largely Vietnamese), and entrepreneurs (Chandler, 2000). About two decades later, in April 1975, under the Democratic Kampuchea (DK) (whose leaders were members of Cambodia's Communist Party, CPK, otherwise known as 'red Khmer'—in French, *Khmer rouge*), among the many elements that ceased to exist (e.g. money, formal education, books, private poverty), was freedom of movement (Chandler, 2000).

CPK cadres ordered everyone out of the cities and towns, ultimately resulting in over two million Cambodians (who were labelled "new people" or "April 17 people") being relocated to the countryside[23], with the cities populated only by families of senior CPK officials and a few hundred Khmer Rogue soldiers (Chandler, 2000; Heuveline, 1998; Heuveline & Poch, 2007). Khmer Rouge resistance and armed conflict with the Vietnamese army resulted in forced migrations, with 100,000-350,000 Cambodians fleeing the country (many being housed as refugees in Thailand), returning in the early 1990s after the removal of the regime (Heuveline, 1998; Pilgrim et al., 2012).

The period following the fall of the Khmer Rogue saw an increase in fertility (i.e. the 'baby boom' of 1980s–1990s) from a crude birth rate of 44 per 1000 in 1965-70 to 57 in 1980-85 and 47 per 1000 in 1985-90 (UN DESA, 2017). This was in contrast to other countries in the region that had fertility declines over this period (Heuveline & Poch, 2007). The consequence of this is reflected in present-day Cambodia with the country having a large portion of the population (60% under 20 years of age) in their "high productivity" years (20's and 30's), alongside a small elderly population (~9% of Cambodians are 55 and older) (MLVT, 2014; NIS, 2013; They & Treleaven, 2012). The implications of this is that Cambodia's current population represents a very substantial labour force (300,000 young Cambodians enter the labour market each year) in pursuit of economic opportunities (MLVT, 2014). In this way, the country's contemporary social, economic and demographic landscape, along with the evolution of its migration patterns, owes much to its recent tumultuous history.

This new demographic landscape has occurred in tandem with recent economic changes. Recent developments have catalyzed increased economic growth, namely the "opening up" of the country (supported by macroeconomic policies) and the resultant influx of foreign direct

[23] One reason is that this was a response to the fact that the capital was legitimately food insecure and so some saw the evacuation of the cities as necessary, not only so the country could grow enough food but also, so it could earn hard currency to pay for imports by increasing national production of rice and exporting surpluses. A second reason was the challenge of administering the few million people who had not supported the revolution, while another rationale reflected the fear of threat to their own security, felt by many CPK leaders. The overarching reason, however, was in asserting the victory of the CPK, the dogmatic dominance of the countryside, and the favoring of the country's poor (Chandler, 2000).

investment (FDI) which has created hubs of manufacturing in various areas of the country (e.g. Special Economic Zones). As large numbers of young people enter the labour market, many face limited opportunities in their place of residence, and thus, end up migrating, both abroad where wages have been typically more attractive and within the country. These historical and subsequent demographic and economic factors combined has catalyzed a substantial increase in population movements both inside the country and internationally[24]. Internal migration is largely viewed positively by the Government of Cambodia which sees domestic labour migration as a means for promoting employment and reducing poverty within the population, while the latter has become a focal point of increased attention (MLVT, 2014).

Much of the information on recent internal migration trends for Cambodia can be gleaned from three sources, listed here in reverse chronological order of publication a) the *Cambodia Inter-Censal Population Survey 2013* conducted by the Ministry of Planning (National Institute of Statistics) and sponsored by UNFPA and Japan's International Cooperation Agency (JICA); b) the *Cambodian Rural Urban Migration Project (CRUMP)*, a collaboration involving the Ministry of Planning (Cambodia), the United Nations Population Fund (UNFPA), and the University of California (San Francisco), conducted in 2012 (They & Treleaven, 2012); and c) the 2008 *General Population Census of Cambodia* (NIS, 2009)[25]. It is important to note here that different definitions of migration are used across the government reports. However, most define a migration event as one that involves moving outside the person's village of origin. For example, the 2008 census defines migration generally as "the process of changing residence from one geographical location to another" and a migrant as "a person who has moved to the place of enumeration from another village (or another country) which was the person's last previous residence" (NIS, 2009, p. 97). This means that a person could move from one village to an adjacent village, for example, and would be considered a migrant. In contrast, the CRUMP study is mainly focused on "recent migrants", defined as people who have been living in their current location for less than five years and an 'out-migrant' would be "someone who has moved from a rural village to another location that is beyond the ***district*** boundaries of their village of origin" (emphasis from source) (They & Treleaven, 2012, p. 160). This means that, in certain rural-to-rural migration cases, a person moving from one village to another within the same district may be considered a migrant (in the case of the 2008 census) or not a migrant (in the case of the CRUMP study). The reason for having the district level as the unit classifying migrants and non-migrants was because the CRUMP study wanted to focus on moves of a longer distance than village to village. The CRUMP study also considers someone an 'in-migrant' if they are living within the metropolitan area of Phnom Penh and have moved there from a different province i.e. someone who moved from the outskirts or a rural area surrounding Phnom Penh, but within the province, to the capital would not be considered a migrant (They & Treleaven, 2012). In effect, the measure of migration used in the CRUMP study generally produces lower migrant numbers than most measures used by the Government of Cambodia for

[24] Given that international migration and internal migration do not occur in a vacuum and one cannot be discussed without the other, both will be covered with the caveat that the emphasis for this study is foremost on internal migration.

[25] For historical comparison and to trace the evolution of migration, the 1998 General Population Census (NIS, 1998) has also been used in this chapter.

their calculations, and results in lower rural to rural migration rates as well. This is an important statistical nuance for the reader to keep in mind; nevertheless, for all intents and purposes this has negligible impact as the overall migrant trends identified across the studies are in alignment with each other.

Broadly, net migration has been out of rural areas in the periphery of the central plains, on both the east and west sides of the Tonle Sap and Mekong Delta, while migration has been pronounced in the northwest, showing that people are moving from the rice growing Mekong Delta and Tonle Sap basin (where there are land shortages) to the forested areas of the Cambodia-Thailand border (regions that represent the potential to acquire land) (Figure 7) (Diepart et al., 2014; NIS, 2009). Migration has also been to the capital, Phnom Penh and surrounding areas, as well as out-of-province rural-to-rural migration, non-Phnom Penh rural-to-urban migration (to cross border towns, e.g. Siem Reap, Kampong Cham, Sihanoukville, and Poipet), and rural-to-rural within provinces (Diepart et al., 2014; Maltoni, 2007; NIS, 2009; They & Treleaven, 2012)[26].

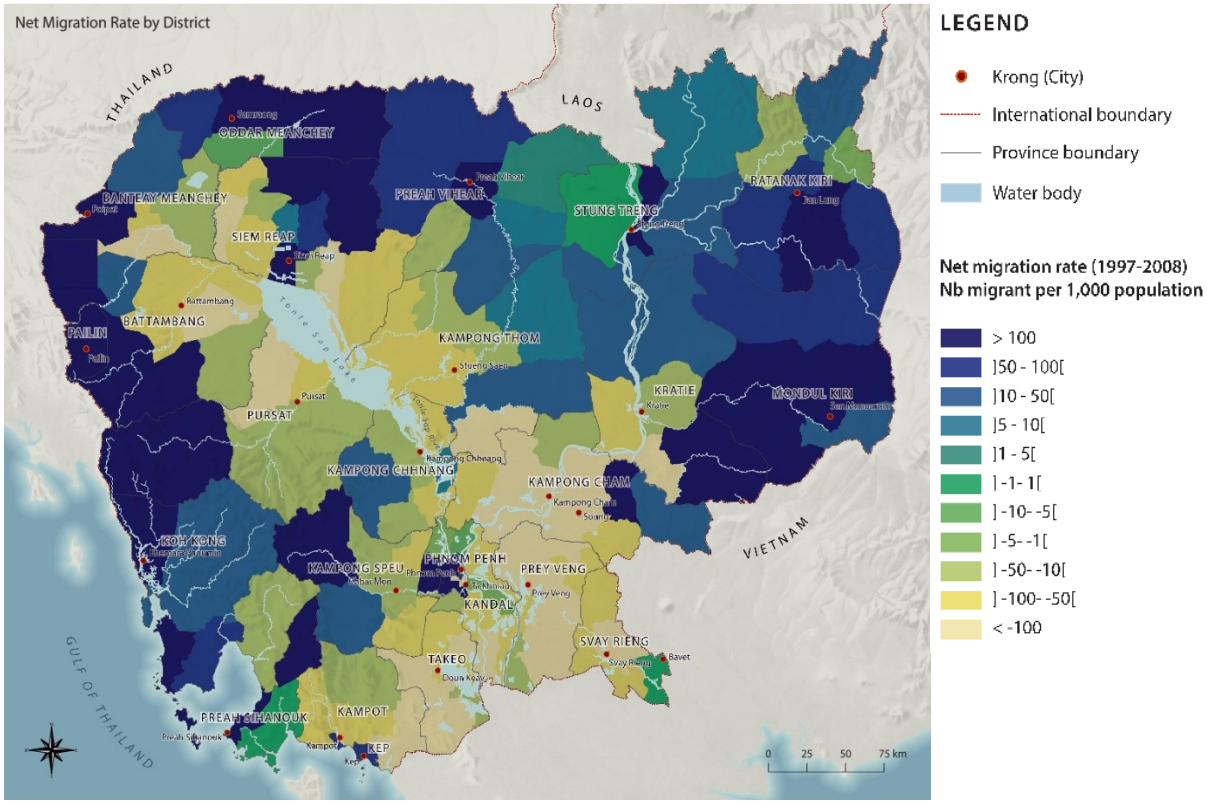


Figure 6. Net in-migration rate by district for Cambodia. Source: Diepart et al. (2014).

[26] While this may be the case, it is important to point out that most numbers showcasing migrants leaving Cambodia usually represent those going via legal and documented means and not those going illegally (irregular migration), the latter facilitated by porous borders and seasonal migration flows. While precise figures are not available for irregular migration given its undocumented nature, it is estimated that less than 10 % of Cambodians who migrate to Thailand (one of the main destination countries) do so through legal channels e.g. those set up via Memorandum of Understanding (MOU) between the two countries (Tunon & Rim, 2013).

The 2013 *Cambodia Inter-Censal Population Survey* revealed that most (64%) internal migrants (both in urban and rural residence) have been long term residents (10+ years) while just over a third (36%) of internal migrants have stayed in the place of enumeration for less than ten years (NIS, 2013). This is in slight contrast to the 2008 census which reveals that the majority (54%) of internal migrants have stayed at their place of enumeration for less than ten years with the remaining (46%) being long-term residents (10+ years) (NIS, 2009).

Overall, internal migrants tend to be mostly young (under 40 years of age). In the ten year period between the two censuses (1998 and 2008), the 25-29 age group (both genders) held the highest proportion (13.52%), followed closely by 20-24 age group (13.09%), and 35-39 group (10.80%) (NIS, 2009). The 2013 Survey indicated a similar trend, with the highest proportion of migrants being 30-34 years old (NIS, 2013). The top three reasons for migration were a) 'family moved' (33.2% for males; 51.3% for females); b) marriage[27] (28.7% for males; 14.8% for females); and c) in search of employment (15.4% males; 10.9% females). This is also mirrored in the 2008 census, although the second most-cited reason was 'in search of employment' (24.19% for males; 18.8% for females) and within the reason 'family moved', females had a much higher proportion (48.66%) than males (27.29%). Further, nearly three-quarters of the migrants were employed in 2008, indicating that most migrants are economically active (of the 24% that were not, approximately 63% were women) (NIS, 2009). Notably, the stand-out occupation of economically active migrants was "skilled agricultural, forestry and fishery workers" (51.7% in 2013 Survey and 49.05% in the 2008 census), highlighting the importance of, and relevance to, the focus area of this study (NIS, 2009, 2013). Most importantly, this reveals that about *half* of all internal migrants in Cambodia are migrating from natural-resource based livelihoods and hints at the likely common challenge that people face in that sector (e.g. land access, resource decline or degradation, and environmental change).

2.8.1 Rural-to-rural migration

The majority of migration in Cambodia tends to be internal[28], and within that, about half represents rural-to-rural migration flow (compared to just over one-quarter rural-to-urban) (NIS, 2009, 2013; They & Treleaven, 2012)[29]. In other words, within Cambodia rural-to-rural migration is very significant, being two times more common than rural-to-urban migration. Data from the most recent census shows that of the 26.52% of the total population (i.e. 3,457,228 people) that migrate internally, half (50.88%) are rural-to-rural migrants (NIS, 2009).

While this paints a picture on the aggregate level of the importance and significance of rural-to-rural migration, these statistics belie some of the important dynamics and processes that underpin

---

[27] This is explained by traditional Cambodian culture which follows the matrilinear system in which newly-wed couples typically move in with the bride's family (this also likely explains the proportionately higher percentage of males for this statistic) (Maltoni, 2007).

[28] Officially, a small portion (2.5%) of Cambodians migrate internationally (through legal/formal channels). This is primarily to Thailand (81.3%), with Malaysia (13.9%) and South Korea (3.2%) as the top destinations (They & Treleaven, 2012).

[29] Although overall trends across all four sources do suggest that internal migration predominates, the exact numbers differ given the differences in study design and socioeconomic and demographic contexts when they were carried out.

this trend. Diepart et al. (2014) take the northwest province of Pailin as an example to showcase the migratory processes under play that have transformed this part of Cambodia over the past four decades. While people migrate to Pailin from all over the country (migrants to the province collectively represent 61.5% of the total population in terms of coverage) (NIS, 2009), the authors identify three major migration flows: a) intra-provincial movement of people; b) inflow of migrants from surrounding districts (e.g. Battambang or Banteay Meanchey); and c) inflow of long distance migrants from southwest and central regions of the country (Diepart et al., 2014). What these movements show is that people have been moving from lowland to upland areas, largely in search of farmland (60% of migrants over 18 years old in Pailin are farmers working on their own land), with the pattern starting in the late 1990s and growing into the late 2000s, following the stabilization of the country post-Khmer Rogue (Diepart, 2017; Diepart et al., 2014; Pilgrim et al., 2012). The main reason cited by migrants (76% of them) for moving to Pailin was the search for employment (NIS, 2009). In the case of this province, and for northwest Cambodia in general, other contextual factors are also at play in facilitating migration including social networks tracing back to the 1970s between military, returned refugees, in-country migrants and their extended families (Diepart & Dupuis, 2013).

The constraints that migrants face in their places of origin are fueled by high population density (in certain areas) which has made access to land more competitive (and costly) and has undergirded processes of land concentration and land conflicts (Diepart, 2017; Diepart et al., 2014). In other cases, migration is occurring because of limited land availability and landlordism in the migrants' sending areas, alongside conflict over expropriation of land by armed groups, and in concert with land transfers to a growing wealthy class of businessmen and government officials. The trend towards land concentration has resulted in a "land squeeze" (Diepart, 2017, p. 38) such that 47% of land-holding households owned less than 1 hectare of land as of 2011(Dalis et al., 2014). The result is that this environment has contributed to creating a "subclass of very poor, landless households whose livelihoods depend on agricultural wage labor, locally and in Thailand, and access to the commons" (Pilgrim et al., 2012, p. 33). The challenges are compounded as one analysis on land tenure states that by 2030, the transfer of unskilled labour from agriculture to secondary and tertiary sectors (industries and services, respectively) will not be able to keep pace with the projected demographic increase within the economically active population in rural Cambodia (Diepart, 2016). In other words, with the other sectors having a limited capacity to absorb surplus labour, a significant number of people have been, and will likely continue to, leave their villages to find work in other parts of the country and potentially beyond its borders.

2.8.2 Rural-to-urban migration

Rural-to-urban migration in Cambodia has involved population movements predominantly to the capital (Phnom Penh), which has been steadily increasing (from 23.5% in 1998 to 27.53% in 2008). The trend is expected to continue, mirroring other countries in Southeast Asia with historically rapidly growing urban centres, considering that the population of Phnom Penh has more than doubled over ten years (567,860 in 1998 to 1,537,544 in 2017 (They & Treleaven, 2012; UN DESA, 2017). While this increase could hypothetically be attributed to a natural increase in the population (i.e. high birth rates), this is not the case for Phnom Penh because it

has the lowest fertility rate of any province in the country (They & Treleaven, 2012). This, of course, means that most of the increase in the urban population can be linked to net migration (number of in-migrants minus number of out-migrants). Data from the 2008 census reflects this: over 80% of the city's growth between 1998 and 2008 was a result of net migration (NIS, 2009).

Migrants to urban areas are typically from younger age ranges and migrant flows can be either male- or female-dominated, depending on the nature of migration. For Phnom Penh, just over half of migrants between the two census periods were between 15-30 years old and just over half were female (NIS, 1998, 2009). More recent data covering migrants that moved to the capital between mid 2006 and 2011 allows for a comparison to earlier population data (from 2004) and shows that median and mean ages of migrants are lower, effectively making Phnom Penh a 'younger city' (They & Treleaven, 2012). Other demographic characteristics show that average household size of recent migrants is smaller (by about one person), partly because migrants are less likely to be married, and less likely to have larger families (four or more children); migrants also tend to be more educated (vs. those living in the city in 2004) i.e. having an education beyond high school, likely because some move to pursue post-secondary studies (They & Treleaven, 2012).

The migration trend to Phnom Penh is typified by the 'gravity' model i.e. migration rates are higher for places of origin that are closer compared to places farther away (Vanderkamp, 1977), although given that half of out of province migration in Cambodia is to the capital, people move from farther parts of the country as well (Figure 8) (They & Treleaven, 2012). Highlighting the 'gravity' model characterization, the top four provinces of origin— Kampong Cham, Prey Veng, Kandal and Takeo—all are near Phnom Penh. Interestingly, this has not changed over the last 20 years. Altogether, these provinces captured 59% of all in-migrants to the capital according to the CRUMP study (compared to 61% in 2008 census; 56% in 1998 census) (NIS, 1998, 2009; They & Treleaven, 2012).

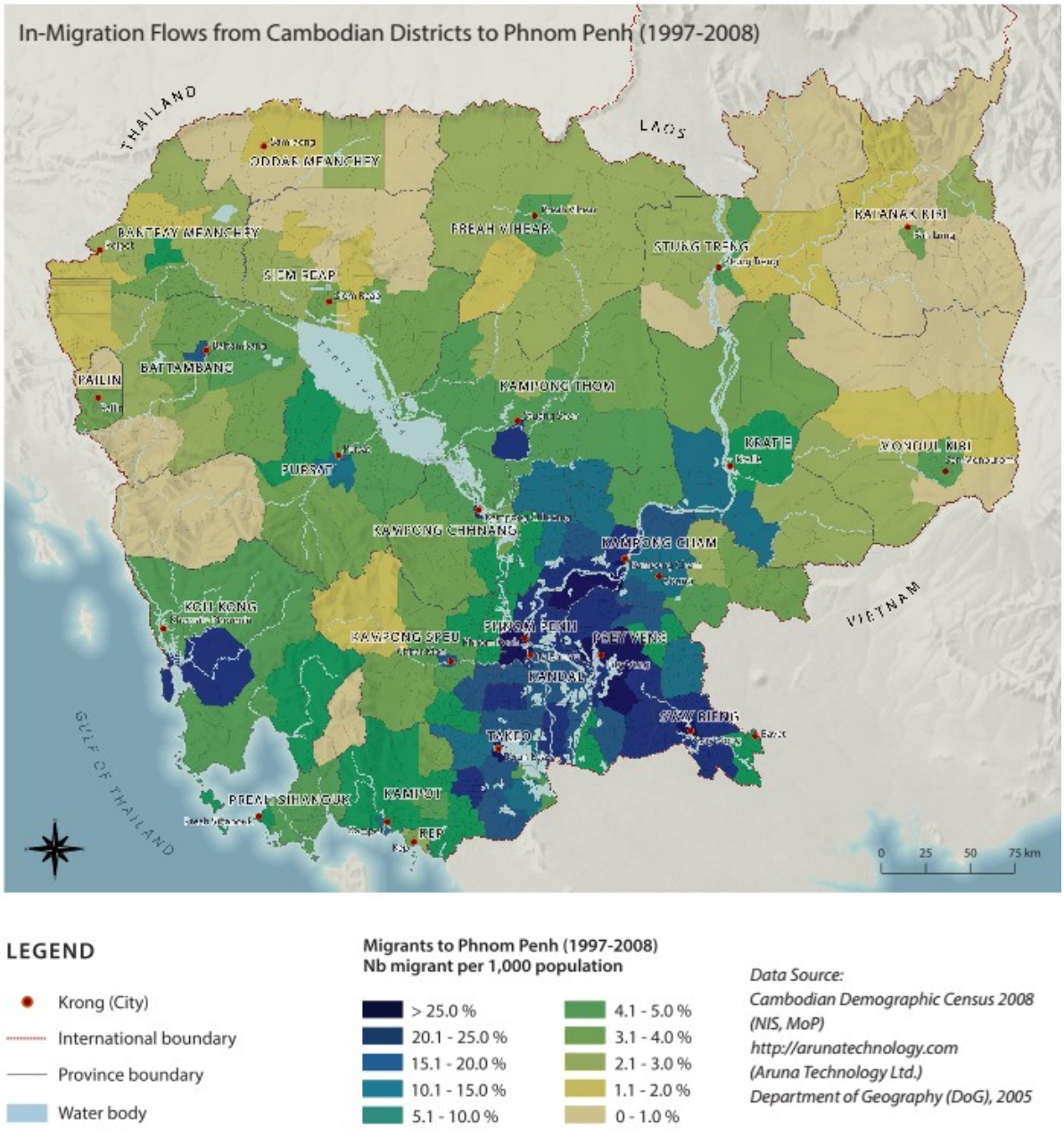


Figure 7. In-migration flows to Phnom Penh over an 11-year period (1997-2008). Source: Diepart et al. (2014).

2.8.3 Reasons for migrating

The most recent study identifies five main individual-level reasons for migration: i) pursuit or transfer of a job; ii) pursuit of a better labour situation; iii) to pursue education; iv) marriage; and v) calamities (They & Treleaven, 2012). Labour has consistently been the main reason for migration over the two-decade period covered by the three principal studies covering migration and has become a dominant reason behind migration to the capital (Figure 9). A few other age and gender differentiated trends also emerge: 25 to 34 year old age group is the most likely to cite labour as a reason for migration, while the 15 to 24 age group is more likely to cite pursuit of education; and females are more likely to cite marriage and 'other' as a reason (latter category includes 'following family') (They & Treleaven, 2012). Migrant households tend to live with a spouse, offspring, or sibling, although this varies according to age: 25 to 24 year old and 35+ age groups being most likely to be living with a spouse or offspring and 15 to 24 and 25 to 34 age groups more likely to be living with their sibling (They & Treleaven, 2012). Overall, recent data on rural-urban migration indicates that younger migrants to Phnom Penh often live alone or with siblings and friends and tend to leave parents, siblings, children and other family members behind in their place of origin.

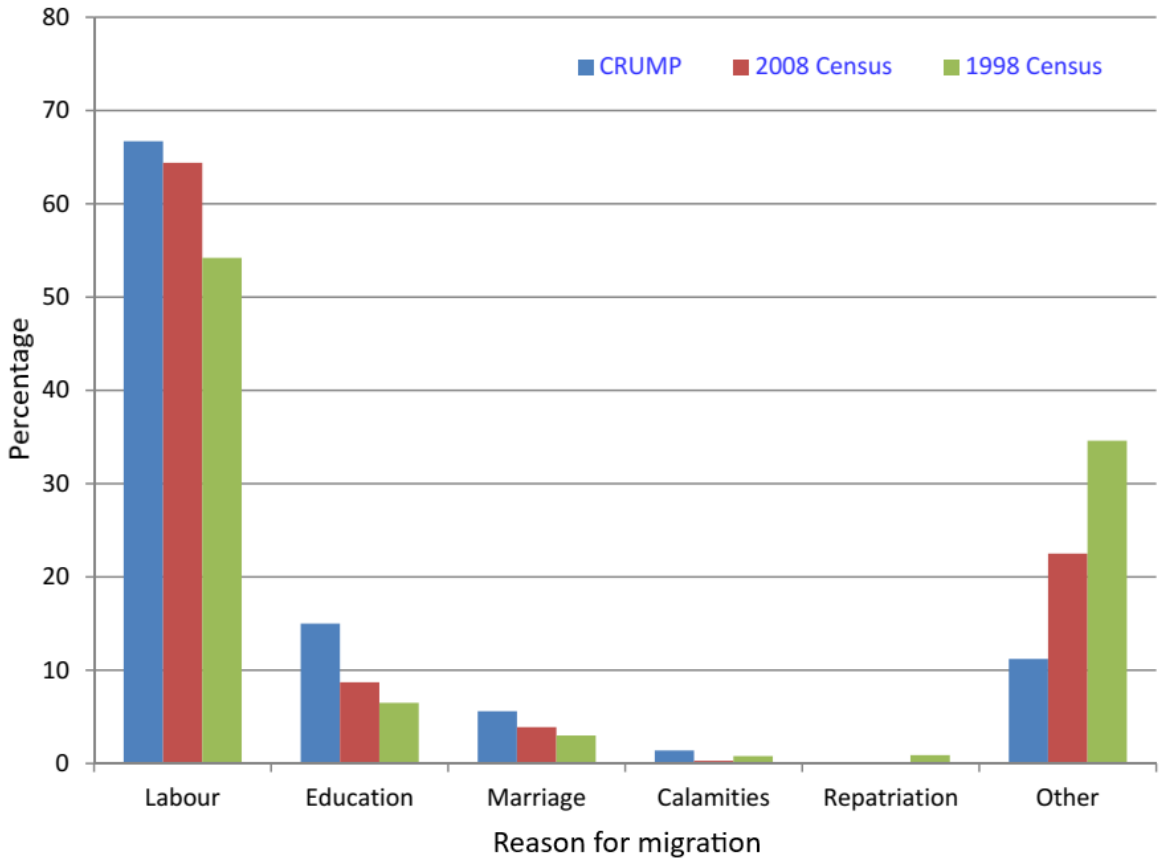


Figure 8. Reason for migrating to Phnom Penh, using data from three sources: the 1998 and 2008 census and 2012 CRUMP study. Note: "calamities" include loss of land, loss of home, natural disaster or insecurities and repatriation; the main difference between the three sources for the 'other' category likely reflect the way questions were asked. Source: They & Treleaven (2012).

2.8.4 International migration[30]

In addition to rural-rural migration and rural-urban migration, cross-border migration is thought to be a very significant component: some estimates suggest that one million Cambodians live and work in Thailand—most of these are irregular/informal (i.e. undocumented) migrants (Diepart, 2017). Broadly, there are two "kinds" of international migration taking place. One, and the principle one (in terms of absolute numbers), is irregular migration to Thailand. A second type is made up of those migrating to places outside ASEAN, namely South Korea, which offers higher wages, and involves high skilled labour. Within the first type are also those that have left the country with the promise of work who end up being tricked (e.g. are promised relatively lucrative pay which is either never garnished or in practice substantially less) or trafficked (in either case, they are often effectively working as bonded labourers). The occurrence of migrants who end up in this kind of situation has been most recently been documented within the offshore/commercial fishing industry in Thailand (EJF, 2013, 2015).

One major factor that is fueling Cambodians to migrate for both within—particularly to neighbouring Thailand which attracts low-skill labour— and outside ASEAN is the wage disparity between Cambodia and other migrant-destination countries (Table 3). Not only are most Cambodians (~60 % in 2012) engaged in informal employment but also Cambodia has no legislated standardized form or frequency of payment nor an established minimum wage (with the exception of garment workers) (ILO, 2013).

Table 3. Average monthly incomes in Cambodia, Thailand, Malaysia, and South Korea. Source: ILO (2013) unless otherwise noted. KHR = Cambodian riel; THB = Thai baht; MYR = Malaysian ringgit; KRW = South Korean won.

Country	***Monthly income***
Cambodia	385,697 KHR ($95 US)[a]; 477,517 KHR ($119 US); Men: 518,202 KHR ($130 US); Women: 418,808 KHR ($105 US)
Thailand	15,510 THB ($470 US)[b]; Minimum wage: 300 THB per day or 9,000 THB/month ($279 US) (full-time)
Malaysia	3,310 MYR ($822 US)[c]; Minimum wage: 900 MYR ($295 US)
South Korea	2,573,355 KRW ($2,300 US)[d]; Minimum wage: 1,015,740 KRW ($922 US)

[a] Based 2016 Gross National Income (GNI) per capita of $1140 US, data from World Bank (2018b).
[b] Based on 2016 GNI per capita of $5,640 US, data from World Bank (2018g).
[c] Based on 2016 GNI per capita of $9,860 US, data from World Bank (2018f).
[d] Based on 2016 GNI per capita of $27,600 US, data from World Bank (2018e).

[30] "International" in the case of Cambodia in practice really means regional, given previous information outlined which showed that out-migration for the country is mostly within the ASEAN region (and to a small extent, to east Asia, e.g. South Korea).

In comparison to other countries, the average monthly income in Cambodia is markedly lower (while noting the difference between men and women, the latter earning lower wages). Using the monthly income figure from the International Labour Organization (ILO) of $119 US for Cambodia, the monthly income (using the minimum wage figure to be conservative) is *134 % higher* in neighbouring Thailand. Given the wide gulf in average monthly wages compared to its neighbouring country (let alone others such as South Korea where the monthly minimum wage is 675% higher), it is therefore, not difficult to understand why so many Cambodians migrate (mostly informally) to countries both within the Southeast Asia region and beyond.

When considering domestic wages, within urban areas in Cambodia, the highest earners are managers (924,815 KHR or $231 US) and in rural areas, technicians earn the highest average monthly income (603,873 KHR or $152 US), followed by skilled agriculture labourers (595,565 KHR or $149 US) (ILO, 2013). By contrast, in Thailand, where there is a minimum wage[31], average monthly income is approximately 9,000 THB or $279 US for full-time work, although more men than women receive the minimum wage and those with documentation earn more than those without (Tunon & Rim, 2013). Meanwhile, in Malaysia, the monthly minimum wage is equivalent to $295 US, but this only applies to nationals and migrant workers and not to domestic workers. In South Korea, the minimum wage is among the highest at $922 US per month and under the country's Employment Permit System (EPS) , migrant workers are given equal rights as Korean workers under its labour laws (MLVT, 2014). Despite the higher wages outside of Cambodia, however, migrants who have irregular status have a lower chance to access the minimum wage. Even still, this has not curtailed the number of people who have migrated abroad, either irregularly or via legal channels. For Thailand, the number of migrants entering the country via legal means has increased with a dip in 2013, partly due to the (perceived) limited additional protection offered by regular migration. Stoked by fear of arrest from Thai authorities, along with an unstable political context, in June 2014 over 250,000 Cambodian migrant workers returned to Cambodia (the majority being undocumented). This prompted both countries to make efforts at supporting regularization with Cambodia reducing the costs of passports for migrant workers to $4 US and establishing more window services at border check points and Thailand opening a new registration window, leading to 696,388 migrant workers being registered (MLVT, 2014).

Rates of migrant workers going to Malaysia have increased dramatically, particularly after 2009 (Figure 10) which marked the year when Indonesia suspended sending domestic workers to the country; however, after reports of abuse and exploitation of Cambodian migrant workers in 2011 (Human Rights Watch, 2011), the government of Cambodia imposed a temporary ban. This was followed in 2014 by negotiations and new MOUs drafted between the two countries to resume sending of domestic workers and "general" workers (MLVT, 2014). Korea stands out insofar as it has had an institutionalized process for receiving Cambodian migrant workers since 2006 via the Manpower Training and Overseas Sending Board (MTOSB) which oversees recruitment, training and sending of workers. To qualify under the EPS, Cambodians must show

[31] It is important to note here a caveat: Thailand's Labour Protection Act does *not* extend minimum wage protection to workers in the fishing, agriculture, and domestic work sectors (MLVT, 2014). Additionally, 65% of migrants, who are without documentation, earn less than half the minimum wage (Tunon & Rim, 2013).

that they possess a certain level of (Korean) language and job skills and, once onboard, workers are able to access four types of insurance (workers' compensation; health; pension; and employment) (MLVT, 2014).

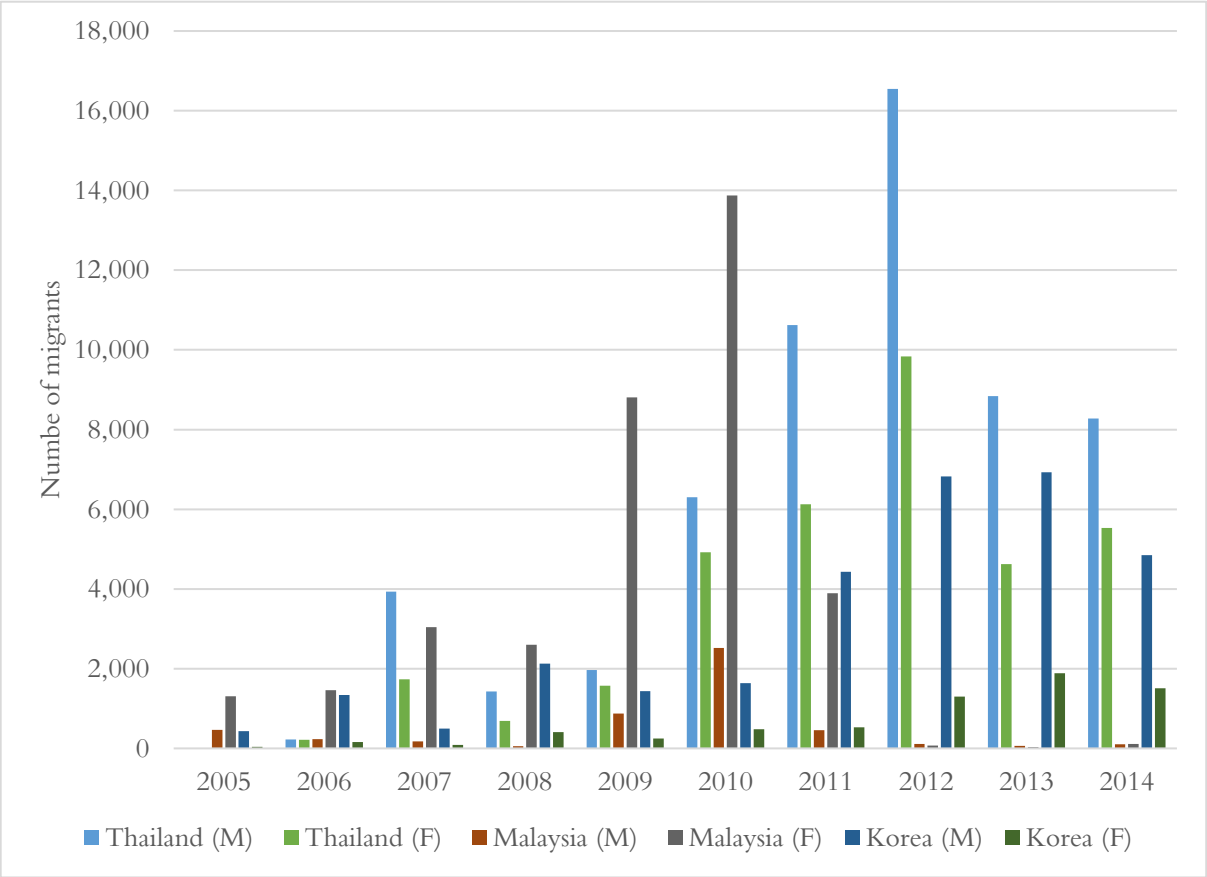


Figure 9. Trend of legal Cambodian migrant workers in foreign employment (2005-2014) in Thailand, Malaysia, and Korea, disaggregated by gender; M = male, F = female. Source: graph by author, data from Cambodian Department of Employment and Manpower, MLVT (2014). Note: the figures provided here should be taken as indicators of general trends given that there are small discrepancies in numbers between these figures and those from Thai authorities.

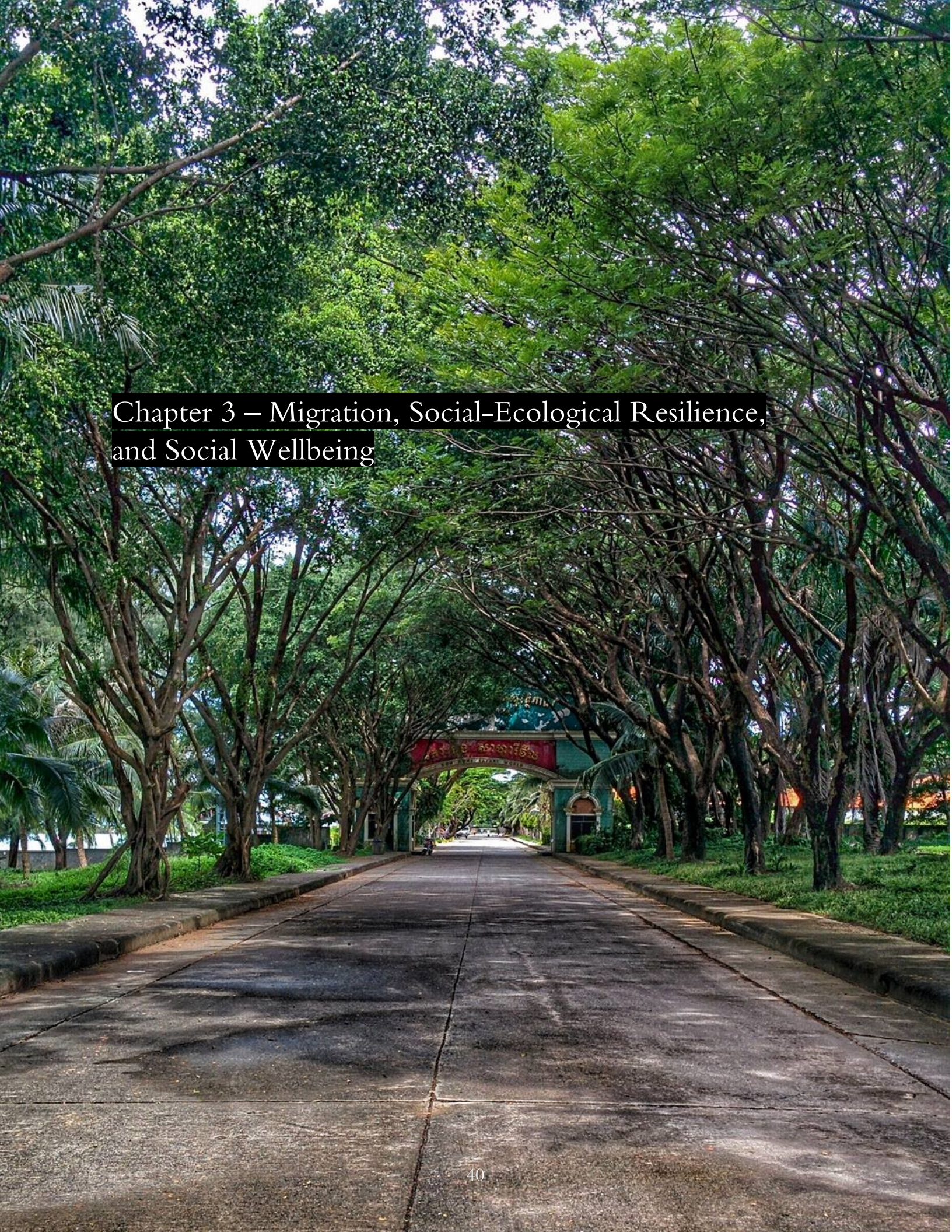
In 2015, the ASEAN Economic Community (AEC) was established to promote regional economic integration with the goal of greater integration, connectivity, and cross sector cooperation within the region and to the global economy (ASEAN, 2017). Regarding migration and labour, the AEC will employ mutual recognition arrangements (MRAs), however as noted in the International Labour Organization (ILO) *Policy on Labour Migration in Cambodia*, "Cambodia has yet to develop a comprehensive policy strategy on how to maximize the opportunities of greater labour mobility of workers within the ASEAN region…only one per

cent of the Cambodian workforce qualifies for the freer movement of professional workers for which [the MRAs] exist." (MLVT, 2014, p. 11)[32].

However, since most of Cambodia's migrant workers are low- or medium-skilled, such policy measures promoting freer mobility of a small subset of workers will have limited impact in the short term for the average Cambodian migrant. At the same time, the benefits of such policies will disproportionately go to men since they make up the bulk of these occupations. Additionally, Cambodian women tend to be more vulnerable than men to exploitation in the workplace given their higher unemployment rates and lower education levels, in general (MLVT, 2014). This is particularly evident in the domestic work industry given the isolated nature of the workplace i.e. private homes, and limited or non-existent labour protection laws for domestic workers in destination countries (Human Rights Watch, 2011). Generally, women in Cambodia migrate (within and outside of the country) into low-skilled jobs in construction, agriculture, manufacturing, entertainment, hospitality and domestic work sectors (ILO, 2013; MLVT, 2014). Therefore, not only will women's equal access to employment need to be a focal point within AEC policies in the long term but so will addressing their rights and ensuring they are adequately protected under labour regulations. This is particularly important given that demand for low- and medium-skilled workers is projected to increase steadily for the region (to 2.9-3.6 million by 2021 in Thailand, as an example) (MLVT, 2014).

Whether labour migration is internal or international, it is nevertheless a deliberate decision made by individuals and households responding to both micro (e.g. local livelihood challenges) and macro (e.g. economic and labour policies) conditions to improve livelihoods and counter fluctuations in household income, which is often tied to natural resources (e.g. fisheries, agriculture) that are affected by both environmental (e.g. climate change) and non-environmental factors (e.g. overfishing). In other words, migration is both a decision and response to insure against future shocks and stress, or put another way, migration is a response to potentially bolster resilience of individuals, households, and communities (N. Adger et al., 2002).

[32] Seven of the eight occupations covered by MRAs (engineers, nurses, architects, land surveyors, medical and dental practitioners, and accountants) make up only one percent of the total employment in Cambodia (ILO, 2014).



Chapter 3 – Migration, Social-Ecological Resilience, and Social Wellbeing

3.1 Introduction

This theory chapter will be covered in two main sections. The first section will start with a brief overview of theoretical perspectives on migration, covering general migration theories and the migration-development nexus. This will be followed by contextualizing migration using the broader literature on migration within the Southeast Asia region, specifically paying attention to labour migration (arguably, one of main contemporary manifestations of movement of people), covering major themes and trends. The regional focus will segue to look at Cambodia to understand migration within the country's context. Together, this will lend itself to addressing what migration "looks" like in the region and in Cambodia. The second section will outline the evolution and development of social-ecological resilience, focusing particularly on social resilience and how the two concepts (migration and resilience) interplay with social wellbeing.

3.2 Migration: theoretical perspectives

At a rudimentary level, migration can be said to be driven by spatial differences in income, employment, and economic opportunities (Sørensen & Olwig, 2003). However, such a perspective offers limited understanding on the causes of migration and does not explain the complexity between migration and broader processes of development and global change. Historically, viewpoints on migration have oscillated between optimistic (i.e. neoclassical and developmentalist) and pessimistic (i.e. historical-structuralist) (De Haas, 2010). For example, 'diasporas' and increased remittances have been seen as tools for income redistribution, poverty reduction and economic growth versus state-led development programs or development aid (Kapur, 2004; Maimbo, 2005; E. J. Taylor, 1999). However, migration and remittances cannot solve structural development challenges, i.e. if country a government does not enact social and economic reform or does so inadequately. As such, migration and remittances cannot necessarily be blamed for a lack of development (pessimists) nor can they be attributed to trigger development (optimists). Rather than being part of a dichotomy, the collective empirical and theoretical evidence shows the heterogeneity within migration and development and how the nexus is shaped by underlying general factors important for development i.e. structural constraints (De Haas, 2010). Given the various factors involved, obtaining a comprehensive understanding of migration has involved interdisciplinarity, with contributions from sociology, political science, history, economics, geography, demography, psychology, cultural studies, and law (Brettell & Hollifield, 2015).

Disciplinary distinctions aside, it is useful (and possible) to make general distinctions between migration theories in terms of characteristics, as Castles et al. (2014) put forward, between those that focus on the *causes of migration processes* and others that look at the *impacts of migration for sending and receiving communities and societies*. Theories that focus on explaining the migratory process can be put into two groups based on general epistemological lenses, one classified as 'functionalist' and the other, 'historical-structuralist'. Functionalist theories view society as a system, made up of various parts and considers migration in a positive light, where it benefits the interest of people and contributes to equality (Castles et al., 2014). By contrast, historical-structuralist theories, underpinned by neo-Marxist political ecology and dependency theory, place primacy on social, economic, cultural and political structures and show how they act as barriers to migration while at the same time influencing behaviour of people in a manner

that reinforces structural inequalities (e.g. world systems theory (Wallerstein, 1974)). From this perspective, migration is seen as a means of providing 'cheap labour' for wealthy receiving countries and contributing to a 'brain drain' in places of origin, thereby reinforcing social and geographic inequality (Castles et al., 2014).

Migration theory has moved past not only understanding migration in a rather abstract way i.e. as a process (e.g. laws of migration) (Grigg, 1977) but also beyond viewing it in largely economic terms, e.g. the dual labour market theory (Piore, 1979); new economics of labour migration (NELM) (Stark & Bloom, 1985); and neoclassical economics (Harris & Todaro, 1970; Lewis, 1954; Todaro, 1969), which state that economic factors dominate in migration decisions. Meanwhile, network theory emphasizes that migration is mediated by migrant networks and that social factors dominate migration decisions (Hugo, 1981; Massey & España, 1987; J. E. Taylor, 1987), while migration systems theory points out how migration is not only the flow of people but also goods, services, and ideas which result in the reshaping of human geography of a country (with an emphasis at the individual level, not on why people migrate from particular areas) (Mabogunje, 1970). In contrast, within the functionalist paradigm, the 'push-pull' models of migration emphasize that the decision to migrate involves multiple factors (e.g. economic, environmental, personal, demographic) (Passaris, 1989). Some of these are 'plus' while others are 'minus' factors (Lee, 1966), which 'push' people out of their origin and 'pull' them to their destination areas, with the factors operating at different scales (from individual to community to society). However, despite its comprehensiveness in considering all major factors affecting decisions to migrate, it is a largely descriptive and deterministic model and does not elucidate their roles and interactions, i.e. how the various factors work together to drive migration (Skeldon, 1990). Moreover, scarcity, impoverishment, and environmental change can instead *prevent* long-distance migration if people cannot afford, either from a risk or cost perspective, migrating (Foresight, 2011).

Within the discourse on migration theories, one argument is provided by *migration transition theories* which push the idea that migration should be conceptualized as an *intrinsic* part of overarching processes of development, social transformation, and globalization (Castles et al., 2014). By extension, according to this viewpoint, development is associated with (or *drives*) increasing levels of migration, although they emphasize that the relationship is complex and non-linear (Zelinsky, 1971). However, transition theories fall short in explaining why people would migrate more with increasing development. Similarly, while both neoclassical and historical-structural paradigms have, in their own way, advanced our understanding of migration as a process, they are not without their limitations. Neo-classical interpretations tend to overlook historical precedent of population movement while downplaying the role of the state, meanwhile, historical-structuralist approaches are biased towards the interest of the state and capital with little focus on the motivations and agency of people or groups (Castles et al., 2014).

3.2.1 Capabilities, aspiration, and migration

Considering such limitations and the importance of incorporating agency, there is merit in thinking about individual migration as a function of *capabilities* and *aspirations* to migrate, within a set of structural constraints, as a way of better understanding how development affects or influences the tendency for people to migrate (de Haas, 2010). Using Amaryta Sen's

conceptualization of capability—the ability of humans to lead lives they have reason to value and for them to enhance the choices ('freedoms') they have (Sen, 1999)—migration and the decision to migrate becomes about increasing people's capabilities. As development brings the prospect of improved access to information (including communication technology), social capital, and financial resources, it also increases people's *aspirations* to migrate, especially if local opportunities do not match newly developing aspirations (Carling, 2002). On this point, there has been a push within the migration literature to consider how the concepts of 'aspiration', and 'desire' contribute to migration theory and help better understand the ways migration happens and is experienced (e.g. Carling & Schewel, 2018; Collins, 2018). Combined, both aspirations and capabilities can work together, catalyzed by development processes, resulting in increasing migration. Related to this, migration also becomes a function of *opportunity* rather than income differentials and reconciles the paradox of increasing development being concomitant with increasing emigration (de Haas, 2010). This perspective also reveals the tensions and trade-offs when people's aspirations and capabilities to migrate come to a head with contextual circumstances, e.g. violent conflict, political turmoil, economic crisis, natural disaster, restrictive migration policies, or environmental degradation which can 'force' people to stay. Moreover, it can serve to bridge the various distinctions between migration categories. For instance, dichotomous classifications such as 'forced' and 'voluntary' migration are problematic from a capabilities perspective, with the former being an oxymoron, when you consider that people need to have a certain (minimum) level of agency to migrate in the first place (Castles et al., 2014). Instead, looking at the 'kind' of migration as a continuum that runs from low to high constraints, albeit to very varying degrees, under which people move, can help reach a better understanding of why people migrate, and more broadly, how development processes affect people's tendency to migrate (de Haas, 2009). This sentiment is also echoed by more recent analysis on the 'porous line between free and unfree work' by Sarkar (2017) who states that "dichotomies such as free/unfree, forced/voluntary or coercion/choice, thus, merely serve to obfuscate the fluidity of labour forms that more often than not fall somewhere in between" (p. 176).

On the flip side, it is also important to focus on and understand the impacts of migration for sending and receiving communities. For those who leave, migration represents hope: the promise of a better future, for themselves and their family. Yet, it can also represent fear: the risk of being cheated by brokers or bosses (e.g. garnished or unpaid wages), failing to find a job, or being expelled or deported. For the family members left behind, they can be filled with uncertainty, both for the migrant's fate and their own. Importantly, the scale of migration involved, i.e. within the country or outside of it, will determine the kind, and nature, of the social implications and impacts of migration. For instance, with international migration, socio-cultural factors such as ethnicity, language, and race result in identification and association with specific groups (e.g. Thai vs. Cambodian) and may be used as means to exclude, marginalize or exert control by other (typically, more ethnically dominant) groups. When migrants settle in their destination communities more permanently, it results in the formation of ethnic minorities and transforms receiving societies (Castles et al., 2014). In cases of migration within a country, while some of these dimensions may not be as acutely present where the majority of people are ethnically identical, for example in the case of Cambodia, there are still other factors associated

with migrant's origin areas such as their former occupation (e.g. a fisher or farmer) or physical environment (e.g. coastal areas or a village) that are often tied to identity and culture.

Overall, bringing in consideration of capabilities, aspirations, and socio-cultural factors allows for a more human-centered understanding of migration that goes beyond economic-centric and reductionist approaches or more generalist perspectives, while revealing the complex web of factors that affect not only people's decision to migrate but also what it *represents* to those who are leaving, and to those they leave behind.

3.2.2 Environmental change and migration

Particularly for natural-resource dependent communities, the environment and environmental change can drive migration through the availability/stability (or lack thereof) of ecosystem services (e.g. marine resources) and degree of exposure to hazard (e.g. storms) (Adams & Adger, 2013). Often, this intersects with other drivers such as economic, political, social, and demographic and, as such, the extent of the affect the environment has on migration is dependent on these other factors which, in concert, can explain the full picture on migration dynamics (Black et al., 2011).

Taking the example of coastal villagers, environmental change in the form of increasing sea temperatures, unpredictable storms, and sand mining act to indirectly affect economic drivers by impacting their livelihood, i.e. they catch less, and thus, earn less income. Alongside this, the emerging younger generation in the village, who are increasingly connected to the wider world via mobile internet, are exposed to alternative (ostensibly more financially promising) possibilities which contrast strongly with livelihoods in the village, in turn influencing their aspirations, e.g. turning away from fishing. In such a situation, the assemblage of environmental, demographic, and social drivers acts together to influence migration. This kind of framing is also in line with recent trends in migration literature where there has been an increase in the 'drivers of migration' as an analytical framing and how it has superseded 'causes' and 'determinants' within migration theory (Carling & Collins, 2018).

Often, those who migrate do so because of household circumstances (e.g. debt; environmental degradation; natural resource decline) that make it so that existing livelihoods are either unviable or not enough to support the family. From this perspective, the act of migrating is not simply an individual act of a person looking to increase their income. Given the strong social ties that exist in rural communities and villages, along with a culture of 'supporting the household', the main motivation for migrants is often to improve the living conditions of their family in the origin area. In doing so, it also can also result in socio-cultural changes within origin societies (Castles et al., 2014). For example, return migrants show not only outward signs of wealth (e.g. new motorcycle, clothes, or phone) but also import ideas, potentially leading to changes in rural tastes and preferences. Migration also provides opportunities for individuals to acquire knowledge, income or other resources, or create social networks, thereby building social capital, which can contribute to the resilience of migrants as well as their home communities (e.g. Scheffran et al., 2012 in context of climate adaptation). Thus, migration is not a straightforward reaction to environmental change but is part of a broader adaptive response to change (Black et al., 2011). In this context, migration can be viewed as an effective way for households to adapt,

cope or transform in the face of natural disasters, climate change, environmental degradation and/or a decline in a natural resource base that they depend upon. In other words, migration can be considered as a way to build long-term resilience (Deshingkar, 2012; Foresight, 2011; McLeman & Smit, 2006)—a concept explored in the following section.

3.3 Resilience

To appreciate the concept employed within this thesis (social resilience) it is important to first understand the history and contemporary conceptualizations of resilience as a concept, which has progressively evolved through time[33]. Originating from the Latin verb *resilire* ('to jump back'), the concept has had successive bifurcations into a variegated and increasingly diverse set of concepts and definitions (Figure 10). Its first scientific use can be traced to naval architect Robert Mallet in 1858 who developed the 'modulus of resilience' in the context of 19th century warship design, to assess and compare the ability of ship materials to bear stress and strain (Béné et al., 2018). In parallel, the resilience concept was adopted within psychology research in the 1940s and 1950s on responses to negative life events (e.g. exclusion, poverty or trauma), particularly by children (Glantz & Johnson, 1999). Specifically, the field focused on "questions about what makes it possible for at least some people to resist or resolve those detrimental influences that lead to substance abuse and mental health problems…" and if such characteristics of resilience "could be taught…then prevention and treatment would have a second major dimension—that of building on the positive and strengthening the individual" (Glantz & Johnson, 1999, p. ix). This was followed by the area of materials science and engineering in the 1960s and 1970s (Figure 10) which characterized resilience as "the capacity of a material to absorb energy when it is deformed elastically and then, upon unloading to have this energy recovered" (Callister & Rethwisch, 2012, p. 216, as cited in Christophe Béné et al., 2018).

In the 1970s, resilience arose within ecology from a small cadre of scholars, notably Holling (1973) and his work which pushed forward the notion of non-equilibrium in ecosystems by introducing the notion of ecological resilience. Within ecology, this catalyzed the general shift away from traditional conceptions of ecosystems as being in a state of equilibrium. Using mathematical models and analysis of empirical studies (e.g. natural forest fires; spruce budworm forest communities), he showed that undisturbed ecological systems are often in transient states (i.e. are 'multi-stable'). Holling observed how certain disturbances and changes to parts of a system such a forest community can be beneficial and supressing them can be harmful when future stressors arise. For example, a forest has a certain capacity to handle routine fires (e.g. via lighting strikes) i.e. it has a certain *adaptive capacity*, defined as the capacity of a system "to learn, combine experience and knowledge, adjust responses to changing external drivers and internal processes, and continue operating" (Berkes et al., 2003). In a way, this capacity requires parts of the forest to be *transformed*, yet overall, the forest adapts without undergoing a wholesale transformation into an undesired state (i.e. all trees are burned). Such a forest can be said to exhibit *resilience* (or be highly resilient) to shocks, disturbances, or stressors (in this case, wildfires). However, the adaptive capacity of the forest cannot cope with larger, widespread

[33] For a thorough overview on the 'genealogy' of resilience, see the literature review by Martin-Breen & Anderies (2011).

wildfires which can arise from interventions to prevent *any* wildfires from occurring. In such a case, when they do occur, they can transform parts of the system in a way that the entire forest changes to a 'state' that is very different and undesirable.

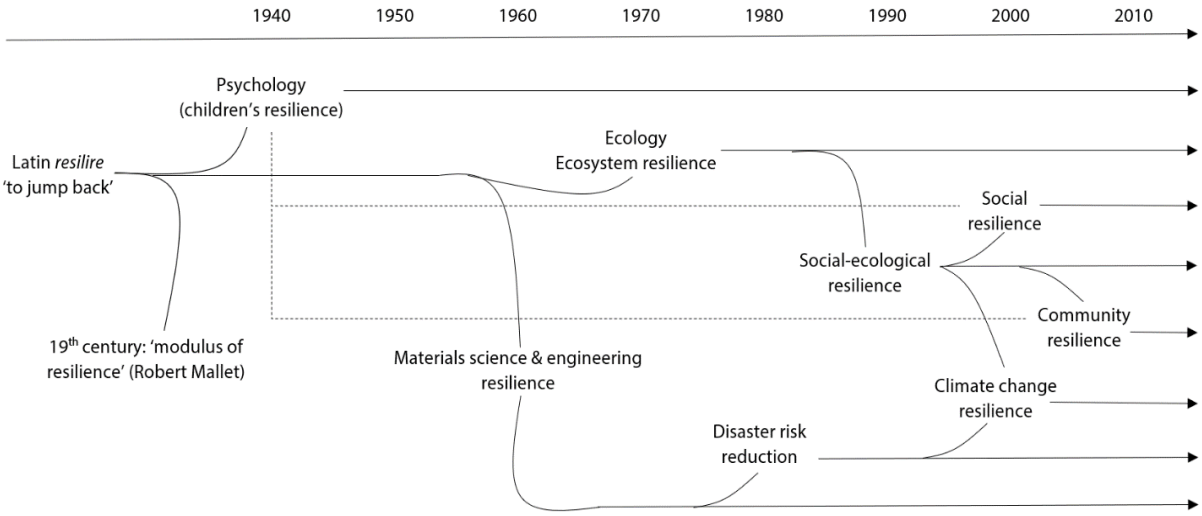


Figure 10. The historical and contemporary evolution of the resilience concept, showing its various epistemological progenitors. Source: diagram made by author, modified version from Béné et al. (2018) from whence inspiration came for this figure. Note: dotted lines signify that the field/area influenced other conceptualizations rather than evolving out of that field.

In other words, the forest can be viewed as not having resilience characteristics (or not being resilient). From this basis, it can be understood that resilience "determines the persistence of relationships within a system and is a measure of the ability of these systems to absorb changes of state variables, driving variables, and parameters, and still persist" (Holling, 1973, p. 17). This contrasts with stability, which is the ability of a system to return to an equilibrium-like state after a disturbance. In this way, a system can be very resilient yet fluctuate dramatically (having low stability), as in the previous example of a forest ecosystem (Holling, 1973). As researchers and scientists began to learn more about ecological systems, observing their extreme dynamism and ability to withstand 'surprises' (e.g. storms, pest outbreaks, droughts), previous assumptions of managing individual components of a system independently to achieve an optimal balance (i.e. the optimization approach) began to be questioned (Holling, 1996). Within this backdrop, resilience as a concept became an important framework not only for environmental/natural resource management approaches but also in furthering understanding of ecosystems undergoing environmental change.

Towards the late 1990s, a group of scholars in social sciences who were working alongside those from ecology (some from the "Resilience Alliance" network) explored the idea of applying resilience to social systems (e.g. groups, communities, society). Similar to what occurred in psychology decades prior, they became interested in identifying characteristics of social systems that could support or enhance resilience through empirical case studies (Carpenter et al., 2001; B. Walker et al., 2004). This was partly predicated on the recognition that ecosystems such as coastal environments, lakes/rivers, forests, etc. do not exist in a vacuum. Communities around the world depend on these ecosystems for their livelihood (e.g. fishing, subsistence farming).

Their activities invariably impact and affect ecological resilience, and thus, understanding social contexts came to be recognized as equally important. To that end, Berkes and Folke (1998) advocated for an interdisciplinary approach. Through case studies, they analyzed social and ecological linkages in select ecosystems to inform environmental management and sustainable development. This paradigm shift was occurring amidst a rising tide of discovery and acknowledgement that much of the dramatic changes within various ecosystems around the world were heavily influenced or caused by human society and our activities (e.g. increasing carbon emissions: Revelle & Suess, 1957; environmental degradation: Tuckey et al., 1965). In recognition of society not being separate from natural systems but rather as part of human-nature systems—or *social-ecological systems*—social-ecological resilience emerged with contributions from diverse fields and disciplines (e.g. human geography; natural resource management; sustainability science) (Adger, 2000; Berkes & Folke, 1998; Leach, 2008).

Social-ecological resilience forms part of the evolution of a sequence of resilience concepts, each with their own characteristics and focal points (Table 5). The narrower interpretation of 'engineering resilience' is characterized by resistance, recovery, and constancy in the context of a stable equilibrium. Ecological/ecosystem resilience has characteristics of buffer capacity (i.e. withstanding shock, maintaining function) and focuses on persistence and robustness in the context of multiple equilibria (Folke, 2006). Social-ecological resilience, on the other hand, is an "emergent property", and interplays characteristics of disturbance and organization as well as notions of sustaining and developing (Berkes et al., 2003, p. 5).

Social-ecological resilience has traditionally been interpreted as a) the amount of disturbance a system can absorb while remaining within the same state (or 'domain of attraction'); b) the degree to which the system is capable of self-organization; and c) the degree to which the system can develop and increase the capacity for learning and adaptation (N. Adger, 2000; Carpenter et al., 2001; Folke, 2006; Folke et al., 2010). Within systems involving humans and nature, some changes are slow (e.g. population growth; reforestation) while others are fast (e.g. exchange rates; price of food; pest outbreaks). Generally, human society is adept at noticing and reacting to rapid change, but not so good to slow changes, the most topical being climate change. In essence, the notion that "things change" is at the core of resilience and 'resilience thinking' (B. H. Walker & Salt, 2006, p. 9).

Table 5. The various resilience concepts showing the scope of interpretation and their key features. Source: adapted from Armitage et al. (2012).

Resilience concepts	***Characteristics***	***Focus on***	***Content***
Engineering resilience	Return time, efficiency	Recovery, constancy	Vicinity of a stable equilibrium
Ecological/Ecosystem resilience	Buffer capacity, withstand shock, maintain function	Persistence, robustness	Multiple equilibria, stability landscapes
Social-ecological resilience	Interplay of disturbance and reorganization, sustaining and developing	Adaptive capacity, transformability, learning, innovation	Integrated system feedback, cross-scale dynamic interactions

Social-ecological resilience also involves a focus on transformability, defined as "the capacity to create a fundamentally new system when ecological, economic or social (including political) conditions make the existing system untenable" (B. Walker et al., 2004, p. 3). Transformation, in some cases, can be deliberate. For example, if it involves challenging power relations or promoting gender equity by integrating gender analysis into social-ecological resilience (e.g. Kawarazuka et al., 2017 in small-scale fisheries research). In sum, the genealogy of resilience can be seen as evolving from initially focusing on *persistence* of ecological systems to coupled social-ecological systems with an emphasis on *adaptability*, and finally to addressing notions of *transformability* of communities/society amidst global environmental change (Keck & Sakdapolrak, 2013).

Among other dimensions of social-ecological resilience include learning and innovation in the context of an integrated feedback system and cross-scale dynamic interactions (Carpenter et al., 2001; Folke, 2006). Related to this is the heuristic model of the "adaptive cycle", which describes the cyclicity of complex systems as passing through four phases: 1) accumulation and growth; 2) stagnation, rigidity, and lock-in; 3) sudden collapse; and 4) reorganization and renewal (Holling, 2001). Related to this is the concept of "panarchy" which emphasized cross-scalar dynamics and the interaction between nested adaptive cycles wherein the system had higher order 'slow' cycles and lower order 'fast' cycles (Berkes et al., 2003; Holling, 2001). These two concepts have been useful for understanding not only co-evolved social-ecological systems but also complex systems phenomenon which exhibited threshold dynamics with 'fast' and 'slow' variables such as climate change. With its emphasis on adaptability, resilience became relevant within climate change (Figure 10) by incorporating a 'humans in nature' perspective (especially because of the anthropogenic nature of climate change). On a broader, descriptive level, the concept became a 'boundary object' (Brand & Jax, 2007) sandwiched between two traditionally disparate bodies of knowledge—natural and social sciences. It is arguably this singular feature that garnered resilience increased attention as it became a platform for advancing interdisciplinary collaboration and exchange of ideas.

3.4 Resilience: pitfalls and promises

Meanwhile, there have also been discerning voices emerging acknowledging its promises while highlighting the pitfalls and challenges, both from a theoretical and policy perspective (Beymer-Farris et al., 2012; Cretney, 2014; Kirbyshire et al., 2017; Tanner et al., 2017)[34]. Some of the challenges stem from the fact that social change and its attendant mechanisms/processes are different from ecological systems. Characteristics such as linearity and 'measurable' resilience responses present in the social-ecological systems approach have given social scientists pause because this assumes that these are equally present in both social and ecological systems (Leach, 2008). These concerns have also been raised by those advancing conceptualization of resilience within the social context. For example, Adger (2000), in asking if social and ecological resilience are related, notes that there may not necessarily be a clear causal link between resilient ecosystems and resilient communities. The application of resilience concepts and resilience thinking has

[34] A comprehensive overview of the challenges for resilience from a policy and practice point of view is outside the scope of this section. For more detail, see Tanner et al. (2017).

been critiqued for under-theorizing social dimensions, with scholars pointing out the exclusion of social (e.g. agency and wellbeing: Brown & Westaway, 2011) and political (e.g. social diversity and power: Fabinyi et al., 2014; political ecology: M. D. Turner, 2013) aspects from the resilience literature and the normative dimension and questions such as 'resilience of what and for whom?' (Cote & Nightingale, 2012). Aspects of the social-ecological resilience framework have also been criticized for relying on notions that complex behaviours will fit neatly into specific stability 'domains' or crossing 'thresholds', which could be said about certain ecological systems but is tricky to apply within the 'messy' social systems in which communities operate (Cumming et al., 2005).

A paradox of resilience as a concept is that its strength, i.e. its dynamism and malleability, can also be a weakness, alongside its endogenous value neutrality[35]. On the one hand, resilience can support a range of different goals, but on the other, it can also support different *values*. As with other concepts that have become in vogue (e.g. sustainability), mainstream resilience narratives have been charged with being susceptible to appropriation to further certain agendas or goals (Tanner et al., 2017). For instance, some interpretations of resilience have taken the form of 'resilience as governmentality' i.e. control through governance, to channel neoliberal ideologies and discourse that exist within certain governance systems (Joseph, 2013) or promoted by certain institutions such as the World Bank, vis-à-vis its *World Development Reports* (Felli, 2016). Others have pointed to the depoliticizing effect that resilience descriptions can have insofar as giving the impression that populations affected by shocks or stressors (e.g. climate change) are responsible or expected to be able to help themselves, thereby absolving or shifting responsibility from developed nations to populations or countries in the Global South (Brown, 2012). In other words, the malleability of resilience as a concept makes it susceptible to being coopted to promote the 'business-as-usual' agenda or (mis)used to enable governments to deny citizen their rights or transfer responsibility (from the state to the people) (Welsh, 2014).

More recently, within various framings of resilience, a narrative has emerged focusing on 'resilience building' or 'increasing resilience' which is problematic because it assumes that resilience is exclusively a 'good' or positive outcome. In fact, this assumption underlies most of the contemporary thinking on resilience. Yet, resilience can be 'good', 'bad' or even both. Béné et al. (2012) illustrate using the example of a government regime that has maintained itself in power for several decades despite numerous (internal and external) attempts to bring a change in power and/or transition to a democracy. Strictly speaking, this government can be characterized as showcasing resilience. Whether this is 'good or 'bad' resilience would depend on perspective. Let's suppose this government rose to power via backing from rural farmers who benefitted from the agrarian reforms that were put in place. To them, the regime's resilience would likely be viewed as positive or 'good'. However, to a young person with a post-secondary education living in the city who is looking for work and wants to see improved economic policies, the resilience of the regime is likely to be negative or 'bad'. This example showcases the hazard of thinking about resilience without consideration of the role played by human values in shaping social-ecological systems and the important distinction between general resilience (i.e.

[35] The neutrality stems from the ecological origins of resilience where it emerged from an intrinsically value-free natural science epistemology (see Leach, 2008; Moench et al., 2015).

the social-ecological system writ large) and specified resilience (e.g. the resilience of a component, such as a fisher or a natural resource, which is but one part of the system).

While these critiques on their own are not enough to dismiss the concept wholesale, there is also another reason to consider the 'relevance of resilience': the concept has been gaining currency among scholars, practitioners, and policymakers. Some areas include poverty and development (Béné et al., 2014); disasters and climate change (A. V. Bahadur et al., 2010, 2013); urbanization (Pelling & Manuel-Navarrete, 2011); and agrarian change (Oudenhoven et al., 2011). Several international organizations (donors, UN agencies and NGOs) are also framing issues in the language of resilience. The European Union (EU) is seeking to make 'increasing resilience...a central aim of EU external assistance' and the UK's Department of International Development (DFID) has stated to making resilience 'a core part of the work of all [its] country offices' and to 'show international leadership on this important area of work' (Pain & Levine, 2012). The Food and Agriculture Organization (FAO) has made resilience an explicit goal of one of their corporate policies ('to enhance the resilience of livelihoods against threats and emergencies') while the International Federation of Red Cross and Red Crescent Societies (IFRC) views resilience as a 'critical element in promoting sustainable development [which] should be part of the international development agenda beyond 2015' (Pain & Levine, 2012).

Given not only the undercurrents from the policy world and its uptake of resilience as a framing tool but also the concept's ability to galvanize broad actors around itself, there have been several efforts to conceptually expand social-ecological resilience. One of these is what has been termed 'socializing resilience'. For example, studies have added to the understanding of social dynamics by analyzing how agency and collective action of powerful and disenfranchised actors (including asymmetries of power and information) affect the ability of communities to respond to the effects of degradation in the provision of ecosystem services (Robards et al., 2011), while other approaches have sought to draw insights from human development and psychology, highlighting the importance of agency and capacity to argue for more integrated and human-centered approaches to understanding environmental change (Brown & Westaway, 2011; Coulthard, 2012a).

In the context of evolving social contracts in enhancing well-being in response to climate change, O'Brien et al. (2009) argue how, on the one hand, resilience thinking can provide insights to a social contracts perspective of governance, while, on the other, be bolstered by greater attention to the role of power, politics and human agency. Relatedly, there has been engagement between resilience and political ecology as well as anthropology (e.g. anthropology: Fabinyi et al., 2014; political ecology: M. D. Turner, 2013). Fabinyi et al. (2014) point to two areas where such an interdisciplinary dialogue would be most fruitful to resilience thinking: the importance of trade-offs and the understanding of power dynamics (i.e. how power operates). This reflects recent calls made by many who identify complementarities between these fields and

propose the merits of interdisciplinary collaborative inquiry to contribute the 'social' within resilience thinking (N. Adger, 2000; Brown, 2013; Cote & Nightingale, 2012)[36].

Underscoring the importance of agency, Bohle et al. (2009) show, via analysis of the urban food system of Dhaka, how determining resilience is highly dependent on whether a systems-oriented or people-centred (i.e. agency) perspective is taken. In their case study, they highlight that while the resilience of the overall urban food system (as well as the political stability of Bangladesh) is achieved, it is at the expense of access to affordable food for the most vulnerable individuals in the city. Thus, they argue for, and propose, an actor-oriented, agency-based resilience framework that considers social actors and their agency in the normative context of entitlements, capabilities, freedoms and choices as well as those of justice, fairness and equity. In this way, the avenues for resilience building become foremost about "empowering the most vulnerable to pursue livelihood options that strengthen what they themselves consider to be their social sources of resilience" (Bohle et al., 2009, p. 12).

3.5 Social Resilience

A subset of scholars working largely within natural resource management and among natural resource-dependent communities have contributed to developing two concepts as offshoots of social-ecological resilience to incorporate social dimensions: social resilience and community resilience (Figure 10). Social resilience is informed partly by the psychology and mental health literature given its emphasis on identifying factors that make people, communities, and society stronger in the face of environmental, social, economic, or political challenges along with the social-ecological systems literature (e.g. N. Adger, 2000). Similarly, community resilience originates from social-ecological systems and psychology of development and mental health literatures[37]. Community resilience is defined as "existence, development and engagement of community resources by community members to thrive in an environment characterized by change, uncertainty, unpredictability and surprise" (Magis, 2010, p. 401). In other words, a community's resilience is seen as the capacity of its social system to galvanize towards a common goal or objective. While there are similarities between social resilience and community resilience, one of the differences is the scale at which they operate i.e. at the individual level and community level, respectively.

Given the focus on migration in my research, a phenomenon that occurs at the individual level with its effects largely seen at this micro level (along with the individual-level focus on social wellbeing methodologically), the social resilience concept is the most relevant and appropriate, and thus it is the one that will be used. Moreover, as Adger (2000) points out, social resilience is linked to ecological resilience via systems of natural resources which are coupled to and affected by (and also affect) the communities that depend on them. In this respect, the people

[36] Most recently, Stone-Jovicich (2015) suggests three unique social science perspectives (materio-spatial world systems analysis; critical realist political ecology; and actor-network theory) because they place both the social and ecology at the centre within their theoretical frameworks.

[37] Berkes and Ross (2013) identify common ground between these two bodies of literature and argue for an integrative approach.

living in coastal fishing villages in Cambodia, whose livelihoods are intricately linked to the marine and mangrove estuary ecosystems, are ideal cases in which to understand social resilience.

Social resilience has a 'genealogy' and history that parallels social-ecological resilience starting in the 2000s (Table 6). It has since evolved not only in its definition, from more vague or unspecified, shifting towards adaptation and finally to recognizing the role of politics, but has also become backed by empirical findings that have sought to bolster its conceptual foundation (see Cuthill et al., 2008; Maclean et al., 2014, 2017).

Table 6. Overview of various definitions of social resilience and the associated underlying resilience principle they are connected to. Note: this is meant to be an illustrative, not exhaustive, list of the principal social resilience definitions.

Underpinning resilience principle	***Definitions of social resilience***	***Source***
Persistence	"…as the ability of communities to withstand external shocks to their social infrastructure" (p. 361)	Adger (2000)
	"The system's capacities to cope or respond (resilience)…" (in the context of incorporating resilience within vulnerability analysis)	Turner et al. (2003, p. 8075)
	"the capacity to absorb […] change – the ability to deal with surprises or cope with disturbances". (p. 291)	Glavovic et al. (2003)
Adaptability	"a product of the degree of planned preparation undertaken in the light of a potential hazard, and of spontaneous or premediate adjustments made in response to felt hazard, including relief and rescue".	Pelling (2003)
	"the ability of a social system to respond and recover from disasters and includes those inherent conditions that allow the system to absorb impacts and cope with an event, as well as post-event, adaptive processes that facilitate the ability of the social system to re-organize, change, and learn in response to a threat." (Note: although implied, the term 'social resilience' is not explicitly used by the authors)	Cutter et al. (2008, p. 599)
	"influenced by […] institutions […] and networks that enable people to access resources, learn from experiences and develop constructive ways of dealing with common problems".	Glavovic et al. (2003, p. 290)
Transformability	"individuals, communities and societies adapt, transform, and potentially become stronger when faced with environmental, social, economic or political challenges".	Cuthill et al. (2008, p. 146)
	"as the capacity of actors to access capitals in order to – not only cope with and adjust to adverse conditions (that is, reactive capacity) – but also search for and create options (that is, proactive capacity) and thus develop increased competence (that is, positive outcomes) in dealing with a threat".	Obrist et al. (2010, p. 289)

In answering the question "what is social resilience?", Keck and Sakdapolrak (2013) trace the evolution and development of the concept by first addressing the question of resilience *to what*. Empirical studies that use social resilience as their underlying concept have been in relation to diverse threats or stressors which Keck and Sakdapolrak (2013) group into three broad categories, as outlined below:

1. *Natural hazards and disasters* – focused on short-term, more immediate threats such as droughts (Rockström, 2004), floods (Braun & Aßheuer, 2011; Cashman, 2011; Khalili et al., 2015), tropical storms (Pelling & Manuel-Navarrete, 2011; Tompkins, 2005), and tsunamis (W. N. Adger et al., 2005; Larsen et al., 2011).
2. *Natural resource management, resource scarcity, and environmental variability* - focus on long-term threats such as mangrove conversion (N. Adger, 2000), marine resource conservation (N. Marshall et al., 2009), desertification (Bradley & Grainger, 2004), water quality (Gooch et al., 2012), water scarcity (Langridge et al., 2006), and climate/environmental change (Deshingkar, 2012; Scheffran et al., 2012)
3. *Social change and development* – centres on issues related to policy and institutional change (e.g. N. A. Marshall, 2007; N. A. Marshall & Marshall, 2007 in context of fisheries), migration (N. Adger et al., 2002), economic crisis and uncertainty (Schwarz et al., 2011), and health risks (Dongus et al., 2010; Obrist, Mayumana, et al., 2010).

Adger (2000) defines social resilience "as the ability of communities to withstand external shocks to their social infrastructure" (p. 361). This echoes the original conceptualization of resilience where the focus was on the ability to *persist*. While this may sound like other ideas like 'coping strategies' and 'adaptive capacity', one of the features that differentiates resilience here is that it considers uncertainty, change and crisis as normal, rather than abnormal (harkening to its origins as described by Holling) (Keck & Sakdapolrak, 2013). The definition was also widened to include more proactive elements (e.g. planning) (Pelling, 2003) while others took it further, emphasizing learning and adaptation (Cutter et al., 2008) in the context of disasters. In both cases, there was an emphasis on the social system's capacity to learn, respond, and adapt to future stressors better.

At the same time, as Glavovic et al. (2003) point out, social resilience is influenced by institutions and networks which give people access to critical resources. In this sense, notions of social resilience go beyond adapting or adjusting and focus on social actors or communities transforming/becoming stronger by creating options. In other cases, stressors and shocks can be seen as opportunities for doing things in a new, innovative way with potential positive outcomes (Cuthill et al., 2008; Obrist, Pfeiffer, et al., 2010). However, this optimistic perspective overlooks the context of social actors, particularly factors that either catalyze or hinder people's ability to access resources, facilitate learning, or be included in decision-making processes, i.e. their agency (Bohle et al., 2009; Lorenz, 2013).

Maclean et al. (2014) attempt to address the knowledge gap that exists on social aspects of resilience by drawing from empirical work via a case study of natural resource management in North Queensland (Australia). They argue that understanding attributes of social dimensions of resilience would benefit mangers since it focuses on building strengths rather than vulnerabilities i.e. it can guide management decisions towards building upon existing strengths. They identify

six attributes of social resilience: i) knowledge, skills, and learning; ii) community networks; iii) people-place connections; iv) community infrastructure; v) diverse and innovative economy; and vi) engaged governance.

These attributes also align with previous work by Cuthill et al. (2008) which focused on developing a conceptual framework for monitoring and reporting of social resilience in the context of social outcomes of development (e.g. quality of life; community wellbeing; state of the environment). They identified seven "domains" of social resilience: i) *human*, e.g. education, skills, knowledge, life experience, values, and leadership; ii) *social*, e.g. societal strength, cohesion, social inclusion, trust, networks, equity, safety, and sense of place; iii) *natural*, e.g. waste generation, consumptive and non-consumptive values, conservation, biodiversity, and climate change; iv) *physical*, e.g. transport, health and education facilities, human services, housing, and communications; v) *financial*, e.g. e.g. income generation and distribution, and (un)employment; vi) *cultural*, e.g. history, traditions, stories, place attachment, integration, diversity, and heritage; and vii) *governance*, e.g. participation in decision making processes, considers social equity/justice, and collaboration.

Their work was conceptually situated across the two bodies of literature that have thus far informed resilience, the social and health sciences and social-ecological systems literature, "broadening from the interests of the first, and capable of enriching the social dimensions so far addressed within the second" (Cuthill et al., 2008, p. 146). As the authors rightly point out, there is a limited (albeit slowly growing) social science/interdisciplinary literature on social resilience at the community or small-regional scale. Moreover, within the psychology strand of literature, in the context of individual resilience, there is little attention paid to the natural environment or economic and financial dimensions (Maclean et al., 2017)[38]. My research aims to contribute to these gaps by focusing on the household and individual level within coastal fishing villages in Cambodia, whose residents depend on the natural environment for their livelihood and where the economics of fishing (e.g. capital required) and other financial dimensions (e.g. debt) play a significant role.

The above efforts have sought to better incorporate and apply social theory within resilience thinking to build out the 'social' in social-ecological resilience and have expanded our understanding of resilience within the social sciences in specific contexts. To that end, another concept which offers promise to move beyond the material or ecological within resilience is the social conception of wellbeing, i.e. social wellbeing. The premise for the interplay between wellbeing and resilience, as originally put forward by Armitage et al. (2012), stems from the recognition that at the centre of social-ecological resilience is the relationship, dynamics, and interactions between people and nature.

My thesis investigates one aspect of the relationship between demographic change and social resilience in contemporary coastal Cambodia: the effects of migration on the social wellbeing of those who leave the village and those who stay. In doing so, I contribute to the emerging studies

[38] Note: some work on community resilience does consider interactions and the role of the environment, an aspect particularly important for rural communities (e.g. Buikstra et al., 2010) and there are some studies that do consider the role of economics and finance (e.g. Maclean et al., 2014).

focusing on social resilience, particularly within the 'social change and development' category as outlined by Keck and Sakdapolrak (2013). To do this, I build on the limited empirical research on migration and social resilience in the coastal context (e.g. N. Adger et al., 2002 in Viet Nam) in an attempt to expand our understanding of social dimensions of resilience through a social wellbeing lens.

3.6 Social wellbeing

The general concept of wellbeing has been gaining increasing currency in public policy and development discourse in the past decade, having been used in international development narratives and with partial success for development policy and practice (Diener et al., 2009; Stiglitz et al., 2009; S. White, 2009). One such early example was the Millennium Ecosystem Assessment (MEA) which defined wellbeing as being made up of multiple components, including the basic material for a good life, freedom of choice and action, health, good social relations, and security. In turn, human wellbeing depended on, and was an outcome of, access to resources provided by ecosystems for humans ('ecosystem services') (MEA, 2005). However, a shortcoming of the MEA approach was that it overlooked the social, political, cultural processes and structures behind the appropriation of these resources.

Traditionally, rural communities in predominately developing countries have had a very tight-knit relationship between ecosystem resources and their livelihood. In other words, much of the people in the developing world and their livelihoods are directly derived from natural resources (e.g. farming, fishing, forestry). As such, understanding rural livelihoods and its connection to overall wellbeing has become a major research area. However, much of the early work on livelihoods and resources was dominated by economic terminologies (e.g. 'assets', 'capital') (S. White & Ellison, 2007). The consequence of such an approach has been the obfuscation of the identity and relationship those resources have with people and overlooking subjectivities that shape this relationship. In other words, the economic framework of "capitalism mystifies the primacy of social relations between people and re-presents them as relations between people and things, or even as between objects themselves." (S. White & Ellison, 2007, p. 165).

In response, there have been a plethora of livelihood frameworks (e.g. Sustainable Livelihoods Framework; Caroline Moser's Asset Vulnerability Framework; Resource Profiles Framework) that have emerged which offer a 'bottom-up' perspective, countering the myopic focus on income as a measure of wellbeing, and in doing so, offer a more holistic, people-centred approach.

For example, much of the work and our understanding of rural livelihoods in developing countries over the past 15 years has been via the Sustainable Livelihoods Approach (SLA) (Scoones, 1998, 2009). The SLA framework describes how rural populations such as small-scale fishing (SSF) communities, draw on, and are affected by, natural, physical, human, financial, and social 'capitals' which collectively constitute the 'livelihood platform' commonly shown diagrammatically as a pentagon. Using this framework in the context of SSF, the SLA approach has revealed how the socio-economic outcomes of households vis-à-vis livelihood diversification strategies varies widely and how this is, in part, mediated by traditionally overlooked aspects

such as social capital (i.e. what households 'have' instead of what they do not) (Allison & Ellis, 2001).

While the (sustainable) livelihoods approach has made significant contributions to our understanding of the agrarian landscape in developing countries, there are some shortcomings insofar as the livelihoods frameworks result in the creation of inventories of goods and relationships (i.e. 'capitals') people have at their disposal (e.g. the Sustainable Livelihoods Framework), rather than asking how different categories of resources are related to each other. As White and Ellison (2007) argue, "what constitutes a resource in any given context depends primarily on the *purposes* for the people involved."(p. 158; emphasis original)—resources represent a means to an end, and the ends people identify, and the perceptions of resources are embodied via culture and within social relations. To take an example, land is classified in all livelihoods frameworks as material, physical, or 'natural' capital, yet it only becomes a resource when it is transformed through human labour, social contracts of ownership and land use rights, and cultural meanings of value and status ascribed to the land.

To this end, adopting a social wellbeing approach can add or complement our understanding of rural livelihoods, in this case, of small-scale fishing. I explicitly use the social conception of wellbeing, i.e. 'social wellbeing' as part of my conceptual framing. Compared to livelihood frameworks, social wellbeing goes beyond material and basic needs notions by taking into consideration social, psychological and cultural needs required to 'live well' while underlining relational and collective processes (J. Allister McGregor et al., 2009; S. White, 2013; in the context of fisheries: Coulthard et al., 2011). Moreover, the distinct advantage of the social conception of well-being is that it brings together contributions from diverse sources of development thinking and social theory (Deneulin & McGregor, 2010; Gough & McGregor, 2007).

The concept of social wellbeing draws on insights from the wider social science literature, specifically Amartya Sen's work on capabilities and research on subjective wellbeing and positive psychology, along with sociology and social anthropology (J. Allister McGregor, 2008). It is supported by empirical work done as part of a large multi-country study (Wellbeing in Developing Countries, WeD) that set out to develop and apply a social wellbeing framework (Gough & McGregor, 2007). In this context, wellbeing is a social concept, and defined as "…a positive state of being with others in society, where needs are met, where one can act effectively and meaningfully to pursue ones' goals, and where one is able to experience happiness and feel satisfied with one's life" (A. McGregor, 2008, p. 4). Applying a social-ecological perspective, we can add to the "positive state of being with others" to also include being in the same state with the "natural environment" as suggested by Armitage et al. (2012). Incorporating the environment within wellbeing is especially important when attempting to understand wellbeing for those in natural resource-dependent communities, who utilize natural resource commons (e.g. the ocean, as in the case of coastal fishers).

The WeD project produced the following (empirically informed) framework for understanding wellbeing, as a process comprised of three interrelated dimensions (i.e. '3D wellbeing') (Gough & McGregor, 2007, p. 317):

1. *Material*: what a person *has* (e.g. income, wealth, assets, and ecosystem services);
2. *Relational*: what a person *does* (e.g. social interactions, collective actions, and relationships); and
3. *Subjective*: how a person thinks about what they have and do i.e. how/what a person thinks or feels about their life (e.g. cultural values, norms, levels of satisfaction or dissatisfaction, belief systems, and shared hopes, fears, and aspirations)

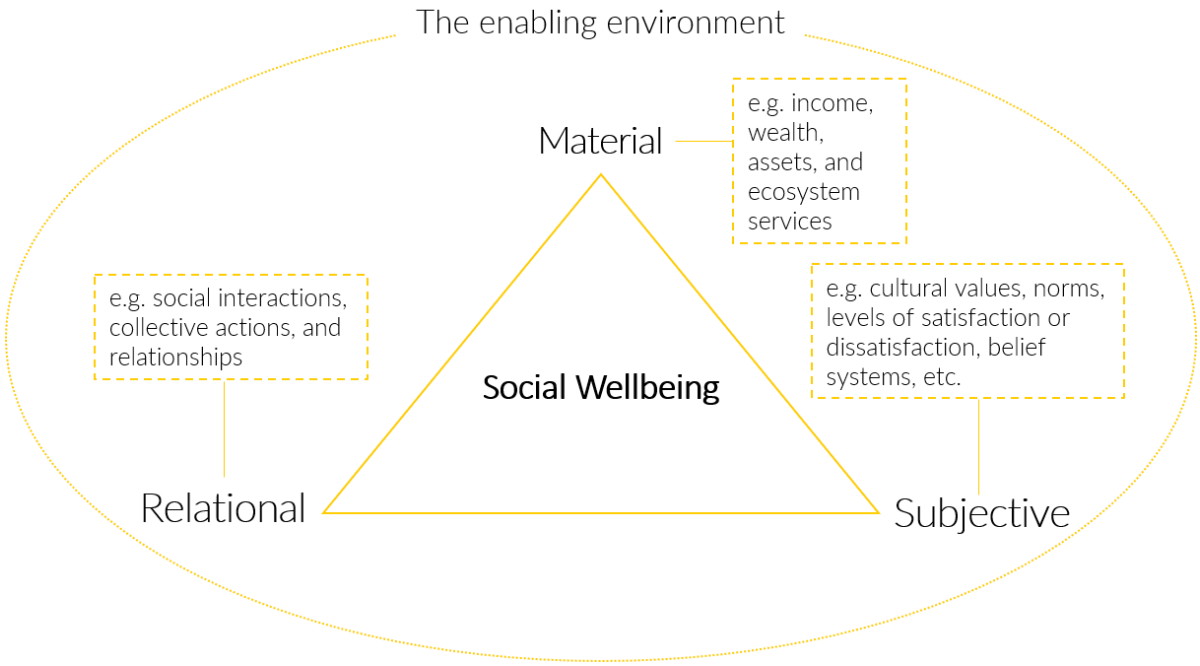


Figure 11. Diagrammatic representation of social wellbeing. Source: made by author, adapted and modified from White (2010).

These dimensions can be visualized as a triangle (Figure 12), considering factors in the external environment that affect wellbeing i.e. the conditions that either enable or hinder people's pursuit of their wellbeing. The triangulation of these three dimensions represents interdependence and highlights the relationship of objective (i.e. people's circumstances) and subjective (i.e. their perceptions) dimensions. The subjective dimension is at the apex because it illustrates how material welfare (i.e. standards of living) is partly derived via values and culture (S. White, 2009).

Understanding wellbeing in this way, as a combination of objective, subjective, and relational dimensions also brings together the two dominant ways 'the person' in the social sciences has been viewed. One underscores 'doing' which relates to reflections and debates on freedom and rights, and thus, is preoccupied with *processes*. The other focuses on 'being', drawing in notions of welfare and happiness, and thus, underscores *outcomes*. By combining both outcomes and process, a social wellbeing perspective "can reveal that well-being arises from what a person has, what they can do and how they think and feel about what they both have and can do" (J. Allister McGregor et al., 2007, p. 110). The emphasis on 'thinking and feeling', derived from the subjective dimension of wellbeing, is particularly important because it brings in the role of meanings (by which we live) and is what makes this 3D wellbeing model social instead of individualistic. The incorporation of the subjective dimension in conceptualizing wellbeing also

means that wellbeing cannot solely come from the state or market and is instead something that a person pursues or seeks to achieve.

3.7 Conceptualizing social wellbeing in the context of fisheries and migration

Within the fisheries context, understanding how the three dimensions of wellbeing relate to the way people use, and depend on, coastal resources and their responses (e.g. migration) to social, economic, and environmental 'signals' can lead "to new interpretations of human behaviour and better appreciation for the important roles that the environment plays in the construction, and denial, of human wellbeing in its broadest sense" (Coulthard et al., 2015, p. 4). A social wellbeing approach can also bring new insights into fisher behaviour insofar as understanding why some leave while others stay and what this says about the social values or meanings of fishing as an occupation.

Over the past two decades, there has been a growing volume of research that has contributed to our understanding of wellbeing in fisheries (D. Johnson et al., 2016; R. B. Pollnac et al., 2001; Stacey et al., 2018; Weeratunge et al., 2014). Some of this has been tacitly related to wellbeing[39], for example, some of the earlier work has involved understanding job satisfaction[40] in fisheries (R. B. Pollnac & Poggie, 2006). One of the overarching findings from the decades of research in this area has been that non-monetary aspects make up important components in shaping overall job satisfaction. However, much of this work has largely focused on the Global North, primarily industrialized fisheries that were integrated into the world economy, and less so on small-scale fisheries in the so-called developing countries. Recent efforts by Bavinck et al. (2012) fill this gap by bringing together seven job satisfaction studies on marine capture fishing in nine so-called developing countries[41] across three geographical regions (Asia, Africa, and the Caribbean). Using three job satisfaction scales (basic needs, social needs, and self actualization)[42], they determined that those who had a positive attitude towards fishing were the most likely to resist change (either in type of fishing or the idea of leaving fishing). More importantly, fishers who were not open to changing their occupation scored high on the Self Actualization Scale and had more years of experience fishing (Bavinck et al., 2012). In other words, studies on job satisfaction highlight the critical role subjective wellbeing dimensions play in influencing fishers' decision to continue fishing or leave the occupation.

These studies also compliment and support the push for using the social conception of human wellbeing within (small-scale) fisheries since it, as Coulthard et al. (2011) argue, offers a useful frame to address the two-pronged policy challenge of reducing poverty while striving towards

---

[39] This distinction is in acknowledgement and recognition of the research done that relates, and informs, work related to wellbeing within fisheries. At the same time, this section focuses predominantly on a social wellbeing framing.

[40] Defined as the "the subjective feeling a person feels that reflects whether their needs, both physical and psychological, are or are not being met by a particular job" (Lambert et al. 1999, cited in Bavinck et al., 2012)

[41] Nicaragua, Dominican Republic, Jamaica and Belize (Caribbean); India, Thailand, and Vietnam (Asia); Senegal and Guinea Bissau (West Africa).

[42] There are a total of 30 questions separate into basic needs, social needs, self-realization, management, and valuation of nature, with five answer categories on a Likert scale (1= very dissatisfied to 5 = very satisfied) and three general questions (see the *Job Satisfaction in Fisheries Survey* in Bavinck et al. (2012)).

environmental objectives for development by opening an avenue of analysis that considers values, aspirations, and motivations, all of which shape and influence how fishers relate to fisheries resources. By focusing on the range of social relationships that are essential for fishers' wellbeing, a social wellbeing approach offers a foundation for an improved understanding of the conflicting interests within fisheries that can undermine policy. Related to this, Coulthard (2012b) contends that insights gained by the use of the wellbeing concept to influence policy within health and international development can be used for sustainable fisheries. Embedded within the subjective dimension of social wellbeing, the concept of *eudaimonic*[43] *wellbeing* provides a powerful analytical lens because it is concerned not with measures related to income or happiness, but a life of "human flourishing or prosperity" (the latter not in the economic sense) (Gough & McGregor, 2007). Specifically, she argues that the three dimensions of wellbeing (material, relational, and subjective) offers the potential to contribute to sustainable fisheries in two ways: i) by bringing to the fore social and subjective impacts of fisheries decline and; ii) by offering an avenue to gain novel insights into fisher behaviour related to pursuing wellbeing (Coulthard, 2012b).

Along similar, yet distinct lines Weeratunge et al. (2014) note that even though there is an established understanding that small-scale fisheries make many unique contributions to local and regional economies, societies, and cultures, there has been a lack of an integrating analytical 'lens' to assess such contributions. The authors put forward the concept of wellbeing as means to achieve such integration and argue that doing so can improve the assessment of intertwined social and economic issues that are part and parcel of fisheries governance. By conducting a thorough overview of nine frameworks and 'lenses' of wellbeing[44], they identify and advocate for the use of social wellbeing with its three core components (the material, relational, and subjective dimensions) since they capture the various elements that run through other wellbeing and related approaches. Each of these dimensions are relevant across scales from individual and household to community and fishery, as well as human-ecological systems. However, as the authors note, these three components are not usually integrated and analyzed within existing fisheries literature in a methodical manner.

Visualized diagrammatically, the analytical potential of the 3D wellbeing approach in the context of SSF is illustrated in Figure 12. The diagram lays out, indicatively rather than precisely, an assemblage of characteristics that contribute to or influence wellbeing in small-scale fisheries with a circular grid that links the three dimensions of wellbeing across three scales: the individual (micro), community (meso), and human-ecological system (macro). In line with others who have proposed applying the social wellbeing concept to help better understand fisheries governance/management (e.g. Biswal, 2015; Coulthard, 2012b), I make the case for applying a social conception of wellbeing to better understand migration within small-scale coastal fisheries in Cambodia.

---

[43] This stems from the concept of eudaimonia (typically translated as human flourishing) which is rooted in ancient Greek philosophy and is a component of 'virtue ethics' (the others being areté i.e. excellence or virtue and phronesis i.e. practical or moral wisdom) (see Hursthouse & Pettigrove, 2016).

[44] Economics of happiness, poverty and development, capabilities, gender, human rights, sustainable livelihoods, vulnerability, social capital, and social wellbeing.

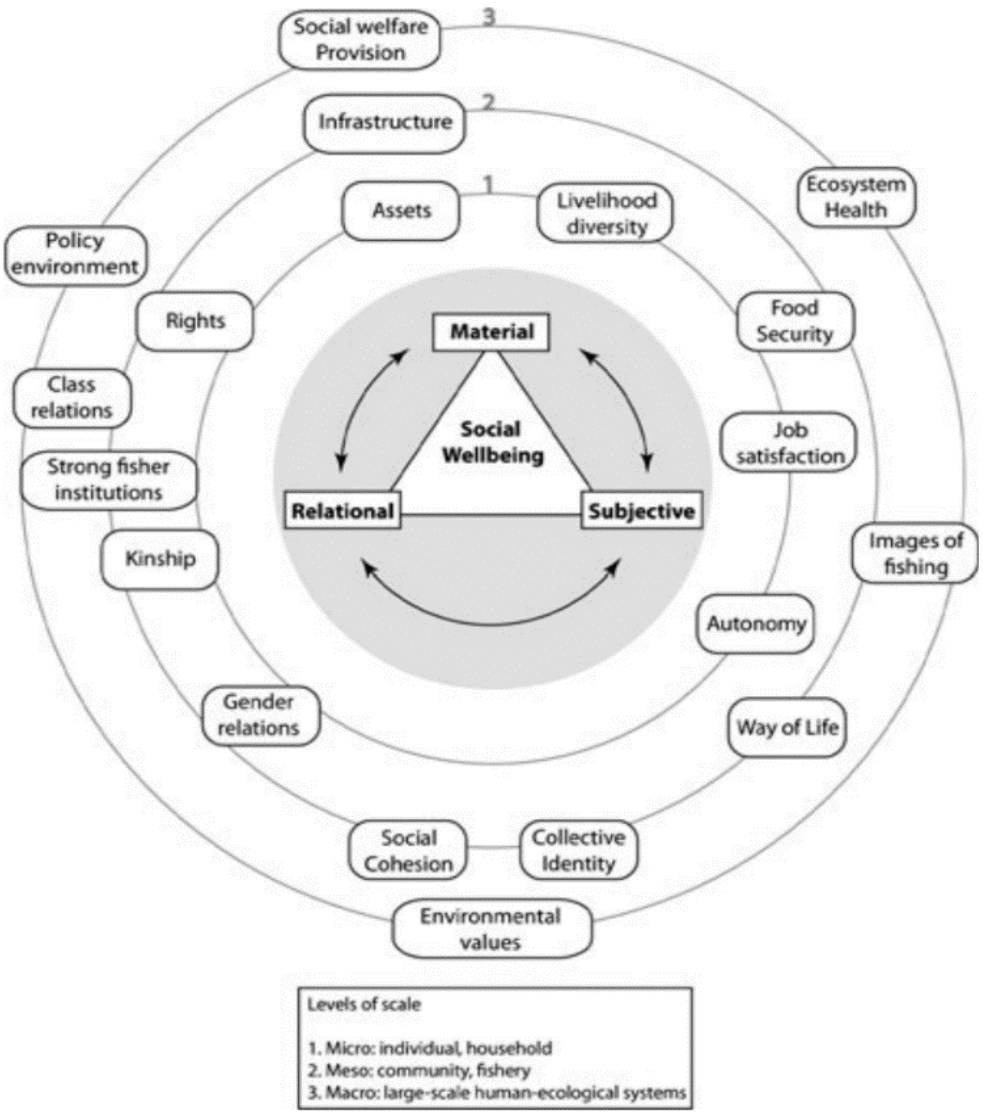


Figure 12. Factors influencing social wellbeing in small-scale fisheries. Source: Weeratunge et al. (2014).

Looking at people's responses (e.g. migration) and interpretations to various events (e.g. marine resource decline or environmental change in small-scale fishing communities) and the trade-offs that are made in choosing their livelihood through a wellbeing lens reveals a broader array of motivating factors for people, which are shaped by their values, aspirations, etc. As Weeratunge et al. (2014) note, "these dynamics of wellbeing are not as well understood as the dynamics of poverty and should therefore be seen as a new research frontier" (p. 271). There are two ways wellbeing can be viewed, the extent to which it is experienced and how the pursuit of it might shape behaviour. The former approach considers wellbeing as a measurable *outcome* for people while the latter recognizes wellbeing as a *process* i.e. what people do, and the choices they make in their pursuit of wellbeing outcomes. Here, the primary interest is in the latter since viewing *wellbeing as outcome* brings to the fore the choices people make i.e. whether to stay in the fishing village or to leave, and how this impacts wellbeing outcomes at the micro level (individual, household).

Recent studies on wellbeing and fisheries have touched upon migration, although not explicitly vis-à-vis social wellbeing, and instead as a response or outcome. Investigating job satisfaction in marine and estuarine fisheries of Guineau-Bissau, Fernandes (2012) observes how younger fishers who are more educated and understand the newly introduced conservation rules are more likely to explore other opportunities, especially those that involve migrating to urban centres. Similarly, increasing restrictions on reef fishing (via expansion in the number of Marine Protected Areas, MPAs), has catalyzed the out migration of Sama Bajau households in Sabah (Malaysia) to urban areas (Stacey et al., 2018). Building on this nascent empirical work, through the lives and experiences of people from three coastal villages, I show how migration shapes and affects wellbeing of migrating and non-migrating coastal fishing villagers materially, relationally, and subjectively, and how such an approach can contribute to our understanding at the nexus of social wellbeing, migration, and small-scale fisheries.

Chapter 4 – Methodology & Methods

4.1 Introduction

Qualitative research in general is often 'messy' and follows a meandering trajectory filled with trial-and-error along with on-the-fly decision making, which often strays from the original (arguably idealized) version drafted before fieldwork has commenced. In honoring this reality, I have attempted to be as detailed and transparent about outlining the research decisions taken on route and the *actual* course of the research process as it unfolded[45].

I conducted fieldwork over a period of 18 months in Cambodia (Table 7), arriving in the capital (Phnom Penh) on September 27, 2015, which served as my permanent residence. Out of the total time, approximately 12 months were spent conducting field work, starting on November 27, 2015. Initially, I took four days (November 10, 2015 – November 14, 2015) to perform a scoping study with the newly hired research assistant (RA)/translator as a kind of "trial run" to determine compatibility (on a personal level) and professional competency. This initial fieldwork continued until January 14, 2016 at which point the RA abruptly quit (see limitations section). I used the two months leading up to the start of fieldwork to settle in, set up meetings with key contacts at the Royal University of Phnom Penh (RUPP) and start the process of finding/hiring a RA.

On February 15, 2016, fieldwork resumed with a new RA until September 2016 (~8 months). From September 26, 2016 to November 9, 2016, I made a short visit back to Canada, by way of presenting a poster at a conference on migration and resilience in Bonn, Germany. I conducted the final phase of fieldwork from January to March 2017, arriving back in Canada on March 29, 2017. Overall, two primary methods were employed: i) a scoping survey (outlined below) across the villages; and ii) (individual and group) interviews with villagers, migrants, government officials, and NGO workers.

Table 7. Fieldwork timeline over an 18-month period.

Year	***2015***				***2016***												***2017***		
Month	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M
Arrival in Cambodia/Finding & Hiring RA																			
Scoping study with RA																			
Fieldwork I																			
Fieldwork II																			
Travel to Germany/Canada																			
Fieldwork III																			
Return to Canada																			

[45] Following the Thesis Evaluation Results on August 10th, 2015 with the thesis committee members indicating that the proposal was ready for defense, the proposal defense occurred August 26th, 2015 and was passed successfully.

4.2 Positioning myself

Making judgements about qualitative research partly stems from understanding the epistemological foundations that are particular to the study in question, along with the breadth and depth of descriptions of the methods. To understand the approaches taken in this study, it is important for the reader to understand my background and where I am coming from. Before the start of my doctoral studies, I only had training in quantitative research, given my academic background, first with my Bachelor of Science and then a Master of Environmental Science. From these, I became familiar with positivist approaches to research and data analysis and this epistemological lens became, over time, what I was comfortable with. However, upon entering doctoral studies, I became acquainted (and fairly rapidly at that) with qualitative research and alternative epistemological approaches within this new paradigm. This was both challenging academically as I had to play "catch up" with other colleagues who were well-versed in qualitative inquiry, and personally as I grappled with how to reconcile the possibility of multiple meanings from the same qualitative data set, thereby arriving at different conclusions (and, thus, 'truths'). Through this philosophical journey, I came to appreciate that within social sciences, there are often multiple ways of knowing and meanings which are often valid (though almost always contested, one way or another). Indeed, that is the hallmark of understanding the often messy and complex social world. I also observed the tension between quantitative and qualitative research insofar as the latter sought to legitimize itself in the face of critiques of rigor, validity, and trustworthiness from the former. Even though the debate between the two continues, I see qualitative research and inquiry as legitimate, to be seen as such in its own light, without apology or need for comparisons with quantitative research[46]. In essence, I see the two approaches as equally valid, and often, complimentary, as a way of understanding the natural and social world.

In the spirit of being against this antagonism while also being new to the qualitative research world, as I adopted this lens while reading across academic literature. While doing so, I became interested in the concept of social-ecological systems because the approach sought to link the social and ecological, seeing the two as interconnected or coupled to understand human-environment relations. Meanwhile, when I was introduced to the concept of resilience by my supervisor, it became instantly attractive to me not only as a concept as originally envisioned insofar as trying to understand a complex ecosystem but also because it originated in ecological science and became adopted and applied within the social sciences (to understand both social and ecological systems). Together, these two approaches formed a link between natural science and social science (and which forms its own body of knowledge—social-ecological resilience), something that I was attempting to do both intellectually and personally, and which was in congruence with my newfound epistemological orientation as a new entrant into the qualitative research world. This point of view also became the foundation which informed, and is connected to, my methodology and data analysis methods.

[46] Like others (e.g. Rolfe, 2006), I find that the construction of the quantitative-qualitative dichotomy is somewhat arbitrary and that between these two paradigms of ways of gaining knowledge and understanding there lies a continuum, and so, it makes little sense to judge qualitative research using the same criteria as quantitative research (although, to be sure, this has not prevented many from doing so).

4.3 Integration into Urban Climate Resilience in Southeast Asia (UCRSEA) project

During the development of the research proposal, an opportunity emerged to be a part of a five-year research initiative (jointly funded by the Social Science and Humanities Research Council and the International Development Research Centre), the Urban Climate Resilience in Southeast Asia (UCRSEA) project, focusing on a topic connected to my doctoral research (resilience) through my supervisor who became involved in the project. While initially my country of focus was going to be the Philippines (owing to my experience of working there), it was not among the countries that were a part of the UCRSEA project. Therefore, I decided to change my country of focus, ultimately choosing Cambodia because of the important role fisheries plays in the country and given that my supervisor's own doctoral work was in the same country/region, enabling me to leverage her knowledge and connections in the country.

After going through the necessary processes, I was brought on board as a doctoral student researcher on the project where I would contribute to research activities for the project (vulnerability analysis) within Cambodia in concert with the in-country research team, which was made up of a senior Ministry of Environment official along with three faculty members from the RUPP, Department of International Development Studies.

Integration into the UCRSEA project proved to be instrumental not only professionally (e.g. meeting senior academics/researchers, other graduate students) but also to my doctoral fieldwork because it allowed me to easily establish connections and relationships with individuals in key institutions that would help me 'anchor' myself as I conducted fieldwork. This was important because doing fieldwork in Cambodia (and likely other developing countries) efficiently and with legitimacy is greatly benefitted by having a local organization (in my case, RUPP) that is supporting your research i.e. someone who can vouch for you.

4.3.1 Scoping study

Integration into the UCRSEA project allowed me to attend the project's first annual meeting (January 26–29, 2015). Using this opportunity of being in the Southeast Asia region, I organized (with the assistance of my supervisor) an initial scoping study/visit from February 2–6, 2015 in Phnom Penh and Koh Kong, Cambodia. During this period, I visited four coastal fishing villages (Koh Kapic, Koh Sralao, Koh Kang, Peam Krasaop) located in Koh Kong province. Informal meetings were arranged with government officials, an NGO, and village officials (see Appendix A for full interviewee list), partly facilitated by members from the UCRSEA Cambodia team and through my supervisor's contacts.

The scoping study proved invaluable because it marked my 'initiation' to Cambodia (prior to this, I had never been to the country) and gave me the opportunity to get familiar with navigating around the country (between Phnom Penh and Koh Kong) while establishing my presence via informal meetings with government officials (e.g. in the Fisheries Administration) and getting a general sense of things.

4.4 Study sites[47]

The focus of the study is on small-scale coastal fishing households most of whom are doing mangrove estuary and near shore fishing. Fieldwork took place across two different 'sites': i) three coastal fishing villages, located in Koh Kong province, and ii) two urban areas, Koh Kong town and Phnom Penh (the capital) (Figure 13). The three villages are Peam Krasaop (Peam Krasaop commune[48]), Koh Sralao, and Koh Kapic (Koh Kapic commune)—the latter two being island fishing villages. All of the villages are located within the Peam Krasaop Wildlife Sanctuary (PKWS), a ~23,000 hectare (ha) protected area and designated Ramsar site (a wetland that is of international importance under the Ramsar convention) (UNESCO, 1994). Administratively, the villages are in two different districts, with Peam Krasaop in Mondol Seima district and Koh Sralao and Koh Kapic in Koh Kong district (MoE Cambodia, 2001).

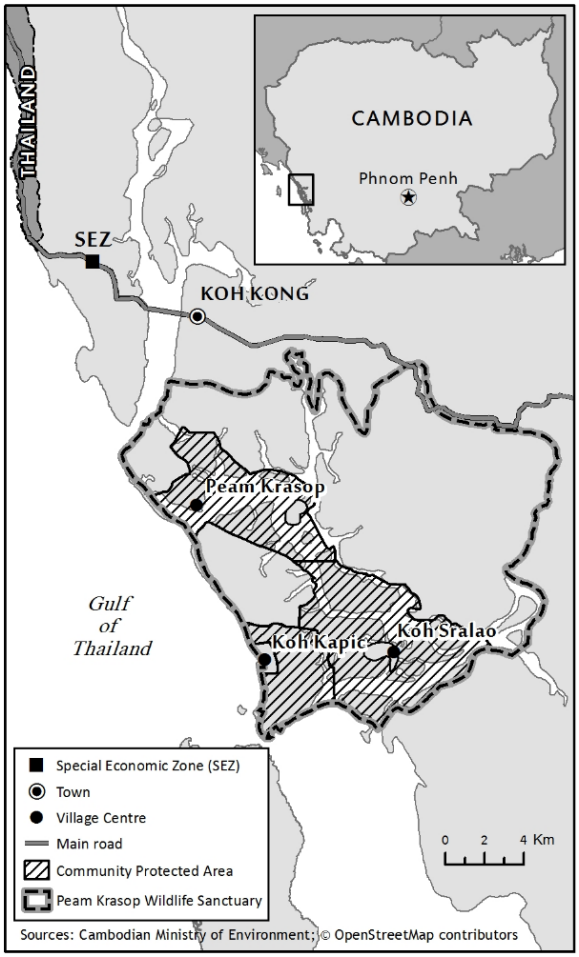


Figure 13. Map of southwest coastal Cambodia, showing the three selected fishing villages, the provincial capital and the special economic zone (SEZ); location of country capital in inset.

[47] Note: see next chapter for full descriptions of the study sites.

[48] A commune in Cambodia is a local government administrative unit, made up of and representing a series of villages, and is composed of a "commune council" that deals with administrative and legal matters; the council is the authorized body that connects to higher government levels e.g. district level.

4.4.1 Site selection

I opted to use purposive sampling (specifically, criterion sampling) (Patton, 1990): villages were selected with consultation of my doctoral supervisor (Melissa Marschke) with an emphasis on connectivity and landscape. In practice, this meant that the degree of connectivity to the provincial town (Koh Kong) varied i.e. the first village, Peam Krasaop, was connected physically to the town but nestled within mangrove estuaries; the second village, Koh Sralao, was physically disconnected to the town and was among mangrove estuaries; and the third village, Koh Kapic, faced the open sea. This approach was taken because it allowed for the understanding of whether the location of the village (from the town) affected not only whether people migrated but also where they were likely to go. In this way, a more nuanced understanding of migration among coastal fishing villages could be made. Meanwhile, using three villages in varied landscapes (i.e. mangrove estuaries and a mix of estuary and open sea) increased the chance of giving a more accurate overall representation of a Cambodian coastal community for that area of the country in general.

The area that encompasses the three villages has a long history within the research community with other researchers and organizations having conducted research or projects since the late 1990s and early 2000s (Bann, 1997; Marschke, 2012; Marschke & Berkes, 2005, 2006; Marschke & Nong, 2003; Marschke & Sinclair, 2009; MoE Cambodia, 2000; Nong & Marschke, 2006). Therefore, this means not only is my study building on previous work but also because the communities and their village leaders are familiar and have been supportive of past research initiatives, it was more likely for my research to be efficient and I would be less likely to face resistance or other issues that could forestall fieldwork. Lastly, a further advantage was that my supervisor's familiarity with, and knowledge of, the history of the communities/area along with the ecological and livelihood landscape enhanced her ability to support me both before and after fieldwork.

The selection of the three villages was chiefly based on the above practical and strategic considerations and not based on any dependent variable i.e. occurrence of migration. Indeed, one of the aspects that this research sought to elucidate was both the presence and the extent of migration within and across the villages since this information was less known and understood (the February 2015 scoping study played a role in this initially). The method of criterion sampling was done to minimize any case selection bias towards a confirmation of a preformed hypothesis.

4.5 Methodology

My methodological approach stems from the need to understand what coastal villager's value within an ecological context (coastal fisheries), what factors are involved in people either leaving or staying in the village, their relationship with the natural environment, and the trade-offs involved in navigating such dynamics. As such, my methodology is informed by a wellbeing lens, which also speaks to how understanding of 'development' within international development studies has been conceptualized and understood.

A hallmark feature of the wellbeing approach is based on the argument that people, even those who have very little and living in the most arduous of situations, are very aware of how they are

doing in life and are actors capable of some degree of choice and action (i.e. possessing agency) in how they lead their lives (see Sen, 1999 re: capabilities approach) and have the capacity to improve some aspects of their wellbeing (J. Allister McGregor, 2007)[49]. Likewise, a wellbeing approach offers a positive perspective i.e. it is respectful of the humanity of people, focusing on what people *can* instead of *can't* do, be, or feel (J.A. McGregor & Summer, 2009).

There has been a torrent of interest within international development policy and practice on ways to conceptualize and measure human wellbeing (Diener et al., 2009). A watershed moment was the publication of the Final Report of the 'Commission on Measuring Economic Performance and Social Progress' in 2009 (informally known as the Stiglitz-Sen-Fitoussi Commission) (Stiglitz et al., 2009)[50]. One of the report's main conclusions was that measuring development in terms of income was inadequate and has led to misguided policies (e.g. focusing on economic growth while ignoring inequality), not only in so-called developing countries but also developed countries. A consequence of an economic-centered focus was that it also fundamentally impacted how we understood 'development', in general. The Stiglitz-Sen-Fitoussi Commission's report recommended policymakers, academics, and civil society actors "shift emphasis from measuring economic production to measuring people's wellbeing" (Stiglitz et al., 2009, p. 12).

Such efforts to broaden understanding and operationalization of international development reflect shifts that started a decade prior to the publication of the Commission's report, from a narrow economic concept of development, to a more people-centred one. One of the most influential contributions that facilitated the move towards understanding development as the "organised pursuit of human wellbeing" (Gough et al., 2007a, p. 4) was the publication of the *Human Development Report* in 1990 (launched by Pakistani economist Mahbub ul Haq and Indian Nobel laureate Amartya Sen). Since then, a plethora of conceptualizations and methodologies have been produced to measure progress, wellbeing or happiness[51].

While it may seem odd to focus on wellbeing since poor people are experiencing hardship as a result of their poverty, there is good reason in doing so, because it forces us to "acknowledge the fully rounded humanity of poor men, women and children in developing countries; recognising that they are not completely defined by their poverty, nor can they be fully understood in its terms alone" (Gough et al., 2007a, p. 3). A wellbeing perspective gets at the heart of what development means:

> "international development is fundamentally about competing visions of what wellbeing is or should be. It manifests itself in debates about what is meant by desirable and socially feasible. It is important for a future wellbeing research agenda to recognise and accept that both of these are and always will be matters of

[49] Of course, the exact degree or extent of both agency and capacity is contingent on a bevy of structural factors, e.g. socio-economic (debt), psychological (mindset), and political (freedom of speech), to name a few.
[50] In parallel and before the publication of the report, there were others that started to advocate for development policies stemming from wellbeing (e.g. Anand et al., 2009; Gough & McGregor, 2007).
[51] The popularity of wellbeing is not restricted to the Global South context. For example, the Organization for Economic Cooperation and Development (OECD) has been publishing its "How's life? Measuring Wellbeing" reports since 2011, focusing on assessing wellbeing across OECD countries (OECD, 2017).

> contestation. Subjective and inter-subjective dimensions are an integral part of our definition of wellbeing and this recognises that each vision of wellbeing is founded in sets of values and that those values are generated and maintained within particular societal contexts." (Gough & McGregor, 2007, p. 349)

My methodology is informed by research outcomes of the multi-disciplinary 'Well-being in Developing Countries' (WeD) Research Group at the University of Bath and their five-year (2002 – 2007) research project focusing on poverty, inequality and quality of life in developing countries (University of Bath, 2008). The core goal of the WeD project was to "develop a conceptual and methodological framework for understanding the social and cultural construction of wellbeing in developing countries" (Gough & McGregor, 2007, p. xxii). The project applied this framework via empirical studies of 26 communities in four developing countries (Bangladesh, Ethiopia, Peru, and Thailand). The synthesis of the conceptual and methodological development is reported in Gough and McGregor's (2007) *Wellbeing in Developing Countries: From Theory to Research*. Within this, my methodology is inspired and informed by McGregor's (2007) chapter, *Researching wellbeing: from concepts to methodology*, where he argues for adopting the concept of wellbeing as a way of merging hitherto different threads of development thinking and utilizing contributions across social science disciplines to improve our understanding of the dynamics of poverty. Similarly, I employ a methodology that adopts wellbeing to understand the social and psychological dynamics of migration and analyze the implications on social resilience. The methodology also links to my methods insofar as a portion of the interview questions draw from Coulthard et al. (2015) *Exploring wellbeing in fishing communities: methods handbook*. In line with McGregor (2007), I utilize a social wellbeing methodology, which includes subjective dimensions of wellbeing, because of its potential to contribute to how we understand the social implications/impacts of migration[52].

4.6 Method of sampling

Before the start of fieldwork, I had planned for a combination of snowball and purposive sampling to be used in order to identify individuals for interviews who are particularly knowledgeable about environmental change and community dynamics (e.g. migration). While snowball sampling was worthwhile in theory, this did not end up occurring in practice during fieldwork. First, it was difficult to ascertain which individuals were more knowledgeable than others based on general observation and introductory conversations. Second, there were no discernable, objective criteria that would have facilitated in determining the "best" individuals to interview (e.g. age: an older person is not necessarily more knowledgeable). Third, and perhaps the most important factor, in the case of the fishing villages, the schedules of the fishers varied (e.g. some went fishing in the morning, others at night), which would have made snowball sampling challenging.

Instead, in practice, I adopted purposive sampling, specifically opportunistic sampling (also referred to as emergent sampling), which is a subset of the former (Patton, 1990). This method

[52] This perspective also changes how we understand and define international development which could arguably be redefined as "the creation of conditions where all people in the world are able to achieve wellbeing" (J. Allister McGregor, 2007, pp. 349–350).

of sampling reflects the realities of fieldwork insofar as recognizing that in some cases, it is difficult to predetermine data collection strategies while also acknowledging that it is not possible to capture everything. Opportunistic sampling recognizes that it is "necessary to make decisions about which activities to observe, which people to observe and interview, and what time periods will be selected to collect data" (Patton, 1990, p. 179). Indeed, the nature of qualitative inquiry designs allows for the introduction of new sampling strategies after fieldwork has begun (Patton, 1990; Suri, 2011).

Opportunistic sampling worked particularly well in the context of village life, as I saw first-hand, because of the multitude of tasks, chores, etc. that were being done by villagers throughout the day (e.g. mending nets, repairing boats/house, preparing fishing gear, fish/crab sorting, etc.). This sampling method allowed me and my RA to make decisions (on the fly) on which people to interview based on the objective of causing little to no disruption to villagers' day-to-day activities. This was even more important because life, and indeed the livelihoods, in the fishing village was very dependent on various independent variables such as tide levels and time of day which would dictate and determine fishing-related activities. In the end, this ended up being preferable not just for us (from an ethical/practical point of view) but also for the respondents involved (minimized or eliminated interruption from their day-to-day activities). For example, during a walk within the village, we would encounter a fisher sitting with his household organizing crabs that had been caught earlier in the day and ask, after a brief introduction/explanation, if he would agree to answer some questions as he goes about crab sorting. This allowed us to ask questions without any pressure to expedite the interaction and with minimal disruption to their livelihood routine. For most interviews, this was the preferred route and one we tried to take as a first step. Of course, group interviews required more coordination, involving us requesting a time that was most convenient for the respondents. I selected migrants by following a similar sampling strategy. Villagers were asked at the end of the interview if contact information could be provided in the case where they had a household member who had migrated out of the village.

While conducting interviews with respondents, a notebook was always used to take notes and to jot down follow-up points. The person's name and date of the interview was recorded. After a certain period of fieldwork was completed and there was a break, I would type all the notes from the meetings into a Word document to serve as a backup in case the notebook was damaged or lost and, eventually so it could be used for future data analysis. Where possible and if permission was granted, interviews were also digitally recorded and then later, transcribed by the research assistant.

All digital files related to fieldwork (word documents, interview transcripts, digital recording files) were stored on the cloud (Microsoft OneDrive) which only the researcher had access to (access was granted to the research assistant on a file-by-file basis e.g. to audio files of interviews for transcription).

4.7 Research ethics

Ethics approval was given by the Office of Research Ethics and Integrity on November 25, 2015 with an expiry date of November 24, 2016. Upon expiry, an annual status report was sent requesting renewal. The renewal was subsequently granted with an expiry of November 24, 2017 (Appendix B).

Before the start of the fieldwork, I met with the research assistants to review, train and make them familiar with the research ethics protocol. This involved going over the participant consent form for each of the methods and providing a simplified overview of the research study so that it could be communicated to the participants. This was particularly important given the decision to obtain verbal consent because it is difficult (and likely viewed as inappropriate) within some countries in Southeast Asia, such as Cambodia, to ask individuals to sign/thumbprint a document that is then taken by the researcher. Participants may view this as a risk because they would be concerned about what may be done with their signature or cause confusion about my affiliations. On this last point, most documents that they would have likely signed would have been from official government sources. Therefore, I wanted to avoid any confusion where participants thought I was working for/on behalf of the government (not to mention this altered perception would also bring reticence among some in participating). To mitigate this, I, through my research assistant, took the time to clearly communicate to the participants the need for informed consent and their right to refuse answering of any question while highlighting that they were free to either not participate or are free to withdraw at any time without fear of judgment, reprisal or any consequences.

After arriving in Cambodia, one other element in addition to ethics approval from the University of Ottawa was institutional authorization which involved obtaining a letter from the Royal University of Phnom Penh, who I was partnering with for institutional support, stating that they support my research and requesting approval from the provincial governor of Koh Kong province (where the fishing villages were located). Before the start of fieldwork, a letter from the provincial governor was secured. This was an important step because it not only legitimized and added credibility to my research but also served as an important resource when meeting with government officials (e.g. village chiefs; commune chief) should they ask to see a document in Khmer approving my research.

Fieldwork was greatly facilitated by the meeting of initial key contacts (a senior Ministry of Environment official, and a freelance consultant who also acted as my translator) made during the scoping study. These initial contacts were established thanks to a long-standing professional relationship between the senior government official and my supervisor (the two had worked together during Dr. Marschke's doctoral fieldwork). The government official was instrumental not only in the planning and coordination of my scoping trip but also throughout my fieldwork as a resource to consult and get advice from. Moreover, being associated with him also increased my credibility, and greatly facilitated meetings, with key government officials (during such meetings, I would mention his name and my connection to him). The freelance consultant was also very helpful because he had worked in several of the villages and communities around Koh Kong and was well known from his involvement in previous projects. This also proved to be very beneficial for subsequent fieldwork because he could provide me with important

information (e.g. name, telephone numbers) of key contacts (e.g. community leaders) within the villages. This allowed an entry point with which my research assistant could establish an initial connection to each of the villages.

4.8 Data collection

Data was collected by a variety of methods, starting with the scoping survey using a web-based survey tool and companion Android smartphone app, along with note taking and audio recording[53] for interviews. Participant observation was also used, especially while living in two of the villages (Koh Sralao and Koh Kapic).

4.8.1 Scoping survey

During the initial period of fieldwork, a scoping survey was conducted across the three villages to determine basic individual, household, and livelihood characteristics. This followed the sampling method outlined earlier (opportunistic sampling). The survey was completed over a series of days while staying in the fishing villages. For Peam Krasaop it was conducted from November 10, 2015 to November 12, 2015 (n = 16); for Koh Sralao from December 8, 2015 to December 10, 2015 (n = 23); and for Koh Kapic from December 15, 2015 to December 20, 2015 (n = 31) (Appendix C)[54].

The scoping survey was conducted to get an overall understanding of each village in terms of types of livelihoods (occupations), ages, gender, main sources of income, and migration of household members. The survey enabled the research team to get a 'snapshot' of the village as well as ascertaining the extent of migration among the survey sample. The data was collected using the Kobo Toolbox (http://www.kobotoolbox.org/), an open source data collection/survey tool that is well known in the humanitarian and disaster response field[55]. The survey was created through the Kobo Toolbox website and implemented via the Android Kobo Toolbox smartphone application. The benefit of using this method was that the survey could be done conveniently on a smartphone and an active internet connection was not needed. The data was automatically uploaded to the cloud on my private account on the Kobo Toolbox website once an internet connection was established. This made it not only very easy to administer but also simple to access the raw data through the website once it was uploaded. The survey data was downloaded as a comma separated value (csv) file, organized, and analyzed using Microsoft Excel.

---

[53] When permission was granted and where feasible, interviews and focus groups were recorded using a Sony digital voice recorder (model ICD-UX533).

[54] The differences in n values reflect the variability in timing of the field visits and availability of participants within each village (which were factors given the sampling method chosen). As a result, the data as represented within the frequency tables in the Appendix are not necessarily representative of the whole village but are used to give a sample of the kinds of dynamics that are occurring (e.g. in terms of age, livelihoods, etc.).

[55] See https://www.humanitarianresponse.info/en/applications/kobotoolbox

4.8.2 Interviews

To answer all the research questions, a combination of unstructured, semi-structured, and structured interview methods were used. Semi-structured interviews allow a flexible structure and for the interview to be shaped by the interviewee's own understanding, opening the possibility of unexpected themes to emerge. Further, this interview method also reflects the ontological position of this research insofar as both the method and the study focus on people's understandings, interpretations, and experiences (Mason, 2004).

One-on-one were arranged with fishers, wives of fishers, and youth (male and female) across the three villages and with migrants in both Koh Kong town and Phnom Penh. I would lead the interviews alongside my research assistant who acted as the translator. For the villages, interviews were done mostly in the front patio or inside the fisher's home, according to their preference and/or depending on what they were engaged in e.g. fishing net sorting. For migrants, a meeting place was arranged according to their schedule and preference. In some cases, this involved going to the area of the city that they lived in to minimize travel and inconvenience for them. In all cases, either a local restaurant off the side of the road, a coffee shop or an eatery inside a plaza were chosen as venues for conducting interviews.

There were two sets of interview questions. For the first set, interviews questions were developed through a strategic process starting from the main research questions, which were broken down and simplified into a series of sub-questions. This was necessary because the main questions were not designed to be answered by the respondents directly but rather through analysis. These sub-questions were still relatively broad but linked to the overarching research questions. The sub-questions were then unpacked which led to the drafting of in-field questions i.e. the questions that would be asked to respondents (Appendix D). In this way, the interview data could be constructed to answer the overarching research questions. Questions were used as guideposts for the interview with the answers by the respondents guiding the development of questions on-the-fly. In many instances, this way allowed for the sub-questions developed to be eventually answered, nonetheless. This first set of questions were designed primarily to understand the drivers of migration and the factors involved in decisions on whether to stay in the village or migrate and the reasons people choose to leave or stay.

In contrast to the first set, the second set of interviews were structured, focusing on understanding the connection between migration and wellbeing. They were adapted from Coulthard et al. (2015) *Exploring wellbeing in fishing communities (South Asia), Methods handbook* and modified from being for a focus group to being for a one-on-one interview i.e. participatory elements removed and personal pronouns changed from collective to individual.

4.8.3 Group interviews

A total of 11 group interviews were conducted across the three villages (three in Peam Krasaop, one all-male and another all-female group; four in Koh Sralao of fishers only; and two in Koh

Kapic, one mixed gender group and another all-male group)[56]. In addition, four group interviews were arranged, one in Peam Krasaop, two in Koh Sralao, and one in Koh Kapic. The reason for dividing the focus groups by gender for some was because it was hypothesized that the presence of males (in the case of females) or females (in the case of males) within the group might influence what participants say (or do not say). To allow focus group participants to feel as comfortable as possible and for them to be able to share without reservation, some of the focus groups were arranged according to gender.

This turned out to be beneficial because, in the case of the all-female group for example, some women admitted to gambling while their husbands went out fishing without their knowledge. The revealing of this information would have been far less likely had the group been composed of females and males. In another case, with the all-male group, some men complained that they felt lazy to go fishing sometimes but they felt compelled to go because if they did not, their wives would insult and berate them. Similarly, such candidness may not have been possible if these men were in a group that also included female villagers. At the same time, to get a plurality of perspectives, mixed gender groups were also arranged (where possible).

Questions for the group interviews focusing on social wellbeing were adapted from Coulthard et al. (2015) *Exploring wellbeing in fishing communities (South Asia), Methods handbook* (Appendix D) and designed to focus specifically on the three dimensions of wellbeing. While effort was made for each of the questions to be answered by the participants, in some cases the questions did not 'land' (either because of a misunderstanding in what was being asked or the subjective nature of the questions being asked). In such cases, the assistant and I tried to improvise and come up with ways to explain the questions so that they could be understood. This was particularly the case for more future-oriented questions requiring participants to 'imagine'.

Interviews were a combination of informal and formal, depending on the context and circumstances with informal interviews following the scoping survey. Across all three villages, 68 informal unstructured and 83 formal one-on-one semi-structured and structured interviews (including group interviews) were completed with villagers, fishers, and village leaders. A total of 32 formal interviews were completed with migrants across both urban destinations (Table 8). A combined 15 interviews were completed with government officials and NGO workers, all in Phnom Penh (Appendix A). A total of 43 recordings were made: 35 individual interviews and 8 group interviews. The remaining interviews were not recorded and instead captured via note taking.

[56] Note that for Koh Sralao, it was not possible to obtain the same gender make up (male and female) as the other two villages because of the challenges of organizing a group of women and their lack of interest in participating compared to the other two villages.

Table 8. Number of participants across five locations (three villages and two cities), with select demographic factors.

Location	Interviews (informal)	Interviews (formal)	Scoping Survey	Males	Females	Average age	Average # of years in village
Peam Krasaop	16	28	16	35	13	43	15
Koh Sralao	22	33	22	47	15	48	20
Koh Kapic	31	22	31	43	10	49	29
Koh Kong town	—	13	N/A	2	11	23	—
Phnom Penh	—	19	N/A	11	5	—	—
Total	***69***	***115***	***69***	***138***	***54***	—	—

Note: Age data were not obtained for all Phnom Penh participants (<25%) and were thus excluded. Average age is of combined genders (i.e. not gender disaggregated).

4.9 Data analysis

Scoping survey data was stored and analyzed in Microsoft Excel (.csv and .xlsx files). Interviews that were audio recorded were transcribed by my RA and were edited and reviewed by me to improve grammar, sentence syntax, etc. for overall comprehension. The interview data was coded and analyzed using NVivo 11 Pro for Windows (version 11.4.1.1064) (QSR International Pty Ltd.). Qualitative analysis was guided by *Qualitative data analysis with NVivo* (Second edition) (SAGE) (Bazeley & Jackson, 2013). Coding was informed by insights gained from *The Coding Manual for Qualitative Researchers* (Saldana, 2009).

Coding was done in 'cycle' and using two different approaches to get the most out of the data. The first was based on using the conceptual framework as a skeleton for the coding structure (Table 9).

Nodes were set up around the drivers of migration (sub nodes for the different drivers, along with obstacles and personal characteristics), resilience (agency, social resilience and values as sub-nodes) and social wellbeing (sub nodes being the three dimensions) concepts. This follows what Hsieh & Shannon (2005) refer to as a 'directed approach' to qualitative content analysis which begins with a theory or relevant findings as guidance for initial codes. Qualitative content analysis is one of several research methods used to analyze text data (others being ethnography, grounded theory, phenomenology, *inter alia*) and is defined as "a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns" (Hsieh & Shannon, 2005, p. 1278).

The reason directed content analysis was chosen over the two other content analysis methods outlined by Hsieh & Shannon (2005)—conventional and summative—is because it is most appropriate when theory or research already exists about a phenomenon but is incomplete or would benefit from more elucidation. With respect to theoretical orientation, this method could be categorized as a deductive approach.

A benefit of a deductive process as an approach was that it allowed me to focus on making and developing theoretical connections and understanding between/across the various concepts central to the thesis without having to spend time on developing a coding structure on-the-fly. Therefore, this mitigated the risk of developing a large, unmanageable coding structure, which can bog down the initial coding process.

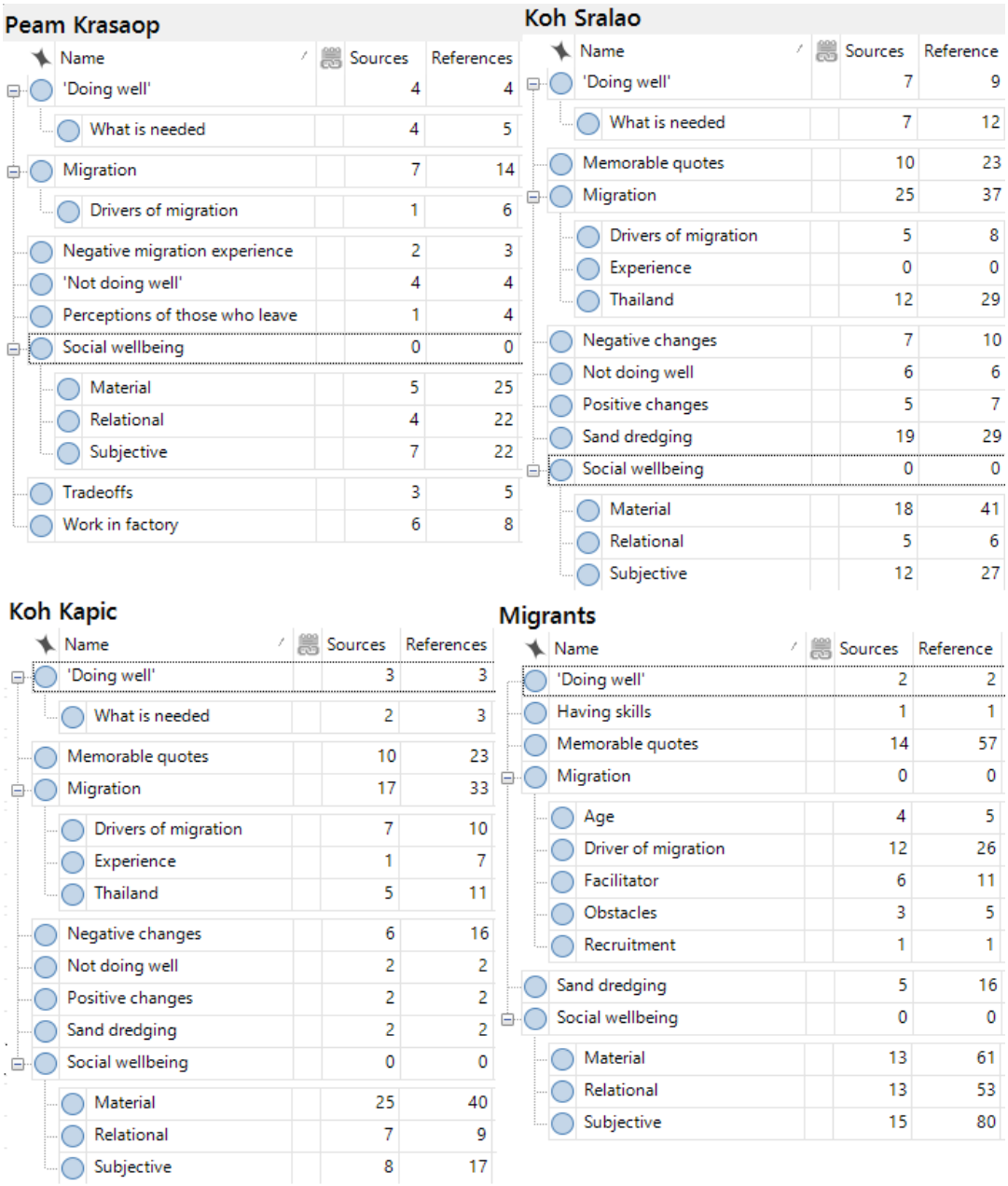
The first step, after having developed the initial coding structure (Table 9), was to read the transcripts and highlight and code all text that connected to one of several categories (e.g. drivers of migration; personal and livelihood characteristics; social wellbeing). When it was the case that the text connected to more than one category (or node), it was coded at both categories. Any text that was connected to the central themes but that could not be categorized within the coding scheme was given a new code (e.g. sand dredging).

Table 9. Coding structure for the first cycle of coding (data from NVivo).

Name	*Sources*	*References*
Drivers of migration	0	0
▪ Economic	1	4
▪ Environment	1	1
▪ Obstacles & Facilitators	0	0
o Cost of migrating	2	3
o Debt	2	2
o Inability to save	2	2
o Knowledge	1	1
▪ Social	0	0
Personal and livelihood characteristics	0	0
▪ Age	1	2
▪ Assets	1	1
▪ Education	1	2
▪ Gender	1	1
▪ Sources of income	3	6
▪ Types of activities	2	3
Resilience	0	0
▪ Agency	1	1
▪ Social Resilience	0	0
o Capacity	1	1
o Social relations	1	1
o Sustainability	1	1
▪ Values	0	0
Sand dredging[a]	3	4
Social wellbeing	0	0
▪ Material	0	0
o Assets	3	7
o Ecosystem services	6	11
o Income and wealth	5	8
o Infrastructure	1	1
o Institutions	2	2
▪ Relational	0	0
o Leadership	1	1
o Social learning	1	2
o Social ties	3	4
▪ Subjective	0	0
o Attitude	2	3
o Perceptions	2	3
o Sense of place	3	8
o Values	3	4

[a] Sand dredging was a separate code and not in ecosystem services or environment because the issue came up in a more general sense and not just in the context of wellbeing or migration.

A more inductive category development process was largely used during the second cycle of coding (Cope, 2009) wherein codes flowed from the data without a preconceived coding structure, apart from using the framework of social wellbeing and its three dimensions as nodes. Given this, the coding nodes structure is different across the villages and migrants group (Figure 14).



Peam Krasaop

Name	Sources	References
'Doing well'	4	4
What is needed	4	5
Migration	7	14
Drivers of migration	1	6
Negative migration experience	2	3
'Not doing well'	4	4
Perceptions of those who leave	1	4
Social wellbeing	0	0
Material	5	25
Relational	4	22
Subjective	7	22
Tradeoffs	3	5
Work in factory	6	8

Koh Sralao

Name	Sources	Reference
'Doing well'	7	9
What is needed	7	12
Memorable quotes	10	23
Migration	25	37
Drivers of migration	5	8
Experience	0	0
Thailand	12	29
Negative changes	7	10
Not doing well	6	6
Positive changes	5	7
Sand dredging	19	29
Social wellbeing	0	0
Material	18	41
Relational	5	6
Subjective	12	27

Koh Kapic

Name	Sources	References
'Doing well'	3	3
What is needed	2	3
Memorable quotes	10	23
Migration	17	33
Drivers of migration	7	10
Experience	1	7
Thailand	5	11
Negative changes	6	16
Not doing well	2	2
Positive changes	2	2
Sand dredging	2	2
Social wellbeing	0	0
Material	25	40
Relational	7	9
Subjective	8	17

Migrants

Name	Sources	Reference
'Doing well'	2	2
Having skills	1	1
Memorable quotes	14	57
Migration	0	0
Age	4	5
Driver of migration	12	26
Facilitator	6	11
Obstacles	3	5
Recruitment	1	1
Sand dredging	5	16
Social wellbeing	0	0
Material	13	61
Relational	13	53
Subjective	15	80

Figure 14. Node structure for inductive category/coding (screenshot from NVivo).

This way of using dual approaches, deductive for the first cycle and inductive for the second, allowed me to obtain the benefits of both while countering some of the drawbacks of each method. For example, one of the challenges of an exclusively inductive approach is that there is a risk of failing to develop a complete understanding of the context which could result in

overlooking the identification of key categories and, ultimately, with findings that do not accurately represent the data. In other words, it poses challenges to 'internal validity' (Hsieh & Shannon, 2005, p. 1280). By using a deductive approach and identifying and forming categories based on my conceptual framework, it helped to mitigate overlooking key categories. To prevent a 'rigid' adherence to the coding structure, being flexible and allowing for new coding categories as they emerged was an important and necessary addition that I adopted as I went through the coding process.

4.10 Access

The issue of access was on three fronts: a) access to the fishing villages; b) access to villagers; and c) access to migrants. One of the challenges that I had anticipated was getting to two of the fishing villages (Koh Sralao and Koh Kapic) which were a 30 to 45-minute boat ride away from Koh Kong town. Reliable and consistent access to the two villages being only by boat was also problematic from a logistical point of view. At first, to find out how to get to the villages, my research assistant and I went to the port that was used by 'taxi boats' to transport goods and people between the town and the various fishing villages in the area and inquired about getting to the villages. We determined that it would be possible to take these boats, however, the timing was unpredictable, and the boats were slow. Initially, without alternatives, this option was used a few times to visit the two villages. Making the journey, however arduous, to the villages by the means most likely to be taken by the villagers was important because it allowed me to get a sense of what most villagers use (as well as their overall experience) to access Koh Kong town: a medium sized "taxi boat" which was uncovered with horizontal wooden slats where people sat. With the hot sun beating down and the very loud on-board engine, it was difficult to have a conversation nor was the ride comfortable (most of the trip was spent standing given the limited room on the ship because of the cargo on board). Nevertheless, this kind of transportation was the most common for villagers to use because it was economical (the boat would visit several villages in the area to drop off people/supplies and pick up others), forming a crucial means of being connected to the town. The experience gave me a first-hand account of travelling between the villages and the town, thereby developing a greater understanding of one aspect of villagers lived experience while developing empathy towards the challenge of living in a remote fishing village. However, we quickly realized that this method was not the most conducive to the fieldwork plan. On top of this, we wanted to save time and maximize mobility and convenience, and so my RA inquired on private boat drivers that could be hired to get us to the villages. Once we were able to find one, it became the preferred option for subsequent trips to ensure efficient access to the villages (sometimes this was the same person, other times it was others if the initial person was unavailable). This option which gave us greater freedom proved to be especially useful when, for example, we wanted to visit both villages in one day. Partly because of the challenge of access to the fishing villages but mostly because I wanted to get a more comprehensive understanding of 'life in the village', the research assistant and I opted to live at

each of the two fishing villages over the course of several weeks[57]. In such cases, a boat was hired for the one-way trip and the return trip was arranged through assistance from villagers. Sometimes, this would be via the morning taxi boat and other times, we would be able to be coordinate with a villager who was going into town that morning (e.g. a middle person). In this way, the issue of access to the villages was resolved because the boat only needed to be taken once versus every day and it dramatically reduced research expenses (a boat hire for one day cost ~$25 – 35 US a price arrived at after some negotiating by the RA—the initial price quoted was $50-60 US).

Avenues of access to the villagers differed from village to village. For Peam Krasaop, access to the villagers was mediated by the village chief who we established contact with thanks to information provided during the scoping study by Mr. Ratana. He provided a walk around tour of the village which allowed us to be informally introduced to the villagers and our association with the village chief helped in establishing credibility. Since the village was accessible by road, we would stay in a hotel in Koh Kong town and travel by *tuk tuk* when focusing on Peam Krasaop for fieldwork.

For Koh Sralao, access was facilitated using a gatekeeper in the community (Mr. Somsak) who was also one of the community leaders and had been actively involved with projects led by NGOs, the Cambodian government, and donors (e.g. the International Development Research Centre). Upon the initial visit, Mr. Somsak went around to give us a tour of the village and, along the way, fielded inquiries by curious villagers. Our association with the community leader helped to assuage any suspicions or trepidations the villagers might have had, absent such a relationship (although later we realized there was another side to this, see 'hazard of association' section below). The building of the relationship and rapport with him helped greatly in ensuring access to villagers. It should be noted that, because of having done her doctoral fieldwork in Koh Sralao village, my supervisor and Mr. Somsak knew each other well and, as a student of hers, I was able to establish rapport easily and quickly. Given the prior relationship, arrangements were made for us to stay at the home of Mr. Somasak and his wife during our time in the village.

For Koh Kapic, access was enabled in two ways. The first was through a well-respected (retired) community leader, Ms. Heang, who also provided a homestay during our stay in the village[58]. The establishment of rapport with her was made easier and facilitated by a prior relationship with my supervisor. The second was through introduction to the village chief who acted not only as a gatekeeper but also helped in organizing group interviews and arranging household data collection. The village chief also played an important role in connecting us to the commune chief who was the local government official presiding over the latter two villages (which are in Koh Kapic commune).

---

[57] This was done in five-day intervals (usually Monday – Friday) with visits to the capital over the weekend. Partly, this was a way of taking a "break" from fieldwork since it was arduous given the overall conditions (e.g. sleeping on the floor, being awoken by the noise of boat engines at dawn, etc.), and to provide a semblance of balance within the personal life for myself and the RA (my RA was newly married with his wife living in the capital).

[58] This was more formal with two beds in a room set up because Ms. Heang operated a homestay service for the occasional visitors/tourists that would come and want to stay in the village (we were told this was now a rare and occasional occurrence, when we asked her about how often she had visitors).

Access to the migrants was perhaps the most challenging aspect when it came to accessing participants in general. During interviews, one of the questions that was always asked to the participants was whether any household member had left the village, along with the destination and what they were doing there. Through this, we were able to establish in a systematic and comprehensive manner, knowledge about migrants. Once it was established that the household had family member(s) who had left the village, we asked if contact information could be provided (i.e. name and phone number) and explained why we wanted to get in touch and meet with them. Responses to this fell into three categories. One was an open and positive response with the name and phone number given readily. The second was a declining in offering the information. This was mostly the case when the migrant was a young female and there was apprehension in disclosing details due to security concerns (note that this wasn't said explicitly but rather "read" between the lines by the research assistant through body language and linguistic cues). The last type of response was respondents claiming they did not know the phone number and so could not provide it. The research assistant and I had no way of knowing the truth of this statement, although, at various times, the research assistant did remark that some responses of this nature had connotations of untruthfulness which he picked up on through the idiosyncrasies of their replies. Thus, due to a combination of general reluctance and security concerns by village members, it was not possible to get access to every possible migrant.

Even for those who contact information was given, it occasionally proved difficult and challenging to meet with the migrants. One issue was that the migrants were very busy and often worked six days of the week. Therefore, the only possible opportunities were evenings or during their day off. As a result, the research assistant and I did our best to accommodate and be respectful of their schedule and time by arranging an interview according to their convenience. Nevertheless, because many had such little time off and thus, highly valued it, their desire to meet with a foreigner to answer questions was not as appealing as spending time with friends, etc. This factor made it difficult to meet with some migrants, particularly those who were younger and working in the factory in Koh Kong town. And in some cases, even though we had tried a few times to call and arrange an interview, the pursuit was abandoned given their lack of interest.

While not every potential migrant was able to be interviewed (either because contact information was not given, or they were unable to be reached/unwilling to confirm a meeting), it is important to note that this kind of research was made possible because of the rapid ascent and recent improvements in telecommunications technology i.e. mobile phone use. Even 15 years ago, mobile phone infrastructure was in its infancy, and, consequently, cell phone usage was not common (in urban areas but especially so for rural areas)[59]. In other words, this kind of research (along with accessing migrants), with the resources generally available to a doctoral student, in Cambodia would likely have not been possible until more recently (i.e. the last seven

[59] In 2003, there were only 3.8 mobile cellular subscriptions per 100 people but eight years later, in 2011 there were 94.6 subscriptions per 100 people (as of 2016, Cambodia boasts 126.3 subscriptions per 100 people) (World Bank, 2016).

to eight years)[60]. At the least, it would have been orders of magnitude more difficult from both an access, feasibility, and logistics context.

4.11 Research Assistants

The selection and recruitment of a research assistant (RA)/translator proved to not only be challenging on multiple fronts but also a learning experience. For one, my unfamiliarity with the country necessitated that I leverage connections which I was able to do because of my integration with the UCRSEA project. This entailed obtaining help from my colleagues at RUPP and the Faculty of Development Studies and asking them to put out a call for the position of research assistant via an email list that went to all undergraduate and Master students of their program. In addition, I researched and identified several NGOs in Phnom Penh who I contacted by email to request assistance for finding a RA, with many replying that they had forwarded it along to their network. In the end, neither of these proved to be fruitful and I did not receive any applications.

Alongside these attempts, I decided to try putting an online advertisement in one of the main English-language newspapers (*The Cambodia Daily*) for a research assistant position. I sent them a full description of the position, duties, responsibilities and salary expectations which was subsequently published online in the classifieds section of their website (this was done free of charge as a one-time concession upon my request; typically, organizations must pay to put an ad). Over a period of two weeks, I received a steady number of applications (16 in total). After screening them, six candidates were interviewed, and one ultimately selected.

The candidate chosen was a well qualified Cambodian, with a Bachelor's degree in English for Communication from Western University and a Bachelor degree in Enterprise Management from the Royal University of Law and Economics, with previous experience as a translator for an insurance company and some NGOs. It was agreed that the RA would be paid a daily rate of $20 USD/day (this was negotiated between myself and the RA), with accommodation, meals and transportation covered by the research budget.

As part of the selection criteria, I made a very intentional attempt at looking for male research assistants over female. This was done for several reasons. One was because I was aware of the patriarchal culture within Cambodia and that if I had hired a female, there was a chance that questions would be asked *"why did you hire a woman?"* or even questions about what made the woman qualified to be my assistant. In addition, I was very aware of my positionality as a foreigner in a country that is known for sex tourism and the assumptions that are often made by Cambodians when a foreigner male is seen in the company of a young Cambodian female. My concern was that if I had hired a female research assistant, there would be undue attention (or plain curiosity) by participants to our (professional) relationship, rather than on the interview/topic. While admittedly, I recognize that this would have been unlikely, I chose to err on the side of caution by preferring a male research assistant over a female.

[60] For example, cell phone coverage reached Koh Sralao village only in 2007 (Marschke, 2012)

The second RA selected was a Cambodian freelance journalist with extensive experience as a radio reporter, journalist at a major Khmer newspaper and at an English-language newspaper, while also working in rural areas across Cambodia with NGOs, researchers and other foreign journalists working in Cambodia. He was paid a monthly salary of $500/US (usually given bi-weekly with the amount settled upon through negotiation) while I covered our research expenses (e.g. accommodations, meals, travel).

As part of the selection criteria, I made a very intentional attempt at looking for male research assistants over female. This was done for several reasons. One was because I was aware of the patriarchal culture within Cambodia and that if I had hired a female, there was a chance that questions would be asked *"why did you hire a woman?"* or even questions about what made the woman qualified to be my assistant. In addition, I was very aware of my positionality as a foreigner in a country that is known for sex tourism and the assumptions that are often made by Cambodians when a foreigner male is seen in the company of a young Cambodian female. My concern was that if I had hired a female research assistant, there would be undue attention (or plain curiosity) by participants regarding our (professional) relationship, rather than on the interview/topic. While admittedly, I recognize that this would have been unlikely, I chose to err on the side of caution by preferring a male research assistant over a female. Another benefit to choosing a male research assistant was that they would be able to engage with male villagers on a level that would not be possible or appropriate for a female Cambodian to do given socio-cultural norms. For example, there were a few times where we would encounter a group of male villagers who were drinking locally made rice wine or commercial beer and, at the start of the interview, they would offer it to my research assistant (I would politely decline if asked), who would accept the drink. While a seemingly minor aspect, it went a long way towards establishing a positive rapport with the villagers.

4.12 Deconstructing my methodological behaviours

The hazards of association

The fieldwork experience is one filled with learning and surprises. One's position within the research context as well as the associations and relationships that are established, heavily influence the "optics" of fieldwork and how you are perceived in the community.

An illustrative case of this occurred in the village of Koh Sralao. As mentioned previously, while the association with the community leader was positive and beneficial, only in the later stages of fieldwork was it discovered that this was not universally true. During the initial stages of fieldwork, myself and the research assistant stayed at house of the community leader, which made sense on several levels as outlined earlier (respondents often inquired as to where we were staying). However, during the later stages of fieldwork where we were no longer staying in the village and instead just making day trips, we became privy to information from interviewees that was highly critical of village leaders in general but also of this community leader. Since we were not staying at his place, we were not associated with him (or anyone else in the village, for that matter) the interviewees felt safe in sharing with us very critical opinions about the character of this specific individual—something that would have been very unlikely had they known or thought we were staying at his house.

For me, this brought to the fore the impact association with certain individuals can have on research outcomes, especially in terms of what kind of information participants choose to disclose and what they decide to withhold. It also served as a reminder to me that often, while in the position of a researcher focused on obtaining information and understanding, it is very easy to overlook how one's association and perception within not only a community but also on an individual level, can impact the depth and breadth of understanding or access to certain kinds of information.

4.13 Limitations

One of the main limitations that I faced throughout my fieldwork was lacking command of the Khmer language, the principal language of Cambodia and that of Cambodians. While I had intended to build my competency of Khmer at the start, I found the demands of learning a new language while organizing and coordinating logistics of fieldwork unrealistic (I find that I do best in a structured learning environment i.e. classroom, which would be difficult to commit to while travelling to the villages and the back and forth to/from Phnom Penh). So, despite my best intentions, I was not able to learn the language in a comprehensive fashion. I did, however, pick up 'the basics' through my research assistants and asking questions which allowed me to say a few things ('I am a student from Canada', 'I have lived in Cambodia for X year/months', etc.) and this did help build rapport to a degree or served as a useful 'icebreaker' at the start of interviews (Cambodians in general are very appreciative and happy when they meet foreigners who try to speak whatever Khmer that they know). However, when it came to interviews, my basic knowledge was not very useful.

I realize that my research would have been more effective (and equally, I would have been more 'aware' during interviews) if my Khmer was conversational. It would not only have allowed me to know how accurate my research assistant was being with his translation[61] but also build rapport and trust with my interviewees and village officials. Related to this, another limitation was my almost complete reliance on translation in all interviews and fieldwork activities (exceptions being when the interviewee knew English). On a certain level, this was a risk because had my research assistant fallen ill or had to be away to attend to personal matters, I would have had to wait until he was available again which would take up valuable time that could have been spent doing interviews. While such matters are outside one's control, if I had good level of competency in Khmer, these kinds of instances would not have impacted my progress.

At the beginning, with my first RA, I conducted a kind of "trial" to determine personal compatibility along with professional competency, paying attention to skills that would be important in the role of assistant and translator. After the trial period went well, he was hired, and we worked together for a period of roughly two months (November 10, 2015 – January 14, 2016). During this time, the relationship was smooth, and things were going well, which is why the news of him quitting came to me as a surprise. I was notified by email that he did not want to work with me, citing feelings that he was being taken advantage of and having not been

[61] Although this was verified to a degree when my supervisor and I used my research assistant to do interviews jointly during her visit to Cambodia for her own research, since she has a greater level of functional knowledge of the Khmer language.

compensated fairly. To the last point, according to him, this had to do with the time taken to call and arrange interviews, which was largely done on his own when fieldwork was not being conducted, and thus, a daily rate was not being paid (since I gathered it would take only a few minutes to do). Nonetheless, I offered to compensate him for the time and to work on establishing clear communication so that we could continue to work together. Despite this, he refused and so I was left without a RA. While there could be other unknown extraneous circumstances that led to the RA quitting, it certainly served as a lesson learned for me in terms of making sure that whoever I work with feels like they are being treated and paid fairly and equitably. Along this line, I used the experience to adjust my compensation scheme and for my subsequent round of advertising of the RA position, I stipulated that the candidate would receive a monthly salary. This experience was a limitation in terms of being a setback for the momentum of my fieldwork since it took one month to find a replacement.

My gender was, overall, not a limitation but there were certain instances where it was so, and others where it was a plus. For example, I know that some of the reticent by participants in giving contact information of migrants to me, especially if they were female, was because I was a male. The subtext beyond this I can only guess as to the reasons but one of them could have been from a security standpoint[62] and wanting to protect their daughter/niece who might be living on her own with no relatives or anyone she knows. In several cases, the female migrants I met with ended up coming to the meeting with a friend which (I realized in hindsight) was likely done from a safety/security standpoint. In other cases, being male helped rather than hindered such as in cases where I met with village or senior government officials given Cambodian culture and gender norms/expectations. If I were female, there could have likely been room for sexist and misogynistic behaviour to arise that would cloud the interaction, making the whole situation uncomfortable. In sum, while my gender likely prevented me from accessing certain migrants, it also served to be of benefit when interacting with officials and in social settings.

Being a foreigner was a limitation insofar as being viewed as an 'outsider' which no level of language fluency can fully counter. Being from a different background and culture certainly limited the level and depth with which I was able to integrate within the village community and with people (on top of the lack of Khmer). Peculiarly, my nationality was one that was 'seen' and separate from what I identified as. For instance, when villagers asked me where I was from and I replied "Canada", they looked puzzled and said, "but you look Indian" (in other instances, to break the ice, I would ask the villagers to guess and almost all who did, guessed that I was from India). To them, someone who is from Canada is likely a person who is white and Anglo-Saxon with European ancestry i.e. what they usually think of when they think of 'foreigner'. In other words, their notion and understanding of identity, place where one is 'from', and cultural background were all one and the same. While I would view myself as Canadian, they viewed

[62] From some of the women I spoke to during interviews, it was clear that they were told not to be trusting of males (let alone foreigner men) within the city they had moved to since, as single women, they were viewed as objects of desire by men and that would be the intention or premise behind the attention they would receive. This was also echoed by parents who raised concerns for their daughter's safety and the risk of meeting "bad people" or ending up with "bad boyfriends".

me as Indian (sometimes I would clarify that my heritage is from Pakistan, but they were more likely to be aware of India, so I would sometimes acquiesce). As a nice surprise, this ended up being not a limitation but rather, beneficial. I found out quickly after one interaction with a village that they had favourable views of South Asians because many households watched Bollywood TV dramas at home (they were dubbed in Khmer). In one particularly amusing exchange, my RA told me that one of the villagers assumed I was visiting the village because I was part of some Bollywood film production!

Chapter 5 – Study site descriptions

5.1 Introduction

The southwest coast of Cambodia is home to an expansive mangrove forest ecosystem. Mangrove forests are not only biodiversity-rich environments that provide important habitat for an assortment of fish and wildlife species but also form critical "natural infrastructure" along the coast by reducing the impact of tsunamis and storm surges (this latter benefit being especially poignant in light of climate change impacts) (Bann, 1997; IUCN, 2013, 2016). In addition to coastal protection, they also play an essential role in providing food (fish, crab), fuelwood, shelter (building materials[63]), and medicine for coastal communities (Spalding et al., 2010).

Leading up to the 1990s, many mangrove areas such as those around Koh Kong remained mostly undeveloped and preserved. Paradoxically, this conservation was partly because of armed conflict that plagued the country in the decade prior, which prevented significant resource extraction activities from taking place (Marschke, 1999; Spalding et al., 2010). Another consequence of Cambodia's tumultuous past has been that outside knowledge and understanding of the mangrove ecosystem (and coastal area, more generally) and local livelihoods has been relatively recent, starting in the late 1990s and early 2000s[64]. One of the earliest accounts within the literature is from Marschke (1999) who's MA thesis focused on using local ecological knowledge via Participatory Rural Appraisal (PRA) methodology to understand and inform mangrove resource management in four communities within PKWS.

After the devastating Khmer Rouge period, the primary focus for Cambodians was arguably rebuilding the various dimensions of their social wellbeing. The psychological impacts and trauma directly impacted people's subjective wellbeing in terms of how Cambodians felt as many welcomed the peace and stability with cautious hope and optimism. The separation and killing of family members and, thus, the severing of social ties by regime members had severely eroded people's relational wellbeing while the effective elimination of an economy and money meant that people had to find ways of building back their material wellbeing. For many Cambodians, one of the main mechanisms of addressing their material wellbeing was migrating to areas that offered the most promise for improving their wellbeing. To some, this meant the capital, Phnom Penh—to others, it meant elsewhere in the country. One of these areas was the coast. Attracted by the abundant natural resources of the coastal area, between the mid-1980s to mid-1990s, a significant number of Cambodians migrated into (what became) the PKWS area[65]. This occurred in concert with, and was supported by, increasing market demand from (rapidly developing)

[63] While mangroves are protected, use of wood from mangrove trees is permitted for select purposes (e.g. as raw material for home building) by a process set up through the Ministry of Environment whereby villagers get approval from the local community leader and pay a small fee.

[64] This can be said for pre-2000s Cambodia in general but especially the southwest region of Koh Kong because the province remained a holdout for Khmer Rouge fighters into the 90s. Before this period, Cambodia was largely inaccessible and dangerous for foreign researchers because of the instability and violence both during the Khmer Rogue period (1975 – 1979) and the decade after, which was marked by guerrilla warfare until 1994, with the complete surrender of the regime not occurring until 1999 (Yang, 2008).

[65] Prior to 1980, in-migration was very low (3%) (Bann, 1997).

Thailand for mangrove resources (charcoal[66] and wood) (Bann, 1997)[67]. Over this period, the material wellbeing of select households improved dramatically from the profits of charcoal production, especially those who had middlepersons that were politically connected (e.g. police or military), which highlights the benefit of the 'right' social ties. For most households though, after arriving in the area with little money to begin with, their material wellbeing improved only marginally and decreased once government enforcement was ramped up. Meanwhile, spurred by the allure of high market prices of charcoal, the rate of resource extraction, along with destructive mangrove-clearing practices to make charcoal and build (ultimately unsuccessful) shrimp farms, started to threaten the livelihood and sustainability of the coastal communities (Marschke, 1999). In order to protect the forests, the government made cutting mangrove forests an illegal activity in the late 1980s (Sideth et al., 2000). Starting in the 1990s, (illegal) charcoal production using wood from mangrove trees was snubbed out through actions by the provincial government (Ministry of Environment), supported by an International Development Research Centre (IDRC)-funded community-based ecosystem management project[68]. Since this was the main source of livelihood and income for many coastal village households, the action had a very negative impact on their material wellbeing. While a good number transitioned from charcoal production to fishing after the ban, others left, likely given the higher capital investment and physical labour required to do fishing (to try to earn similar amount to what they were earning

[66] Mangrove species are particularly well suited and were prized for charcoal production because their wood is dense and hard with a high energy content, in addition to producing little smoke upon burning (Bann, 1997).

[67] Before 1975, charcoal production did exist in what is now PKWS. The activity was regulated via permits provided to charcoal producers by the Department of Forestry, Fishing and Hunting but the production was primarily for local consumption (Sideth et al., 2000).

[68] The dramatic loss of mangrove cover precipitated a series of projects led by the Ministry of Environment in Cambodia and funded by Canada's IDRC. "Phase I" started in 1997 to 2000 and "phase II" from 2000 to 2004, with an overall focus on Community Based Natural Resource Management (CBNRM) (IDRC, 1997, 2000). Phase I consisted of the Participatory Management of Mangrove Resources (PMMR) project, which was carried out in PKWS, focusing on developing a profile of resource use and sources of income (e.g. fisheries; charcoal production), developing mangrove conservation initiatives (e.g. mangrove replanting), and training of village officials. The first phase of the PMMR project focused heavily on participatory research (e.g. mapping exercises; seasonal calendars, problem trees, historical transects, oral histories, etc.), along with researchers conducting socioeconomic surveys and analyzing the institutional and management structure of the PKWS. The work done allowed for the identification of the nature and extent of the ecological resources under pressure. Out of this, charcoal production via cutting down of mangroves was identified as the most serious threat to the ecosystem and profiled in a case study entitled *Smashed Livelihoods: Life as a Charcoal Producer in PKWS* (see Sideth et al., 2000). Incidentally, not long after the PMMR project had started, the surrounding area (totaling 12,000 hectares) that the villages are within had been declared a Ramsar site (i.e. a wetland area of ecological significance) in 1999 (RAMSAR, 2012). Phase II involved participatory research i.e. community participation, to create locally-led resource management options and promote sustainable livelihood security. This included facilitating the creation of local institutions, namely village management committees (VMCs) which were formed in each of the four villages, with Koh Sralao being among them (three were within PKWS and one outside of it) (IDRC, 2000). With support from the local authorities/agencies and the research team, the VMCs conducted activities to reduce illegal activity (e.g. charcoal production from mangrove wood), mediated fishing-related conflicts, addressed waste management, replanted mangroves, and assisting with small-scale aquaculture. In addition, to raise awareness on the ground, local villagers took part in training sessions on environmental education and coastal resource management. Over time, the project was successful with a rebound of mangrove forest cover within the PKWS area (largely due to annual replanting efforts over the last decade and a half), implementation of community-based management, and an increased awareness by the coastal communities of the ecological importance and intricate connection to their livelihoods that the mangrove ecosystem provides.

before by making charcoal), and especially compared to starting a small kiln. Despite villagers switching to fishing, fish catch and productivity had already started to decline, partly because of increased fishing pressure from the increasing number of people coming to the area (attributed to the 'boom' of the charcoal production years) and loss of mangrove areas (Bann, 1997).

Fishing continues to remain the main livelihood for most of the villagers, despite the declining marine resources that put ever increasing pressure on the ability for households to make a living. Looking at the social wellbeing of coastal communities on a broader timescale, the material wellbeing of households follows a natural resource 'boom and bust' cycle. First, it was charcoal and then marine resources. The charcoal boom brought improved wellbeing to some (but not all) households, even if it was at the expense of ecological environment and people were (perhaps unknowingly initially) contributing to impacts on the marine environment. Fish catch can also follow such ups and downs wherein during certain parts of a dry season fishers can get large catches, which spur them to continue fishing with the hope of scoring another big catch. Speaking to this characterization, several fishers I interviewed captured this in their sentiment. When asked about fishing, they referred to it as a kind of "adventure lifestyle", going on to explain that the promise of a good catch makes it 'adventurous'. As a result, often the overall material wellbeing of a household can be tied to this oscillating pattern of good and bad levels of catch, with some dry seasons being 'good' and others 'bad'. This pattern of difficulty fishing and fish catch declines is an issue that has besieged the coastal communities of Cambodia for at least 20 years. Surveys done in 1997 with village households in the PKWS area noted that up to 90% of households said it was harder to fish than it was five years ago, with the main reasons being more fishers, loss of mangrove area, and water pollution caused by shrimp farms (Bann, 1997). In other words, even though many people migrated to coastal Cambodia with the hope of improving their wellbeing, this was only achieved by a select few. Most have had to struggle to build up their material wellbeing in an environment (of both the institutional and natural variety) that has constantly challenged their wellbeing-building livelihood strategies. At the same time, for many, their subjective and relational wellbeing has significantly improved by living in an area where many of their most immediate needs (i.e. food) are provided for by marine resources and where villagers feel like they belong to a wider community of people with shared values, interests, and goals.

This chapter is divided into sections that systematically cover key areas that allow the reader to get a comprehensive understanding of the field context, starting with a brief general description of life in a typical Cambodian coastal fishing village. After this, a detailed overview of all three villages is provided through a social wellbeing lens. Finally, a description of the two urban destinations, Koh Kong town and Phnom Penh are provided.

5.2 Life in a Cambodian coastal fishing village

Most coastal villagers, whether they are on the islands or near the mainland, live in houses made of wood with a metal roof, perched on long poles above the water, allowing them easy access to their boats and to the sea—their main livelihood lifeline (building a house on land is more expensive and land itself is scarce). Days are often filled with uncertainty (*How much fish will I catch?*) and risk (*Will my gear get stolen?* or *What if I get sick?*). Fishers go out to sea in the very early hours of the morning, before the sun rises and fish for several hours. During that time,

some are by themselves (e.g. if they have children that are too young to come along and help) or in other cases, their spouse or a fellow villager (who they may have hired) joins them. When they are out at sea alone and something goes wrong (e.g. engine trouble or the weather takes a turn), they can be at risk of being stranded or injured. On top of this, coastal families must contend with the fact that fishing is an "expensive" livelihood. New gear must be bought every couple of years, at best (the seawater corrodes metal frame of traps easily), netting must be replaced (or fixed), boat engine parts may need replacing (or, in some cases, a new engine bought altogether), bait must be bought (when it is not caught), and gasoline needs to be stocked, as examples. Altogether, these aspects often make fishing potentially risky, both physically and economically.

There is always something that needs to be done, whether it is inspecting the condition of the traps, mending nets, or fixing a finnicky boat engine. Fortunately, almost all household members (save the very young) pitch in and help where they can, such as sorting through the day's catch or organizing the fishing gear, so the fisher can head out again the next day before dawn (for gill net fishing). Depending on where they fish, fishers must also contend with environmental cues such as tides since that dictates fishing patterns[69]. During the fishing season (i.e. "dry season", which typically runs from November to April), this cycle repeats itself, with most fishers going out to fish five to six days of the week. Some days are better than others, as the village chief of Koh Kapic says, "it is a risky venture, some days you earn, some days you do not earn, and it depends on the season, if it is a good season or not". During the rainy season (typically May to October), most fishers cannot go fishing because conditions at sea are dangerous with strong storms and high waves, something their small boats are no match for[70]. As a group of fishers from Koh Kapic, related to me "we are disappointed with the area during rainy season because that time it always makes our fishing equipment stay at home". More recently, the weather has been less predictable, according to the commune chief, who says "in the season where there are storms, there will be storms but the storms now they don't stay in the same season, always have irregular storms". Seen from a wellbeing lens, we can appreciate how 'living well' or 'living the good life' as a fisher in coastal Cambodia is a constant struggle against a multitude of factors that operate at different scales (e.g. micro such as a failing boat engine to more macro like shifting climate patterns). Although, there was a time where it was far easier to achieve a high state of wellbeing.

Forty years ago, this biodiverse region was teeming with fish, crab, and other seafood. Being a fisher during that time was good. It was still physically demanding, but there was plenty to catch so it was relatively easy to provide food and income for the family from fishing. However, in the last ten to fifteen years, environmental change, increased fishing pressure (concomitant with rising population), illegal, underreported and unregulated fishing, and sand mining have

[69] And in some cases, if they can even fish at all since at low tide, their boats can be moored, depending on where they live.

[70] This is something I experienced first-hand during a trip to the fishing villages from Koh Kong town during the rainy season at the tail end of my fieldwork where we faced very rough seas which made the journey perilous (fortunately, we had an experienced boat driver who ensured we made it safely to our destination). From that experience I gained an understanding of the conditions at sea during this season and an appreciation for why fishers did not go fishing in the open sea during this period.

contributed to a progressive decline in marine resources. In addition to the limited time available for fishing, lately, coastal households have been consistently catching less, as one female villager noted, "fishing is decreasing, we catch less and less. Like every day we earn 10,000 KHR [~$2.50 US]". In fact, we were told this has been happening gradually, starting over a decade ago when some fishers say they started noticing they were catching less than before—now they are catching a fraction of what they used to catch even a few years ago. When asked what caused this dramatic change, different fishers point to different reasons. Some say it all started once more and more people moved to the coastal area because these people heard that they could make a good living in this part of the country. Others say it is because some people have resorted to using illegal gear and fishing practices, either out of desperation or to have an advantage. People from all three villages point to sand dredging activity occurring in the surrounding area as being, either one of, or the main culprit for the decreases in catch. Still others blame the officials and government, saying that they are not providing support to address these threats to their livelihood. Most likely, it is a combination of these reasons, with some playing a larger role than others, that are working in tandem to erode people's material wellbeing.

5.3 The three villages

The three villages are broadly representative of the kind of coastal fishing villages that dot Cambodia's southwestern coastal landscape (with others found eastward in coastal cities of Sihanoukville and Kep), insofar as fishing is the dominant livelihood activity for households. At the same time, the villages do differ in terms of distribution of livelihoods, fishing gear used, access to freshwater, connectivity to the mainland, environmental challenges, and level of out-migration (Table 10).

Both Peam Krasaop and Koh Sralao are relatively similar in size with the latter being the largest of the three; Koh Kapic is the smallest village in terms of household size with approximately 100 households living in the village. Most significantly and unsurprisingly, in all three villages fishing is the main source livelihood, often complemented or mixed with other miscellaneous types of work (e.g. sundry shop seller, mechanic). Peam Krasaop had the highest prevalence of fishing as the main livelihood with 82% of respondents engaged in fishing activities. In the other two villages, fishing dependency was very similar for both (just over 60%) with the rest of the economy consisting of farming and other miscellaneous livelihoods.

In a sense, livelihoods are relatively more diversified in Koh Sralao and Koh Kapic villages compared to Peam Krasaop. Peam Krasaop and Koh Sralao share the same type of fishing gear used, partly a reflection of their shared geography, i.e. being in mangrove estuarian environment.

Table 10. Comparative table of the three coastal fishing villages.

Location	*Village size*	*Livelihoods*	*Fishing gear used*	*Access to freshwater*	*Connection to Koh Kong town*	*Main environmental challenge*	*Migration level* [c]
Peam Krasaop	147 hh★	Fishing (82%); unemployed (12%); miscellaneous (6%)	Gill net; crab traps	Piped from central source	Directly connected by road (travel time: ~10 minutes)	Saltwater intrusion	8 out of 18 (44%)
Koh Sralao	200 hh	Fishing (65%); farming (10%); miscellaneous (25%)[a]	Gill net; crab traps	Freshwater reservoir; rainwater collection	Via boat and then land (total travel time: 45 mins - 1 hour	Sand mining	19 out of 31 (61%)
Koh Kapic	100 hh	Fishing (62%); fish farming (6%); retired (6%); miscellaneous (26%)[b]	Gill net; crab traps; trawler	Rainwater collection; import from Koh Sralao	Via boat and then land (total travel time: 45 mins - 1 hour)	Drought; storms	15 out of 32 (47%)

★hh = household

[a] Includes sundries seller; boat mechanic; (boat) carpenter; teacher; middle person; general repair person; and thatch roofing builder.

[b] Includes sundries seller; noodle soup seller; middle person; moneylender; director of primary school.

[c] The level of migration was calculated as a percentage out of the absolute number of households who had been asked and responded affirmatively to the question of whether anyone from their household had left the village (either revealed during a (group) interview or answered as part of the scoping survey).

By contrast, fishers in Koh Kapic also have trawling gear since the village is located right at the interface with the open sea. How villagers across the three villages obtain freshwater is very different: households in Peam Krasaop benefit from being just outside of Koh Kong town and thus are able to get piped water[71] while people in Koh Sralao get freshwater from a local reservoir along with household rain collection in barrels or concrete structures that collect rainwater via roof and pipe infrastructure. Households in Koh Kapic are perhaps the most vulnerable in terms of water security, largely relying on rainwater collection for freshwater. This vulnerability was quite poignant during my visits as households were importing freshwater from Koh Kong town because of acute drought conditions. When asked about environmental challenges during interviews, the most consistent factors that villagers brought up varied across the three villages. Those in Peam Krasaop were most concerned about saltwater intrusion. This makes a lot of sense since they are on land and increases in soil salinity can compromise their ability to engage

[71] The long, light blue pipes made from PVC, snake through the village, running along the underside of the wooden makeshift boardwalks that act as the main 'streets' of the village. From there, the pipes branch out and are routed to the houses. Through our observations, it was unclear whether all households had piped water or if only some did, since there was a monthly cost associated with providing the service.

in subsistence farming or freshwater supplies for the families that rely on groundwater. In Koh Sralao, sand mining was brought up repeatedly as the main environmental challenge as people connected this activity (which for a period, occurred in proximity to the village) with decreases in catch. Meanwhile, in Koh Kapic, the biggest environmental concerns were droughts and storms. Incidentally, both areas are partly a consequence of geography. Since the village is not located within the safety of mangrove estuaries, households are more directly exposed to the consequences of storms (e.g. storm surges, winds) which I was told during interviews have become less predictable and stronger. Lastly, migration rates vary across the three villages with Koh Sralao showing the highest levels (among the relative sample size) and Peam Krasaop and Koh Kapic having similar levels of out migration. In Koh Sralao 61% of respondents indicated that someone from their household had left the village (vs. an average of 45% across the other two villages).

Villagers within each village also face different challenges that is influenced partly by geography. Fishers and households in Peam Krasaop are perhaps in the most "advantageous" positions given their proximity to the PKWS eco-tourism site, which generates revenue for the community and supports important social services. Meanwhile, their location at the land-mangrove interface allows them easy access to the town, and with it, jobs (e.g. factory) and resources (e.g. high school, medical facilities, shops, markets). Overall, then, shifting away from or augmenting their existing livelihood is less fraught with challenges or complications and becomes more possible.

By contrast, those living in Koh Sralao are acutely affected by sand mining, which negatively impacts their main livelihood, since the activity occurs predominantly in and around mangrove-estuary areas. Thus, it can be argued that the physical location of the village increases livelihood vulnerability, and on top of this, unlike Peam Krasaop, it is more difficult to pursue alternative livelihoods because not only is land limited (e.g. for farming) but also the village is not directly connected to Koh Kong town. The latter complicates the pursuit of factory jobs, for example, for the younger female household members (e.g. having to move away from home and pay rent to live in Koh Kong town). Meanwhile, those living in Koh Kapic are more susceptible to environmental change (e.g. storms) since they are not enclosed within a mangrove-estuary environment, and thus, are less buffered.

5.4 Peam Krasaop

The fishing village of Peam Krasaop is located close to the edge of the mainland, at the boundary where the land meets the mangrove forests, about 7 km from Koh Kong town (the journey to the village is a brisk 10-minute *tuk tuk* ride) (Table 10). Consisting of two villages, in terms of administrative units (*phum*[72] I and *phum* II = 147 households, 730 people), the Peam Krasaop fishing village in Koh Kong is situated close to a mangrove eco-tourism site and within the wildlife sanctuary that bears its name, the Peam Krasaop Wildlife Sanctuary (PKWS) (Figure 17). Declared a wildlife sanctuary in 1993, the PKWS is very unique because it represents one of the largest intact expanse of mangrove forests in Southeast Asia, which weave through many islands

[72] *Phum* is the Khmer word for village and is used to differentiate villages administratively. In practice, however, several *phums* function as one village.

and inlets, providing important ecosystem services: protection from coastal erosion, habitat for marine species and migratory birds (IUCN, 2017).

Figure 15. Aerial view of Peam Krasaop Wildlife Sanctuary. Source: IUCN (2013)

The Peam Krasaop community established the Peam Krasaop mangrove eco-tourism site in 2008 and have noticed a steady increase in visitors (both Cambodians and foreigners; from 200 visitors in 2008 to 5,000 per year in 2015) according to community leaders who were interviewed. There is a nominal fee for entrance into the site (~$1.25 US/person for foreigners) with the money going to various activities such as conservation, social services (e.g. assisting expectant mothers with childbirth expenses) and social protection. Compared to the other two villages, there are three characteristics that make Peam Krasaop village unique, all of which are related to its geography. One is the afore-mentioned eco-tourism site. The second is its proximity to the nearby port (local name is *bangkaya* in Khmer) that acts as a transportation hub for boats carrying goods, villagers between the mainland and the various villages that dot the coast, alongside the occasional tourists. *Bangkaya* is one of the central locations that connect people in other villages like Koh Sralao and Koh Kapic to the mainland, and forms a vital link for importing goods (e.g. rice, sundry items, building materials), exporting fish catch (via middle person), accessing health services, and a point of departure for migrants from the villages on their way to Koh Kong town, Phnom Penh, or elsewhere. The third feature is easy road access to Koh Kong town, which gives villagers the ability to obtain key services offered in the city (e.g. high school; microfinance institutions; local market) while also allowing those who are working in the factories within the SEZ or places in the town to continue living at home with their family.

Related to the unique nature of Peam Krasaop being physically connected to Koh Kong town is that some villagers have access to land where they can grow various crops or raise animals (e.g. ducks, chickens), both of which provide an important livelihood supplement to fishing. For example, one villager noted that she would sell eggs as a way of earning extra income while another sold their crop surplus. Stemming from having easy access to Koh Kong town, the social wellbeing of residents in Peam Krasaop is better supported insofar as having access to key areas such as employment, healthcare (e.g. medical clinics), banking, etc. In addition, their relational wellbeing benefits from the household being able to 'stay together', i.e. young women and men who work in the town commute and maintain their residence with their family, which supports keeping social ties. Such benefits to their relational wellbeing, in turn, support or enhance their subjective wellbeing by increasing overall life satisfaction.

Villagers in Peam Krasaop, like in the rest of the villages, are extremely reliant on natural resources within the region with specific activities tied to the season. Between January and March, villagers venture out to the open sea for blue swimmer crab fishing, where they often deal with high temperatures and storms. June to August brings heavy rainfall which makes it difficult to go out to sea so, many villagers engage in mud crab fishing within the mangrove estuaries, while October signals the harvesting period for green mussel culture (Bobenrieth et al., 2012). Through conversations with certain villagers, I learned that from about 2012 onward, mussel culture started to become a more prominent livelihood activity, largely fueled by economics, i.e. the market price was high enough to justify. In addition to an economic incentive, I was told that fishing by outsiders in the surrounding area of Peam Krasaop who use large nets with small mesh size (which are illegal) has jeopardized marine resources through the reduction of juvenile fish populations and acted as a catalyst for people to start mussel culture[73]. Overall, the response to the impact on the livelihoods of the villagers has been met with some leaving for Koh Kong town and others to Thailand, although most opt to diversify their livelihoods by taking up mussel culture or adding chicken, duck and/or pig raising. Meanwhile, those with a good boat also choose to use them to transport tourists who come to see the PKWS. In general, we observed that older people in the households took part in various livelihood activities (fishing, crab catching, mussel culture) while taking care of their young

[73] While the community is not against outsiders from coming in the area to fish per say, it is against them coming and using unsustainable methods to do so. Notwithstanding this and in order to prevent illegal fishing, there have been attempts to use markers in the water to demark boundaries, but these have not been respected by outsiders. The council members identified that part of the motivation for the outsider fishermen stems from their circumstances: they borrow money from bank to pay for equipment so the need to make payments drives them to desperate measures such as using unsustainable fishing methods to obtain enough money for their debts. This has a general effect of reducing fish abundance and negatively impacts the livelihood of the Peam Krasaop community. As of February 2015, the activity was occurring despite efforts by the council members of educating these people. Although the commune council members recognized a need for assistance from the Fisheries Department, their request for help was responded with by the Department giving the community a patrol boat; however, the community does not have the capacity to patrol and enforce across the entire area. At the time, it was uncertain how widespread illegal fishing is (one villager mentioned that illegal fishing is not as common as it once was).

children/grandchildren during the day and the younger (mostly female) household members worked in the factories, earning about $230/month for eight hours of work, six days a week.

In relative terms, there is less permanent out migration from Peam Krasaop since most people who do work outside the home return to the fishing village after work. It was mentioned during conversations with villagers that people from farther villages (e.g. Koh Sralao, Koh Kapic) move to Koh Kong town so that they can work in the factories while others move so their children can go to high school. For the latter, those who do so are usually better off financially and, thus, can afford to send their children to high school.

The case of Peam Krasaop village shows how characteristics like geographic proximity to Koh Kong town, i.e. being on the mainland, can support the social wellbeing of coastal households through the expansion of choices and access to key resources, and influence the likelihood of villagers to migrate.

5.5 Koh Sralao[74]

Koh Sralao village is located among mangrove estuaries, about 20 km away from Koh Kong town and 30 km from the border with Thailand (Figure 15). It is only accessible by boat, a journey that takes 45 minutes but can be up to an hour or more, depending on the type of boat. The history of this village pre-Khmer Rouge (KR) period (1975-79) is less known and limited. What is known, however, is that it is a well-established fishing village—fieldwork by Marschke (1999) discovered that on the foundation of the original school, the year 1953 is etched in. There are also oral histories from village elders (captured by researchers) that allow us to get an idea of what the area where Koh Sralao is presently situated was like. Prior to 1975 and long before the creation of the PKWS, charcoal production in this part of Cambodia was not only legal but institutionalized. Its production was controlled via permits issued by the Department of Forestry, Fishing and Hunting (the present-day Ministry of Agriculture, Forestry and Fisheries, MAFF) and the charcoal was used locally (Sideth et al., 2000).

During the Khmer Rogue, the village did not serve any strategic purpose, unlike Koh Kapic. In the 1980s, opium was grown and harvested in the village area until 1989 (production was illegal but it is uncertain when that policy was established versus enforced) (Marschke, 1999). Over this period, fish catch was remembered to be abundant (100 kg of fish could be caught in one night), with signs of decline not showing until the late 1980s, likely catalyzed by an increasing number of households migrating to the village, dynamite fishing practices (Marschke, 1999; MoE Cambodia, 2000) and increased fishing pressure in the Gulf of Thailand.

Over the span of two decades, the population of the village increased three-fold. In 1980, there were about 100 households. By 1997, there were an estimated 1,046 people, from 226 total households. By the following year, there were a total of 300 households living in the village

[74] Out of the four villages that were part of the IDRC Participatory Management of Mangrove Resources project, Koh Sralao was one of the only communities where the project resulted in strong ownership at every level (local, national, provincial) whereby the team of people were able to reach decision makers, up to the Minster of Environment and the Prime Minister (IDRC, 2000).

which held steady until 2009 (Bann, 1997; Marschke, 2005). Since then, that number has fallen and as of November 2017, there are about 190 households. The dramatic reduction of the overall village size within the last eight years reflects the gradual out migration of households and individuals over time, largely signalling how ever more difficult it has become to make a living as a coastal fisher.

Livelihoods in Koh Sralao centre heavily on fishing. The specific fishing activities revolve around the season with blue swimmer crab fishing in the dry season (January-March), followed by mud crab fishing (April-October), and snail collecting (August-October). Outside of fishing, some households farm throughout the year, depending on access to land and other resources (Bobenrieth et al., 2012). While fishing is the primary occupation of most, there has been, and continues to be, a lot of diversity within the livelihood portfolios for villagers. This can be seen from the longitudinal study done by Marschke (2012) over a 12-year period (1998-2010) partly as an extension of her initial MA and doctoral fieldwork. For example, in the 90s some villagers were earning a livelihood from a mix of illegal and legal activities, starting off with planting narcotics (e.g. marijuana), and switching to charcoal production while doing some fishing (both dynamite and trap). After the crackdown on illegal activities, some became middlepersons, and others went into fishing full-time while selling goods from home. During my time there in 2016 and 2017, I observed that most households were fishing full-time while selling goods from home or exclusively fishing or more generally relying on a variety of marine resources for their livelihood.

Overall, what this picture portrays is that, for Koh Sralao and coastal fishing villages like it in the area, historically it has been difficult for villagers to survive on fishing alone. From the wellbeing lens, people in Peam Krasaop make efforts to meet their material wellbeing in diverse ways and exercise flexibility in the sources that contribute to this dimension of social wellbeing. Many villagers often took advantage of other non-fishing livelihood activities as they came up or based on demand (e.g. charcoal production; mushroom harvesting). Data from the scoping survey support this observation and show that this is still the case (Appendix A). Many households complimented their fishing with other activities, for example, one fisher would go to Thailand during the rainy season and work as a fruit harvester while others sold goods from their home. Of those surveyed, close to 60% identified fishing or farming as their main livelihood activity, with the majority being fishers (16 out of 23). For the rest (40%), they had other livelihood activities that played a more central role, e.g. selling goods; fixing boats; mechanic; carpenter; selling medicine.

Partly, this shift towards non-fishing livelihoods is a response to exasperation by some villagers after seeing marine resources becoming scarcer alongside increased competition (and gear theft). Starting as early as the mid-2000s, households began transitioning out of fishing altogether either via migration or building a portfolio of non-fishing livelihood activities. This is captured in a vignette of households by Marschke (2012) which profiles a villager, Mr. Somsak, who was born into a fishing household and, thus, had been a fisher for most of his life. But by 2008, he no longer did fishing, saying that "[fishing] is less predictable than in the past…it is risky and I would catch less than I used to since there are more trawls in the sea…I want to [also] protect my health and not work too hard" (p. 63). Instead, his household operated four taxi boats and had a

freshwater supply business that earned them income. When I visited Mr. Somsak in 2016, he told me how fishing pressure had increased leading to less catch per fisher and the problematic (and illegal) use of large nets with a small mesh size. He cited three main challenges: a) lack of adequate fishing bait because fishers were using the small mesh nets and capturing juvenile stage marine life; b) sand mining which was impacting fishing and mangrove habitat such as the important seagrass which provide an important habitat for fish and crab; and c) lack of farmland, primarily because most in the village do not own/have land, and even when some did in 2010, there was a company that expropriated the land that was used by some villagers. Mr. Somsak and his wife[75] run a sundry goods shop from their home and continue to supply freshwater to villagers (for a fee). As someone involved in community resource management (through the afore-mentioned IDRC project), Mr. Somsak also earns 300,000 KHR (~$74 US) per month as an Environmental Officer (via Ministry of Environment) which involves ensuring the protection of mangroves e.g. some patrolling/monitoring for any illegal activity. For the Somsak household, the migration of the daughter represented the first family member to have left the village in at least three generations (Marschke, 2012). Meanwhile, during my conversations with Mr. Somsak, he has not encouraged any of his children to go into fishing as a livelihood given the unpredictability and precariousness that this kind of life would entail as he's seen firsthand.

In conversations with those living in Koh Sralao, one of the most commonly reasons cited to explain the declining catch centred on sand mining activities, which have been occurring in the coastal area of Koh Kong province over the past decade, both in Tatai Wildlife Sanctuary (AP News, 2011; Boyle, 2011) and Peam Krasaop Wildlife Sanctuary (Sokheng & Strangio, 2009). In the area surrounding Koh Sralao specifically, sand mining has been occurring since early 2008 (Marschke, 2012) and has continued—despite an export ban that was put in place in 2009 (Vong, 2009), as confirmed by those working for the non-government organization (NGO) Mother Nature (Amaro & Seangly, 2017). When sand mining started near Koh Sralao in 2008, it began destroying crucial habitat for the crab and the fish, and within a few weeks, villagers started to notice a decline in the main crab species (swimming crab) (Marschke, 2012). One of the reasons suspected to explain its persistence is the involvement of political elite. Investigations by Global Witness discovered that two of the companies with sand dredging operations are linked to two of the country's richest business men (*onkya*, or tycoon, in Khmer) who also hold positions in the National Assembly with possible close ties to Prime Minster Hun Sen (Global Witness, 2009, 2010). These activities are linked to sand extraction, trade, and consumption that is occurring on a global scale, and presents considerable sustainability and environmental challenges (Beiser, 2016, 2017; Torres et al., 2017).

Outside of the impact to the marine ecosystem, a few fishers told me about how sand mining would sometimes result in their fishing gear being damaged or destroyed in the sand mining process, which was a considerable blow not only to their livelihood by reducing their overall fish catch but also to their finances as the lost or damaged gear had to be replaced or repaired (the cost ranges from $100-300, depending on quantity and type of gear). Sometime in 2014, some villagers banded together with support from Mother Nature and confronted the people

[75] His son and daughter no longer live with them; the former was recently (at the time of my visit) divorced while the latter lives in Koh Kong town with her husband.

that were doing the sand dredging. They threatened to burn their boat (the villagers came with containers of gasoline) unless they stopped dredging. After this, the dredging operation moved away from their village area. However, according to some villagers, the activity has continued to occur and, even though the sand mining is not happening as close to the village, it is still negatively impacting their livelihood.

Many villagers have complained to the village chief that the dredging activities are affecting their catch numbers, however, they are frustrated that nothing has been done. During conversations with the village chief, he stated that while indeed some people have come to him to complain (he says only three to four people have[76]), addressing the issue is something that is out of his competency, so he passed the complaint on to the commune/district level but then they also cited the same reason (i.e. the issue being out of their competency) and passed it on to the provincial level. At a more fundamental level, as far as he is concerned there is no problem with the dredging, because, according to him, it has been permitted and the companies have permission from the Ministry (of Mines and Energy) level. Officials from sand dredging company did, however, meet with him to inform him that they will dredge and showed their license as well as a letter of information[77] and asked him for permission to conduct an assessment at the village (an environment officer from the Ministry of Environment is said to have joined). The officials also came with an NGO (name unknown) and officials from the Ministry of Energy and Mines (a total of 6 – 7 people). While the exact story of the sand mining companies, their involvement/influence, and the complicity of village officials remains unclear, it is obvious from the consistent refrain from dozens of villagers we talked to that sand mining has without a doubt contributed to the decrease in catch that they have observed. In a way, this is "salt in the wound", so to speak, given the other environmental and fishing-related pressures that have been affecting marine resources over the last two decades. To put it another way, for many (if not most) villagers, life in the coastal village has not drastically improved (even if they are still able to "get by" doing fishing).

Looking at this situation from a social wellbeing lens tells a story of villagers who are able to maintain certain satisfactory levels of relational and subjective wellbeing by maintaining close ties to their family/friends/community and feeling a sense of self actualization of being 'in command' of their livelihood through fishing, respectively. At the same time, external processes and stressors such as sand mining, have compromised their ability to meet their material wellbeing needs. Given such conflicted or contrasting notions of social wellbeing, and despite some villagers employing livelihood diversification, more and more people have started to leave Koh Sralao, either temporarily or permanently. In the case of the former, they may still 'have one foot in fishing' but many do not find it as 'reliable' of a livelihood. And in the case of the latter, they have decided to exit fishing completely for reasons of increasing indebtedness or precarity/unpredictability in income. Very recently, another category of people who leave are

[76] He also claims that these same people are also affiliated (in what way is unclear, either official or unofficially) with the national opposition party (CNRP) (at the time—the party has since be legally dissolved as part of a consolidation of power by the government, Cambodia's People's Party, CPP) and that they have tried to get him to join in their protest activities, but he has refused to join.

[77] When I asked to see a copy of the license, he claimed he did not have a copy and when asked about viewing a copy of the letter of information, he did not know where it was and that "it would take a long time to find it".

the younger generation who have no desire to go into fishing and want a better life, with stable, reliable income or to support their family—something the factories in the SEZ outside the provincial town or the capital can provide. From the scoping survey, some of these trends emerged while others were revealed through interviews. Just over half (12 out of 23) of respondents say they have someone in their household that has left the village. Over a third of those that have left (8 out of 22) have gone to Koh Kong town, another third (7 out of 22) have gone to Phnom Penh with others going to Kampot, Preah Veng province and Sihanoukville. About 40% (9 out of 22) of these migrants are students, 14% (3 out of 22) are factory workers while the remaining individuals are one of the following: school teacher, farmer, ice transporter, fruit seller, fisher, doctor and nurse.

5.6 Koh Kapic

Koh Kapic village is about 23 km from Koh Kong town (distance covered by a boat journey). Unlike Koh Sralao, this village faces the open sea and is flanked by mangrove forests that form channels. Historically, Koh Kapic was a prosperous fishing village surrounded by abundant marine resources, acting not only as a commercial port but also as the administrative center for Koh Kong province during the Pre-Khmer Rouge period[78] (~1950s to 1970) (Marschke, 1999). During the Khmer Rouge regime, the village became a military outpost and villagers were sent inland; most of them did not return to the area. In the mid-1980s with the regime fading, shrimp farming emerged which cleared large tracts of mangrove forest. This activity coincided with observations of resource decline in fish yields and wildlife species. In the 1990s, people continued to be attracted to the village area because of its ideal location (mangrove estuaries but also to the sea, giving quick and easy access to Thailand). For most, this was for fishing with some villagers managing or owning charcoal kilns (Marschke, 1999).

Historically the village has had ties to Thailand and Singapore due to its location because small trawlers operating out of the village could easily meet larger trawlers to sell their fish which would go on to be sold in these two countries (Marschke, 1999). Koh Kapic also has a strong connection to Koh Kong town, as it is a place for jobs, school (high school) and receiving healthcare. The village consists of a mixture of ethnic Khmer and Muslim Cham populations, with the latter living largely in their own area within the village. The most discernable different between Koh Kapic and the other villages is its relatively diminutive size (approximately 100 households) and the numerous boarded up houses seen, representing families that have either temporarily or, in most cases, permanently left the village (many to neighbouring Thailand). Over a 20 year period, there has been a dramatic reduction in the population of Koh Kapic—less than 10% of the total number of households that used to reside there during the late 1990s remain (it was estimated that over 500 households lived there in 1999) (Marschke, 1999). Many have gone to neighbouring Thailand which is quite accessible given the village's location or to Koh Kong town, Phnom Penh, or elsewhere in Cambodia. When walking around the village, there was feeling of the place 'hollowing out' because of this outmigration.

[78] Norodom Sihanouk was the King of Cambodia, with his first reign from 1941 to 1955 and second from 1993 to 2004; he abdicated in 1955, was prime minister in 1955 and head of state in 1960.

Out of all three villages, Koh Kapic felt the most 'quiet' with some sections being reminiscent of a 'ghost town' because of boarded up and abandoned houses along one of the main walkways in the village (Figure 16).

Figure 16. A boarded-up and abandoned house in Koh Kapic village. Source: author

Several villagers explained that the reason many people have left for Thailand is because they were in debt and went to find better jobs where they can earn more money, so they can payback their loans. Still, others go temporarily. For example, one villager goes two to three months a year during the rainy season. While others go permanently, working in a variety of factories (e.g. chicken processing, automotive, medicine-related) and send money back to their family.

Looking at Koh Kapic village and its inhabitants from a social wellbeing perspective reveals how material wellbeing dimensions such as debt can exacerbate overall wellbeing. For example, if a villager has borrowed money from a neighbour and is not able to pay the amount back, it can cause tension/conflict within the social fabric and can erode social ties. In some cases, the people who leave abruptly without servicing their debts have done so at the cost of their relational wellbeing, which is likely why some of those choose not to return (among other reasons). In other cases, villagers leave so that they can try to pay off their debt because they view such an action as 'the right thing to do' and to maintain healthy social relations, especially if they see their leaving as temporary and they have the intention of returning to the village. The desire to return could, in turn, be driven by both relational and subjective dimensions, i.e. wanting to be close to their family/community and living 'at home', respectively.

In addition to factors that affect wellbeing, there are several environmental challenges that villagers in Koh Kapic face from environmental degradation and ecosystem changes to variations in weather and climate. The sandy beach barrier, which provides protection to mangrove forests and villages from natural hazard and inclement wave action, has been migrating at unprecedented

rates towards land—since 1973, it has moved 390 metres. Casual factors identified include widespread river sand mining in nearby rivers that has been occurring since 2008 alongside recent hydropower plant construction along the Tatai river in 2010. Both activities have significantly altered the natural flow of sand from rivers to the beach barrier (Kastl et al., 2013). Over the long term, the reduction in sediment supply will lead to further erosion and beach barrier migration. The Koh Kapic commune, within which Koh Kapic village resides, is downstream from the Tatai river and has been facing increasing estuary channel infilling from increasing turbidity and sedimentation upstream. Combined with lower water levels, such environmental change has led to channel sedimentation, making navigation for fishers and their boats difficult, if not impossible, especially during the dry season or low tide, within the channels. This issue was identified by the community during meetings as part of an IUCN-led project, *Building Coastal Resilience*, and dredging of the channels in specific areas alongside rehabilitation and erosion prevention strategies were implemented (IUCN, 2013; Kastl et al., 2013). In addition to allowing fishers to go out to sea for fishing, maintenance of the channels was also cited as important because they provide a refuge to fishers who can use them when they are on the open sea and sense an impeding storm.

Along with a shorter rainy season and a prolonged dry season which has resulted in water shortages, the increasing irregularity of the tides and unpredictability of storms has also made it difficult for fishers to plan their fishing. As one villager noted, "when the sky would turn grey, we would know a storm is coming but now when the sky turns grey, sometimes there is no storm". During an interview with the village chief, water shortage was identified as the central issue facing the village at the time (2016) since there is no local source of freshwater (aside from rainwater) and most is brought in from Koh Sralao. A large blue drum costs 5,000 riel (~$1.25 US) and with increasing water scarcity, this was creating an additional financial burden on households since they must buy more than they did in the previous years.

Koh Kapic village has the largest boats out of the three villages, largely because of its geographic location i.e. instead of being surrounded by mangroves it faces the ocean, and thus, fishing in the open sea requires larger boats since they are safer (in the event of inclement weather). In addition, the larger boats are also linked to the kind of fishing being done. For example, there were a few fishers that engaged in squid and octopus fishing, which requires a larger boat given the unique gear requirements (long wooden poles with very large light bulbs attached that attract squid at night). Of those surveyed, the majority (21 out of 31) were engaged in fishing as their primary livelihood with the rest selling goods, farming, selling labour, moneylending, or shrimp farming. Twenty-five percent (8 out of 31) of those surveyed moved to Koh Kapic in 2015 and just under the same percentage were born in the village. Of those that have left, the majority migrated either to Phnom Penh (42%) or Thailand (28%), followed by Koh Kong town (19%). Most of these out migrants are employed as factory workers in Thailand with a couple in Koh Kong town and one each in Sihanoukville and Phnom Penh[79].

[79] Note: for two of the respondents, the occupation of migrants was not obtained. In one case, the number of household members that have left totaled eight people.

5.7 Koh Kong

Located just below the southern end of the Caradmom mountains, Koh Kong province covers 10,045 km^2 of Cambodia and is bordered by Preah Sihanouk and Kampoung Speu provinces to the East, and Pursat province to the North. Administratively, the province is divided into six districts, one municipality, 26 communes, three *sangkats*, and 116 villages. The province is among the least populous in the country with one of the lowest population densities: in 2013, the total population was 122,263 (25,658 households), with 12 people per square kilometer (NIS, 2014). It has had a modest population growth rate (0.8%) between 2008 and 2013, among the lowest in the country (incidentally, the highest over the same period was Preah Vihear at 6.37%) (Ministry of Planning, 2013). Koh Kong town (*Khemarak Phoumin* in Khmer) is the provincial capital of the province, located about 10 km from the Thai border (population: 22,337 in 2008) (NIS, 2009). Koh Kong province and its coastal areas are the most accessible while the interior region remains less developed and is still relatively inaccessible by conventional means.

Koh Kong province has become more easily accessible and more connected with the rest of Cambodia (via a paved single-lane two-way highway built in the 2000s). In the case of Koh Kong town, this was quite literal with the building of the Koh Kong bridge in 2002 that spanned the Kaoh Pao river, linking the town to Pyam and the border with Thailand. Foreign direct investment has spurred economic growth, and as a result has catalyzed infrastructure investments (e.g. roads, bridges and highways connecting to the country capital), from a mix of the private/public sector and external donors (e.g. Japan). Since then, Koh Kong town has become relatively more developed, while supporting a modest tourism sector (many tourists who visit arrive via the nearby Thai border crossing).

At the same time, in 2014, the province of Koh Kong was the third highest for the number of businesses per 1,000 persons (44.6) and the second highest on the measure of number of businesses per 1,000 households (213) after Phnom Penh (280). On an absolute level, however, Koh Kong has one of the lowest number of businesses (5,452). What this says is that relative to its population, the province has a strong concentration of businesses i.e. an overall healthy labour demand. The province has nine large scale businesses (eight of these are in the SEZ) including a car assembly plant, a factory for car accessories and spare parts, a factory for sports materials, a sugar factory, and garment factories. Other businesses include casinos, resorts, hotels, and restaurants (NIS, 2014).

For the migrants that come here from two of the three villages (Peam Krasaop is easily accessible by land), all this development represents an opportunity to potentially improve their household's material wellbeing vis-à-vis the jobs at the various factories inside the SEZ. In that sense, the town stands in contrast to the villages where the material wellbeing of many households is being eroded because of general marine resource decline and, in turn, the challenge of earning liveable incomes. What makes this case unique is that this potential for improving the material wellbeing through such a reliable (i.e. wage labour), less risky, and accessible way is relatively new for those in coastal fishing communities. As such, the perception of Koh Kong town from the wellbeing

lens has changed for villagers to one of a promising potential as a source of improved material wellbeing[80].

5.8 Phnom Penh

Phnom Penh, officially known as *Krong Chaktomuk* in Khmer ("City of Four Faces"), is the country's capital and the urban epicenter. As a municipality, the city covers an area of approximately 678 square kilometers and is divided into twelve administrative areas (*khans* or sections) (Figure 19). The sections are broken down into 76 *sangkats* or quarters, which are further divided into 637 *phums* or villages. Politically, the city is headed by the Governor as the top municipal official who also has oversight of the Municipal Military Police, Municipal Police and Bureau of Urban Affairs.

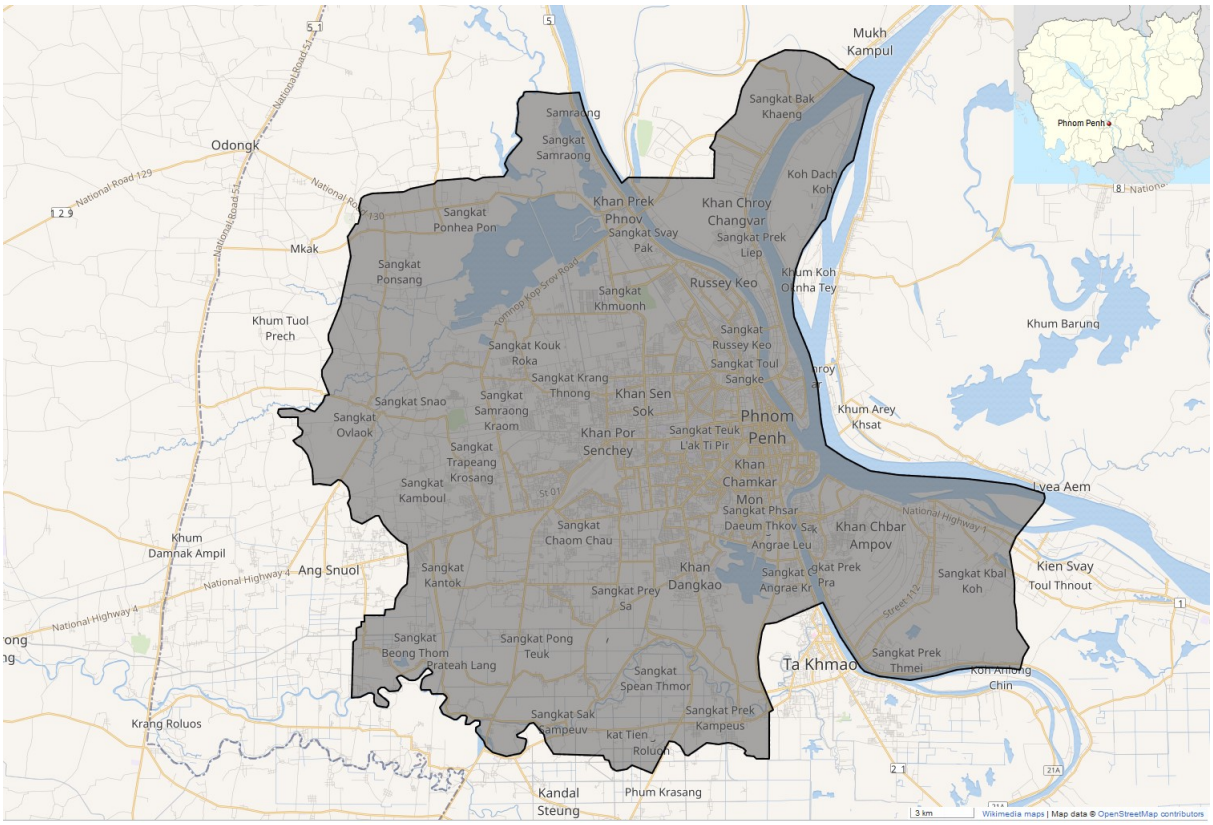


Figure 17. Map of Phnom Penh (shaded area represents extent of city)
Source: Openstreetmap.org

[80] To be sure, before the existence of the SEZ, Koh Kong town was still connected to the material wellbeing of households but in a different way. That is, the town represented the destination for their catch which was sold by the middleperson and thus, earning them income.

Located at the confluence of the Tonle Sap, Mekong and Bassac rivers, the city contains 1.5 million inhabitants (according to the most recent 2016 population census[81]) and is the largest urban area in the country. As data on internal migration flows indicate, the city is expected to only continue to grow, with the Phnom Penh Municipal Government predicting that the population will double over the next two decades (Paling, 2012). This growth can be seen literally along the capital city's skyline, which over the last few years, seems permanently dotted with construction cranes, half-built (and almost completed) apartment buildings and condominiums draped in green tarpaulin. Urban development in Phnom Penh has been influenced by a range of local, regional, and international actors. An influx of foreign capital, largely from China, but also from other countries in the region, has entered the country and spurred urban development. Currently, five edge-city projects are in various stages of planning, approval, and construction through government-private sector partnerships: Grand Phnom Penh International City, Diamond Island City, Boeung Kak Town, and Chruy Changva City (Paling, 2012). Much of this development will not benefit the average urban resident, particularly as rent and land prices increase—partly driven by real estate speculation—making life in the capital for many Cambodians even more unaffordable (Otis, 2013). Such a 'brand' of development is taking place in parallel with that backed by Western donors in urban planning (e.g. the France-funded 2020 Master Plan) and will have significant implications on the urban future and governance of Phnom Penh (Paling, 2012).

The boom in urban expansion and development has only bolstered the city as the economic capital of the country, and as a major contributor to the Cambodian economy[82]. In turn, such transformations have driven mobilities of people, and thus, labour—primarily from other secondary urban areas and rural parts of the country, including Koh Kong. One of the largest concentrations of labour is the Phnom Penh Special Economic Zone (PPSEZ), located in the city's outskirts (18 km from the city centre). Spread out over an area of 357 ha, the PPSEZ is home to 80 international companies from 15 countries and employs thousands of Cambodians (PPSEZ Plc, 2019)[83]. Although wages have increased from $85 to $140 per month after thousands of workers joined a national strike in 2013, the new wage increase equates to 81 cents an hour for someone working the typical 40-hour work week. Such an amount may arguably be enough for one person, but it is not for a whole family as one 36-year old garment worker attests, "$140 a month is not enough for us, but we still do [it]" (Kennard & Provost, 2016). The sentiment of the garment worker reveals several realities and wellbeing contradictions of life in Phnom Penh. On the one hand is the attraction to the capital because of job opportunities and the prospect of earning higher wages to improve material wellbeing, both for native residents and those who migrate seeking higher or more reliable income. In the case of migrants, the attraction is potentially even stronger, if there are limited to no wage opportunities in their places

[81] This number is generally considered to be a conservative figure and unofficial estimates put the population of the capital as high as 2 million (Paling, 2012).

[82] The main economic industries are textiles, trading, real estate, and small- and medium-sized businesses.

[83] A major incentive for international corporations to house their operations within the SEZ, in addition the generous tax exemptions, is because the SEZ has its own dedicated infrastructure i.e. an independent power plant, water supply system, and wastewater treatment. In the context of recurring blackouts that residents and businesses typically face in the city, these factors make locating factories within the SEZ highly advantageous.

of origin. On the other hand, the choices are limited to manual labour type jobs for most people given their limited education levels and the catch-22 of obtaining higher education or skills training in terms of opportunity cost (i.e. having a means of adequate financial support while gaining skills or learning). From this perspective, many who come to Phnom Penh in the pursuit of improving their material wellbeing also feel that they have few options in the city, and thus, this feeling directly impacts their subjective wellbeing (e.g. aspirations). For the lucky few who can pursue higher education or skills training, they benefit from the strategic use of their relational wellbeing insofar as being able to be financially supported by extended family or have some other means of borrowing money, e.g. a family member uses their property as collateral for a loan or acts as a co-signer.

Such realities were evident across the group of migrants that I spoke to. The overwhelming majority were working in manual labour jobs (e.g. welder, ice seller/transporter, gardener, factory worker, noodle maker), typically six days a week. Some, such as a noodle maker, lived with her employer but most paid rent for a modest place in the city. After paying for other expenses such as food, electricity. and water, migrants would often be left with little every month. This meant there was less left to both save and to send back to family, which was met with surprise and disappointment. A select few migrants were in less labour-intensive positions (e.g. hairdresser), pursuing higher education, or, as a rare exception, in a 'white collar' position as was the case for one female migrant who was an accountant for an India-based pharmaceutical company.

From a social wellbeing lens, Phnom Penh represents a place where the material, relational, and subjective dimensions of wellbeing interact in both complimentary and contradictory ways. In some cases, people use their social ties (relational dimension) to support the goal of improving their material wellbeing, and, by extension, that of their family in the village vis-à-vis remittances. Meanwhile, others are caught between feeling that they have limited options or feel disappointed that their material wellbeing has not improved as much as they hoped or expected in relation to their decision to migrate. In other words, the interaction between aspects of their subjective wellbeing in the form of aspirations come into conflict with the reality of their material wellbeing, e.g. the higher-than-expected costs of living in the capital.

Based on the above descriptions, it is easy to see that life in a coastal village is tough, regardless of which village people live in. While some villages have specific challenges (e.g. lack of freshwater sources), they all face the daily struggles of catching enough to earn a decent living to support their family and where fishing is the primary livelihood. The everyday challenges of villagers are only exacerbated by persistent decline in marine resources and environmental change fueled by activities like sand mining. All the villagers maintain an appreciation for, and dependency on, the expansive mangrove ecosystem which supports a host of marine species and forms an integral part of these organism's life cycle.

Certain villages like Peam Krasaop by grace of their location have the advantage of easy access by road to Koh Kong town which helps to 'anchor' people in the village since they do not have to necessarily move for things such as going to high school or working in the factory or other places in the town. By contrast, the two other villages of Koh Sralao and Koh Kapic are remote and only accessible by boat. As such, people in these villages must contend with challenges such

as drought and storms, along with limited readily accessible alternative livelihood opportunities. In turn, they are faced with the both the prospect and decision of leaving the village for either Koh Kong town or Phnom Penh.

Meanwhile, villagers and their material, relational, and subjective wellbeing is constantly being shaped and re-shaped by various forces and, at the same time, one dimension (e.g. material wellbeing vis-à-vis low catch levels or increasing debt) can affect another (e.g. subjective wellbeing in the form of shifting aspirations or feeling 'stuck'). Collectively, the two destinations represent a promise for improving material wellbeing of the household but also present challenges to the migrants relational (e.g. no social ties) and subjective wellbeing (e.g. feeling less safe).

Altogether, the five sites represent locations of sometimes varying and other times similar landscapes where livelihoods and their associated challenges, geography, migration, and social wellbeing intersect. The full extent of such intersections will be discussed in the following sections.

Chapter 6 – Migration: leaving the coast

6.1 Introduction

> "Extra household labour enables a household to increase their fishing effort; this also means that children are faced with difficult decisions in terms of continuing their education, looking for work outside the village or helping their parents with fishing activities. By all accounts, those households that left in the past year did so because they could not sustain their lives in the area. Migration may in fact become the exit strategy for many fishing households. The question is where do people go and are they able to "make it," whether in Cambodia or elsewhere?" (Marschke, 2012, p. 76)

The passage above captures the dynamics observed in the mid-2000s by Marschke (2012) in Koh Sralao and forms the basis of this chapter which aims to answer the question of where people from coastal villages go, how migration fits within household livelihood responses and the impact such a response has on the wellbeing of those who leave and, those who remain. In this case, not only in Koh Sralao but also in two other villages, Peam Krasaop and Koh Kapic that were the focal points of my field research. At the time the above observations were made, households were contending with leaving the village entirely, something that would have been far less common in decades past (when marine resources, and the environment in general, were in a relatively better state)[84]. This is because rather than leaving altogether many households had responded actively to challenges by diversifying and expanding their activities and livelihood portfolio, alongside participating in efforts to protect or conserve their environment (e.g. planting mangroves) (Marschke & Berkes, 2005; Marschke & Sinclair, 2009). As a result, these strategies have allowed people to cope and adapt, at least to a degree and for a certain period. In a sense, the observations made years later by Marschke (2012) signal a kind of 'tipping point' (Scheffer, 2009; Scheffer et al., 2009) for many households and brings into question the tenability of making a living in the village, in general. While coastal fishing communities have faced numerous stressors over the past few decades (e.g. increased fishing pressure, illegal fishing, and gear theft), migration out of the village underscores a significant shift from the more typical household responses and strategies.

Mounting environmental factors have also acted as a catalyst in exacerbating life for coastal villagers. In 2016, Cambodia confronted its worst drought in decades—according to the National Committee for Disaster Management (NCDM), 19 provinces were deemed to be facing conditions requiring "immediate intervention" (Chakrya et al., 2016; Crothers, 2016). In concert, seasonal weather patterns have become less predictable, partly predicated on El Niño events, which have prolonged the "dry season", raising fears of drought (Muyhong, 2015). Altogether, these factors have strained fresh water supplies for coastal communities who rely largely on rainfall for their fresh water. In the last few years, coastal villages like Koh Kapic have had to ship in fresh water from elsewhere (at a relatively high cost). Even fishing villages that are on land such as Peam Krasaop have not been immune to the environmental change since

[84] It should be noted that migration of people from the coastal villages per say is not a new phenomenon since villagers would often go to Thailand (relying on trade with the country) given its proximity and ease of access with a relatively porous border (at least, historically) (Marschke, 2005). In this way, (circular) migration has been part of the livelihood history of these communities.

droughts and salt water intrusion have put a strain on villagers ability to farm and grow crops (Chakrya, 2014).

This chapter will start by providing an overview of general characteristics of migration such as primary destinations and activity across the three villages, followed by analysis of the factors involved in driving migration as identified by migrants and non-migrants. To compliment this, migration will be assessed in terms of where/how it fits within the livelihood strategy of households. Finally, the conclusion will serve to provide commentary on the overall nature of migration for coastal fishing communities and the implications of this for coastal villages going forward.

6.2 Migration characteristics of three coastal fishing villages

6.2.1 Where do people go and what do they do?

Across two of the three villages, the major destinations for migrants was Phnom Penh, Thailand and Koh Kong town, with the relative weight differing between the villages (Table 11). For the other village, Peam Krasaop, which is connected by road to Koh Kong town, it was different. Some household members worked outside the village (e.g. in the factory) while still living at home with their family. Of the migrants from Peam Krasaop, half went to Phnom Penh while the other half went to Thailand. The ease of access by road, and connection to the town could also explain why the destination for migrants from Peam Krasaop was either Phnom Penh or Thailand and not Koh Kong town.

Table 11. Migration characteristics and destinations (top three in bold) for the three fishing villages.

Village	*Village size*	*Destination of migrants*[a]
Peam Krasaop	147 hh★	***Phnom Penh*** (50%); ***Thailand*** (50%) (n = 8)
Koh Sralao	200 hh	***Koh Kong town*** (28%); ***Phnom Penh*** (28%); ***Thailand*** (15%); Sihanoukville (13%); Kampung Cham (5%); Kampot (5%); Preah Veng (3%); Kandal (3%); and Malaysia (3%) (n = 40)
Koh Kapic	100 hh	***Phnom Penh*** (24%); ***Thailand*** (24%); ***Koh Kong town*** (19%); Kampung Speu (5%); 3% each from: Lam Dam village; Battambang; Siem Reap; Sihanoukville; Takeo; Kampung Treach; Kampot; Srey Ambal; Nanaimo, Canada; and the United States (n = 37)

★hh= households

[a] Percent calculation based on total number of individual migrants identified where destination was given/provided (via scoping survey or interviews) for each village.

The two mangrove estuary villages, Koh Sralao and Koh Kapic, showed the most diversity for migrant destinations, particularly Koh Kapic, which had eleven different areas in addition to the three principal ones highlighted (Table 11). Most of these destinations were other provinces or cities within Cambodia, although two were outside of Southeast Asia (i.e. Canada and the United States). For Koh Sralao, there was an even split with approximately one-third of migrants going to Koh Kong town and Phnom Penh. A smaller portion of migrants went to Thailand, closely followed by Sihanoukville.

Although a relatively small percentage of the total migrants, the diverse destinations of migrants from Koh Sralao and Koh Kapic within Cambodia highlights the prevalence, and continued importance, of rural to rural migration, which makes up a large proportion of migration patterns as shown by other large-scale studies (e.g. They & Treleaven, 2012). As an exceptional case, in Koh Kapic there were former villagers who had migrated outside of Southeast Asia. One villager, a 59-year-old woman who works as a moneylender in the village related during an informal interview that she has an older sister who lives in Nanaimo, British Columbia and a brother in the United States. Overall, the data showcases the extent, scale, and diversity of destinations for migrants, particularly those from Koh Kapic and, to a lesser extent, Koh Sralao, and how they differ across the three villages. A common feature across the primary migrant destinations is that they are predominantly urban which is in line with general migration patterns showing an increasing prevalence of rural to urban migration in Cambodia (Maltoni, 2007; MLVT, 2014; They & Treleaven, 2012).

The pattern of rural to urban migration is also emblematic of what these destinations represent and possess—opportunities and jobs, respectively. Koh Kong town and Phnom Penh are two of the dominant destinations because they are where labour demand is concentrated, in one sense quite literally in the form of the special economic zones but also more generally as places of business and commerce. The two urban areas also represent opportunities in terms of being places where a villager can pursue higher education, high school in the case of Koh Kong town and university/college in Phnom Penh. This is reflected within the group of migrants identified across the villages who were engaged in either wage employment or higher education (Table 12).

Disaggregating the analysis of destination within employment by gender reveals that across virtually all villages, female migrants outnumbered male migrants (except for Koh Sralao migrants in Phnom Penh which were predominately male). For the second category (education), the migrants were largely males, mostly in Phnom Penh attending university or a post-secondary program[85].

While it is not possible to make a generalizable trend from the limited (largely descriptive) data, the preponderance of males migrating for education is supported by a significant data set (3,500 rural households surveyed) from the Cambodian Rural Urban Migration Project (CRUMP) which revealed that men were more likely to migrate for education than women and the difference was greatest for 15 to 24 year old's (46.8% vs. 16.7% of women within same age bracket) (They & Treleaven, 2013). By far, employment was the activity that dominated across all genders and origin villages—the activity accounted for 72% of all migrants. By contrast, 28% of all migrants were involved in education. In other words, the main reason for villagers to leave

[85] Note that since the gender data is incomplete for the education category, it is not possible to make definitive conclusions. However, based on what was observed and the migrants found/interviewed who were pursuing education, all were male (Table 12). Despite the data not showing it, going off of what was related by villagers during interviews, the typical convention seemed to be that young men would go to Koh Kong town for school or university in Phnom Penh and the women would work in the factory. Yet this does not imply that females did not pursue education beyond grade school, as evidenced by one female migrant from Koh Kapic, who was living and working as an accountant in Phnom Penh after obtaining her degree.

the village was to seek employment outside the village, an observation broadly echoed by the CRUMP study which noted that 'looking for work' was the highest percentage as the reason of migration for both males and females (with the exception of males in the 15 to 24 age bracket) (They & Treleaven, 2013, p. 4).

Table 12. Identified migrants disaggregated by activity, destination, and gender [a].

Activity	***Village***	***Koh Kong town***			***Phnom Penh***			***Total***
		Males	***Females***	***Subtotal***	***Males***	***Females***	***Subtotal***	
Employment	Peam Krasaop	0	3	3	2	4	6	***9***
	Koh Sralao	5	13	18	8	3	11	***28***
	Koh Kapic	1	2	3	1	4	4	***7***
Employment total (all villages)		6	18	24	11	11	21	—
Education	Peam Krasaop	0	0	0	0	0	0	***0***
	Koh Sralao	5★	1	5	6	0	6	***11***
	Koh Kapic	1★		1	5★		5	***6***
Education total (all villages)		—	—	6	—	—	11	—

★Note: gender was not obtained in this case.

[a] Migrants were identified from a combination of (semi structured, structured, and informal) interview notes, interview transcripts (either villagers who mentioned those that had left or migrants themselves), and the scoping survey, the latter in which villagers confirmed if one or more members from their household had left the village and gave their location.

For the most part, across all the villages, females outnumbered male migrants in the employment category, and this was the most dramatic in Koh Kong town with 75% of all migrants being female (all working in one of the factories in the SEZ). On the one hand, this hints at the 'kind' of labour demand in Koh Kong town, which is gendered insofar as the hiring bias is towards females by the factories[86]. At the macro level, this echoes a trend that started a decade ago and

[86] When I asked a representative (a woman) from the company that manages the Koh Kong SEZ (LYP Group Ltd.) why the factory hiring policies are biased towards females, I was told that it was based on the belief that females have better temperaments, can follow instructions without questioning, and are generally docile. In contrast, males tend to be more confrontational, are more likely to resist following instructions, and there is a higher chance for

identified through the work of Derks (2008) of rural Cambodian women migrating to the capital to work in factories, brothels, and as street vendors. More specifically, my observations from speaking to migrant women in Koh Kong town support her contention that young rural Cambodian women are not relatively powerless and under the whim of global capitalism or constrains of cultural norms but rather exercise their agency as they experience both mobility and modernity. For these young women from the fishing villages, factory work is viewed positively since the labour that they typically engage in at home (e.g. post-catch processing, household chores) is not paid per say, thus, the opportunity to earn a relatively substantial wage is a gamechanger for the livelihood portfolio of the household.

On the other hand, the gendered labour demand also highlights the relatively limited employment opportunities available in Koh Kong town for young male villagers. During a group interview, fishers in Peam Krasaop shared their feelings about this with us, remarking "…now the young [women] can go to work in the factory but for the men, we can only do fishing…[if it were] possible, we want to go work in factory…but mostly they recruit only women". As a result, the likelihood of male villagers migrating to Koh Kong town is far less than it is for young females. Combined with degradation of the marine resource base, the options available to male villagers can feel very limited, as one fisher pointed out later on in the same interview, saying, "…everyone wants to avoid fishing because they catch less and less…[but] because I have low education, besides fishing, I don't know what else I could do". Those who had left the village were in other occupations: a labourer in the construction sector, *tuk tuk* driver, doctor, nurse, employee in a microfinance institution, and a lawyer. By contrast, in Phnom Penh, there were more males engaged in employment versus females. There was an even split between male and female migrants from all sources of origin, although between villages, Koh Sralao stood out in having a disproportionately higher number of male migrants (Table 12). Like Koh Kong town, Phnom Penh also showed the most diversity of occupations among migrants, although in contrast, the diverse make up of livelihoods was represented across both male and female migrants. This is likely because the capital has a larger demand for labour in general compared to a small town, but also the *kinds* of labour and employment opportunities that are needed will be varied.

Overall, there are a few key points that become clear from looking across the characteristics of migration from the villages: i) the main activity of migrants from all villages revolves around employment, in various forms; ii) migration is highly gendered in the case of Koh Kong town, in favour of females whereas in Phnom Penh, there is roughly an even split between male and female migrants; and iii) the majority of migrants are wage labourers, working for someone and a few are entrepreneurs that have their own business (Table 13).

---

them to protest. It was unclear whether the rationale for the hiring policy originated from the SEZ company managing and advising the companies to preferentially hire females or if this was a preference from the companies themselves (or both).

Table 13. Interviewed migrants disaggregated by activity, destination, and gender.[87]

Activity	*Koh Kong town*		*Phnom Penh*		*Total*
	Males	*Females*	*Males*	*Females*	
Employment	2[a]	12[b]	7[c]	5[d]	***16***
Education	—	—	4[e]	0	***4***

Note: Koh Sralao was the sending village for all migrants in Koh Kong town and Phnom Penh, with two exceptions as noted below in brackets. Also, not all migrants interviewed were engaged in employment or education (e.g. wives of welders were caretakers).

[a] Construction labourer; tuk tuk driver

[b] SEZ factory workers (10); construction labourer

[c] Cell phone shop owner; welder (4); ice seller/transporter; gardener/landscaper

[d] Accountant (Koh Kapic); garment factory worker (2); hairdresser (Koh Kapic); noodle maker

[e] Student in technical training college for teachers (2); university student majoring in food science; university student majoring in engineering (Koh Kapic)

What determines where people go depends on who they are, both in terms of age and their role within the household. For example, a female teenager or a young woman living in Koh Sralao or Koh Kapic whose family is struggling to make a living through fishing and/or has a very limited means of adding alternative livelihood options may decide to move to Koh Kong town or Phnom Penh to work in a factory or for someone. The reality of this was made clear during a group interview in Koh Kong town with seven young women who were all working in the factories of the SEZ. "I moved to Koh Kong city due to my [family's] livelihood being poor, so I needed to find a job to earn more income to support my family", said one 24-year-old only to be followed by the voice of another 19-year-old migrant who remarked, "me too, I have to earn more money to help my family. My family could not earn much income as before and they get sick very often, so could not rely on their incomes anymore". As to why they chose Koh Kong town, one of the migrants explains, "because it is close to the village, it is easy to go and visit the village". From these accounts it becomes clear that being a young female teenager or young woman in the village, there are very few options to earn your own income. In such cases, both their role within the household as women and their young age shape and influence their decision to leave and their choice in the destination.

Meanwhile, a male or female teenager in Koh Sralao or Koh Kapic may decide to migrate to Koh Kong town for high school or, if they were among a small minority to have already completed high school, decide to pursue post-secondary education in Phnom Penh. This full spectrum of this journey is captured in the life of Mr. Vanna[88] from Koh Kapic and a first-year university student studying engineering in Phnom Penh. As he explains, "I want to study, the first time I leave my hometown I go to Dong Teung [Koh Kong town], I was 20 years old, my mother told me she wants me to come home but I stay in Dong Teung…I don't want my father

[87] Note that data from this table are meant to offer descriptive statistics to help in understanding the broader nature of migration from the three villages. The journeys of migrants revealed through interviews are outlined in subsequent sections and reveal the lived reality of villagers.

[88] Note: Any instance where names are used, pseudonyms have been chosen to maintain anonymity.

to do fishing. When I see him, I feel pity on him." After moving to the town for school, his father told him that if did not go to study, he wants him to do fishing with him. "But I did not want to [it]. Because it is something [that is] very hard, like in the rainy season you cannot do fishing", Mr. Vanna says. When asked how others his age in the village feel about the future he goes on to explain why only a select few leave and go on to higher education:

> "…other people who are of similar age as me…when they are about 11, 12, or 13, they start to do fishing. [Among] my friends, only two of them can come to university…their parents don't encourage them to learn and it is because of their [household's] livelihood situation that is why most of them don't go to higher education. Then some of them who fail the [entrance] exam, cannot continue their studies or cannot pass their high school exam, they return to their village to do fishing".

For those who desire to leave for higher education, their ability people to leave or where they go faces many obstacles. If a household's livelihood situation is acutely poor, it simply may not be possible for the family to 'afford' losing a member to out migration even if their son or daughter's pursuit of higher education may pay off further down the road. This reality also underscores and explains the relatively low numbers of migrants that we identified who were migrating for the purpose of education (Table 12 and 13).

The out migration of coastal villagers is facilitated by two factors: knowledge and networks. Across the three coastal villages, there is a sense of community and neighbourly relations. Partly this comes from having common ground in making a living through fishing and sharing the struggles that come through the various challenges to their livelihood. As a result, people have shared values, goals and priorities in their life which cement social relations and ties between members of the village. While there is healthy amount of social capital, it is important to note that this is far from utopian or harmonious as the shared struggles that come with fishing also brings out (in some, but not all) unscrupulous behaviours, as related during interviews with several fishers who spoke about having their fishing gear stolen and other acts that jeopardized their livelihood. Nevertheless, the sense of community can be seen when walking through any of the villages where the women (and sometimes their young children) are often found conversing with one another while sitting on the ground in small circles peeling crab or sorting the catch. In other cases, while the fishers are out at sea, villagers can be seen 'hanging out' playing cards together and socializing or watching television. The general effect is the raising of collective social capital and the formation of an informal social network through which information is shared by villagers and neighbours. Such was the case with one 24-year-old female migrant from Koh Sralao working at a wire factory in the Koh Kong SEZ. As the young woman says, "I moved to work…due to my livelihood being poor, so I needed to find a job to earn more income to support my family. I heard about the job announcement from my neighbor." Such a pattern is consistent with observations made by one particular large-scale study on migration—the Cambodian Rural Urban Migration Project—which points out in its *Women and Migration in Cambodia* report that "[m]any women reported that they received assistance from a family member or friend to find their first job in the city" (They & Treleaven, 2013, p. xi).

Another example of gathering information from personal networks came from a husband and wife who had left Koh Sralao for Kong Kong town, after living in the village for more than 30 years. The husband worked as a labourer on another villagers' boat while the wife peeled crab, earning $250 per month and $100 per month, respectively (latter being before expenses). In explaining their story of leaving Koh Sralao for Koh Kong town, they say, "[it was] because we don't have much fishing equipment, no boat or gear…we earn a little amount, we live hand to mouth. And in rainy season, we do not work". Both came to Koh Kong town with the intention of being labourers in the construction sector because it was more reliable, as the husband explains, "[the work in] Koh Sralao is harder work and so I wanted to do something new, with a promise of more pay, more stability and safety and less labour so I come to Koh Kong town". We asked him how he came to know of the opportunity, he said, "Mr. [name withheld], the tuk tuk driver, told us about the opportunity for construction work…and at first I stay with him before getting a job". The tuk tuk driver was a former villager/fisher who had been living and working in Koh Kong town and was able to maintain a connection to the village despite not living there by waiting for customers at *Boeng Khayak*, the main port of entry for goods and people, in particular for villagers from Koh Sralao, but also other villages. As such, often his customers were people from his village which formed an important customer base, as he related to us, "…I really rely on them [people from Koh Sralao] to earn income". Such a reciprocal arrangement thereby facilitates a platform for information exchange between the tuk tuk driver and people from Koh Sralao who can learn about information and developments outside the village, including job opportunities. In turn, upon returning to the village, the villagers are be able to share that information through their networks to friends, relatives, and neighbours. In this way, out migration of people from the village can be facilitated by migrants vis-à-vis networks, and thus knowledge, within and beyond the village.

6.2.2 Why do people leave?

The question of why people leave can be understood from two perspectives, one from the villagers that live in the village, and another from those who have left the village i.e. migrants. Obtaining the villager perspective can reveal the reasons and factors that explain why some cannot leave, even if they wish to. It should be noted here that the perceptions by villagers on why people leave are interrelated and cannot be neatly separated. For instance, employment opportunities in Phnom Penh are not a driver in and of themselves because the underlying reason could be increasing debt for that person/household. In other words, some villagers mention proximate causes while others speak of ultimate causes—ultimately, both carry an important, albeit different, weight. Qualitative data and quotes from interviews have been used to add a layer of nuance to capture this.

During interviews with villagers, a host of reasons on why people leave came up during our conversations, which differed across the three villages (Table 14). For villagers in Peam Krasaop, the most common reason cited for people leaving was debt, followed by the pursuit of post-secondary education. As group of female villagers explained, "because they [the migrants] cannot earn enough money in the village and because they get in debt, they leave the village to work". Economic factors were raised as the primary reason, as they emphasized later in the same

interview, "[because] they [the migrants] need the money that's why they leave the village. If anyone who can earn, who is rich or medium, they don't go".

Table 14. Drivers of migration, as cited by villagers vs. migrants. Note: information extracted and collated from a mixture of interview notes and interview transcripts.

Location	***Drivers of migration***
Peam Krasaop	Debt Education (college/university) Employment (Thailand) 'Fishing is very difficult' IUU fishing 'Cannot earn enough money' Sand dredging
Koh Sralao	Education (high school) – Koh Kong town Education (college/university) – Phnom Penh Employment (Phnom Penh) Employment (various locations) Employment (Koh Kong town) Following spouse
Koh Kapic	Employment (Thailand/Phnom Penh) Debt Education Increasing expenses (e.g. fuel)
Koh Kong town	Poor livelihood at home/support family Stable/higher income potential
Phnom Penh	Poor livelihood at home/support family Cannot catch enough/catch less To earn income Education Domestic issues at home

The other reasons were related to fishing itself, either directly or indirectly, and in some cases, were interrelated. For example, sand dredging was mentioned because the activity negatively impacted critical marine environments (i.e. seagrass beds) which led to a decrease in catch by fishers, in turn resulting in them not being able to earn enough money. Employment was not a commonly cited reason and was only mentioned in relation to Thailand as the destination. Since Peam Krasaop is connected by road to the rest of Koh Kong town, there is no need for villagers to leave the village to work in the factories on the outskirts of the town or to go to high school. As one fisher from the village said, "most people do not leave the village. Many women work in the factory in the town but come back in the evening and younger men go to the town for school". However, if a villager desires to seek post-secondary education, then they must leave the village and move to Phnom Penh since there is no such institution within the town.

By contrast, villagers in Koh Sralao cited two main drivers of migration, education (high school in Koh Kong town) and employment. The first reason makes sense because there is no high school in the village and if families want their children to go to, and complete, high school, they must leave the village and go to Koh Kong town to do so (for those in Peam Krasaop this is not the case). The second reason for migrating (employment) dominated the rest of the reasons cited by villagers and only differed according to location. Post-secondary education opportunities in Phnom Penh were also equally strong drivers for people to leave the village. This pattern shows how economic and educational opportunities outside of Koh Sralao act as large and influential catalysts for migration. At the same time, this shift also hints at the implicit untenability of fishing as a secure way of earning an income and, thus, an increasing amount of attention is being paid by villagers and households to non-fishing related opportunities outside of the village.

In conversations with villagers in Koh Kapic, one driver stood out among all others: employment opportunities in either Thailand or Phnom Penh. The remaining reasons (e.g. debt, education, and increasing expenses) were only mentioned once. Like Koh Sralao, this observation shows the overwhelming influence of economic opportunities outside the village as a dominant 'pull' factor for outmigration of villagers from Koh Kapic.

One of the findings from the observations above is that the reasons villagers perceive and cite for others leaving partly depends on the village. Peam Krasaop stands out among the three villages, because unlike Koh Sralao and Koh Kapic, employment is not a reason to migrate. This difference partly reflects the contrast in geography and location of the villages. From such a perspective, the villages can be divided into two types based on connectivity to the town, with Peam Krasaop being more 'connected' and Koh Sralao and Koh Kapic being 'disconnected', geographically speaking. While the differing reasons for migrating can, in part, be attributed to the connection between geography and the location of the economic opportunities, another characteristic that sets these two types of villages apart is that Peam Krasaop's location gives villagers access to key services, for example, hospital or health clinics, microfinance institution offices, hardware/parts store, mechanic services, and, education opportunities, *inter alia*. Within the other two villages, most of these are not present, or if they are, they are vert limited in capacity (e.g. one mechanic in the village or a simple medicine dispensary such as in Koh Sralao).

For the group of migrants in Koh Kong town, the reasons for leaving the village were distinct from those given by villagers. Migrants mentioned that they left their village either because of observing the poor state of their family's livelihood situation or feeling the need to support their family, or a combination of the two. A 22-year-old factory worker from Koh Sralao explained during an interview at a street side canteen how a combination of household and familial circumstances (e.g. prior to working, her and her grandparents were supported by an older sister and aunt, but the sister was recently married and was unable to provide support for both her sibling and her new family) compelled her to migrate to Koh Kong town:

> "my grandparents did not want me to come but I saw their [poor] livelihood situation so I decided to come here to Koh Kong town… it was really hard [to make the decision to leave]. I wanted to work in factory since I was younger [underage] but I was waiting until I was old enough to work at the factory. When I was the right age, I left but my grandparents said not to go because they

were concerned with my safety. They just stay at home, do not go fishing…my grandfather is more than 90 years old, grandmother is more than 80 years old."
– Female migrant, interview (March 22, 2017)

While the major reason cited by migrants in Phnom Penh for leaving the village centered on their family's poor livelihood situation and the need to support their family, it was not as predominant compared to Koh Kong town. Alongside this, other reasons for leaving the village included not being able to catch enough fish or the decline in catch, while for others pursuit of higher education were important drivers. The diversity in reasons can be explained by the demographic of the migrants to Phnom Penh, which included a contingent of former fishers. In contrast, migrants in Koh Kong town were primarily young females working in the factory, both because such opportunities are relatively recent with the development of the SEZ and the hiring policies that favour women. As such, the SEZ represents one of the first opportunities available to women in this region as a source of wage labour (Horlings & Marschke, 2019).

To contrast the experience the average migrant in Koh Kong town, we can look at the journey of Mr. Mout, a former fisher from Koh Sralao living in Phnom Penh who runs his own ice selling/transporting operation. As we sat outside of a café near his business, he explained, "[in the village] I was doing fishing but I had difficulty catching fish or crab because of the sand dredging, I catch less…that's the main important reason I come to Phnom Penh". He was able to make the transition from the village to the city because of an acquaintance in Koh Sralao who invited him to come work in Phnom Penh, as he relates, "after the person came to my house and invited me, I waited one month. I asked for permission from my mother and she agreed and then one month later I came [to Phnom Penh]". While he knows of many people from his village that went to work in Thailand because of better pay/opportunities, he did not go because he did not have any connections. This point once again emphasizes the importance of having networks and knowledge by villagers who seek opportunities outside the village. Once in Phnom Penh, he transported ice for someone else and, after some time, was able to save enough money to start his own ice selling business. Through the help of a friend, he was able to secure a space for his business (paying $53 per month in rent). Even though the work is hard, and the hours are long (7 days a week, 10-12 hours a day), he says he prefers living in Phnom Penh versus the village from a livelihood perspective, "I can earn more [money], good enough for me to support myself, and my family". He also gets support to run the business from his family. His wife helps by also selling ice from their home and his brother-in-law transports ice for him. Meanwhile, his sister is married to a man in Phnom Penh who is also in the ice selling business. During the rainy season, his brother, who is a fisher, comes to help as well (their father helps in preparing gear/nets but does not go fishing). With a six-month-old daughter, his preference for staying in Phnom Penh is also shaped by being a father, "in [Phnom Penh], there is more development…there are a lot of places to visit…also good school for children". Speaking of his future, he notes, "I hope that I can earn [enough] money and can buy a house over here". Mr. Mout's experience shows how a combination of informal networks, such as an acquaintance providing a 'way' out of the village, and sound decisions like saving earnings from wage labour, can help (at least some) former fishers 'make it' in the city.

The stories of these migrants capture the main ways villagers respond to the recent socio-economic and ecological changes and reveal how the reasons for why they leave the village, and what they do at the destination area, is shaped by who they are, and the role the play within the village. If you're a young female villager who sees that your family is struggling to make it on fishing alone, the opportunity to work as a factory worker and earn a regular salary is a compelling reason to leave the village; it may also be an opportunity to escape gender norms within the village and to try something new. Meanwhile, if you are a young male in the village, you can face a difficult decision whether to migrate to pursue higher education, depending both on how dire your family's livelihood situation is, the opinion of your parents, and if you have networks in place to help you do so. Lastly, if you are a fisher struggling to catch enough to support your family and an opportunity presents itself to leave the village, you might take that chance for the possibility to earn a higher income, which could be for a temporary time or could be permanently.

With declining marine resources, such trends are likely to become the 'new normal'. An example of this can be appreciated from the life of Chan and Mealea, a husband and wife living in Peam Krasaop. Chan is a 42-year-old fisher and has lived in the village for 16 years with his wife and has four children. Two of the daughters work in the nearby factory, one of them is married and lives in her own place in the village and the other lives at home. The factory provides transportation, small trucks with a tailgate featuring two benches on either side where workers sit, and picks both up from the village. The daughters work 8 hours a day, 6 days a week, earning about $230 per month. Chean and Mealea's eldest son left to work in a Khmer restaurant near the Thai border and lives with his aunt and uncle, helping the family by sending back money, while their other son goes to high school in the town. Meanwhile, Chan's wife runs a sundry shop from home. Chan and Mealea like living in Peam Krasaop because it is close to different things like the hospital, clinic, and school, and since the village is connected to the town by road, it is easy to go these places and beyond. At the same time, Chan does not enjoy fishing and does it because he feels that there is nothing else for him to do. Despite this, Chan feels that life is better for him, especially since he has his children supporting the family now. He also works using his boat to provide transportation one week a month for tourists who visit the nearby mangrove ecotourism site. In the future, he does not think there will be enough crab to catch and so, he will not be able to be a fisher. Since Chan sold the land he had in his hometown, he does not plan on leaving Peam Krasaop and has no plans yet for the future.

The above description of the Chean and Mealea household shows how those in Peam Krasaop can eek out a living (and the small yet nevertheless significant advantages of geography), although the way in which they do so is changing. While historically, villagers would diversify their livelihoods by picking up other work (e.g. farming; selling goods), a significant shift is taking place in that, more recently, the younger (largely female) members of the household are playing an increasingly important role in contributing to the income of the family by working outside of the village (and yet are able to still live with the family)[89]. This is something that would not

[89] It is important to note that how long young women will stay working in the factory is uncertain and that this will be influenced or affected by them eventually getting married (and likely who they end up marrying), e.g. having to move elsewhere or eventually having children that need to be looked after.

have been possible pre-2012 i.e. before the SEZ, and the factories therein, existed—at least, in terms of extent, scale and scope. In this way, those who live in Peam Krasaop have a distinct geographical advantage which ends up being beneficial not only socially (i.e. family members can stay living at home) but also financially (i.e. daughters do not have to spend money to cover expenses that come with living on their own). Overall, how coastal villagers have responded to both socio-economic and ecological changes is exemplified by the new dynamism of livelihoods being intertwined with migration and new economic opportunities, both in Koh Kong town and Phnom Penh.

6.3 Migration as a livelihood strategy

Generally, a 'livelihood' is made up of the capabilities, assets (material and social) and activities needed to make a living. Embedded within this are the social institutions, intra-household relations, and the ways in which households and people access resources (Haan, 2000). It follows that the strategic responses and choices in the kinds of activities households and individuals make to either maintain, secure, or improve their livelihood encompass a 'livelihood strategy'. As has been observed elsewhere (Bangladesh, Ethiopia, and Mali: Haan et al., 2000; Indonesia: Rodenburg, 1997), migration can become a central strategy for rural households to employ, typically combined with other activities (e.g. agriculture or non-farm activities).

Likewise, migration has become an increasingly adopted strategy by households across all three villages, however it operates differently, depending on the village, household livelihood circumstances, and the scale at which migration is viewed (i.e. household vs. individual). For some households, migration becomes an addition among the pre-existing suite of livelihood strategies (McDowell & de Haan, 1997) that have been adopted such as operating a sundries storefront out of their home, transporting tourists or supplies to the villages, or small-scale farming ('migration as addition'). In this case, one or more members of the household leave the village while others stay in the village engaging in fishing and/or non-fishing related livelihood activities. This type of migration was observed to occur across all three of the villages. For other households, migration is adopted not to compliment existing livelihood(s), but to leaving fishing altogether ('migration as exit') (e.g. Rigg, 2007 in Lao PDR context). This type of migration was observed in both Koh Sralao and Koh Kapic, but not in Peam Krasaop. It was relatively less common for the entire household to leave the village and more common for individual members within households to leave (reflected in the profiles of the migrants located and interviewed). Overall, households and their livelihood strategies/response fell into four broad categories, with more similarities than differences across the villages (Table 15).

Given the similarities, the following sections have been organized according to each 'type' of livelihood strategy, showcasing vignettes of select fishing households across the villages that reveal the ways in which migration fits within household livelihood strategies and responses.

Table 15. Typology of livelihood strategies and villages where they are present.

Type	*Livelihood strategies*	*Villages where present*
I	Keep fishing while borrowing money from microfinance institutions or other sources, as needed	Peam Krasaop; Koh Sralao; Koh Kapic
II	Keep fishing with one (or more) household members temporarily migrating for seasonal work and returning	Peam Krasaop; Koh Sralao; Koh Kapic
III	Keep fishing, primarily for subsistence (relying on children's remittances from wage labour for financial support)	Peam Krasaop; Koh Sralao; Koh Kapic
IV	Leave the village, either as (more commonly) an individual or (less common) a family	Koh Sralao; Koh Kapic

6.3.1 Type I: continue fishing, borrow money

This type of livelihood response was present across all the villages, although there were slight differences in what this looked like, depending on the village. Generally, households in this category opted to continue fishing while acknowledging the declining catch. "[I think] things are getting worse…I owe money to microfinance institution, $800 for building my house…before people used middlepersons and moneylenders for getting loans", says one 30-year-old fisher in Peam Krasaop. He goes on to explain how people who work in the SEZ factories can contribute to their household's livelihood portfolio:

> "money from this [factory work] goes towards paying household debt while money from fishing goes to everyday expenses. Many families are doing this and it contributes to less stress for the family—families who do not have anyone working in the factory are more stressed".

According to him, there are two kinds of families in the village. One type is one that takes on a lot of debt with household members working in the factory to help with the debt. The second type have few to no members working in the factory and, as a result, end up borrowing more money. In both cases, the reason behind the debt is because fishing-related expenses can be quite high. For example, he says, "repairs for nets can cost $150 per month. Some families earn daily and spend daily so there are no substantial savings. Therefore, when there is a large expense, for example, repairing nets or the boat, they do not have enough money and have to borrow more". The cycle of regularly earning and spending can also result in the inability of some households to budget. No doubt this is difficult to control if fishing is the main livelihood since the amount a fisher catches is unpredictable and, thus, being able to consistently budget is not possible or realistic. By contrast, people who are earning a regularly scheduled salary (e.g. every two weeks) can "reduce impulsive or irresponsible spending because you don't get money everyday".

An aspect of having to borrow money is also behavioural in that "some people are less careful or responsible with their money and have little to no money saved", the young fisher explains. This dimension was explained by another villager in Peam Krasaop who highlighted a specific example. As he explains:

> "some of the money borrowed is often used to fuel gambling…gambling is the biggest problem in the village, followed by drinking. Some men spend all of their daily income on beer, and other times more than they earn by borrowing from their neighbour, for example".

In explaining gambling, he says how it is "very common because there is an abundance of free time, especially for the women [compared to men] …some women hide their gambling from their husbands".[90] Therefore, in addition to debt incurred from the combination of recurring expenses to support fishing during the dry season and not catching (and thus, earning) enough, poor spending decisions only exacerbate debt burdens of households. Remarking on this trend from having lived in Koh Kapic since 1979, a former village leader explained when asked about key trends over the last 10 years that have affected households, said:

> "gambling and alcohol abuse and bad attitude, along with unnecessary or excessive spending [i.e. more than the household earns] has led to borrowing of money and debt. Many households do not care about saving money. The reason for the lack of care about saving is because of a lack of community engagement and ideas and value of saving and sharing information."

Other villagers realize that the situation has changed. "I cannot save much money as [compared to] before", says one 51-year-old fisher who has been living in Koh Sralao since 1993. He goes on to explain the nature of borrowing in the village:

> "in the dry season, we need to save money as much as possible for the purpose of keeping it to use in the rainy season. If we cannot save money, when the dry season arrives, we must borrow money from [microfinance institutions] like ACLEDA to buy fishing tools…we borrowed $800 to $1000 per year and we have to pay the interest to the banks when we need their help with money…[the] bank's interest is not as high as the interest of middleman. If you owe money to middleman, you must sell your crabs to them, and you won't get fair prices from them. For instance, one kilogram of crab if I sell to others, I get 25,000 Riel, but sell to middleman, I will only get 15,000 Riel, so I lost a lot [of money] if we compare…this is a reason why the banks are useful for residents of Koh Sralao when they need money to buy for the needs of their fishing business…so many fishers prefer to borrow from banks compared to middlemen".

On a day-to-day basis, he earns on average $12.50 per day after all expenses but from that amount "some goes to my children for going to school [costs associated with it, e.g. lunch money, supplies, etc.], for buying vegetables and other groceries every day, so I can only save $6 per day".

[90] In our observations as walked through the villages, we did see several instances of groups of women congregating and playing card games, with money in plain sight. Although, between our observations in several instances across the villages and this account, it is difficult to discern how widespread this practice is.

Comparing those who leave and those who stay, there is one hallmark that stands out as a defining criterion: age. By and large, the people who leave the village are teenagers or young adults. As one university student in Phnom Penh says, "the older people don't move, they just stay in the village". Having the experience of fishing—some over decades—they are acutely aware of the ups and downs of the livelihood. For such people, the allure and potential for higher earnings from fishing plays a role in making them stay in the village because, as one fisher explains, "some people prefer to continue to do fishing because sometimes when they fish, they can get a lot of money. Even if they only fish during the dry season". In other words, historical knowledge of 'catch booms' can set a precedent of expectations (and hope) that support the livelihood response of 'staying the course' and continuing fishing. In sum, either households try to save money diligently or borrow money from the various sources, depending on their specific circumstance. Nevertheless, the shared trait across such households is that they continue fishing.

6.3.2 Type II: keep fishing and migrate circularly/temporarily

There are some households whose livelihood situation is 'in between' those who leave and those who stay where they continue to live in the village but one (or more) members migrate temporarily according to the season, as was the case for one 37-year old fisher in Koh Sralao who would go to Thailand (Chanburi) for two to three months at a time, selling his labour by harvesting crops once a year during the rainy season.

Meanwhile, one fisher in Peam Krasaop who lives with his wife and three children (four others are married) related his temporary migration to Thailand, saying, "I used to go to Thailand for two to three months at a time then come back for 10 to 20 days then return. I worked at an ice factory and was employed to collect snails [did via tube diving] getting about $5/day [~$300/month]". Now, he no longer goes to Thailand because he used the money that he earned and saved it up to buy a boat. Acknowledging the decrease in catch, when asked if he is worried about overfishing, he said, "it's too late to worry because everywhere there are fishing nets and traps. Even if I can't catch enough fish, there's always something to collect like crab if not then snail or something else".

In another case, a family from Peam Krasaop moved to Thailand for two years as Ms. Chany related in an interview, working in Trat and Chan Buri province. She worked as a street cleaner while her husband worked as a labourer in the construction sector. Collectively, the household was able to earn $300 in 15 days. At the time of the interview (November 2015), the household had been living back in the village for a year. Since moving back, the household had gone into debt because they were not earning enough from fishing. Part of the decision to move back was because they were working illegally (i.e. without documentation) in Thailand, like most Cambodian migrant workers, and could not afford the process of obtaining the appropriate documents. She says, regarding this, "life was very restricted there [in Thailand], we stayed in the house and could not go out [for fear of being caught by police], but we did not have to pay for water or electricity and could live freely in our home". Asked if life was better in Thailand or in the village, Ms. Chany says, "life is better in the village because we can live without restrictions and go to pagoda and other places, even though we earn less".

Temporary migration also involved villagers going to work in Thailand as labourers on Thai fishing boats, something that was revealed during a group interview with three young men in Koh Sralao who were fishers. Explaining why he went despite knowing the safety and security risks (e.g. physical abuse, long hours, withholding or reduction of wages), one villager said:

> "I must go to work there [Thailand] because I do not have many job options in Cambodia. Another reason is that I must earn income to pay my debt owed to the bank. I borrowed from the bank because I took some money to buy the fishing tool like boats, engines, fishing tools, and for my family [daily] needs. And we expected to pay bank through my job as fisher, but when the sea natural resources sharply declined, we could not rely on this business, so I have to go to work in Thailand."

Working on these boats alongside other Cambodians, the villagers would earn a wage based on the amount of seafood caught, with an example figure given by one villager of $250 in one month. Similarly, another villager in the group, a 24-year-old had his own eclectic temporary migration history where he held several different jobs in Thailand over a period of a few years: at 14 years old as a nanny for almost one year; at 18, in two different roles over two years, one as a fisher and another as a waiter at a restaurant. After this, he briefly worked in a factory for one month (he was fired because he "did not follow the order of the employer"). Describing his work and motivations to work as a labourer on a boat, he said:

> "I went to work there [Thailand] because my parents owed money to microfinance institution and when I worked there my duty was to catch crabs. The boat was small, there were only three people, two Khmer labourers and one Thai Capitan".

These examples represent a somewhat unique case of a temporary 'migration as exit' strategy, although in slightly different ways and at different scales. For the fisher turned factory worker, he was the only one that migrated within his household, and only for short term periods in a cyclical fashion, because he did not have the requisite assets (i.e. a boat) to be able to maintain a fishing-focused livelihood. In this case, migration served as a *temporary* exit strategy insofar as being a labourer in a factory allowed him to save up enough money to buy a boat so that he could make fishing his primary livelihood. In a sense, migration serves as a temporary livelihood response to support his desired livelihood strategy (fishing). By contrast, Ms. Chany and her entire household left the village for short yet non-trivial length of time. The response to leave the village marked a temporary, yet longer term exit from fishing which was likely in response to fishing not being 'enough', especially if there was a need to service any debt that the household had accumulated. From Ms. Chany's account, the household was doing well in Thailand but was compelled to come back to Peam Krasaop due to security concerns given their illegal status as informal migrants. Given the admission that the household had gone back into debt because fishing was proving to be inadequate, it is very likely that the household would have stayed in Thailand if they were able to afford (both in the sense of monetarily and time) obtaining legal documentation for migrating formally. Finally, in the case of the villagers from Koh Sralao who worked temporarily as labourers in a variety of roles, they all left because of their family's inability to 'get by' with fishing and, relatedly, the need to pay off debt. So, while it is likely some members from their household remained in the village and continued to fish, this was not

enough given the reality of both providing enough for daily needs while also trying to be financially responsible and paying off accumulating debt.

6.3.3 Type III: keep fishing, rely on remittances

Within this category are those villagers who do not necessarily do fishing as their main livelihood but may do some fishing to meet their own dietary needs. Nevertheless, whether they continue fishing to earn a livelihood or do so for subsistence, the outcome is the same: they remain in the village.

In this type of livelihood response, migration is used as a supplement to villager's livelihoods in the form of remittances, while the household head stays in the village. An example of the 'migration as addition' livelihood response can be seen in the life of Mr. Chin, a 63-year-old long-term resident of Koh Kapic (arrived at the village in 1982) who has seven children. Five of them work as workers in factories in Thailand (e.g. chicken processing, automotive, and pharmaceuticals), while two live with him. Recently (at the time of the interview), he bought a boat from the money his children send him. Before this, he worked as a labourer in Thailand on fishing boats (he remarked that he prefers to work on Thai or Khmer boats because it is easier for him versus having his own boat and fishing on his own). Yet another example is Ms. Mour's household, a 58-year-old divorcee living in Koh Kapic whose main livelihood consists of selling goods and certain boat parts, along with managing a 27-hectare coconut farm and shrimp/fish aquaculture pond. Out of her six children, three live in Phnom Penh, one is married with a family, another is studying Japanese, one is a recent graduate, one lives in Siam Reap, and one son and daughter oversee the shrimp farm in the village. Between the income earned from the aquaculture and support from her children, Ms. Mour can stay in the village.

While the above example is unique given that the villager is running an aquaculture operation which is rare in coastal Cambodia, a more typical household in this category is like that of Mr. Chann, a 54-year-old father of seven who has been living in Koh Kapic for over 30 years, almost exclusively as a fisher (mostly catches shrimp). Among his seven children, five live with him in the village but two have left, one to Takeo (his home province) and another, a daughter, to Phnom Penh. In interviewing the daughter, who works as an accountant in Phnom Penh, she explained how leaving the village has made life better, saying, "yes, now I can support myself and send money home almost every month too. When I did not work, for every need, I had to always ask my parents". The remittances sent to her family are crucial given the limited window for fishing and the challenge of supporting a large family as she explains, "yes, they still do fishing, but they do so only during the dry season, in the rainy season they stay home, and they cannot even find 100 riel [2.5 cents]".

Perhaps one of the most poignant instances of the importance and reliance on remittances was during an interview with a husband and wife in Peam Krasaop. They have two daughters who are working at a factory within the SEZ in Koh Kong town. When asked about what key changes they have observed over the 20 years they had been living in the village, they said, "now, we cannot earn enough from fishing, we cannot rely on it compared to the past…[life is] getting worse in the sense of income". As a result, they said, most people "earn money by working in the factory or in Thailand…fifty percent of people from the village have gone to

Thailand at some point, for months or longer". While they did note some positive changes such as concrete walkways (as opposed to makeshift wooden one's), easier transportation (motorcycles), and a close-knit community, the couple indirectly highlighted the importance of remittances, saying "if the factory work was not here, we would starve". In their case, the combination of decreasing catch and the regular cost of fishing has made it so that they must rely on remittances to meet their daily needs. However, there are also other households within this category that have been caught in the cycle of decreasing catch and increasing debt that have had to use remittances to service their increasing debt burden. This dynamic is highlighted by the fact that reliance on remittances predates the factory in Koh Kong town as a 32-year-old villager from Peam Krasaop who works as a policeman explains, "before the factory, parents would send their kids to Phnom Penh and elsewhere to earn income for the family so they could pay back debt".

The above examples showcase the plurality of migration dynamics, exemplify the varying ways migration plays out as a livelihood strategy within households in the coastal fishing villages and the mechanisms (e.g. subsistence-level living; remittances; debt) that facilitate and enable certain households and people to stay in the village.

6.3.4 Type IV: leave the village, as individual or household

Notwithstanding the intra-household differences that exist, one of the proximate factors in people leaving the village stems from the consistent and dramatic decline in marine resources, i.e. the amount caught by villagers, and thus, the amount of income earned. While there was a general perception across all villages that marine resource decline has been ongoing and is the main reason for the livelihood woes of villagers, the degree and magnitude was brought to the fore by what three fishers related to us during our stay in Koh Sralao. Mr. CH, a 51-year-old fisher remarked that in the early 1990s, he had 20 traps which were able to provide for his family and he employed people to peel crab. These days, he gets 10-15 kg/day (at most) from 100 traps. In other words, he has five times more traps, yet catches on average 2-4 kg/day and earns $10-15 per day. Similarly, in an interview with a fisher household (husband, wife, and daughter), they outlined to me how even just three years ago (2013), they could catch 8-10 kg of crab per day. However, at the time of the interview (2016), they were catching 2-3 kg per day. On average, the family was earning $5-6 per day after expenses. In talking about their struggle at making a livelihood through fishing, the family remarked that their main source of stress was sand dredging. In an even more dramatic example highlighting the extent of fishing effort needed, a 30-year-old fisher related in an interview that he lays 600 traps, from which he expects to catch approximately 10 kg of crab. Despite not being an exhaustive quantitative analysis of fishing effort, these cases, along with the consistent anecdotal accounts of declining catch by participants across the villages, reflect and hint at the extent of marine resource decline even in the last five years and highlight the tribulations fishers have had to deal with go in order to make a living.

A group of women who have lived in Peam Krasaop for eight years help contextualize those who leave the village, remarking, "…they need the money that's why they leave the village. If anyone who can earn, who is rich or medium, they don't go". At the same time, there is a risk for those who leave the village. "If they go to work outside…they go far away from the

village…and [if] they are cheated, we feel pity on them because they were cheated. But no one wants to go but because we are in debt, we cannot catch the fish, so we need to go", says one of the women. This was also echoed by a fisher who has lived in Koh Sralao for almost 30 years. Speaking of migrants, he says "the ones who are in debt or not earning enough have left for Thailand, others have moved to Koh Kong town".

By contrast, in Peam Krasaop, there are "not a lot of people leaving the village because the factory is nearby [in the SEZ] and people get transportation by the company" as one villager who is a police officer, mentioned during an interview[91]. He continues, saying that "before the [SEZ] factories, parents would send their kids to Phnom Penh and elsewhere to earn income for the family, so they could pay back debt". Another villager who is a fisher noted a gender division regarding where people go, saying "many women work in the factories in Koh Kong town but come back in the evening and younger men go to the town for school, high school". The fisher also pointed out that "people from villages farther away such as Koh Kapic, Koh Sralao, Lam Dam, and Chui Preah move to Koh Kong town so they can work at the factory" while "others move so their children can go to high school" but that primarily "richer households can afford to send their children to high school". For most people living in Peam Krasaop, migration primarily exists as 'migration as addition' since those who are not engaged in non-fishing livelihoods such as the factory workers, do not need to migrate and can live at home. This is supported by the fact that the village is connected to the town so other opportunities are more accessible (e.g. tourism) and possible (e.g. running a business).

In talking with those that had left the fishing village, in the case of villagers from Koh Sralao, it was most often individual migrants who moved to Koh Kong town and Phnom Penh, which hints at the preponderance of 'multi-spatial' households in the village, in contrast to both Peam Krasaop and Koh Kapic. In other words, one of the hallmark features of Koh Sralao seems to be that households keep 'one foot in the village' and 'another foot outside the village'. The multi-spatial nature is highlighted by Mr. Thoun, a 53-year-old fisher and long-time resident (30 years), and his household. Along with fishing, he builds boats and houses, with these two livelihoods being his main source of income. His one daughter works in Thailand as a labourer, returning to the village to take of things around the house. Meanwhile, two of his three sons have left the village for another province, working as welders, while his other son lives in Thailand working as a small-scale fisher. Through Mr. Thoun, I was able to locate and interview one of his sons, Mr. Plek, a 31-year old former fisher who had moved in 2011 to Takmao (Ta Khmau), the capital city of Kandal province (about 45 minutes outside of Phnom Penh). Having learned welding skills from his cousin, he left Koh Sralao to improve his welding skills, starting initially in an apprenticeship and working his way to a full-time position. When asked why he left the village, Mr. Plek responded, "I cannot catch the crab and the octopus, so I leave…catch a little bit. Fishing now is very difficult". In explaining the catch decline he said, "if the sand dredging continues, keeps going, the fish will be gone because of the loss of the housing [habitat] for the fish and the crab…. if sand dredging continues, the fish and crab will be gone". When we asked him about his decision to leave Koh Sralao, he explained, "I feel like I force myself to

[91] Migration has played a role historically within the village, with people going principally to Thailand.

come work over here because of my poor livelihood [situation]". When he moved to Takmao, expectations did not match the reality of life outside the village as Mr. Plek elaborates, "I expected that I will earn more money, a lot of money, and then I could send the money to support my family, a lot of money. But in practice, it has only been a little bit". The reason, as he says, is "because over here, I earn a little salary and have to pay for the cost of food, cost of living like for electricity, for water, and I can save only a little bit". From Mr. Plek's account, it becomes evident that the main reason for adopting a 'migration as exit' response was because of the degradation of the marine resource base, thereby making it extremely difficult to catch enough fish and crab, and thus not being able to earn enough income to support his family in the village.

While most migrants interviewed were individuals, there were several families that had left the village for Phnom Penh. We discovered this after speaking to Mr. Plek who was able to arrange a group interview with his fellow coworkers who were also from Koh Sralao and had come with their wives and children to work as welders. The families live on site, adjacent to the large warehouse where they work, in modestly sized rowed dwellings made of concrete with a tin roof, featuring one main open living space within each unit (a couple of latrines are located just outside of their building). During the group interview, one former fisher related how, for him, living in Takmao, "it is a bit better because we can have time to relax. But in Koh Sralao, when you work on the boat, you work full-time, you don't have time to rest. Also, here I get the salary that can support my family and, for me, at the sea I work on the boat but a lot of wind and waves, and some people get sick because of the waves [sea sick]". At the same time, there were drawbacks to living outside the village. "A lot of money goes to expenses on food, on the water….in the village, our children can go to school. But living here [Takmao], my child cannot go to school. We have a big school here, but we need to pay…but we don't have the money to send our children private school", explains one of the former fishers[92].

Out of all the three villages, migration was the most "visible" in Koh Kapic. The visual manifestation of migration was made plain during a mid-afternoon walk through the village as we passed several houses with shuttered windows and locked doors. In some cases, we could tell that no one had lived in the houses for some time, indicated by the unkempt area around the house being slowly taken over by natural vegetation. In conversations with the former community leader, we were informed that many of the former households had left the village because of an increasing debt burden and, given the state of decline in catch, a realization that they had little hope of paying back their loan. In this context, some took the risk and ran away from their debt, almost guaranteeing their inability to return to the village. Meanwhile, other households had left for Thailand which held the promise of higher paying, stable jobs, in order to service their debt. In a sense, these situations represent 'migration as exit' and the abandoned houses of Koh Kapic are perhaps the most poignant manifestation of this kind of migration.

[92] In Cambodia, there is public primary and secondary education system which people have access to. However, the quality may vary and so some parents prefer to put their children in private school. In this case, it is unclear from the comment by the migrant whether they are indicating their preference for private school or if they meant to imply that they do not have enough money to pay for school supplies and other related expenses.

Across the group of fishers-turned-migrants, it was clear that the dominant reason for leaving the village was because of the increasing difficulty in catching enough to maintain a livelihood, especially given the recurring expenses (e.g. fuel, gear maintenance/replacement, etc.) and seasonality associated with fishing. This point of observation was confirmed later in the interview when Mr. Plek said, "if there is no sand dredging or cutting of the [mangrove] forest, then there will be more fish, more crab, and when that happens, my parents will call to me [to come back to the village]". However, the likelihood of him being able to do that will be very challenging, given the ecological state of the marine resources. In addition to the risk of exiting fishing in terms of uncertainty and surprise (e.g. increased living costs), another consequence of leaving fishing is that it becomes very difficult to re-enter fishing. As Mr. Plek explained, "I was fishing when I came to Koh Sralao [in 1996] but when I come here [Takmao], my parents sold the fishing gear because no one [else] does fishing". In order to go back to fishing, he would have to buy a boat, gear, and supplies, which would cost about $2,000-3,000 (average boat: $1,000-1,500; boat engine: $500 for brand new; fishing gear: varies but e.g. $250 for 200 crab traps). For other fishers-turned-migrants who have had a similar experience as Mr. Plek insofar as being unable to save much money and considering the high costs of re-entry into fishing, exiting fishing can become a 'one-way street' for many fishers and their households.

Even those that have tried to 'stay' in fishing, partly because that is their only skill, by going to work on larger commercial boats in Thailand have shifted their opinion not only on this option but also on fishing in general. During a group interview in Koh Kapic, one fisher who used to work in Thailand related his experience, saying "I worked as fishermen in Thailand [and when] it was a time for me to come back home…I bought fishing equipment in Thailand and smuggled to Cambodia. And then, Thai police charged me smuggling illegal goods (illegal transport) to Cambodia, then they arrested and took all my money which I have from working on the boat". He goes on to explain how he got the job initially because he knew someone who was a captain on a Thai boat employing Khmer people, but even this was not without its risks, as he explains, "our co-workers told us not to leave from the boat or not to go and visit somewhere in Thailand every time once the boat went to the port to sell the products. I did not dare go out of from the boat at all, because I was afraid that Thai police will arrest me". In the last few years, this risk has become more acute which has made fishers reject the option of working in Thailand, as another fisher explains, "…now, there are no Khmer labourers wanting to go to and work in Thailand because the Thai government reinforce the immigration law [rules], so labourers do not want to go". A woman who's a mother of a migrant fisher chimes in, saying "no, they do not want to work as [fishers] anymore now. Recently most of Khmer labors want to work in factories. Fishing work in Thai's boat is become infamous in Cambodia as risky work. Many of residents do not want their children work as fishermen because they will be at risk and it is hard work". From this perspective, for some villagers, leaving the village is as much about pursuing better, more stable income opportunities as it is about leaving fishing.

Yet others, particularly the younger generation, are electing to leave with village without entering fishing at all. A young male migrant who is attending university pursuing engineering in Phnom Penh noted that one of his motivations for leaving his village (Koh Kapic) was because he did not want to do fishing, saying "…when I studied in Koh Kong town [high school], my father told me if I don't continue my studies, he wants me to do fishing with him. But I did not

want to do it because it is something that is very difficult and in the rainy season, you cannot do fishing". His father, meanwhile, in the rainy season shifts his livelihood activity to repairing or building boats and catching crab in the mangrove estuaries. Often this is precarious, as his son states, "sometimes, it is enough, sometimes not. It depends on if people ask him to fix the boat or build the boat…if only few people [ask], then he has difficulty with his livelihood". This point shows how even alternative livelihood options for some villagers are 'made possible' or are connected to the success of fishers. If they do well and thus have surplus income, they are able to hire boat builders/fixers or others in areas ancillary to fishing. Reflecting on the future of villages like Koh Kapic that dot the coast of Cambodia, the young migrant thinks that out migration from the village will continue if marine catch does not improve. "If the situation continues, fishing in the future, the catch will decrease and then many people will continue to move out of the village. So, before when I was a child, there was a lot of fish and crab to catch and then many people from the uplands moved to the coastal village but now we catch less and less and people continue to move away from the village", he says in a lamenting tone.

For those that leave the village, many have not completed higher education which can pose an obstacle for getting employment "because there are a lot of requirements now at the workplace for office work, you need higher education" so most work in manual labour, e.g. in a factory, construction, landscaping, etc. The reality of this was echoed by a young male migrant, a university student, in Phnom Penh when we asked him what the future holds for others who are of his age in the village. He they start fishing around 11 to 13 years old and, among his friend's parents, they "don't encourage them to learn [go to school] because of their poor livelihood situation that is why most of them don't go to higher education". For others who do strive to get an education, "some of them fail the exam and cannot continue their studies or cannot pass their high school exam and they return to their village and continue to do fishing". In a sense, the social expectation or need, depending on the household's livelihood condition (and/or arguably, responsibility) to do fishing expressed by some young villager's parents act as barriers to leaving the village.

In both Koh Sralao and Koh Kapic, migration exists as either 'migration as exit' or 'migration as addition'. While it is difficult to discern exact figures without a comprehensive quantitative assessment, indications from the qualitative data suggest that migration as exit was more commonplace. This reflected, on the one hand, the geography of the village (i.e. only reachable by boat) which necessitating leaving the village, and on the other, the challenging livelihood circumstances that face the household. As an aside, it is important to point out that for most coatsal villagers, migration was not seen just as what people did within the village, rather, it was part of their *own* story and history as well. As one villager in a group interview said, "we have already relocated to this area…", highlighting the fact that most people across the three villages likely migrated to the village from elsewhere. As such, leaving the village is equally a response to the difficulty in making a living as a coastal fisher and a part of their 'history of mobilities'.

6.4 Final thoughts

Going back to the opening passage from Marschke (2012) at the beginning of this chapter and taking stock of my findings, the emerging trend of households leaving because they could not "maintain their lives in the area" has only become more prominent and widespread, particularly for Koh Sralao and Koh Kapic. In terms of where they go, the three primary destinations of migrants are Koh Kong town, Phnom Penh, and Thailand with the prevalence varying depending on the village. Most of these migrants are employed in low-skilled wage labour jobs (with minor exceptions, e.g. welder, accountant) in Phnom Penh, which had the most diversity in the kinds of occupations, and Thailand; in Koh Kong town most migrants were working in one of the factories in the SEZ.

Looking across the three villages, there were some children—mainly males residing in the capital—of fisher parents who made the difficult choice of continuing their post-secondary education instead of helping their parents with fishing. These teenagers and young adults did so for many reasons and had varying motivations but a central one across both groups in Koh Kong town and Phnom Penh was witnessing the dramatic decline in catch and, as a result, their parents struggling to support the family. This was not a future that they wanted for themselves and many believed that the trend of declining marine resources was not going to change soon. In these cases, migration was not an exit strategy for the household per say but was more individualized yet largely permanent. Households as a whole migrating was only observed in a select few cases and not common. For other villagers—primarily females in Koh Kong town—migration acted as an addition to the existing household livelihood strategies being employed. For these women working in factories, migration was largely temporary and seen as a crucial opportunity to support their family. As for what happens when they go back to the village, some envisioned starting a business in the village to support their family (e.g. tailoring, sundry goods shop), although the actual outcomes remain to be seen. By contrast, most migrant women in Phnom Penh envisioned staying there for at least the medium if not long-term. As a livelihood strategy, remittances from migrants were used to either contribute to their family's daily spending needs, home improvement (e.g. renovation or rebuilding), and/or to pay off accumulated debt (largely as a result of fishing-related expenses). In sum, what these cases show is that 'migration as addition' and 'migration as exit' exist on a continuum rather than as neatly defined choices or options for households and that migration as a livelihood response itself is treated differently depending on contextual factors specific to each household. For some, migration serves as a stopgap measure while for others it is a vehicle for offering better livelihood outcomes, and potentially altogether new futures, compared to fishing.

In responding to the question posed by Marschke (2012) at the start of this chapter and comparing the life of people who stay versus people who leave from the three villages to those who have left the village, it is clear that whether you are a fisher, fisher-turned-migrant, or a young adult looking beyond fishing, it is very difficult to 'make it', regardless of which one you are. However, there are a select few who manage to do so in Cambodia like the female migrant from Koh Kapic who finished post-secondary education and was working as an accountant or the male migrant from Koh Sralao who was working as a *tuk tuk* driver in Koh Kong town while his wife worked at a restaurant. By and large, however, they were the exceptions rather

than the norm. The reality of life both in the village and outside of it is that it is tough—but not impossible—to 'make it' both as a fisher in the village and as a migrant in Koh Kong town or Phnom Penh.

While environmental (e.g. sand mining) and socio-economic factors (e.g. wage labour opportunities in Koh Kong town and the capital) can help to explain and contextualize out-migration of villagers, it is also important to get an understanding of the *social implication* migration may have. In other words, while identifying drivers of migration are important, there is also a need to get a better idea of the affective and subjective impacts this kind of demographic change is having. This is the focus of the following chapter.

Chapter 7: Livelihoods, migration, and social wellbeing

7.1 Introduction

The premise for understanding migration, livelihoods and social wellbeing of coastal villagers who leave and those who stay is partly rooted in observations made of fishing communities around the world, which show that, for fishers and fishing communities, fishing is more than 'just' a means of earning an income but rather an "intrinsically rewarding activity in its own right—a desirable and meaningful way of spending one's life" (McGoodwin, 2001, sec. 2.5). Sometimes, fishers choose to continue fishing despite netting meagre returns on their activities (R. B. Pollnac & Poggie, 2008). In these cases, especially the latter, neoclassical economics (cf. Harris & Todaro, 1970 in a migration context) and its 'utility maximizing' analysis is inadequate to explain and understand fisher responses and the livelihood dynamics observed in small-scale fishing communities in general. In attempts to understand this paradox, explanations that have been provided via empirical studies point to the subjective and affective relationships that fishers form to fishing itself, the fishing community/village, and the importance of place (Biswal, 2015; R. B. Pollnac & Kotowicz, 2012; C. White, 2018).

In speaking to the above research but also going beyond it, this chapter will be divided into three sections. The first will focus on the intersection of livelihoods and social wellbeing to understand how this relationship is manifested across the three fishing villages in coastal Cambodia. The second will bring in the migration piece and analyze the effects migration has on the social wellbeing of migrants, contrasting it with villagers who remain in the village. Within both sections I will connect my findings with extant literature on social wellbeing and small-scale fisheries to show how a social well being lens can contribute to a more nuanced understanding of the tensions, trade offs, and social dynamics at play among coastal fishing households and individuals.

7.2 SSF livelihoods through the social wellbeing lens

Since there are many similarities across the villages in terms of livelihood dynamics, this section will combine coverage across all three villages and is organized according to the three dimensions of wellbeing and will analyze how they are impacted—both positively and negative—while pointing out any points of distinction between villages (if applicable). A summary of the differentiated impacts on the material, relational, and subjective wellbeing for villagers is presented in Table 16. The influence of the three dimensions on wellbeing are divided into three categories: positive, negative, and positive or negative. For material wellbeing, the positive influence related mostly to assets (e.g. money saved; fishing gear; house; remittances) and infrastructure (e.g. electricity and freshwater). Unsurprisingly, much of the positive influences on material wellbeing were directly tied to the success of fishing. In line with this, the negative influences were focused on declining fish catch, gear loss or theft, and increasing fishing-related expenses along with environmental changes brought about by shifting weather patterns and sand mining. Collectively, this contributed to rising debt, an oft-mentioned negative factor on material wellbeing. Microfinance was viewed either as positive or negative, depending on individual perspective. For villagers that perceived a positive influence, they viewed microfinance as an essential resource for supporting their fishing-related or regular household expenses, especially after a difficult, less bountiful dry season. Villagers who viewed microfinance negatively were often those most dependent on it or carried a high debt burden in general.

Table 16. Differentiated impacts across material, relational, and subjective wellbeing for villagers.

Influence	*Material wellbeing*	*Relational wellbeing*	*Subjective wellbeing*
Positive	- Saving money in dry season - A lot of fishing gear - A 'good boat' - No debt - Motorcycle - 'Nice house' - Remittances from migrants - Reliable supply of freshwater + electricity	- Good relations with family members + local/provincial government - Living with family - Household members working together - Good leadership at village level	- Not being lazy - Autonomy in method of earning a livelihood - Strong motivation - Identity attached to village (as 'hometown')
Negative	- General marine resource decline, i.e. lack of sufficient income - Fishing-related expenses - Sand mining - Climate/weather pattern shifts - Gear loss/theft - IUU fishing - Debt - Water insecurity	- Lack of cooperation and sharing of ideas among households - Ineffectual local leadership (e.g. village chief)	- Feeling 'stuck' in the village - Bad attitude (lazy; negative; unmotivated)
Positive or negative	- Microfinance - Geography (proximity to Koh Kong town)	- Having a large family	- Control over one's living - 'Giving hope' to fish or the factory - Sense or level of 'freedom'

Meanwhile, geography, i.e. the distance villages were to Koh Kong town, played a positive or negative role, depending on the village. For Peam Krasaop, geography positively contributed to villagers material wellbeing due to ease of access to key services (medical clinic; school; factories) while for Koh Sralao and Koh Kapic, it had a negative influence on material wellbeing because villagers there did not have easy access to essential services.

Villagers emphasized fostering and building a sense of community and good relations from the household to government level as areas that positively shaped their relational wellbeing. Conversely, a lack of cooperation, mistrust or mismanagement among household and local village officials negatively affected their relational wellbeing. Villagers were divided in whether having a large family was an overall positive or negative determinant on relational wellbeing. Some said that having 'more mouths to feed' can create a financial hardship, especially on households who struggle to earn enough from fishing. In contrast, others said how having a larger family was a net benefit as there were more 'hands on deck' (so to speak) to help with fishing-related labour activities and thus, improve efficiency and potentially catch numbers.

The main differentiating factor for subjective wellbeing that determined whether the influence would be positive or negative revolved around a person's attitude. If a villager was motivated, did not succumb to laziness and felt a strong sense of autonomy in how they earned their living (i.e. fishing), then their overall wellbeing benefited from these characteristics. By contrast, if a villager had a 'bad' attitude, typified by being negative, lazy, and unmotivated or if they felt 'stuck' in the village, these had a negative bearing on their wellbeing. Control over your living either positively or negatively influenced wellbeing, depending on the degree to which a villager felt that they had control over their living.

7.2.1 Material wellbeing

The material wellbeing of a typical coastal village household ebbs and flows and lately this has taken on a cyclical nature. Normally, a fishing household would be able to catch enough fish in the dry season and save money for the rainy season, during which time most cannot engage in fishing in the open sea (due to danger of storms, waves, and unpredictable weather)[93]. They would also have some money put aside to attend to fishing-related expenses (e.g. gear repair, buying new gear such as nets and crab traps, boat maintenance, etc.), in time for the start of the dry season. More recently, this dynamic has changed. A dramatic decline in catch of fish[94] has, in turn, led to decreased incomes, most prominently over the past five years. Meanwhile, the need to pay for provisions during the rainy season and fishing-related expenses has stayed the same. And in some cases, expenses for fishing have *increased* because less fish are being caught by the same 'amount' of gear that was used in the past. Consequently, fishers have had to buy more gear, as one fisher in Koh Sralao explains, "…before this activity [sand mining], households could get 5 kg/day minimum but now 2 – 3 kg/day and they have to use more traps/gear than before".

Being dependent on natural resources and the natural environment, villagers are acutely aware how their material wellbeing is directly dependent on, and connected to, the mangrove and marine ecosystem. As one villager in Koh Kapic said, "I enjoy that I can get food and firewood easily; easy to find and use trees to build a house". Across all three villages, fishing is responsible for improving material wellbeing but also, paradoxically, can be the source of its deterioration. A fisher in a group interview explains this saying, "the income from fishing is the most significant for any household in Koh Sralao. It is because it is the only source of money for most of us and can allow us to buy clothes, provisions, household goods, everyday needs, and pay for all of the supplies for the family". In other words, the material wellbeing for most villagers is tightly tied to their fishing outcomes. The same fisher later on in the interview pointed that "…we noticed that the number of sea natural resources is sharply declining, and it has really affected our livelihoods because we can't save as much money as before, so most households borrow money from microfinance [institutions] to buy things for members to meet family needs". Indeed, debt and declining catch were the two major interrelated factors that affected material wellbeing across the villages, a point emphasized by a villager in Peam Krasaop who observed, "because the

[93] During the rainy season, depending on the household, some income is earned through selling goods, catching crab within the mangrove forest or selling one's labour (in Koh Kong town, Phnom Penh or Thailand)

[94] Attributed to various factors such as increased fishing pressure (i.e. more fishermen fishing than in the past) and sand mining.

people here cannot catch enough fish or crab and cannot earn enough money, some of them borrow money from microfinance institutions". Another villager, Mr. Sopharin, a 30-year fisher from Sihanoukville, who had been in Peam Krasaop for only a year echoed this point, saying:

> "fishing-related expenses can be high, for example, repairs for nets can cost $150 per month. Some families earn daily and spend daily so there are no substantial savings, therefore, when there is a large expense such as repairing nets or boat, they do not have enough money and must borrow more [money]"

In other cases, becoming a fishing household itself can bring on debt, as a woman in Koh Sralao explained her family's arrival to the village, saying:

> "Koh Sralao made us borrow money from the bank… we owe the bank because we relocated [to Koh Sralao] and at the beginning, we had no jobs, so we needed money to buy boat, fishing tools, and buy boat engine".

Though not the norm, for some who had assets, their material wellbeing needs were being met so they did not have a desire to leave the village, with one of those villagers stating, "I have property here, land and a farm so I have a lot of things in the village". In a sense, it was clear that being able to survive in Koh Kapic was possible, however, being able to have savings (an important prerequisite for supplementing reduced livelihood earnings during rainy season) had become less likely. One fisher who had been living in the village for 20 years remarked that making a living is "better for certain families (those who run other business); not better for others (80% of residents)".

Over the past five years, often the gap between income earned and what is needed for households is being filled by loans. Being a relatively recent addition to the pre-existing loan options available to villagers (i.e. middleperson or moneylender)[95], microfinance has become both lauded (e.g. for its lower interest rate) and criticized. On the one hand, it can be argued that the availability of such loans has proved to be instrumental for enabling many fishers to continue fishing and thus, meet the needs of their (and the household's) material wellbeing, at least for the short term. On the other, in the long term, this has resulted in significant, often crippling debt burdens because fishers are unable to earn (and crucially, save) enough money to cover their basic needs let alone their loan payments. As a result, in some cases, fishers seek out loans from other microfinance institutions to pay for fishing-related expenses. In perhaps an extreme example, one fisher remarked during an interview that some fishers use loans from one institution to pay the loan from another. In the context of decreasing catch, this has fueled a cycle of poverty and debt, leading some to feel trapped, as one fisher in Koh Sralao explained during a group interview, "…we felt that we are in a trap because we must borrow money from the bank, microfinance, money lender, and middleman every season. 90 percent of the resident in Koh Sralao owe money to the banks". In conversing with the commune chief, he validated

[95] While traditionally, fishers and households would obtain loans from a middleperson, many have shifted away from them, and towards microfinance institutions because of more favorable interest rates and better terms. For households with little to no collateral, however, loans via a middleperson remains the only option (borrowing from neighbours and family is also an option but even here, interest is charged).

the characterization of microfinance institutions being both good and bad to material wellbeing, stating how "residents need to spread out their businesses—they need to buy boat, engines, and other fishing equipment to catch fish. But some families who have failed [at doing well]—their livelihood will get worse and worse. But others who succeed—they will say thanks to the banks".

A group of fishers in Koh Sralao raised two other important factors affecting the material wellbeing of fishers, namely the amount they are paid for their catch by the middleperson and IUU fishing. The first factor can be understood in the context of the capital-intensive nature of fishing and the uncertainty of how much fishers will catch. Detailing one example of the expenses associated with fishing, one fisher says, "my wife bought 200 crab traps. It cost 250 dollars and I can use them for three months only—after that period we will sell it to [metal] scavengers. I cannot fix it". On top of the regular upkeep and purchasing of gear, because of declining catch, fishers have had to buy more traps to catch enough, as one fisher in his 50s noted, "it has really effected my livelihood when it sharply declined like that. You know! I could not save much money as before. In the dry season, we need to save money as much as possible with the purpose of keeping it for use in the rainy season".[96]

This decline in fish stocks has a trickle-down effect on the material wellbeing of other villagers as well, including those who are not fishers. A villager who has been living and fishing in Koh Sralao for thirty years explained, "for fishers, their earning potential has been affected but this also affects others, for example, people who run restaurants. A decrease in income for fishers means that they will not spend on eating out or on other non-essential expenses". In this way, individual and/or household material wellbeing is connected to, and can affect, the material wellbeing of the whole village which is itself tied to the marine resources that play a central role in material wellbeing outcomes for fishers.

For villagers in Koh Kapic, in addition to "sea natural resources…declining from year to year", as one resident reiterated, water security concerns were also impacting the material wellbeing of villagers. At the time of our visit (2016-2017) regions across the country were facing a prolonged dry season which were leading to shortages in fresh water supplies, as the village chief noted, saying "you know, nowadays Koh Kapic's residents are facing water shortages. Water shortage is the main issue for them. The livelihood of residents is getting poorer and poorer because they are spending more money on buying water from outside. Some years, they even can't even buy water from Koh Sralao because the water supply from there is not enough for their needs". While acute water security exacerbated by larger shifts in climate contributing to drought conditions is a significant factor, the lack of availability of domestic freshwater resources in

[96] Typically, a fishing household would be able to catch enough fish in the dry season and save money for the rainy season when most cannot engage in fishing in the open sea (due to danger of storms, waves and unpredictable weather). During the rainy season, depending on the household, some income is earned through selling goods, catching crab among the mangroves or, in some cases, selling one's labour (in Koh Kong town, Phnom Penh or Thailand). They would also have some money put aside to attend to fishing-related expenses (e.g. gear repair, buying new gear such as nets and crab traps, boat maintenance, etc.), in time for the start of the dry season.

general[97] puts great stress on the material wellbeing of households by diverting hard-earned money from other pressing areas (e.g. fishing-related expenses) into meeting this essential need.

In addition to the stressor of decreasing marine resources (and thereby, catch) and environmental change are the more acute shocks such as gear loss and/or theft. For some fishers, this has been a persistent issue within the village, although just how widespread the issue is was not clear. However, we did discover that for some fishers if it happens multiple times, it can be a catalyst for them to stop fishing given the substantial financial cost such an event represents, as was the case with the fisher turned tuk tuk driver from Koh Sralao. For example, if the previous dry season yielded meager returns, it is likely that the fisher would have to borrow money from a microfinance institution or moneylender to be able to afford to buy any gear or other fishing-related expenses for the new fishing season. Thus, not only is the main asset that is used to earn their livelihood lost, which prevents them from earning an income, but also, they are left to pay a debt with little to no remaining means with which to repay it (depending on when during the dry season this happens). While sometimes gear loss can be accidental (e.g. a fisher inadvertently driving their boat over an area where another fisher has place stationary fishing nets), another contemporary cause of gear loss is connected to sand mining operations. As one female villager related during an interview about her own experience, by conducting their operations in the surrounding area of Koh Sralao, sand mining operators ended up hauling her crab traps and other fishing gear onto their boats. When she confronted the operators, they offered her petrol as compensation, however, the value of gear lost and damaged was far higher. Combined, gear loss/theft and sand mining have a very acute negative impact on the material wellbeing of many households and put further strain on livelihoods along with meeting basic everyday needs.

Geography can also have an impact on material wellbeing outcomes. For instance, residents of Peam Krasaop highlighted that being physically connected to the town enabled access to important services (e.g. hospital/clinic, market), and jobs, both key contributors to material wellbeing. A poignant example of the relationship between geography and material wellbeing outcomes was highlighted during an interview with a woman who had moved to Peam Krasaop from another village so that her children could attend school. Explaining this, she said, "we live nearby the hospital, the clinic, and the school so it is easy for children to go there. And the younger women—they can go to work in the factory nearby". In some cases, people arrived to the area because of the advantage of being close to things important for their material wellbeing, as woman in Koh Sralao explained during an interview with her family, she said, "[we] wanted to live in Koh Sralao because it has close access to school and market…not the same as my hometown [Tropeang Roung]".

In explaining the factors that contribute to the material wellbeing of someone living in the village and, thus, 'living well', a villager in Peam Krasaop outlined what he thought was important: "having no debt; having a motorbike and nice house; understanding each other, that is, members of the family have good relations; reliable supply of water/electricity; and school and healthcare

[97] Many households have adapted to the lack of freshwater sources by installing rainwater catch systems around their house, although such a system does little to help during unusually dry weather periods such as droughts where little rain falls.

center close by". In a separate group interview, participants said, "a person is well if they have a lot of property and a lot of fishing equipment", while another fisher remarked that a person can live well in the village if they "have two to three children working in a factory". When asked what is needed for a person in the village to do well, a husband and wife replied, "[what is needed is] not have Thai boats come and fish in our area. The government should stop sand dredging; and people should not be indebted to the banks" while also highlighting the importance of having "good relations with the government", going on to explain that the former governor of Koh Kong province "would visit and help address community issues such as illegal fishing" but that the new governor is not as supportive or helpful.

The pursuit to improve wellbeing underlies the actions and behaviours of coastal villagers I spoke with across the three villages, and in their case, this relies on the exploitation—and importantly the health—of natural resources (marine fisheries). Similarly, McGregor, Morelli, Matsuoka, & Minerbi (2003) highlight how for indigenous Pacific Islanders, human wellbeing is often synonymous with the health and status of natural resources and draw on an ecological model of wellbeing to assert that "a healthy ecological system is the foundation for a functional economy and social system that can sustain a high quality of life for its residents" (p. 108). Reflecting on human wellbeing in fishing communities, McGregor (2009) outlines how the need to cater to and support wellbeing through fisheries differs between people both in what they perceive as wellbeing and the strategies they employ in achieving wellbeing. He goes on to argue that conflicts in fisheries (e.g. gear theft or access rights) can also be better understood as conflicts between the wellbeing strategies of some fishers over those of others. Indeed, this was something that played out in various ways across the three fishing villages in Koh Kong. For instance, a fisher using destructive or illegal fishing practices is likely thinking first and foremost for providing for the material wellbeing of himself and his family, which, given the strategy chosen, is in direct conflict with other fishers whose material wellbeing will be compromised, perhaps not in the short term but certainly in the long term. In the case of Peam Krasaop, Koh Sralao, and Koh Kapic, overfishing and illegal fishing were two specific issues that were raised by villagers that compromised their material wellbeing. Both can be better understood by analyzing the motivations of the way people exploit natural resources. The most poignant example showcasing this was during a group interview with male fishers in Peam Krasaop when one of them said, "…the stomach is the most important, more than any other thing. So, some people force others in the family to work 'for the stomach'". Indeed, understanding the motivations behind the way fishers exploit a fishery in the pursuit of their wellbeing can provide a foundation for developing effective mechanisms and structures of fisheries governance (Charles et al., 2012; J.A. McGregor, 2009).

The struggles across households for improved material wellbeing outcomes has led to some households responding to their challenges by diversifying their livelihoods. For coastal villagers in Koh Kong, this started over a decade ago (Marschke, 2005) and from my observations has now become standard practice for the households that are able to do so. In addition to being reported in other coastal communities (Blythe et al., 2014; Deb & Haque, 2016; Hanh, 2011), these 'rural pluriactivity' (Salmi, 2005) responses within small-scale fisheries at the microlevel are also connected to the broader challenges posed by the global fisheries crisis (FAO, 2016). This has spawned research looking at how households are responding to challenges on their

material wellbeing. For instance, some of this has been focused on how fishing communities are adapting in the face of environmental change writ large (Coulthard, 2008; Jarre et al., 2013; McCay et al., 2011; Sievanen, 2014) while others have investigated how climate variability and change impact fishers livelihoods at the household and community level (Badjeck et al., 2010; Sarker & Hossain, 2012; Savo et al., 2017). At the same time, there is an inherent limit to livelihood diversification when you consider that villagers in Koh Sralao and Koh Kapic, two remote and relatively isolated villages, have very limited livelihood options outside of fishing. Not to mention, those that exist also indirectly rely on fishing (i.e. people having income to buy sundry goods or porridge, etc. from sellers). The limited options within the coastal fishing villages of Koh Kong echoes what Symes, Phillipson, & Salmi (2015) assert (albeit in an European context), namely that flexibility within coastal fisheries is declining while building such a case by providing evidence from a Global South context.

Once the material wellbeing needs cannot be met solely through marine resources, households across the three villages must rely on external sources to support their material wellbeing or borrow money, like many villagers I spoke with emphasized during interviews. Over the past five years, often the gap between income earned and what is needed for households is being filled by loans provided by microfinance institutions[98]. It can be argued that the availability of such loans has proved to be instrumental for enabling many fishers to continue fishing and thus, meet the needs of their (and the household's) livelihood, at least for the short term. However, in the long term, this has resulted in significant, often crippling debt burdens because fishers are unable to earn (and crucially, save) enough money to cover their basic needs and their loan payments. As a result, in some cases, fishers seek out loans from other microfinance institutions to pay for fishing-related expenses (one fisher remarked that some fishers use loans from one institution to pay the loan from another). In the context of decreasing catch, this has fueled a cycle of poverty and debt that can be difficult for many, if not most, households to get out of.

On this last point, my conversations with villagers and observations on the microfinance landscape echo and speak to what has been reported by others within the contemporary literature on microfinance in Cambodia where microfinance is being used in concert with migration to meet immediate consumption needs of households (Bylander, 2014, 2015b). The trends with respect to increasing debt burdens observed among coastal fishing households contributes to supporting the rapid and alarming rise of debt levels among rural households across the country and how the increasing prevalence of microfinance institutions in the countryside has exacerbated indebtedness leading to 'the Cambodian debt trap' (Samnang, 2019). However, there has been a paucity of work speaking to the coastal Cambodia context and specifically looking at coastal fishing communities—a demographic that my research contributes to within the broader literature on microfinance in Cambodia. While there were no comprehensive household surveys conducted across the three villages, the qualitative data from interviews and the consistency with which several villagers (including the commune chief) spoke about both

[98] While traditionally, fishers and households would obtain loans from middlepersons, many have shifted away from them, and towards microfinance institutions because of more favorable interest rates and better terms. For households with little to no collateral, however, loans via middlemen remains the only option (borrowing from neighbours and family is also an option but even here, interest is charged)

the prevalence and extent of the number of households that have taken on debt via microfinance institutions supports the conclusion that access to and use of formal credit among rural Cambodians has become widespread, even to far-flung places such as these coastal villages.

However, in contrast to observations by Bylander and Hamilton (2015) among coastal fishing households, the prevalence of labour migration was not associated with greater access to formal credit per say, but rather the general debt burden, regardless of the source, and its severity which was directly linked to the ability (or lack thereof) of the household to catch enough to cover fishing expenses and still come out ahead. With the state of the marine resource base progressively deteriorating, this situation put many households in the position of taking on debt to fuel the continuation of fishing while deploying younger members as labour migrants in Koh Kong town or Phnom Penh whose remittances either went to supporting everyday household expenses or servicing the debt, depending on the household. This finding not only adds an overlooked but important demographic (coastal fishing households) within the literature and debates on microfinance in Cambodia but also contributes to, and perhaps complicates, our understanding of the relationship between debt and migration by emphasizing the importance of paying attention to both the context and reasons households are being pushed to increasingly use microfinance options and take on increasing debt burdens. In other words, greater access to a newer form of credit (microfinance) does not necessarily explain migration behaviour given that in places like coastal Cambodia, there have historically been other sources of credit (e.g. local moneylenders), albeit the terms and interest rates of such loans have been less desirable, which has pushed households to favour loans from microfinance institutions after their entrance into coastal fishing villages. Overall, this shows just how different coastal communities are compared land-based rural households (i.e. those engaged in farming) with respect to natural resource dynamics (i.e. marine resources) and the capital-intensive nature of fishing which predicates a distinct relationship between capital, resources, debt, and migration behaviour.

Altogether, it is clear from the above accounts from people across the three villages, both fishers and non-fishers, that the nature of the relationship between livelihoods and material wellbeing is highly connected, with feedback loops (e.g. declining catch and debt), and is influenced by ecological and social factors, such as marine ecosystem health, environmental change, and fishing behaviour.

7.2.2 Relational wellbeing

The relationships villagers and have and value for living a 'good life' (i.e. relational wellbeing) (S. White & Ellison, 2007) can be intertwined with the state of material wellbeing in different ways. One of those is how it impacts intra-household relations, as a group interview with women in Peam Krasaop revealed. A woman noted that "when the husband can catch the more fish, I feel happy. For me, I feel angry or frustrated when my husband cannot catch anything because then I don't have enough money to buy food and give some money to the children to buy food when they go to school". This point was validated by a male fisher who said in a group interview, "for me, I need to go do fishing every day, I cannot miss it. If I miss any day, then my wife will insult me". The increased tensions between a husband and wife because of poor material wellbeing conditions are more likely when the children are younger, particularly when there is not enough money to support the children (e.g. school fees or supplies). However, as their

children get older, they can contribute to the household's livelihood by assisting with fishing or fishing-related activities. In other cases, when they cannot earn enough money, particularly if they are trying to pay back loans, tensions arise between the spouses. At the most extreme, this can lead to separation, as one woman says, "some of them get divorced because they don't have enough money to pay back the loan…and have conflict between each other". Such accounts highlight the importance of having and maintaining healthy social ties between members and within the household overall and its connection to material wellbeing. Despite the challenges, some villagers choose to stay because they want to be close to their family, as one fisher in Peam Krasaop notes, "I want to stay here because I want to be close to my family. I can do some fishing, enough to support my family… if we go outside of the village, then our children, our wives they stay here, they will have difficulty living alone". These accounts reveal an important aspect of the relational component of wellbeing wherein villagers exert agency and 'act meaningfully' (Coulthard et al., 2014) such as the wife who exercises her agency as the (traditional) primary caregiver of the household which shapes the expectations she has of her husband vis-à-vis his fishing productivity. Meanwhile, this impinge on the agency of the husband who feels compelled to go fishing. From his point of view, it is clear how people exercise agency or are restricted from doing so is shaped by relationships with others in the course of pursuing wellbeing. In other words, the relational wellbeing lens shows how relationships with others, both formal in the case of marital relations and informal, govern what the 'coastal poor' can do (Bavinck, 2009).

Moreover, since fishing is labour intensive and involves many facets, the more people that can assist with fishing-related activities, the more efficient the overall fishing operations can be. For example, in our walks through the villages, we often saw younger children helping organize fishing nets into neat piles ready to be used for the next trip or assisting in sorting what had been brought in from a recent fishing trip. As a result, coordination and cooperation among and within households are signs of positive relational wellbeing and support outcomes beneficial to material wellbeing. This point was made by a fisher during a group interview in Koh Sralao who said, "…some families who have enough members in their family to work in fishing and have good materials (fishing tools) enjoy living and fishing at Koh Sralao because they can get a lot of income per day". In a similar vein, villagers in Koh Kapic noted that if "family members work together and are not lazy" a person can do well. In contrast to Koh Sralao, villagers from Koh Kapic said that a person is not doing well if they are "having many children because it equals more expenses which makes it hard to save money". Thus, by understanding the way villagers both view and feel about relationships within the household helps to further unpack the degree of control people perceive they have in transforming their resource access to further wellbeing outcomes. For households that have difficulty borrowing money, social ties were essential to supporting their material wellbeing, a point highlighted by a male fisher who said, "…or families who are unable to borrow money from banks, they will need their relatives or friends who have enough requirements [assets, capital] and asked to borrow from them, for families who could not borrow".

Relational wellbeing at the wider community level is also important, exhibited by cooperation and strong leadership, both at the provincial and local level. A fisher couple in Peam Krasaop pointed out the importance of having "good relations with the government", going on to

explain that the former governor of Koh Kong province "would visit and help address community issues such as illegal fishing" but that the new governor is not as supportive or helpful. The erosion of relational wellbeing was voiced by villagers as among the challenges to their material wellbeing. A former community leader who has lived in Koh Kapic since 1979 relates, "after 2008, the community faced leadership setbacks due to deaths of the commune chief and a senior community leader and since then there has been more conflict within the community since the leadership has changed. Meanwhile, other good leaders have moved to Koh Kong town and Phnom Penh [for better livelihood]". In attempting to further understand this situation, we met and spoke to the village chief of Koh Kapic. Villagers mentioned that the village chief holds meetings infrequently and that there is no culture of sharing of ideas and support. The village chief, when asked about this said, "I not create meetings often because people are busy or are not interested except for meetings that involve getting something from NGOs, for example". He mentioned that NGOs have created a culture within the community of solutions coming to them from the outside and when some do not follow through or take a long time, the villager's loose interest in engaging which creates an atmosphere of complacency. This, in turn, has affected relations between villagers insofar as people do not share ideas with each other and are less likely to collectively solve problems. Regarding cooperation, a fisher from Peam Krasaop points out that there has to be an "alliance within the community to be established. Right now, people in the community don't help each other much". Both cases show how poor relational wellbeing within the community or the leadership of the village can be detrimental to the material wellbeing of villagers. Indeed, having strong community leadership and cultural traditions can support people's relational wellbeing, for example through community cohesion and unity, and enable fishers to come together and act against shocks and stressors on their livelihood (e.g. Gillam & Charles, 2018 in the context of an environmental disaster).

In outlining the importance of relational wellbeing's contribution to living well overall, a fisher from Peam Krasaop noted the need for "the husband and wife to understand each other, with no one accusing; for them to try and earn income together (and save for their children's future, for example, school fees)". In Koh Kapic, a person can do well if they "have a good leader in the community who is competent and can give advice or suggestions, sharing ideas and encouraging others to do the same", as one villager noted. Going further, another villager in the group interview said that the village should be a "sharing community (of information and ideas) and… new livelihood options for women e.g. new skills training… a good leader of the community, a hard worker".

These accounts collectively touch upon an important point related to the conceptualization of relational wellbeing and wellbeing overall. Within approaches to understand wellbeing, there can be a reliance on Western values that emphasize individualistic principles that free the individual from social norms and expectations and focus on self-affirmation and achievement as indicators of wellbeing. By contrast, Indigenous cultures and those in Southeast (and East) Asia such as Cambodia, place an importance on the collective where "responsibility for the fulfillment of social expectations of the community or society, rather than the individual, is the priority" (McCubbin et al., 2013, p. 355). While this may be true in a general sense, among the three coastal villages explored here, both individualistic and collective dimensions were present with

inherent tensions between the two that emerged via the relational wellbeing lens. In terms of villager's actions, for example, when it comes to fishing, many acted in what could be described in an individualistic manner, with a focus on themselves and their immediate family's material wellbeing. Yet, when asked to describe a person 'doing well' in the village, villagers emphasized the importance of the collective and the responsibility of village leaders in bringing the community together.

In weaving together the perceptions of relational wellbeing for coastal people across the three villages, there are clear commonalities that emerged, which, either directly or indirectly, impact material wellbeing: i) the importance of maintaining good intra-household cooperation and harmony; ii) using social ties to extended family and villagers to borrow money; and iii) building trust and having strong community leadership.

7.3.3 Subjective wellbeing

Both material and relational wellbeing can combine and interact in varying ways to ultimately affect subjective wellbeing, which is understood as a person's life experience and their own evaluation of their quality of life (Diener et al., 2009). The way this occurs can vary on an individual level and often is delineated by the role a person has in the household (e.g. wife, husband, son, daughter), although there were key commonalities that emerged across the villages. For instance, in speaking about being in the village, women in Peam Krasaop said that they are "losing time and losing the opportunities by staying at home and not doing anything". Such feelings of 'loosing out' were tied to limited income-generating opportunities outside of fishing within the village, particularly for women who may be too old to work in factories or have obligations of being a caretaker for family members. In addition, the sentiment embedded within such statements is that some women do not feel that they are providing enough value as a result of feeling constrained within the village.

Material wellbeing outcomes also have a direct impact on subjective wellbeing insofar as feeling in control and having choices in one's life. This relationship was explained in an interview with a woman in Peam Krasaop, during a lean period within the dry season, she said, "right now, we have less control over our living, but when we catch more, then we have more control" since the income earned allows them to spend on the areas important to their material wellbeing. Fishers meanwhile had their own perspective on this, explaining that one of the benefits of fishing was that it allows them to "have control over ourselves, and we can control what we do…without having anyone to manage us, we can work freely". While the autonomy that came with fishing and thus, meeting their material wellbeing needs, generally contributed positively to their subjective wellbeing, this was not a simple or straightforward relationship. The downside to the autonomy so valued by some fishers was that it required a person to be self-directed and disciplined. In a group interview with fishers in Peam Krasaop, some of them said that they "want to go to factory, because when going fishing, sometimes we feel lazy, sometimes we fail to go… because no one is controlling [managing] us and sometimes we don't want to go fishing out of our own volition". From this we see that certain aspects of subjective wellbeing (e.g. motivation) can affect how other aspects (e.g. autonomy) are perceived and experienced.

In addition to feelings of control and having choices, the notion of 'giving hope' also became a running theme within subjective wellbeing. In speaking about the households who have someone working in the factory, a fisher in Peam Krasaop says, "some people give their hope to the factory, to get stable income" while another villager discussed it in the context of microfinance institutions, saying, "[villagers] increasingly rely on the banks and microfinance. 10 years ago, people did not give their hope to the bank". 'Giving hope' can be appreciated when considering that the state of fisher subjective wellbeing is tied to, and dependent on, their material wellbeing. A young fisher in Koh Sralao alludes to this, saying "…during the time I lay my traps overnight, I do not sleep well and worry about my traps being stolen. But other times, when I catch…lots of crab in general, I am very happy". This closely connected feedback loop between subjective wellbeing and making a decent living was reiterated during an interview with a wife and husband in Koh Sralao when they were asked why they did not move back to where they came from (Kandal province) after it had become difficult for them to make a living in the fishing village. They said, "we just waited to see other years coming, maybe everything was going to get better, sea natural sources increase following year, but we have been doing that all the time until now…[we, and people, in general] give their hope to the fish and crab". When asked how they felt, they said "we feel like we are in trap every day, because we are stuck in this place. Anyways, I can't hand this guilt to someone else because no one forced us to come here. And the rumor was true at the beginning, there were a lot of sea natural resources". Here we see how the state of material wellbeing (e.g. deteriorating livelihood conditions) can affect subjective wellbeing where notions of 'giving hope' are portrayed in a negative context. The relationship between material wellbeing and subjective wellbeing is also captured by a male fisher during a group interview with fishers in Koh Sralao, who when they were asked if they enjoy fishing, said:

> "…not really, we all don't really enjoy fishing or enjoy living in this community because sometimes we feel bored in doing fishing, but we have no other option to do anything else, no skill, no start-up funds and no place to go… we feel that we are in a trap because we must borrow money from the bank, microfinance, money lender, and middle [person] every season."

This sentiment was reiterated by a group of women in Peam Krasaop when discussing the relationship between income and having choices wherein one woman said, "…we have no choice if we don't have the money. Because we don't have the money, we don't have choice. We can only do fishing". Such sentiments, which were observed across all three villages run counter to the prevailing narrative within the literature on job satisfaction in marine and estuarine fisheries which paints an arguably overly romanticized view of fishing, specifically that self-realization, self-actualization and satisfaction with 'doing fishing' prevails above other factors (Fernandes, 2012; R. B. Pollnac et al., 2001). From listening to coastal Cambodians, it's clear that there are fishers obtain a certain level of satisfaction from fishing due to the autonomy and entrepreneurial aspects, this is not homogenous or the norm. Many, if given the option of an alternative, would leave fishing if they could but point to feeling 'trapped' due to debt, lack of marketable non-fishing skills, or lack of opportunities outside of the village. These observations mirror that of what Trimble & Johnson (2013) found among artisanal fishers in coastal Uruguay and southeastern Brazil. They noted that fishers are moving into different occupations or

supplementing their work in fishing with other employment. Artisanal fishers from both areas identified fishing as undesirable occupation for their children because they believe it will not be viable long term.

For many, the fulfilment of subjective wellbeing that comes with fishing (e.g. sense of autonomy over one's life) is superseded by more immediate material wellbeing needs. Being 'your own boss' as a fisher and the sense of freedom that comes with it is "…not as important as our stomachs" as a group of fishers from Peam Krasaop noted. The point was reiterated by a husband and wife from the same village who remarked how some parents "force their children to work" because "the stomach is the most important, more than any other thing". Sometimes, villagers have gone to extreme lengths 'for the stomach'. In speaking with a group of fishers that had left Koh Sralao to go to Thailand to work temporarily as labourers on a Thai fishing boat, one of them said, "it was really difficult and hard to work in Thailand because [we] did not have much freedom if compared to our country. No matter what you are right or wrong, you have no right to do something against the orders of your boss". Despite this, they felt that it was 'worth it', stating that even though "physical strength [demand] was difficult because we had to work hard, but [dealing with] depression was not difficult because we enjoyed earning income". Despite making such difficult choices and enduring hardship, the experience was not something they would recommend others do, a point underscored when one of the fishers commented on being back in the village, saying, "yes, I am happy, I am a fisher now, and I can catch crabs to get income". What this account reveals is that the main *motivation* to take the risk and work in Thailand was rooted in improving material wellbeing as the fisher emphasized that earning income was what they enjoyed despite feeling depressed, and thus, their decision was not based on any subjective attachment to the occupation.

Related to this, others pointed out that a villager's attitude towards their livelihood also played an important role in overall wellbeing outcomes. During a group interview in Koh Sralao, a villager explained that "having a saving attitude or mindset and someone who is responsible with their money" is important to do well while another said, "we differentiate people who are doing well from those not doing well based on attitude". Moreover, the importance of a 'good, responsible attitude' was raised where, "everyone in the household is not lazy, for example there are five or six people but only two or three work…they use their money properly and responsibly and think of the future…compared to wasting money by gambling". Partly, what these accounts show is the diverse range of attitudes that can be present within one village or group of people in how they view living well and fishing in general. In other words, not everyone, especially fishers, sees fishing as 'enjoyable' and many do not 'choose' to do it insofar as they feel like they have no other option given constraints that are shaped by geography (i.e. being on an island with fishing as the primary means of earning income), debt, and a lack of connections beyond the village.

Through the social wellbeing lens, we can see how fishers and households in coastal villages navigate, temper, and value the various dimensions of wellbeing, sometimes prioritizing one (e.g. material; relational) over the other (e.g. subjective). Often, this can involve making what Coulthard and Britton (2015) point out, in the context of Northern Ireland's fishing families, are 'hard choices' and trade-offs for fishing households as they navigate decisions on adapting to

the challenges to their livelihood. In the case of coastal Cambodia, this can involve certain people choosing (and negotiating) to migrate and leave the village.

7.4 Migration through the social wellbeing lens

Looking at the experience of migrants through the three dimensions of social wellbeing allows for an appreciation and understanding of how they prioritize certain dimensions over others, navigate 'wellbeing trade-offs', and which dimensions underpin them leaving the village. Note that, given the similarities that arose, migrants in Koh Kong town and Phnom Penh will be discussed together.

7.4.1 Material wellbeing

The deterioration of material wellbeing, at both the individual and household level, was a driving force behind many of the migrant's decision to leave the village. For the SEZ workers in the factory outside of Koh Kong town, they migrated to improve their household's economic outcome, and for many, this was the first opportunity they had to be able to earn income or have a job. "I have to earn more money to help my family. My family cannot earn as much income as before", said one 19-year-old SEZ worker from Koh Sralao. Those fortunate enough to pass the exam and get employed at one of the factories within the SEZ have the peace of mind since "working in the factory is a stable job, we get salary every month", the young SEZ worker notes. However, as Horlings and Marschke (2019) point out, those who work in the SEZ, along with the households they come from, view the employment as a temporary strategy to provide income and among the women they interviewed, the average time spent working at the SEZ was 1.5 years. The short-term tenure is a result of the age limits adopted by the factories as part of their hiring policy which can work in tandem with the life course of a typical young Cambodian woman to limit the likelihood of long-term employment. For example, the age limit for one of the factories is 25 years old while for another it is 27 years old. At some point during their employment, if a young woman were to have a child, for instance, by the time they are able to return to work, they may be beyond the age limit and are thus very unlikely to get re-hired.

For those who are not qualified to work in the factory (either too old if they are women or are men), they try their luck in other areas such being a labourer in the construction sector. Such was the case with Mr. Siyeth and Ms. Srey, a husband and wife from Koh Sralao village who left because they "didn't have much fishing equipment, no boat or gear". However, despite migrating to improve their material wellbeing, Mr. Siyeth admits, that life in the town is "difficult… I stay here in a rented house. And they [the employer] cannot pay me the salary on time and that is unstable, and so I do not trust them. The work is not regular, and the pay is not on time". He continues, highlighting the importance a stable income is for meeting material wellbeing needs and how this, in turn, affects his subjective wellbeing, saying "[being paid] on time is one of the most important things for me and other workers. Because otherwise you will feel trapped. When I do not [get paid] on time, I do not want to work like this and be in this kind of situation". While Mr. Siyeth waits for his regular salary, he gets piecemeal work from other construction bosses because "they feel pity on me… but the pay is not that high". He does this two to three times a week, earning approximately 30,000 riel per day (~$7.50) to make ends

meet, saying that "if they continue to pay on time and give me a bit higher [salary], then I will stay and not move [back] to Koh Sralao". Unless you're a worker in a factory, the struggle to 'make it' as a migrant and improve your (and/or your household's) material wellbeing is not easy.

In that sense, from experiences such as the one above, out migration from the villages to Koh Kong town or Phnom Penh is ostensibly 'pro-poor' (Bylander, 2017) which counters prevailing understandings within migration studies, namely that the poorest of the poor are *less* likely to migrate than those with greater resources (Castles et al., 2014). In the coastal Cambodia case, as in the case outlined for international migration (Cambodia to Thailand) by Bylander (2017) and others such as Molyaneth (2012) who notes that migration from rural areas consists of "a pattern dominated by the poorest and poor households" (p. 49), the people who leave are those in the greatest need to improve their material wellbeing.

While many migrants struggle to improve material wellbeing outcomes, some can pivot and transition to a new life that allows them to address their material wellbeing needs. For instance, one migrant shared his journey of having started out as a labourer in Koh Kong town only to later abandon the job, and eventually becoming a *tuk tuk* driver. Reflecting on his previous job after leaving the village, he says, "working as a construction worker, it takes a long time to get the salary. And I have the experience with that, it took a long time to get money. And when my wife or child [would get] sick, I do not have money. My boss kept me waiting until end of the month to get money". Contrasting that to his second job, he notes "…as a tuk tuk driver I can earn money everyday. And so, the money I earn can pay for everyday need. So, I am not waiting. And my wife also earns money [working as a waitress at a restaurant], she can keep the money for spending on other needs". Overall, his material wellbeing has improved since moving out of the fishing village, as he explains, "I feed like my livelihood is getting better and working here is easier than in Koh Sralao. It is close to the market, close to school, and close to hospital. And the money is more stable than working in the village".

One of the barriers facing migrants, especially male migrants, in trying to improve their household's material wellbeing was a lack of skills outside of fishing. As the fisher-turned-tuk-tuk-driver notes, having skills beyond fishing is important. While he laments his own lack of skills outside of fishing, he uses his experience as an example, saying, "…I have no specific skill. Before I used my labour as a construction worker. But as a tuk tuk driver, no new skill is needed and not much [physical] effort is required. And you get money every day. You earn the days you work. For a construction worker, you probably work 15 days in one month but you need money every day for expenses so that is the issue with that kind of work".

How migrants view migration and living in the city reveals how strong of an association there is between their destination areas and material wellbeing. "Living here [the city] is only good for making profit and studying", a young male migrant outside of Phnom Penh says candidly. While he initially moved to the city to go to university, his pursuit of higher education came at odds with his family's poor material wellbeing. As a result, he dropped out of university and ended up taking over running his aunt's mobile phone shop to earn money and support his family in the village. This case is a prime example of the kind of tough choices that some migrants are faced with making. For this migrant, the acute material wellbeing needs of his family

ultimately superseded his pursuit of higher education, which in the long term, would have benefitted both his and his household's material wellbeing. In describing the dilemma, he says, "[in] Koh Sralao, everyone wants to continue higher education but because of their [poor] livelihood, they cannot catch enough fish, less than before and cannot make a profit. And some of them stop studying because they [the parents/family] don't have the money to support the children for higher education".

For migrants who were fishers, getting a consistent wage gave them some semblance of stability for their material wellbeing outcomes. A migrant working as a welder alongside four others from Koh Sralao in Phnom Penh explains, "I get a salary that can support my family…we get daily money, every day and every month. It is not much money, but we can support ourselves". A related material wellbeing outcome of moving to the city is having access to a variety of goods, along with regular income, as one migrant explains, "over here [Phnom Penh], I like that I can get everything that I want. So, when I have the money, I can buy anything I want. In Koh Sralao, cannot buy things that I want to have". At the same time, the drawbacks to living in the city are the associated higher costs, as he continues, "living here, a lot of money goes to expenses on food, and on water but in the village, we stay with the family, we have enough food from the fish that we can catch". Even though the city contributes to improved material wellbeing outcomes in terms of income, in other aspects such as health, it is attenuated compared to the village, as the migrants explain, "…in Koh Sralao we have the sea, fresh vegetables, and no chemical. But here a lot of chemicals in vegetables". When asked to reflect on their life in the city versus in the village, the group of migrants say, "living here we get a job to do, we get a salary to support our daily living. So, in the village, we have difficulty working. If there are many fish, we will return to our village".

On a broader level, these accounts reflect two important points. From a macro perspective, economic and labour shifts along with demographic trends (see section 2.8) over the last two decades in Cambodia have acted as significant structural forces that are (re)shaping the lives and life course of rural young people in Cambodia. In outlining these trends Peou (2016) notes how through a combination of a decline in the agricultural sector, a doubling of the labour force, and young people (ages 15-29) being overrepresented in the rural-urban labour transfer has translated to labour migration to the city becoming a "desirable or practical passage from school and/or unpaid family work into paid-working life…whereby [a] transition to adulthood often means migrating work" (p. 179). The second is that urban jobs, even though they are labour-intensive and sometimes dangerous, have become evermore appealing compared to the hard, demanding physical work of fishing. Much of the motivation is rooted in improving material wellbeing conditions for migrants and their households which is contributing to a "culture of migration" (Massey et al., 1993, p. 452) becoming the norm in contemporary Cambodia.

Lastly, the improvement of material wellbeing via migration was also gendered insofar as moving to the city represented the possibility of earning income for women who otherwise were not able to in the village, a point also separately observed by Horlings and Marschke (2019) who interviewed SEZ factory workers, some from Koh Sralao, in Koh Kong town. Of course, this also occurred in the capital as well. As one female migrant who works as a hairdresser and makeup artist in Phnom Penh says, "…in Koh Kapic, nothing is better than Phnom Penh

because over there, the women cannot earn income. But in Phnom Penh, women can earn income". Another female migrant from another village working in the capital echoed this, as she said, "when I got the job here [in Phnom Penh], I am more stable, I get a stable salary. In Koh Sralao, not stable. Most of the time, I would not be earning anything". The desire, either expressed explicitly or implicit, to experience 'modernity' in material and discursive terms served as a strong motivation among young women migrants, an observation buttressed by Derks (2006) in her in-depth ethnographic study of young women migrating from rural Cambodia to work in Phnom Penh. Indeed, women's (particularly unmarried women) mobility out of the coastal village mirrors what their mainland rural counterparts were doing a decade ago, a trend that was explored in Derke's (2008) book *Khmer women on the move: exploring work and life in urban Cambodia*. Like the women she interviewed, young women from the coastal villages are not simply subjects controlled by macroeconomic forces of capitalism or trapped by restrictive customs. Instead, they are, in some ways, charting their own path and making their own decisions (no doubt a process of negotiation within the household) that allow them to move between both geographic and social spaces while, at the same time, attempting to fulfill their personal aspirations in addition to their family obligations and duties as defined by cultural ideals. In so doing, they are part of a growing group of young Cambodian women (see Brickell, 2011b for Siem Reap) challenging the *Chhap Srei* (Code for women), a set of normative poems which consist of a mix of Buddhist principles that outline appropriate and inappropriate behaviour in Cambodia for women (and men, although this side is less focused on) (Luco, 2002).

In sum, while migrants in Koh Kong town and Phnom Penh leave the fishing village to ostensibly improve their material wellbeing, it is not without its challenges and trade-offs. Those who move to pursue higher education do so to 'invest' in the future of their/their household's material wellbeing but can sometimes face challenges in finding a means to pay for their school fees. Even if they can find a way to support their studies, they are also faced with accepting the fact that they cannot play a role in meeting the acute material wellbeing needs of their family. At the same time, migration can empower certain individuals, namely young women, to exercise their agency in improving their and their household's material wellbeing while subtly bucking traditional gendered and cultural norms and expectations. This last finding in particular contributes to ongoing discussions (see Bylander, 2015a) around the importance of investigating gendered processes of migration and 'contested mobilities' that result from those who chose to migrate.

7.4.2 Relational wellbeing

Overall, social ties played a pivotal role for most (former) villagers. Relational wellbeing and material wellbeing were closely related for many migrants insofar as strong affective bonds and ties to family were linked to seeking an improvement in material wellbeing in the first place. This was most evident in the case of the SEZ migrant workers in Koh Kong town, as one young woman states, "I work to support my family too, my parents are old and they can't fish anymore, so I have to work to support my family". Incidentally, the group of women started out as school friends in Koh Sralao and would let others know of job openings at the factory, "yes, we would call to inform them [of job openings]", as one migrant explains. In Phnom Penh, the mutually reinforcing nature of material and relational wellbeing were also evident in the words of the five

families from Koh Sralao living and working in Phnom Penh, "we work here in order to get the salary that we send back to our families in order to support them". When asked about the difficulty of working away from the home, one young female migrant working in a factory said, "Yes, it is really hard for us to work away from home. We have not much freedom, work almost all day and don't have much time off. But we have to do that in order to support our family. This was echoed by her sister, who said, "yes, I agree with my sister I have to come along with her to work to earn more income otherwise the money [earned] is not enough for my family's expenses". Related to this, the importance maintaining their relational wellbeing also influenced *where* some migrants sought work. Asked why they did not seek work at factories where there was higher demand such as Phnom Penh, the group of SEZ workers said, "…because [working in Koh Kong town] is close to the village, it is easy to go and visit the village". For this group of young women migrants, and others like them from coastal villages, choosing to work in the coastal town shows that they are trying to find a balance between maintaining a certain level of relational wellbeing (i.e. choosing to migrate to as minimum of an extent as they can) insofar as being able to visit their family during their time off or on major holidays, while attempting to improve their household's (and their own) material wellbeing.

Relational wellbeing can also play an important role in enabling villagers to leave the village. In the case of a migrant husband and wife from Koh Sralao, their migration out of the village was facilitated by another migrant who had been working as *tuk tuk* driver in Koh Kong town and was a former neighbour in the village. As they tell it when asked about how they knew of the job opportunity in the town, they said, "Mr. [Name redacted], the tuk tuk driver, told us about the opportunity for construction work". In their case, having the 'right' connection was also important before they landed jobs which took "five or six days" during which time they stayed at the *tuk tuk* driver's house. The expectations of improvement in their material wellbeing (i.e. increase income) was shaped by others that they knew, as the husband said they expected to earn more money in the town "…because of my neighbours. Regular or not regular salary it depends on your boss. If your boss knows many investors [to get construction contracts], then you will have stable and regular job. And my neighbour had experience like that, so it was regular for them". The importance of social ties can also be important *after* migration. During the time he was waiting for his salary from his main construction job, the husband used his social connections to get part-time work, saying "I know other construction leaders…if I have to, they will let me work with that person [on a team]". The experience of the *tuk tuk* driver underscores the importance of social ties, as he explains:

> "…it is really useful and beneficial for households that want to move out of Koh Srolao if they know a lot of people outside. Good connections are important. Before I lived in Koh Sralao, I worked as a construction worker in the town. And those people gave me the idea of doing other business, like driving tuk tuk. […] And it made it easy for me to move [back to Koh Kong town]. And for some families who don't have many connections, they don't want to move because they are not comfortable with the new place and there are more risks".

He goes on to highlight how an obstacle for migration can end up being related to inadequate social ties, saying "…for others in the village, they want to move but they do not have good

connections". Similarly, for a young migrant going to university in the capital, his social ties played an important role in catalyzing their decision to migrate, as he says, "yeah, because I had more friends [in Koh Kong town], they gave me advice, and that made me want to continue my studies". While most migrants to either Koh Kong town and Phnom Penh primarily utilized their social ties, e.g. via social capital, in obtaining information about job opportunities or securing them, one female migrant to the capital recounted using a broker to obtain a job. Living out of her employer's house where she makes noodles, starting work before dawn so they are ready to be sent out to shops by early morning, she says, "I knew someone, and they invited me. I contacted someone who works to find jobs for other people. I paid them 20 dollars to get this job, since they helped to get me this job. But now this kind of service is more expensive, they charge about 50 dollars". In such cases, villagers are utilizing aspects of their relational wellbeing and material wellbeing to support migration efforts. Indeed, the use of brokers is widespread across Cambodia, although they tend to be used more frequently with international migration, costing between $100 to $150 (Middleton & Un, 2017). In this migrant's case, most likely the broker was either from the community or surrounding area—according to Seng (2016) there are two types of Cambodian brokers involved in migration facilitation, those who act as recruiters in the village (these can be village heads, other villagers, or former workers) and those who act as border crossing guides.

Even for those that left temporarily and had come back to the village, social ties were still important. When asked how they found brokers to help them get a job in Thailand, a group of villagers in Koh Sralao said, "we knew them through other villagers and neighbors". The same group also said social media facilitated social ties and being aware of important news and issues such as fisher's treatment onboard Thai vessels, noting that such news was "accessed by social networks like Facebook, Line, Twitter, and Tango or Talkitalk etc. But ten years ago, those cases were buried to the ground and sea [i.e. unheard of] because of there were no social networks". Meanwhile, a villager in Koh Kapic said households who fare better are those "who got help from their relatives, have specific goal (plan to get job before moving) and have start up funds to prepare for new places which they are going to live and work".

While social ties were important for leaving the village, migration also had a negative impact on relational wellbeing for migrants since they were no longer living with their family and in their community. "I miss my brother and sisters", said the wife of a migrant in Phnom Penh; "I miss my mother and younger siblings", said a male migrant in the same group. A young migrant studying in the capital remarked, "in the village, I lived with my parents, so we had meals together as a family, but here I am far away from my family". In addition to the household, negative impacts to social wellbeing as they relate to a sense of community were also raised, as one migrant working in Phnom Penh said, "in Koh Sralao, I know the people over there, I know everyone, and it is easy for us to talk with each other and communicate. Like when we want to get a job, we just ask in the boat and can get a job easily as a worker in the boat. But coming to Phnom Penh, I don't know anyone…here, I am missing my family, we used to live together, the whole family". Reiterating and lamenting the lack of social ties, an engineering student in the capital says, "…in Phnom Penh don't know no one person. When I come here, I don't know lots of friends". Building on how living in the village was associated with higher relational wellbeing compared to living in the city, a male migrant working as a landscaper in

Phnom Penh says, "in Koh Sralao I enjoyed living with friends, relatives and its location. The people in the countryside are more kind than people in Phnom Penh, not selfish". The comparison of people in the village versus those in the city was echoed by another migrant who said, "when I want to make any business or selling to the villagers in Koh Sralao, they are very honest. We trust each other, no cheating. Not like in Phnom Penh". The desire to be near family and to the village is also expressed by migrants pursuing higher education. In one interview, a university student migrant in Phnom Penh said, "after I finish my studying here, I might go teach somewhere nearby Koh Sralao or in Koh Sralao".

Migration can put a strain on social ties between members of the household and migrants in terms how it affects relational wellbeing for both those who stay in the village and those who leave. "It [migration] affects my relationship with my family because they are in Koh Sralao, my parents worry about me more than when I was staying with them in Koh Sralao. They are calling to check how I am. Recently, it has not been safe, because a lot of robberies have occurred in my area". This quote from a young Cambodian migrant living in Phnom Penh captures the effect migration has on relational wellbeing, in this case being away from parents and their concern, and the trade-offs that come along with leaving the village for migrants. The corollary is also true as well, a fact highlighted by Ms. Mony, a female migrant in Phnom Penh who said, "I want to live in Koh Kapic because I want to live near my family, with my family. I worry about them. For example, when they go fishing, I worry about their safety. Living here, I always call to check up on my parents to see if they return from fishing or catching crab". When asked if there are any other reasons she would go back to the village, she responded, "only that one reason, I want to live with my family". Such accounts highlight the tough choices migrants and households in general face in navigating the journey to improve material wellbeing and how such a goal can be at the detriment of important aspects of their relational wellbeing.

7.4.3 Subjective wellbeing

Thus far, understanding migration through the lens of material wellbeing and relational wellbeing has shown how the state of the latter (e.g. having connections) can improve the former (e.g. getting a job outside the village) but it has also revealed how some migrants accept the weakening of familial ties, for example, as a 'price' worth paying for the sake of improving their household's material wellbeing. Complimenting these insights, subjective wellbeing can show how the importance of attitudes, perceptions, expectations, freedom, and a sense of place shape both the migration experience and the lives of migrants.

For certain migrants, their attitude played an influential role on their subjective wellbeing. As one female migrant said, she felt that she had "no other choice, only coming to Phnom Penh to find a job to get money" and when asked what she would do if she had some money saved, she replied, "I don't have hope that I will have more money". So, on the one hand, she felt compelled to migrate but, on the other, she was not holding out hope to improve her material wellbeing. Asked if she liked her job (hairdresser), she said, "I do not like it. I want to sell something. I want to get a place and sell something and then my family can stay together. And then I will have more free time". From her description of her current circumstance, it is clear she values autonomy and being 'her own boss', similar to what some fishers referenced in terms of the positives about being a fisher, and how this would enable her to meet her relational

wellbeing needs by being with family. Her story underscores the importance of understanding the woman migrant not simply as autonomous and rational but instead "constituted through a range of intersection, sometimes competing, forces and processes, and as playing agentic roles in these processes" (Silvey, 2004, p. 499). In this case, there are competing forces of material and relational wellbeing, the latter which compel her to get a job in Phnom Penh as a hairdresser even though this has a tangible negative impact on her subjective wellbeing (i.e. she does not enjoy the job). Meanwhile, her desire is to be able to exercise her agency and work for herself and be in a position that allows her to be with her family opposes more immediate material wellbeing requirements.

Similarly, a female migrant in Koh Kong town working at the SEZ shared her wish to run a make up shop from her home and when we asked her if she thought that was something that could happen in the future, she replied, "I have not much hope on that plan and I don't think it will happen in the future. It is up to my destiny, if I can marry a clever and smart husband, with a good job, it will happen; but if it isn't like that it won't happen". However, in contrast to the migrant woman in Phnom Penh, she puts her hopes on running her own business on finding and marrying a 'smart husband' who could support her in achieving her goal. These two accounts of migrant women from the coastal villages shows how the aspirations manifested and carried by the act of migration are embedded in relation to social norms and expectations (Carling & Schewel, 2018) and how post-migration aspirations and desires must be, for some Cambodian women at least, negotiated vis-à-vis gendered roles of care, duty, obligation, and traditional gender norms (see Brickell, 2011b).

In speaking to aspirations, this parallels those who stay in the village, namely, how people are 'giving hope' to the fish/crab or others 'give their hope' to the factory. In the case of the migrant, she is 'giving hope' to destiny or fate which hinges on marrying a well-off man. In sharing with us what her goals or hopes were when leaving her village, she said, "I had many goals when I decided to leave from Koh Sralao. I wanted to save a lot of money, wanted to have a large house and I wanted my siblings to get higher education too". Speaking in past tense shows that, when she left the village, she held high hopes or expectations on how her material wellbeing would be improved, only to be confronted with the reality and challenges associated with their new life in the city—a sentiment several migrants alluded to (e.g. balancing new expenses and saving money). When asked about her overall wellbeing, Ms. Mony a migrant in Phnom Penh from Koh Kapic says, "I am not so happy. I need to have a lot of responsibility, to help support the family and so I cannot save for my own self, so I'm not happy". Her experience highlights the tensions and trade-offs between the three dimensions of wellbeing some migrants make, in this case subjective and relational wellbeing being negatively impacted in the pursuit of improving her household's material wellbeing. More importantly, viewing the stories of these migrants from a subjective wellbeing lens allows a recognition that even ostensibly economic-oriented narratives of migration are social constructed and can only be fully understood in relation to the subjectivities of migrants, their states of being and feeling, and the affect this has across space (i.e. migrant destinations and receiving areas) and specific life courses (e.g. single, married, young, old, etc.).

In addition to aspirations and desire, another theme that arose at several points across the group of migrants, both in Koh Kong town and in Phnom Penh, related to notions of 'freedom'. However, how freedom was viewed was highly subjective and differed even within the same group of migrants. In the case of the group of SEZ workers in Koh Kong town, when asked how they feel about their newfound freedom, they said, "…we have more freedom to make friends, go for a walk or do something else". During another interview with two sisters who work in one of the SEZ factories, they contrast their freedom allowed by living in the city with that of living in the village, saying "…we have more freedom to go wherever we want [in Koh Kong town], but in our hometown when we want to go somewhere, we need to ask permission from our parents first". For the group of former fishers working as welders outside of Phnom Penh, during an interview with them and their wives, one migrant said "…living here, it's a bit better because we can have time to relax. But in Koh Sralao, when you work on the boat, you work full-time, you don't have time to rest". Meanwhile another migrant saw it differently, noting that in the village they

> "have more freedom. Here [Phnom Penh], not a lot freedom because we work as workers, as labourers […] If we have work, at the time we need to work we have to go according to the work schedule. We have the break only during the lunch time. So, when we work for someone, it is not good as working for ourselves. When we do our fishing, we can stop at any time, we can relax. But here we need to follow the working hours".

These experiences show not only how gender plays a major role in how migrants feel with regards to their 'freedoms' but also how even within those of the same gender and occupation, subjective wellbeing outcomes can differ. The comments by the male migrants also underscore the high value placed on agency that comes with being a fisher where a person is in command of their own schedule and can choose when to go fishing and when to not go. This in stark contrast to wage labour where a person is expected to work a minimum number of hours with prescribed breaks or time off (e.g. weekends or a specific day of the week such as Sunday). Even for those migrants that are not working and instead, are studying, they can feel like they have less freedom, as a university student notes in an interview on his campus, saying "I feel that in here [the school grounds] I have less control, I cannot do anything that I want. I have to ask permission from the school. For example, during lunchtime, I can go out of the school premises, but I cannot leave after 6 pm". Of course, these restrictions are in place by his school for safety and security considerations, but they, nevertheless, are a strong contrast to life in the village and affect his subjective wellbeing. The variations in migrant's experiences impacts their sense of freedom and highlight the nuances and complexity of attempting to understand subjective wellbeing dimensions related to migration outcomes.

Subjective views on fishing as an occupation and the fishing village as a place also shaped and influenced decisions on whether to migrate. Related to this, there were two themes that emerged in talking with (former) fishers and migrants: boredom and place identity/attachment. When asked if they still would have moved if it was not for the help of a former village resident, a husband and wife working as construction labourers in Koh Kong town replied, "I would still move because I feel bored working as a labourer on the boat". Migrants meanwhile mentioned

their impressions of fishing, for instance, two sisters who are SEZ workers in Koh Kong town spoke from their experience of living in Koh Sralao village, one of them said she "really feels bored with idea to work as fisher…[I would rather] do something else like run a drinks shop or sell things on land, it is better than working as fisher". Her sister follows up, saying, "I really wouldn't go to work as fisher, it is hard and boring work". In the first case, it was clear that the former fisher was bored with fishing itself when you consider that he was still a labourer as a migrant but in the construction sector and that his view of fishing influenced his decision to migrate. For migrants who were never fishers, but still had exposure to fishing by living in the fishing village, they find the occupation unappealing, especially in contrast to other kinds of work that involve far less labour but still come with a sense of autonomy (e.g. shopkeeper).

Nevertheless, fishing can form a core part of identity, an aspect highlighted by White (2018) within the rural coastal communities in Norfolk, UK where the fishing identity of the village is being defended by fishers and those who value the fishery with tensions over place identity arising between this group and 'newcomers'—local residents with aspirations for economic development. For villagers in Koh Kong, their identity was attached to the village place itself, as one says, "even though they are wealthier than here, I won't relocate because this place is my hometown". There were also sentiments of contentment, because "…so many of residents, they prefer what they have. Hometown is much better than other because we grew up here, got education, got married and we have many memories at Koh Kapic. I won't relocate from here to another place even if someone build a new house for us". Several villagers spoke of the village as their 'hometown', some using the strong feelings of attachment as the basis for them staying, as one 61-year-old fisher says, "no matter what happens to me, I won't abandon this site because I always regard this place as my hometown". A male fisher in Koh Sralao echoed this saying, "I have never dreamt to live outside too because this community is my hometown. And I have no other skill besides fishing…not many Koh Sralao residents wanted to relocate; most of them always regarded Koh Sralao as their hometown". In this instance, the importance of the village being their hometown is contrasted with the acknowledgement that fishing is the only skill that they possess. Several villagers brought up the fact that they felt that Koh Sralao is their hometown where they have spent a long time which is why they will not leave. The extent to which this value was held highly correlated with age as the majority of villagers who expressed this sentiment were older (50+ years), as highlighted by one 66-year-old female villager, who agreed with her friend in a group interview, saying "Yes, me too I won't move to another place, I will set up my life until I die in Koh Sralao because I am old". One villager in Koh Kapic estimated that out of the whole village "60 percent of residents seek a job outside the village and 40 percent still work in the community. The residents who still stay in the village, most of them are the old and the very young". Commenting on recent trends and supporting the view that the village is viewed as 'hometown' primarily for the older generation, another villager said:

> "recently, young girls living in the area most of them are seeking jobs outside villages. They work as garment workers in Phnom Penh, at the center of provincial town [Koh Kong town] and work in restaurants. In the future, I think Koh Kapic may have only the old who live permanently".

The sentiments captured by these villagers is in line with what has been observed elsewhere. In the introduction to a special issue within the *Social Indicators Research* journal on job satisfaction in fisheries in the Global South, a central theme that the authors note is that fishers who reported not being interested in leaving fishing as an occupation scored higher on the three job satisfaction scales (basic needs, social needs, and self actualization). In contrast, those who said they would leave fishing for another occupation tended to be younger, have less fishing experience, and were from small households (Bavinck et al., 2012).

Across the villages, people often cited debt and employment as the reasons for people leaving. In contrast, those who leave point to the need to provide for, and support, their family either as non-traditional breadwinners (i.e. children of parents who remain the village) or as head of households themselves, as in the case of the four former fishers turned welders living outside of Phnom Penh (in Takmao). The different reasons given between the two groups (villagers and migrants) shows how different dimensions of wellbeing come to the fore, depending on the perspective taken. For villagers, the reasons given to explain people leaving the village relate predominantly to material dimensions (e.g. debt or employment, i.e. need to earn income). For migrants, the reasons for leaving are connected to either material or relational dimensions.

Likewise, their subjective wellbeing is impacted by the act of migrating and living outside of the village. To appreciate the complex migration pathways and the negotiation between the three dimensions of wellbeing, we can consider the life of Mr. Ratin, 30-year old fisher in Peam Krasaop. At the time of the interview (2016), he had been living in the village for one year but had first moved ten years ago and stayed for three years. Initially, he was drawn to the area because of information he heard from his relatives who told him that Peam Krasaop is a good place to be a fisher (his uncle was already there and had some land, which Mr. Ratin leased). When he arrived from Sihanoukville, he could not afford to buy his own boat and gear and there were no microfinance options available at the time, so he worked as a labourer on other boats but was not able to save much money. Thereafter, he went to find work in other provinces and ended up working as a labourer doing construction work in Ratanikiri province. During this period, the main priority for Mr. Ratin was to improve his material wellbeing and this is what influenced his decision to, on the one hand, migrate to Peam Krasaop in the first place, and on the other, leave the village for a more economically promising opportunity. In the end, he chose to come back to the village in order to be close to his mom and his uncle. During the interview, Mr. Ratin said that he did not want to come back to the village because his only option was to do fishing but felt that he had to so that he could look after his family. In other words, his material wellbeing aspirations were superseded by the importance, and influence, of relational (i.e. social ties) and subjective (i.e. sense of responsibility) wellbeing. While Mr. Ratin goes fishing, his wife works in the factory within the SEZ, earning about $220 per month including overtime. Asked about if life is better or worse now, he says "things are getting worse, compared to Kratie. I owe money to microfinance because I borrowed $800 to build my house and before that, I used moneylenders in the village to get loans". Thus, there has been an overall negative impact on his material and subjective wellbeing because of his decision to move back to the village, but at the same time, the importance of being responsible and supporting his family (tied to relational wellbeing) has taken precedence.

Even though some fishers may be leaving fishing as an occupation themselves, on a symbolic level, there is still a palpable connection to it. For instance, from place-based subjective dimensions wherein the village is seen as a calm, clean, peaceful, and secure place that has provided sustenance to themselves and their family for as long as they have lived there. Another is from a fulfilment of relational wellbeing because some or all their family members (e.g. parents) remain in the village. Thereby, they remain connected via subjective and relational wellbeing dimensions. During interviews, fishers acknowledged that "even if I do leave, I will miss fishing, the community, and my land" which was followed by the village chief who said, "I feel similar, will miss the community–I have a million souvenirs here; people are safe and polite and even if I move, I will think of this place. I think the younger generation will also miss and keep the connection with the village. Even when they earn money outside the village, they give back and support the community, so they do miss it, otherwise they would not do this". He continues, "I have seen many of the residents who live in USA, Canada, and Korea and live in other countries they still come and visit this community whenever they have a chance. And they always donate the gifts to residents; it is symbol that they won't abandon the community". Such explanations by villagers raise two key themes. One is understanding the village as a 'community'. Echoing findings from Ross (2015) who explores what is meant by the term fishing 'community' in three Scottish fishing communities, coastal villagers manifest Pahl's (2005) notion of shared 'communities of the mind' wherein people who live and work in coastal areas that have a strong link to fishing and form both a connection to, and empathy for, those involved in fishing. In other words, 'communities' that are molded and defined by the thoughts and feelings of belonging as a result of fishing being the dominant and universally shared 'nucleus' livelihood. On top of this, people value freedom and autonomy that is associated with fishing, and this creates (and contributes) to specific subjectivities of the 'fishing village' and fishing 'community'. The second theme that the descriptions by the villagers show is how a sense of place, specifically the centrality of the fishing village and affective bonds to place, is shaped by subjective wellbeing and how this, in turn, plays a central role in villagers staying in the village, despite the recognition of the potential for improved material wellbeing outside the village. Thus, for some villagers, a sense of place is heavily tied to cultural ecosystem services and the emotional meanings people have for places, an insight that parallels what others have found, albeit in a Global North context (Urquhart & Acott, 2014 in the UK). Across the three villages, and within small-scale fisheries in general, the sense of community is kept in place by the 'glue' that takes the form of notions of fairness, kinship relations, shared attachment to place and/or fishing as a profession—all of these elements come together via subjectivities that are both collective (sense of place) and individual (fishing as an occupation) and which, I argue, are best understood through the subjective dimension lens within social wellbeing.

Such dynamics were apparent during the group interview with the fishers turned welders in Takmao, when I asked them what is behind their desire to go back to Koh Sralao, to which one of them replied, "so there are no traffic accidents in the village, no [air] pollution. It's a good place to live, very peaceful. But not a good place for earning income". This statement starts to reveal what many former fishers likely feel and showcases a manifestation of place utility (Adams, 2012; Adams & Adger, 2013) i.e. the importance of the fishing village as a place and how the overall place or environment along with the ecosystem services it provides, contributes to their

wellbeing, materially (no pollution), relationally (peaceful), and subjectively ('good place to live…but not good place for earning income'). Echoing sentiments from other fishers both in the village and other migrants, he says that "when they do fishing, they have more freedom. They have more control over their lives. But in the factory, they need to go and obey the regulations from the boss". When migrants were asked why the rest of their family (e.g. parents) did not come to Phnom Penh, many said that if they came, "they won't know how to live", explaining that the only livelihood activity and skill that they know is fishing, which is not useful in the city: "Normally, they are used doing fishing, and living near the sea. So, when they come here, they won't know how to live". Another reason cited was economic in nature. As one migrant woman who is a hairdresser in Phnom Penh said, even if her parents did come, and wanted "to do anything like to run a small business or to learn something, they need money to generate other income". However, in the fishing village, "even if they don't have any money, they can do fishing, to get the money from that". The lack of desire to live in the city and having to migrate was most poignant in one interview with a group of families living outside Phnom Penh, during which one of the participants said, "he [the migrant worker] is asking how can you help with the fishing decrease because he does not want to live here [in Phnom Penh], because he has his house in Koh Sralao, he wants to live in Koh Sralao but he cannot catch the fish so how can you help the fish to increase and then he can go to do fishing instead of coming here?" While this was a very difficult question to answer, I explained how the marine resource decline was exacerbated by poor/inadequate fisheries management which they were acutely aware of. Ultimately, however, such comments show how even affective bonds to place (place utility) are sometimes not enough and that migration can be out of desperation.

The findings above echo those made by others such as Adams (2012) whose doctoral research looked at migration decision-making in the context of environmental change in highland Peru. Her study showed how people obtain utility from non-provisioning ecosystem services and thus remain in the village because of "positive place utility" or "low mobility potential", the latter being tied to affective bonds to place. In the case of the coastal villages of Koh Kong, both of positive place utility and low mobility potential play a role, sometimes in concert such as those who say they not only think of the village as their 'hometown' but also feel that they cannot leave because of their debt burden or lack of skills outside of fishing. I contend that viewing this through the social wellbeing lens helps us to understand how the relationship between marine resource decline (part of material wellbeing) and affective bonds to the coastal village (part of subjective wellbeing) interact in such a way that can ultimately prevent villagers, who are dissatisfied, from migrating. Framing it in this way helps to answer the paradox of why fishers stay despite continued decline in catch and deteriorating livelihoods as other studies across SSF have done. However, my findings counter the prevailing romanticized notions that are imparted on fishing and the somewhat hegemonic assertion that people stay because fishing has a profound and deeper value despite the harsh economic realities and hardship that come with being a fisher. In sum, migration viewed from the social wellbeing lens helps us to understand why some villagers stay and the socially differentiated viability and diverse views of migration as a livelihood strategy.

Concluding remarks

In a sense, migration can be construed as a resource, in a similar way as education is viewed as a 'resource', insofar as while education is objectively 'good', it becomes a *resource* only when people have the need to read or see the *value* in learning to read. More broadly, although goods, services, and relationships occupy an objective reality, they become resources only when they are *perceived* by a person as providing the means to achieve a sought after end (S. White & Ellison, 2007). From the perspective of the Sustainable Livelihoods Framework (and other similar frameworks), migration would be classified as 'human capital', however, it only becomes a livelihood resource when it is utilized through *social* processes (e.g. information via social networks and connections; decision making negotiated within household members such as between parents and their children).

To put it another way, migration does not exist on its own or as a 'thing' that people 'do'. Rather, migration is socially mediated and embedded within social processes and communities. In the same way that relationships are not inert, fixed assets, but rather exist as they are *lived* so too, it is with migration. In other words, migration is *lived* rather than something that is 'done' as an action (Carling, 2002; Collins, 2018; de Haas, 2009). Migration is something that also goes beyond the individual who is migrating. The experience of migration affects not only those who leave the village but also those who stay. This includes how migration is viewed. For those who remain in the village, they see it as an important livelihood lifeline that allows the household to get by (i.e. helping to cover everyday expenses), providing a much-needed informal social protection service, or for others as way to be able to invest in the future, e.g. supporting education of younger family members or buying gold jewelry as a few who were interviewed mentioned. This observation has been pointed out before wherein migration is part of household's active livelihood strategies and is determined by social norms and structures along with the need to understand migration as a social process (Haan, 2000). As a result, 'seeing' migration from the lens of social wellbeing has considerable merit and value. The value of social wellbeing is that it "offers a rounded, positive focus which includes not only material resources and social relationships, but also the psychological states and subjective perceptions of people themselves" (S. White & Ellison, 2007, p. 159).

Drawing from insights via interviews with villagers across the three villages and migrants, this chapter sought to contribute in two ways to the scholarship within the nexus of social wellbeing and small-scale fisheries. First, using the social wellbeing framework and applying it in coastal Cambodia, I reveal how the established, arguably romanticized, view of fishing as being more than just a livelihood among individuals within SSF communities is not universal and does not necessarily hold true, and how views on fishing bifurcate along age/generational and affective lines. In doing so, I seek to problematize the dominant narrative that places primacy on the occupational pride exhibited by fishers and a commitment to their occupation that goes beyond objective material benefits (e.g. Acheson, 1981; R. B. Pollnac et al., 2001; R. B. Pollnac & Poggie, 2008).

As identified within the literature, for fishers a central component of their sense of identity is tied to freedom and autonomy that comes with fishing, (a facet mentioned by a few fishers that we spoke to), and which has been a factor in their resilience historically. However, most significantly, what the coastal Cambodia case shows is how this component in and of itself may no longer be as strong of a force to keep some, and perhaps a growing number of villagers, fishing. Instead my work shows how the freedom and autonomy that forms a fisher's identity and what has traditionally been used to explain why some fishers continue to fish despite being able to obtain a viable income, can *undermine* or *weaken* their resilience. Across the three villages, this was acutely apparent in the large and increasing debt loads households have taken on via microfinance institutions that have made many feel 'trapped' or 'stuck'. Such observations and conclusions run counter to what others such as Ross (2015) have remarked stating, "…pride in, and passion for, the occupation are an important part of resilience, helping to maintain fishing as a way of life despite its declining profitability" (p. 317). Moreover, studies such as these are, I argue, largely Euro-centric (e.g. Ross focuses on three Scottish communities) and are distinctly disconnected to the everyday lived realities and complexities apparent within human-environment relations of coastal communities in Cambodia—a pattern emerging from other places in the Global South more generally (e.g. Trimble and Johnson (2013) in coastal Uruguay and Southeastern Brazil).

The second is by tracing how villager's material, relational and subjective dimensions are differentially affected by demographic change (i.e. both migrants and non-migrants) and identification of key themes related to these dimensions (Figure 20). Currently, there is a paucity of research in this specific area, although some have alluded to its importance. For instance, in a footnote Belton (2016) mentions a study by Paprocki and Cons (2014) who report considerable out-migration over a long period from two coastal villages in Bangladesh in response to shrimp aquaculture, and that "this process would have profound implications for the wellbeing of those affected" (p. 237). Moreover, while the social implications of migration have recently gained attention within Cambodia (e.g. notions of "home" in Brickell, 2011a in Siem Reap), this is not the case for coastal fishing communities, who make a living on the margins, both geographically and socio-economically.

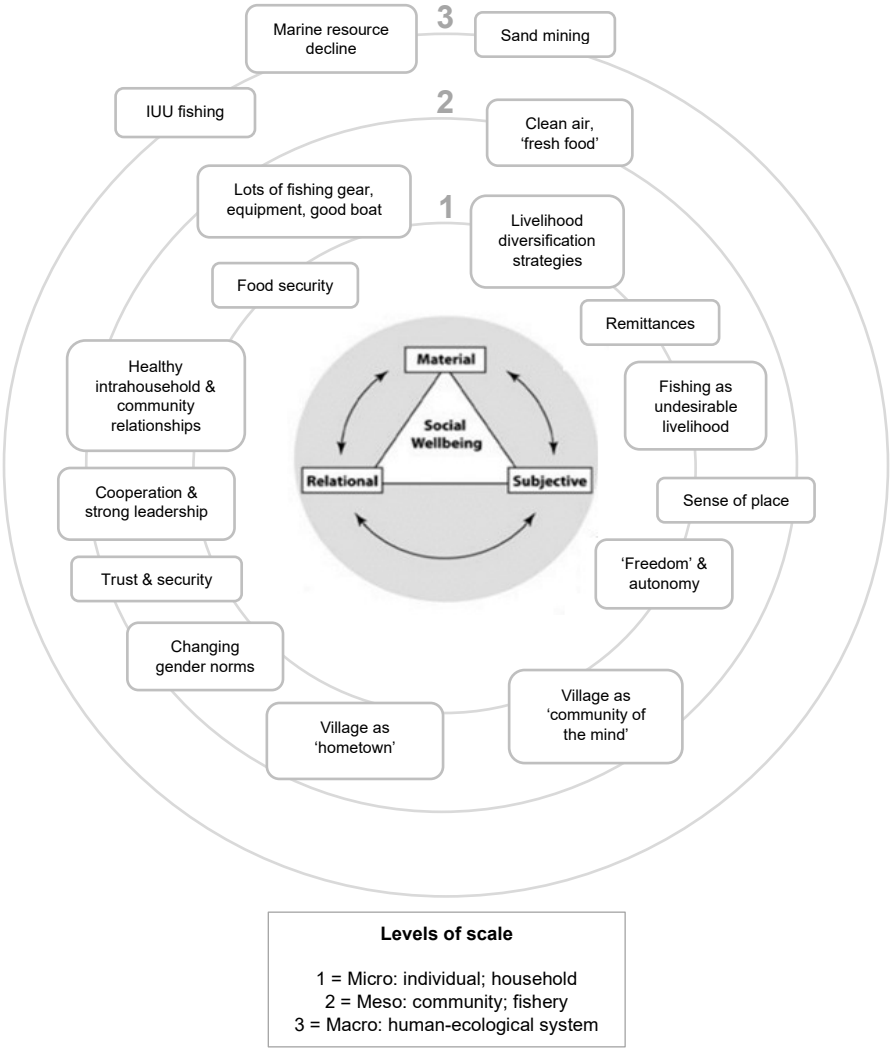


Figure 18. Facets of social wellbeing across the three coastal villages as determined by empirical qualitative data. Image created by author, adapted from Weeratunge et al. (2014).

Viewing small-scale coastal fishing villages through the social wellbeing lens shows the paradoxical impacts migration has on wellbeing for migrants and non-migrants as well as the difficult (livelihood and related) choices and trade-offs that arise. Moreover, understanding and looking at migration from a social wellbeing perspective reveals migration's multiple, varied meanings and brings forward contested values with how fishing as a livelihood is viewed across generational lines. Although migration as a response to a household's livelihood situation is part of an 'objective' reality, conversations with villagers and migrants suggests that individual and collective responses are also influenced, sometimes heavily, by the subjective perceptions that people have about that reality, and how this can vary between those who migrate and those who stay in the village. Overall, following other scholars (e.g. Weeratunge et al., 2014), I show how the social wellbeing framework is useful within the small-scale fisheries context of coastal Cambodia in revealing the complex, contested, and heterogenous views within the nexus of small-scale fisheries and wellbeing, while potentially revealing opportunities on how to strengthen wellbeing outcomes for coastal fishing communities facing a sea of change.

Chapter 8: Conclusion

8.1 The interplay of migration, social wellbeing and resilience

The last two decades of scholarship on migration in Cambodia has contributed to our understanding in a host of areas, from the prevalence of microcredit (Bylander, 2014), sometimes used as a way to cope (Bylander, 2015b) and gender dimensions (Brickell, 2011b; Bylander, 2015a; Derks, 2008) to impacts of urbanization (Haapala, 2003) and environmental distress (Heinonen, 2006a; Middleton & Un, 2017), inter alia. Above all, what all these contributions share is that they are painting a picture of Cambodians who are increasingly on the move. This thesis has revealed that, a hitherto overlooked demographic, coastal Cambodians, are also doing the same as their mainland counterparts, thereby joining them in the wave of contemporary demographic change that started almost two decades ago. As noted by other scholars looking at migration in Cambodia in varying contexts (e.g. Connell & Connell, 2016; Diepart et al., 2014; Fitzgerald & So, 2007; Hing et al., 2011), the reasons for coastal Cambodians are both economic (earning an income) and social (family obligations, duty, and responsibility), mediated by environmental change (overfishing, sand dredging) and labour demand from the growing export-oriented industrial sector. Through interviews, what becomes clear is that fishers and coastal villagers in general are not passive actors—a point also highlighted by Béné et al. (2011) in the context of SSF in the Niger River Basin in West Africa. Coastal Cambodians create their own ways of imagining their future and form their own meanings, practice, and actions. Some, like the migrants I spoke to, succeed (to a certain degree), and in doing so, such actions highlight their agency as active actors.

In trying to better understand the links between shocks (e.g. sand mining and sharp decrease in marine resources), responses, and outcomes, resilience has emerged as a concept and analytical lens that can help both academics and practitioners understand the complexities of linked social-ecological systems (N. Adger, 2000; Berkes et al., 2003; Cote & Nightingale, 2012). For example, in the context of fishing communities in Cambodia, Marschke and Berkes (2006) argue that "resilience offers a lens with which to explore stressors and shocks and to understand livelihood dynamics" (p. 2). Within the context people in such communities being social actors, this becomes about understanding how such communities respond to change and stressors as they attempt to maintain their livelihood, and indeed, their way of life. In other words, it becomes about understanding people's social resilience (see N. Adger et al., 2002). Through this thesis and looking at migration as part of household's livelihood dynamic (i.e. part of their livelihood strategy), I explored re this by adopting and operationalizing the social wellbeing framework. In doing so, I discovered that a social wellbeing lens reveals the socially-mediated and differentiated impact on social resilience, depending on if you are a villager or migrant and if one looks at the individual versus household level. This also complements the scalar nature of resilience and that understanding resilience requires an appreciation for how resilience manifests at micro, meso, and macro scales (Figure 20). In other words, the interplay of social wellbeing and migration reveals how resilience is partly socially constructed. My findings from the coastal Cambodia context adds to emerging empirical evidence by findings by Béné (2016) following the question 'is resilience socially constructed?' who show how resilience among small-scale fisheries in Fiji, Ghana, Sri Lanka, and Vietnam is tied to knowledge, attitudes to risk, culture, and subjectivity.

Meanwhile, the (ecological) resilience of the mangrove ecosystem and its ability to bounce back through the concerted effort of replanting initiatives over a decade has, in some ways, supported the social resilience of coastal fishing communities—and undoubtedly underpinned the ability of villagers to be supported by the ecosystem services provided. In other words, there is a very clear link between ecological resilience of the mangroves, the health of which fishers and their households depend on for their livelihoods, and the ability of coastal households to adapt/cope/transform to change, i.e. their social resilience. This coupled nature of ecological and social resilience was most pronounced following the two major donor-funded projects promoting community-based natural resource management in Koh Kong which led to an expansion of mangrove forest cover and supported the marine life that depends on such ecosystems (see IDRC, 1997, 2000). However, paradoxically, over time the social resilience of coastal households has been curtailed, despite the continued coverage area of the mangrove forest. Initially this was rooted in human behaviour: general overfishing and IUU fishing both of which led to a precipitous decline in catch over the same time period as mangrove forest cover has rebounded (Marschke, 2012; Marschke et al., 2014). In response some households were able to show social resilience by diversifying their livelihoods (Marschke, 2005). Even with this response though, many households struggled. Adding to this work, through my interviews, I discovered that, most recently, an additional factor responsible for the erosion of ecological resilience is sand mining within estuaries and surrounding the mangrove ecosystem. Unlike charcoal making which made the erosion of ecological resilience visible through the loss of mangrove forest cover and extent, sand mining is in a sense 'invisible'. Even if villagers do not 'see' it, they certainly 'feel' it as they pull up their empty nets, an ever-increasing sight for fishers. Combined with the already degraded marine resource base, this has put added stress on households' ability to keep their livelihoods tenable.

In attempting to understand these dynamics, I adopted and operationalized the social wellbeing framework which revealed the socially-mediated and differentiated impact of migration and the struggle to maintain fishing-based livelihood has on social resilience, depending on if you are a villager or migrant and if one looks at the individual versus household level. Amidst the ebb and flow of ecological resilience, changing views on fishing as a desirable livelihood have been increasing and incorporated into villagers' decisions and strategies, particularly the younger generation. This thesis shows that *how* coastal villagers negotiate and prioritize specific dimensions of their social wellbeing (e.g. material) underpin whether individuals adopt migration out of the village as livelihood strategy. In turn, specific contextual factors such as a household's livelihood situation, debt, number and—crucially—gender of household members, along with proximity to the mainland shape migration patterns and mobility in general.

By adopting a social wellbeing framing, this thesis uncovers the socially differentiated nature of how different understandings of place, development and wellbeing are constructed while offering a more nuanced understanding of social wellbeing by focusing on how different people relate to place and with each other and the scales (individual, community) that wellbeing can operate. While fishers from all three villages expressed a desire to continue fishing, those that tended to express such views were usually older. At the same time, many of them recognize that fishing may not be able to be depended on in the future as a viable livelihood. This recognition

led some fishers to remark that fishing is as an undesirable occupation for their children to follow suit (echoed by the children, fishers themselves).

Analysis such as the kind presented from these three coastal villagers in Cambodia allows us to understand not only some of the conditions, mediated by a combination of subjective, relational and material wellbeing factors, under which migration emerges within households but also how—and to what—people attribute meaning to their own everyday struggles. Relatedly, my research shows the strong explanatory power of using a social wellbeing framework to reveal subjective dimensions of resilience, building on emerging work and insights by Béné et al. (2019; 2016) into subjective elements of resilience, namely, the important role psychosocial factors and individual perceptions (e.g. self-efficacy; aspirations; and risk perception) play in people's resilience—observations that came to the fore in my research vis-à-vis social wellbeing. The choices people make, and the values they have, shape and transform their resilience. To be resilient (and 'resilience responses') looks different depending on the person and a variety of variables such as their aspirations, their social (and culturally mediated) obligations to the household, and their views on fishing itself. As Symes et al. (2015) rightly point out in the context of coastal fisheries, "[r]esilience is deeply embedded in the social structures, relationships, and behaviours associated with coastal fishers and their communities" (p. 9). Through a social wellbeing framework, my research has brought out these important threads and draws attention to the value and importance of considering relational and subjective dimensions within resilience thinking to develop a deeper understanding of the nature of change and processes the are shaping the lives, livelihoods, resilience and adaptation of fishing communities in coastal Cambodia. In addition, my research reveals what the village 'means' to coastal Cambodians and how this is slowly, but surely, changing with the divide being along generational lines. For the older generation (i.e. the parents and grand parents), the village means more than a just place to live and is tied to shared 'communities of the mind' (Ross, 2015) and strong sense of place and 'place attachment' (Adams, 2012; Adams & Adger, 2013).

One area of potential future research could investigate the role of remittances vis-à-vis social resilience. Although preliminary, part of my findings show how remittances can contribute to the maintenance of the agrarian landscape by acting as 'subsidies' to support many households' daily expenses or anticipated financial needs. In other words, migration, via remittances from the wages earned by migrants, catalyzes a kind of 'subsidization of the countryside' and supports, even if temporarily, the social resilience at the village household level. In this way, migration can help to perpetuate or maintain rural lives and livelihoods despite the significant decline in marine resources as is the case across the three coastal villages. Such a contention is supported by both visual observations and in talking to villagers. During the tail end of my fieldwork, I observed some changes in Koh Sralao in particular. At the periphery of the village, the pathway leading to and connecting it to a neighbouring village had been converted from the typical dirt path into a concrete path (about double the width of an average sidewalk you would find an urban area), much to my surprise (Figure 21). Moreover, alongside this newly built concrete structure rose poles festooned with infrastructure to provide electricity. In other words, a formal electricity grid was being built within the village.

Figure 19. A newly installed utility poll for providing electricity in Koh Sralao. Photo taken in March 2017 by author.

If the material aspects of social wellbeing are a reflection of the other two dimensions (relational and subjective) as outlined by Coulthard and Britton (2015), then in the context of Koh Sralao the presence of a nascent electricity grid, exemplified through the utility poles, can be seen as embodying and representing the aspirations and desires of villagers. These are rooted in the importance placed in community and social relations that contribute to a sense of 'neighbourliness', reciprocity/sharing, and security alongside the building of social capital (Arthur et al., 2017; D. Johnson et al., 2016). The utility poles are also a physical symbol reflecting the aspirations of villagers insofar as their collective intention to remain in the village for the long term.

In a sense, both changes are symbols of permanence (reflected in the choice of a strong and long-lasting material—concrete) and can arguably be construed as physical symbols of social resilience. At the same time, this runs counter to the experience and response by many households and villagers within Koh Sralao who have either chosen to leave the village or expressed their desire or intention to leave the village. On one level, the village is showing signs of resilience through transformation and signs or symbols of persistence (e.g. physical infrastructure), while on the other, households are showing resilience as adaptation (as indicated by out migration). The resilience of certain households may be short-lived or 'artificial' insofar as the source of their resilience is (literally) external i.e. from young villagers who have migrated out and provide a portion of their monthly wage labour earnings as remittances. Once these young migrants, most of them young women, get married, many (if not most) will stop working in the factory to look after their children and fulfill the (culturally dictated) role as caretaker of the household. As a

result, their family members in the village who were benefitting from the remittances may not have anything to replace this source that has been contributing towards the social resilience of the household. What remains to be seen, and an area that would be worthy of future research, is what happens to these migrants once they return to the village? And what happens to the household's overall livelihood and (material) wellbeing, i.e. does it degrade and become precarious? While my research has tracked the outmigration of coastal villagers and the implications on livelihood dynamics and both household and individual social wellbeing, understanding what happens when migration comes 'full circle' and (some) people return has the potential to offer an even more complete picture of migration in coastal Cambodia.

On a broader level, marine resource decline is also being met with declines in freshwater fisheries (i.e. in the Tonle Sap region), which support the livelihoods and food security of millions of Cambodia. A recent study on the Tonle Sap that analyzed fish catch data over a 15-year time frame (2000-2015) showed 78% of species showing declines in catch, mainly medium to large-bodied fish (Ngor et al., 2018). This is juxtaposed with increasing catch of small-sized species which has counteracted declines in larger species (and kept the overall biomass of catch relatively stable, albeit arguably deceptively so). Such 'indiscriminate fishing pressure' (McCann et al., 2016) means that, in the long term, the livelihoods of fishers, and food security of many Cambodians, is at risk. Notwithstanding significant recourse by fisheries administration officials, managers, and policy makers, how will this affect the likelihood of outmigration from this area? Going forward, if the trend of declining fisheries in both coastal and inland parts of Cambodia continue, what does this mean for the future of fishers and their households and what are the implications on migration and mobilities? These questions are a foundation for further exploration that brings together both the coastal and inland fisheries of Cambodia.

8.2 To be a fisher or not to be, that is the question

Fundamentally, out migration from the fishing villages raises a significant question for villagers: whether to be, or not to be, fishers? This applies to both migrants who are fishers and those who are not, because of what migration *signifies*. For the fishers that leave the village, it signifies an acknowledgment, either implicit or (as was often the case) explicit, that fishing as a livelihood is becoming evermore untenable. In turn, it is a recognition that *being* a fisher may not be possible anymore. This sentiment, while not new as its nascence was observed by Marschke (2012) in the case of Koh Sralao, seems to be a growing trend as fishers and households increasingly start moving into different occupations in addition to supplementing fishing with other livelihoods. However, what is unique is that my findings show empirically that, across the three villages in Koh Kong, there are strong indications that the relationship of fishers to fishing is changing with migration playing an increasingly influential role. For one, leaving the village is a tacit admission that fishing is 'no longer enough' not only to live, but also to *thrive*, particularly for those with aspirations of a better life. On this point, for migrants who were either never fishers or only experienced it second hand (e.g. helping their parents), migration symbolizes a move away from fishing as their future and, for some, an intentional, yet necessary abandonment of a tradition. Such a shift comes from two related areas. One is from direct observation of the struggles of their parents, neighbours, and family members which has, until somewhat recently, been put in strong contrast to the promise provided by wage labour opportunities of stable, regular income.

The second is informed by the *aspirations* some migrants, such as those pursuing higher education, to have a 'better life'. A desire to leave fishing has emerged as a common theme across small-scale fisheries around the world. For example, in the shrimp trawl fisheries of South India, half of fishers surveyed (n=137) said they would leave the occupation and that they would advise against a young person to enter the occupation. The move away from the fishery reflected not only an increasing pessimism and doubt about the future of the shrimp trawl fisheries but also, importantly, a growing recognition of other economic opportunities (Bavinck, 2012). Like in South India, whether fishers in Koh Kong take the step of leaving the profession depends chiefly on the alternatives available, which for men especially, may likely remain scarce. My findings in Koh Kong where both fishers and migrants increasingly see fishing as less than desirable way of life speaks to the findings of others such as Trimble and Johnson (2013) who, when discerning fishers' aspirations for their children, found that artisanal fishers in Piriápolis (Uruguay) and Paraty (Brazil) viewed fishing as an undesirable occupation for their children because they felt that it would not remain a viable occupation in the future. Moreover, similar to what they observe in their case, the stark contrast between prevailing economic conditions within the village and outside of it are influencing fishers' perceptions—and I would add prioritization—of wellbeing in a way that material wellbeing considerations have become more important compared to the past when it was still possible to 'make it' as a fisher.

One of the challenges of understanding wellbeing, particularly subjective wellbeing but also relational and material, is that the level of wellbeing achieved by individuals and households ebbs and flows, varying with seasons, dependent on household structure (e.g. children get married and then leave), and general environmental conditions. Considering this, what my research shows on the wellbeing front should be considered a 'snapshot' of social wellbeing, both for villagers in the village and migrants who have left. People's attitudes and aspirations can change, sometimes by the day, other times by the week. In some cases, this can be in the form of new information (e.g. job opportunities outside the village) conveyed through personal relationships and social ties. Paradoxically, the positive contributions to relational wellbeing that are cultivated and developed because of the close-knit nature of the village as a community (i.e. knowing your neighbours and villagers) can also be the source of how people leave the village (e.g. hearing information about jobs via a neighbour). What can be said with relative certainty, however, is that the material wellbeing of coastal villagers has been gradually deteriorating, an observation that was made almost 15 years ago (Marschke, 2005) which still rings true today based on my conversations with coastal Cambodians.

Overall, for many villagers, leaving the coast is not easy. Even when they do manage to leave, migrants face different challenges in their new environment. Whether it is the lack of social support networks or friends/family, navigating security concerns, or surprise at the living costs that eat away at their ability to save, and thus, send back money to their family. Yet, despite these setbacks, many feel compelled to leave largely because of their family's deteriorating livelihood conditions. Despite the occasional and sporadic 'bursts' of a good haul from fishing that keep a few somewhat hopeful, virtually all villagers acknowledged the continued decline in marine resources, and thus, the amount they have been able to catch over the past couple of years. Such trends are broadly in line with what is being observed across other coastal

communities (Lau et al., 2019), and buttresses the challenges this poses to marine fisheries generally in the Anthropocene (Aswani et al., 2018).

On the one hand, these trends and patterns mean that certain villagers leave the coastal village (temporarily or permanently) so that others can stay. On the other, for those who do leave, migration represents a path to exit fishing, or to never have to enter it at all, underpinned by the hope for a better life outside the village. Such responses will have permanent impacts on the social make up of coastal villages in Koh Kong and, judging by the three villages in this study, they are likely to be different depending on the complex and intersecting web of connections that shape a villager's social wellbeing. Ultimately, how long such a system of migration can support the agrarian landscape of coastal Cambodia is uncertain and remains to be seen, much like the future of coastal fishing households and fishing itself.

References

Acheson, J. M. (1981). Anthropology of fishing. *Annual Review of Anthropology*, 275–316.

Adams, H. (2012). *Migration decision-making under environmental change: Place utility, mobility and ecosystem services in highland Peru* [University of East Anglia]. https://ueaeprints.uea.ac.uk/42352/1/2012AdamsHPhD.pdf

Adams, H., & Adger, N. (2013). The contribution of ecosystem services to place utility as a determinant of migration decision-making. *Environmental Research Letters*, *8*(1), 015006. https://doi.org/10.1088/1748-9326/8/1/015006

ADB. (2014). *Cambodia Country Poverty Analysis 2014*. Asian Development Bank (ADB). http://ticambodia.org/library/wp-content/files_mf/1451891472cambodiacountrypovertyanalysis2014.pdf

Adger, N. (2000). Social and ecological resilience: Are they related? *Progress in Human Geography*, *24*(3), 347–364. https://doi.org/10.1191/030913200701540465

Adger, N., Kelly, P. M., Winkels, A., Huy, L. Q., & Locke, C. (2002). Migration, remittances, livelihood trajectories, and social resilience. *AMBIO: A Journal of the Human Environment*, *31*(4), 358–366.

Adger, W. N., Hughes, T. P., Folke, C., Carpenter, S. R., & Rockström, J. (2005). Social-Ecological Resilience to Coastal Disasters. *Science*, *309*(5737), 1036–1039. https://doi.org/10.1126/science.1112122

Allan, J. D., ABELL, R., HOGAN, Z., REVENGA, C., TAYLOR, B. W., WELCOMME, R. L., & WINEMILLER, K. (2005). Overfishing of Inland Waters. *BioScience*, *55*(12), 1041–1051. https://doi.org/10.1641/0006-3568(2005)055[1041:OOIW]2.0.CO;2

Allison, E. H., & Ellis, F. (2001). The livelihoods approach and management of small-scale fisheries. *Marine Policy*, *25*(5), 377–388.

Allison, E. H., Ratner, B. D., Åsgård, B., Willmann, R., Pomeroy, R., & Kurien, J. (2012). Rights-based fisheries governance: From fishing rights to human rights: From fishing rights to human rights. *Fish and Fisheries*, *13*(1), 14–29. https://doi.org/10.1111/j.1467-2979.2011.00405.x

Amaro, Y., & Seangly, P. (2017, July 11). Activists fear dredging in wildlife sanctuary. *Phnom Penh Post*. https://www.phnompenhpost.com/national/activists-fear-dredging-wildlife-sanctuary

Anand, P., Hunter, G., Carter, I., Dowding, K., Guala, F., & Van Hees, M. (2009). The Development of Capability Indicators. *Journal of Human Development and Capabilities*, *10*(1), 125–152. https://doi.org/10.1080/14649880802675366

AP News. (2011, August 22). Cambodia: Sand for sale; environment ravaged. *Asian Correspondent*. https://asiancorrespondent.com/2011/08/sand-for-sale-environment-ravaged/

Arias, M. E., Cochrane, T. A., Piman, T., Kummu, M., Caruso, B. S., & Killeen, T. J. (2012). Quantifying changes in flooding and habitats in the Tonle Sap Lake (Cambodia) caused by water infrastructure development and climate change in the Mekong Basin. *Journal of Environmental Management*, *112*, 53–66. https://doi.org/10.1016/j.jenvman.2012.07.003

Armitage, D. (2017). *Governing the Coastal Commons: Communities, Resilience and Transformation*. Routledge.

Armitage, D., Béné, C., Charles, A. T., Johnson, D., & Allison, E. H. (2012). The Interplay of Well-being and Resilience in Applying a Social-Ecological Perspective. *Ecology and Society*, *17*(4). https://doi.org/10.5751/ES-04940-170415

Arthur, R., Friend, R., & Béné, C. (2017, February 16). Assessing the Contributions Derived from Capture Fisheries from a Wellbeing Perspective: Methodological and Policy Implications. *Proceedings of the Eighteenth Biennial Conference of the International Institute of Fisheries Economics and Trade*. Challenging New Frontiers in the Global Seafood Sector: Proceedings of the Eighteenth Biennial Conference of the International Institute of Fisheries Economics and Trade, Aberdeen, Scotland, UK. http://ir.library.oregonstate.edu/xmlui/handle/1957/60228

ASEAN. (2017). *ASEAN Economic Community | ONE VISION ONE IDENTITY ONE COMMUNITY*. ASEAN | ONE VISION ONE IDENTITY ONE COMMUNITY. http://asean.org/asean-economic-community/

Asian Development Bank. (2005). *The Tonle Sap Basin Strategy*. http://www.adb.org/sites/default/files/institutional-document/33050/files/tonle-sap-basin-strategy.pdf

Asif, F. (2017, August 8). In Between Places: Migration Among Cambodia's Coastal Communities. *IAPS Dialogue: The Online Magazine of the Institute of Asia & Pacific Studies*. https://iapsdialogue.org/2017/08/08/in-between-places-migration-among-cambodias-coastal-fishing-communities/

Associated Press. (2018, March 23). Asia could run out of fish by 2048, UN reports | CBC News. *CBC*. http://www.cbc.ca/news/technology/un-biodiversity-reports-1.4589698

Aswani, S., Basurto, X., Ferse, S., Glaser, M., Campbell, L., Cinner, J. E., Dalton, T., Jenkins, L. D., Miller, M. L., Pollnac, R., Vaccaro, I., & Christie, P. (2018). Marine resource management and conservation in the Anthropocene. *Environmental Conservation*, *45*(2), 192–202. https://doi.org/10.1017/S0376892917000431

Badjeck, M.-C., Allison, E. H., Halls, A. S., & Dulvy, N. K. (2010). Impacts of climate variability and change on fishery-based livelihoods. *Marine Policy*, *34*(3), 375–383. https://doi.org/10.1016/j.marpol.2009.08.007

Bahadur, A. V., Ibrahim, M., & Tanner, T. (2010). *The resilience renaissance? Unpacking of resilience for tackling climate change and disasters*. http://mobile.opendocs.ids.ac.uk/opendocs/handle/123456789/2368

Bahadur, A. V., Ibrahim, M., & Tanner, T. (2013). Characterising resilience: Unpacking the concept for tackling climate change and development. *Climate and Development*, *5*(1), 55–65. https://doi.org/10.1080/17565529.2012.762334

Bahadur, K., Bond, N., Fraser, E. D. G., Elliot, V., Farrell, F., McCann, K., Rooney, N., & Bieg, C. (2017). Exploring tropical fisheries through fishers' perceptions: Fishing down the food web in the Tonlé Sap, Cambodia. *Fisheries Management and Ecology*, *24*(6), 452–459. https://doi.org/10.1111/fme.12246

Bann, C. (1997). *An economic analysis of alternative mangrove management strategies in Koh Kong Province, Cambodia*. EEPSEA. http://www.eepsea.org/pub/rr/10536114890ACF46.pdf

Baran, E. (Ed.). (2005). *Cambodian inland fisheries: Facts, figures and context*. WorldFish Center.

Baran, E., Chheng, P., Ly, V., Nasielski, J., Saray, S., Touch, B., Trees, J., Kaing, K., & Tan, S. (2014). Chapter 4: Fish Resources. In *Atlas of Cambodia. Maps on socio-economic*

development and environment (2nd edition, pp. 37–48). Save Cambodia's Wildlife. http://pubs.iclarm.net/resource_centre/WF-3709.pdf

Baran, E., & Gallego, G. (2015). Cambodia's fisheries: A decade of changes and evolution. *Catch and Culture*, *21*(3). http://pubs.iclarm.net/resource_centre/WF-3961.pdf

Bavinck, M. (2009). Interactive Governance and the Wellbeing of the Coastal Poor. *"Building Capacity for Sustainable Governance in South Asian Fisheries: Poverty, Wellbeing and Deliberative Policy Networks."* Ecosystem Services and Poverty Alleviation (ESPA) Workshop 1, Institute for Ocean Management, Chennai, India. http://www.ids.ac.uk/idspublication/interactive-governance-and-the-wellbeing-of-the-coastal-poor

Bavinck, M. (2012). Job Satisfaction in the Shrimp Trawl Fisheries of Chennai, India. *Social Indicators Research*, *109*(1), 53–66. https://doi.org/10.1007/s11205-012-0055-3

Bavinck, M., Pollnac, R., Monnereau, I., & Failler, P. (2012). Introduction to the Special Issue on Job Satisfaction in Fisheries in the Global South. *Social Indicators Research*, *109*(1), 1–10. https://doi.org/10.1007/s11205-012-0051-7

Bazeley, P., & Jackson, K. (2013). *Qualitative data analysis with NVivo* (Second edition). SAGE.

Beiser, V. (2016, June 23). The World's Disappearing Sand. *The New York Times*. https://www.nytimes.com/2016/06/23/opinion/the-worlds-disappearing-sand.html

Beiser, V. (2017, February 27). Sand mining: The global environmental crisis you've never heard of. *The Guardian*. http://www.theguardian.com/cities/2017/feb/27/sand-mining-global-environmental-crisis-never-heard

Belton, B. (2016). Shrimp, prawn and the political economy of social wellbeing in rural Bangladesh. *Journal of Rural Studies*, *45*, 230–242. https://doi.org/10.1016/j.jrurstud.2016.03.014

Béné, Christophe, Al-Hassan, R. M., Amarasinghe, O., Fong, P., Ocran, J., Onumah, E., Ratuniata, R., Tuyen, T. V., McGregor, J. A., & Mills, D. J. (2016). Is resilience socially constructed? Empirical evidence from Fiji, Ghana, Sri Lanka, and Vietnam. *Global Environmental Change*, *38*, 153–170. https://doi.org/10.1016/j.gloenvcha.2016.03.005

Béné, Christophe, Evans, L., Mills, D., Ovie, S., Raji, A., Tafida, A., Kodio, A., Sinaba, F., Morand, P., Lemoalle, J., & Andrew, N. (2011). Testing resilience thinking in a poverty context: Experience from the Niger River basin. *Global Environmental Change*, *21*(4), 1173–1184. https://doi.org/10.1016/j.gloenvcha.2011.07.002

Béné, Christophe, Frankenberger, T., Griffin, T., Langworthy, M., Mueller, M., & Martin, S. (2019). 'Perception matters': New insights into the subjective dimension of resilience in the context of humanitarian and food security crises. *Progress in Development Studies*, *19*(3), 186–210. https://doi.org/10.1177/1464993419850304

Béné, Christophe, Mehta, L., McGranahan, G., Cannon, T., Gupte, J., & Tanner, T. (2018). Resilience as a policy narrative: Potentials and limits in the context of urban planning. *Climate and Development*, *10*(2), 116–133. https://doi.org/10.1080/17565529.2017.1301868

Béné, Christophe, Newsham, A., Davies, M., Ulrichs, M., & Godfrey-Wood, R. (2014). Resilience, Poverty, and Development. *Journal of International Development*, n/a-n/a. https://doi.org/10.1002/jid.2992

Béné, Christophe, Wood, R. G., Newsham, A., & Davies, M. (2012). Resilience: New utopia or new tyranny? Reflection about the potentials and limits of the concept of resilience

in relation to vulnerability reduction programmes. *IDS Working Papers*, *2012*(405), 1–61.

Béné, Christopher, Frankenberger, T., Langworthy, M., Mueller, M., & Martin, S. (2016). *The Influence of Subjective and Psycho-social Factors on People's Resilience: Conceptual Framework and Empirical Evidence* (Report Prepared by the Technical Consortium, a Project of the CGIAR Report 5; Technical Report Series No 2 Strengthening the Evidence Base for Resilience in the Horn of Africa). International Livestock Research Institute (ILRI) and TANGO International.

Berkes, F. (1999). *Sacred Ecology: Traditional Ecological Knowledge and Resource Management*. Taylor & Francis.

Berkes, F., Colding, J., & Folke, C. (Eds.). (2003). *Navigating Social-Ecological Systems: Building Resilience for Complexity and Change*. Cambridge University Press. http://www.cambridge.org/us/academic/subjects/life-sciences/ecology-and-conservation/navigating-social-ecological-systems-building-resilience-complexity-and-change

Berkes, F., & Folke, C. (1998). *Linking social and ecological systems: Management practices and social mechanisms for building resilience* (J. Colding, Ed.). Cambridge University Press.

Berkes, F., Mahon, R., McConney, P., Pollnac, R., & Pomeroy, R. (2001). *Managing Small-scale Fisheries: Alternative Directions and Methods*. IDRC.

Berkes, F., & Ross, H. (2013). Community Resilience: Toward an Integrated Approach. *Society & Natural Resources*, *26*(1), 5–20. https://doi.org/10.1080/08941920.2012.736605

Beymer-Farris, B. A., Bassett, T. J., & Bryceson, I. (2012). Promises and pitfalls of adaptive management in resilience thinking: The lens of political ecology. *Resilience and the Cultural Landscape: Understanding and Managing Change in Human-Shaped Environments*, 283.

Biswal, R. L. (2015). *Fishing is more than just a livelihood: Wellbeing and small-scale bag net fisheries governance in Gujarat, India* [University of Manitoba]. http://www.umanitoba.ca/institutes/natural_resources/Left-Hand%20Column/theses/Masters%20Thesis%20Bisway%202015.pdf

Black, R., Adger, W. N., Arnell, N. W., Dercon, S., Geddes, A., & Thomas, D. (2011). The effect of environmental change on human migration. *Global Environmental Change*, *21*, S3–S11. https://doi.org/10.1016/j.gloenvcha.2011.10.001

Blythe, J., Murray, G., & Flaherty, M. (2014). Strengthening threatened communities through adaptation: Insights from coastal Mozambique. *Ecology and Society*, *19*(2). https://doi.org/10.5751/ES-06408-190206

Bobenrieth, M. E., Kong, S., Sreng, K. K., & Mather, R. (2012). *Vulnerability and Capacity Assessment of Koh Kong and Kampot Provinces, Cambodia* (p. 36). International Union for Conservation of Nature (IUCN). https://www.iucn.org/sites/dev/files/import/downloads/vca_of_koh_kong_khampot_cambodia2012_final_1_1.pdf

Bohle, H.-G., Etzold, B., & Keck, M. (2009). *Resilience as agency*. IHDP-Update.

Boyle, D. (2011, August 10). Tycoon's dredging tests local's patience. *Phnom Penh Post*. https://www.phnompenhpost.com/national/tycoon%E2%80%99s-dredging-tests-local%E2%80%99s-patience

Bradley, D., & Grainger, A. (2004). Social resilience as a controlling influence on desertification in Senegal. *Land Degradation & Development*, *15*(5), 451–470. https://doi.org/10.1002/ldr.628

Brand, F. S., & Jax, K. (2007). Focusing the Meaning (s) of Resilience: Resilience as a Descriptive Concept and a Boundary Object. *Ecology & Society*, *12*(1). http://search.ebscohost.com/login.aspx?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=17083087&AN=25582315&h=OfFDvuU0WuNqix0NM9ZPQ4o6oq0faGc1Yx%2BmCH15UNb%2FVH2%2F2XFZz7%2FkCSumPq06nsuhyJL99QDoIIKzIzX5WA%3D%3D&crl=c

Braun, B., & Aßheuer, T. (2011). Floods in megacity environments: Vulnerability and coping strategies of slum dwellers in Dhaka/Bangladesh. *Natural Hazards*, *58*(2), 771–787. https://doi.org/10.1007/s11069-011-9752-5

Brettell, C., & Hollifield, J. F. (2015). *Migration theory: Talking across disciplines* (Third edition.). Routledge. https://login.proxy.bib.uottawa.ca/login?url=https://www.taylorfrancis.com/books/9781315814933

Brickell, K. (2011a). Translocal Geographies of 'Home' in Siem Reap, Cambodia. In K. Brickell & A. Datta (Eds.), *Translocal geographies: Spaces, places, connections*. Ashgate.

Brickell, K. (2011b). "We don't forget the old rice pot when we get the new one": Discourses on Ideals and Practices of Women in Contemporary Cambodia. *Signs: Journal of Women in Culture and Society*, *36*(2), 437–462. https://doi.org/10.1086/655915

Brown, K. (2012). Policy discourses of resilience. In M. Pelling, D. Manuel-Navarrete, & M. R. Redclift (Eds.), *Climate change and the crisis of capitalism: A chance to reclaim self, society and nature*. Routledge.

Brown, K. (2013). Global environmental change I: A social turn for resilience? *Progress in Human Geography*, *38*(1), 107–117. https://doi.org/10.1177/0309132513498837

Brown, K., & Westaway, E. (2011). Agency, Capacity, and Resilience to Environmental Change: Lessons from Human Development, Well-Being, and Disasters. *Annual Review of Environment and Resources*, *36*(1), 321–342. https://doi.org/10.1146/annurev-environ-052610-092905

Buikstra, E., Ross, H., King, C. A., Baker, P. G., Hegney, D., McLachlan, K., & Rogers-Clark, C. (2010). The components of resilience—Perceptions of an Australian rural community. *Journal of Community Psychology*, *38*(8), 975–991. https://doi.org/10.1002/jcop.20409

Bylander, M. (2013). Depending on the Sky: Environmental Distress, Migration, and Coping in Rural Cambodia. *International Migration*, n/a-n/a. https://doi.org/10.1111/imig.12087

Bylander, M. (2014). Borrowing Across Borders: Migration and Microcredit in Rural Cambodia. *Development and Change*, *45*(2), 284–307. https://doi.org/10.1111/dech.12080

Bylander, M. (2015a). Contested mobilities: Gendered migration pressures among Cambodian youth. *Gender, Place & Culture*, *22*(8), 1124–1140. https://doi.org/10.1080/0966369X.2014.939154

Bylander, M. (2015b). Credit as Coping: Rethinking Microcredit in the Cambodian Context. *Oxford Development Studies*, *43*(4), 533–553. https://doi.org/10.1080/13600818.2015.1064880

Bylander, M. (2017). Poor and on the move: South–South migration and poverty in Cambodia. *Migration Studies*, *5*(2), 237–266. https://doi.org/10.1093/migration/mnx026

Bylander, M., & Hamilton, E. R. (2015). Loans and Leaving: Migration and the Expansion of Microcredit in Cambodia. *Population Research and Policy Review*, *34*(5), 687–708. https://doi.org/10.1007/s11113-015-9367-8

Carling, J. (2002). Migration in the age of involuntary immobility: Theoretical reflections and Cape Verdean experiences. *Journal of Ethnic and Migration Studies*, *28*(1), 5–42. https://doi.org/10.1080/13691830120103912

Carling, J., & Collins, F. (2018). Aspiration, desire and drivers of migration. *Journal of Ethnic and Migration Studies*, *44*(6), 909–926. https://doi.org/10.1080/1369183X.2017.1384134

Carling, J., & Schewel, K. (2018). Revisiting aspiration and ability in international migration. *Journal of Ethnic and Migration Studies*, *44*(6), 945–963. https://doi.org/10.1080/1369183X.2017.1384146

Carpenter, S., Walker, B., Anderies, J. M., & Abel, N. (2001). From Metaphor to Measurement: Resilience of What to What? *Ecosystems*, *4*(8), 765–781. https://doi.org/10.1007/s10021-001-0045-9

Cashman, A. C. (2011). Case study of institutional and social responses to flooding: Reforming for resilience? *Journal of Flood Risk Management*, *4*(1), 33–41. https://doi.org/10.1111/j.1753-318X.2010.01087.x

Castles, S., Haas, H. de, & Miller, M. J. (2014). *The age of migration: International population movements in the modern world* (Fifth edition.). The Guilford Press.

Chakrya, K. S. (2014, May 28). Villagers await water. *Phnom Penh Post*. http://www.phnompenhpost.com/national/villagers-await-water

Chakrya, K. S., Sassoon Marazzi, A., Seangly, P., Crane, B., & Kaliyann, T. (2016, April 29). Scenes from a drought. *Phnom Penh Post*. http://www.phnompenhpost.com/national-post-depth/scenes-drought

Chandler, D. P. (2000). *A History of Cambodia* (Fourth Edition). Westview Press.

Charles, A., Mbatha, P., Allison, E. H., & Chuenpagdee, R. (2012). Well-Being and Fishery Governance. *Proceedings of the Sixteenth Biennial Conference of the International Institute of Fisheries Economics and Trade, July 16-20*. Visible Possibilities: The Economics of Sustainable Fisheries, Aquaculture and Seafood Trade, Dar es Salaam, Tanzania.

Cheung, W. W. L., Jones, M. C., Reygondeau, G., Stock, C. A., Lam, V. W. Y., & Frölicher, T. L. (2016). Structural uncertainty in projecting global fisheries catches under climate change. *Ecological Modelling*, *325*, 57–66. https://doi.org/10.1016/j.ecolmodel.2015.12.018

Cheung, W. W. L., Lam, V. W. Y., Sarmiento, J. L., Kearney, K., Watson, R., Zeller, D., & Pauly, D. (2009). Large-scale redistribution of maximum fisheries catch potential in the global ocean under climate change. *Global Change Biology*, *16*(1), 24–35. https://doi.org/10.1111/j.1365-2486.2009.01995.x

Cheung, W. W. L., Watson, R., & Pauly, D. (2013). Signature of ocean warming in global fisheries catch. *Nature*, *497*(7449), 365–368. https://doi.org/10.1038/nature12156

Collins, F. L. (2018). Desire as a theory for migration studies: Temporality, assemblage and becoming in the narratives of migrants. *Journal of Ethnic and Migration Studies*, *44*(6), 964–980. https://doi.org/10.1080/1369183X.2017.1384147

Connell, J., & Connell, J. (2016). Development-induced displacement, adaptation and mobility in Cambodia. *Migration and Development*, *5*(3), 413–430. https://doi.org/10.1080/21632324.2014.984900

Cope, M. (2009). Coding Qualitative Data. In *Qualitative research methods in human geography*. https://www.academia.edu/914668/Coding_qualitative_data_3rd_Edition_

Cote, M., & Nightingale, A. J. (2012). Resilience thinking meets social theory: Situating social change in socio-ecological systems (SES) research. *Progress in Human Geography*, *36*(4), 475–489. https://doi.org/10.1177/0309132511425708

Coulthard, S. (2008). Adapting to environmental change in artisanal fisheries—Insights from a South Indian Lagoon. *Global Environmental Change*, *18*(3), 479–489. https://doi.org/10.1016/j.gloenvcha.2008.04.003

Coulthard, S. (2012a). Can We Be Both Resilient and Well, and What Choices Do People Have? Incorporating Agency into the Resilience Debate from a Fisheries Perspective. *Ecology and Society*, *17*(1). https://doi.org/10.5751/ES-04483-170104

Coulthard, S. (2012b). What does the debate around social wellbeing have to offer sustainable fisheries? *Current Opinion in Environmental Sustainability*, *4*(3), 358–363. https://doi.org/10.1016/j.cosust.2012.06.001

Coulthard, S., & Britton, E. (2015). Waving or Drowning: An Exploration of Adaptive Strategies Amongst Fishing Households and Implications for Wellbeing Outcomes. *Sociologia Ruralis*, *55*(3), 275–290. https://doi.org/10.1111/soru.12093

Coulthard, S., Johnson, D., & McGregor, J. A. (2011). Poverty, sustainability and human wellbeing: A social wellbeing approach to the global fisheries crisis. *Global Environmental Change*, *21*(2), 453–463. https://doi.org/10.1016/j.gloenvcha.2011.01.003

Coulthard, S., Paranamana, N., Sandaruwan, L., Manimohan, R., Maya, R., Amarasinghe, O., Koralgama, D., Britton, E., Bene, C., McGregor, A., Pouw, N., Abunge, C., Mbatha, P., Ramachandran, R., Ramachandran, P., & Daw, T. (2015). *Exploring wellbeing in fishing communities: Methods handbook* [Report]. Northumbria University. https://www.researchgate.net/publication/283046223_Exploring_wellbeing_in_fishing_communities_Methods_handbook_Output_from_the_ESRC_WellFish_project_Ref_no_ESI0096042

Coulthard, S., Sandaruwan, K. P. G. L., Paranamana, N., & Koralagama, D. (2014). Taking a Well-being Approach to Fisheries Research: Insights from a Sri Lankan Fishing Village and Relevance for Sustainable Fisheries. In L. Camfield (Ed.), *Methodological Challenges and New Approaches to Research in International Development* (pp. 111–144). Palgrave Macmillan. https://www.researchgate.net/publication/264436616_Taking_a_Well-being_Approach_to_Fisheries_Research_Insights_from_a_Sri_Lankan_Fishing_Village_and_Relevance_for_Sustainable_Fisheries

Cretney, R. (2014). Resilience for Whom? Emerging Critical Geographies of Socio-ecological Resilience: Resilience of What, for Whom? *Geography Compass*, *8*(9), 627–640. https://doi.org/10.1111/gec3.12154

Crothers, L. (2016, May 5). *Animals die as Cambodia is gripped by worst drought in decades*. The Guardian. http://www.theguardian.com/global-development/2016/may/05/animals-die-cambodia-worst-drought-decades

Cumming, G. S., Barnes, G., Perz, S., Schmink, M., Sieving, K. E., Southworth, J., Binford, M., Holt, R. D., Stickler, C., & Holt, T. (2005). An Exploratory Framework for the Empirical Measurement of Resilience. *Ecosystems*, *8*(8), 975–987. https://doi.org/10.1007/s10021-005-0129-z

Cuthill, M., Ross, H., Maclean, K., Owens, K., Witt, B., & King, C. (2008). Reporting Social Outcomes of Development: An analysis of diverse approaches. *The International Journal of Interdisciplinary Social Science*, *3*(6), 145–158.

Cutter, S. L., Barnes, L., Berry, M., Burton, C., Evans, E., Tate, E., & Webb, J. (2008). A place-based model for understanding community resilience to natural disasters. *Global Environmental Change*, *18*(4), 598–606. https://doi.org/10.1016/j.gloenvcha.2008.07.013

Dalis, P., Sokcheng, P., Kimsun, T., & Dorina, P. (2014). Landlessness and Child Labour in Cambodia. *Cambodia Development Resource Institute (CDRI) CDRI. Phnom Phen*.

Davidson, D. J. (2010). The Applicability of the Concept of Resilience to Social Systems: Some Sources of Optimism and Nagging Doubts. *Society & Natural Resources*, *23*(12), 1135–1149. https://doi.org/10.1080/08941921003652940

de Haas, H. (2009). Mobility and Human Development. *IDEAS Working Paper Series from RePEc; St. Louis*. https://search.proquest.com/docview/1699216280?rfr_id=info%3Axri%2Fsid%3Aprimo

de Haas, H. (2010). Migration transitions: A theoretical and empirical inquiry into the developmental drivers of international migration. *IMI Working Paper Series*, *24*. https://www.imi-n.org/publications/wp-24-10

De Haas, H. (2010). Migration and Development: A Theoretical Perspective. *The International Migration Review*, *44*(1), 227–264. https://doi.org/10.1111/j.1747-7379.2009.00804.x

Deb, A. K., & Haque, C. E. (2016). Livelihood Diversification as a Climate Change Coping Strategy Adopted by Small-Scale Fishers of Bangladesh. In W. Leal Filho, H. Musa, G. Cavan, P. O'Hare, & J. Seixas (Eds.), *Climate Change Adaptation, Resilience and Hazards* (pp. 345–368). Springer International Publishing. https://doi.org/10.1007/978-3-319-39880-8_21

Delgado, C. L. (2003). *Fish to 2020: Supply and demand in changing global markets*. International Food Policy Research Institute ; WorldFish Center.

Deneulin, S., & McGregor, J. A. (2010). The capability approach and the politics of a social conception of wellbeing. *European Journal of Social Theory*, *13*(4), 501–519. https://doi.org/10.1177/1368431010382762

Derks, A. (2006). Khmer women and global factories. In L. C.-P. Ollier & T. Winter, *Expressions of Cambodia: The Politics of Tradition, Identity and Change* (p. 12). Routledge, Taylor & Francis Group.

Derks, A. (2008). *Khmer women on the move: Exploring work and life in urban Cambodia*. University of Hawai'i Press. https://books.scholarsportal.info/en/read?id=/ebooks/ebooks3/oso/2016-11-30/1/upso-9780824831288

Deshingkar, P. (2012). Environmental risk, resilience and migration: Implications for natural resource management and agriculture. *Environmental Research Letters*, *7*(1), 015603. https://doi.org/10.1088/1748-9326/7/1/015603

Diener, E., Lucas, R., Schimmack, U., & Helliwell, J. (2009). *Well-Being for Public Policy*. Oxford University Press. http://www.oxfordscholarship.com/view/10.1093/acprof:oso/9780195334074.001.0001/acprof-9780195334074

Diepart, J.-C. (2016). *They will need land! The current land tenure situation and future land allocation needs of smallholder farmers in Cambodia*. Mekong Region Land Governance (MRLG).

Diepart, J.-C. (2017, October 1). Relations between peasantry and state in contemporary Cambodia: A critical journey from lowland to upland regions. *The Focus*, *No. 78*.

Diepart, J.-C., & Dupuis, D. (2013). *The Peasants in Turmoil: State Formation, Power and the Control of Land in the Northwest Cambodia*. Property and Citizenship in Developing Societies, University of Copenhagen, 28-31 May 2013, University of Copenhagen.

Diepart, J.-C., Pilgrim, J., & Dulioust, J. (2014). Chapter 10—Migrations. In *Atlas of Cambodia. Maps on socio-economic development and environment* (2nd edition, pp. 89–96). Save Cambodia's Wildlife. http://www.cambodiaswildlife.org/index.php/publications/atlas-of-cambodia

DoF Thailand. (2015). *Marine Fisheries Management Plan of Thailand: A National Policy for Marine Fisheries Management—2015—2019*. Department of Fisheries (DoF), Ministry of Agriculture and Cooperatives, Thailand. http://www.seafdec.org/documents/marine-fisheries-management-plan-thailand.pdf

Doma, D. (2011). *Assessment of the Status of Marine Fisheries Resources and Management Practices in Sre Ambel Area, Cambodia*. Rufford Small Grant Foundation. http://www.rufford.org/rsg/projects/dok_doma

Dongus, S., Pfeiffer, C., Metta, E., Mbuyita, S., & Obrist, B. (2010). Building multi-layered resilience in a malaria control programme in Dar es Salaam, Tanzania. *Progress in Development Studies*, *10*(4), 309–324. https://doi.org/10.1177/146499340901000404

Dun, O. (2014). *Shrimp, Salt and Livelihoods: Migration in the Mekong Delta, Vietnam* [Doctoral thesis]. University of Sydney.

EJF. (2013). *Sold to the Sea: Human Trafficking…* [Text/html]. https://ejfoundation.org/reports/sold-to-the-sea-human-trafficking-in-thailands-fishing-industry

EJF. (2015). *Thailand Seafood Slaves: Human Trafficking, Slavery and Murder in Kantang's Fishing Industry*. Environmental Justice Foundation. https://ejfoundation.org/resources/downloads/EJF-Thailand-Seafood-Slaves-low-res.pdf

Engvall, A., Sjöberg, Ö., & Sjöholm, F. (2007). *Poverty in Rural Cambodia: The Differentiated Impact of Linkages, Inputs and Access to Land* (IFN Working Paper No. 706). Research Institute of Industrial Economics.

Estepa, N., Srey, S., Lay, R., Theang, V., Kuch, P., Khun, S., Johnstone, G., Poulin, P., Ouch, K., Simpson, V., Starr, P., & Baran, E. (2016). *Trends, opportunities and constraints in the contribution of fish to the welfare of rural communities in Cambodia* (p. 34). Inland Fisheries Research and Development Institute (Fisheries Administration) and WorldFish. http://pubs.iclarm.net/resource_centre/WF-4072.pdf

Fabinyi, M., Evans, L., & Foale, S. J. (2014). Social-ecological systems, social diversity, and power: Insights from anthropology and political ecology. *Ecology and Society*, *19*(4). https://doi.org/10.5751/ES-07029-190428

FAO. (2011). *National Fishery Sector Overview—Cambodia* (Fishery and Aquaculture Country Profiles). ftp://ftp.fao.org/fi/document/fcp/en/FI_CP_KH.pdf

FAO. (2014). *The State of World Fisheries and Aquaculture 2014*. Food and Agriculture Organization of the United Nations (FAO). http://www.fao.org/3/a-i3720e/index.html

FAO. (2016). *The State of World Fisheries and Aquaculture 2016 (SOFIA)*. FAO. www.fao.org/3/a-i5555e.pdf

Felli, R. (2016). The World Bank's Neoliberal Language of Resilience. In *Risking Capitalism* (Vol. 31, pp. 267–295). Emerald Group Publishing Limited. https://doi.org/10.1108/S0161-723020160000031014

Fernandes, R. (2012). Job satisfaction in the marine and estuarine fisheries of Guinea-Bissau. *Social Indicators Research*, *109*(1), 11–23. https://doi.org/10.1007/s11205-012-0052-6

FiA. (2011). *Status of the fishery sector in 2011 and targets for 2012*. Fisheries Administration; Ministry of Agriculture, Forestry and Fisheries.

Fitzgerald, I., & So, S. (2007). *Moving Out of Poverty? Trends in Community Well-Being and Household Mobility in Nine Cambodian Villages*. Cambodia Development Resource Institute. http://siteresources.worldbank.org/INTMOVOUTPOV/Resources/2104215-1187710751691/Cambodia_NSR_Final.pdf

Folke, C. (2006). Resilience: The emergence of a perspective for social–ecological systems analyses. *Global Environmental Change*, *16*(3), 253–267. https://doi.org/10.1016/j.gloenvcha.2006.04.002

Folke, C., Carpenter, S. R., Walker, B., Scheffer, M., Chapin, T., & Rockström, J. (2010). Resilience thinking: Integrating resilience, adaptability and transformability. *Ecology & Society*, *15*(4). http://search.ebscohost.com/login.aspx?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=17083087&AN=66785187&h=b5DhyM5BARCCb1QnG7d0z1Tr2BuUbShZSdhsUdNp16esbuL2gWK%2BqNVZIlhKsor63dvJbx3yklsi5JXDTh1UVg%3D%3D&crl=c

Foresight. (2011). *Foresight: Migration and Global Environmental Change*. http://webarchive.nationalarchives.gov.uk/20121212135622/http://www.bis.gov.uk/foresight/our-work/projects/current-projects/global-migration

Froese, R., Zeller, D., Kleisner, K., & Pauly, D. (2012). What catch data can tell us about the status of global fisheries. *Marine Biology*, *159*(6), 1283–1292. https://doi.org/10.1007/s00227-012-1909-6

Garces, L. R., Pido, M. P., & Pomeroy, R. S. (2008). Fisheries in Southeast Asia: Challenges and Opportunities. In A. Pandya & E. Laipson (Eds.), *Transnational Trends: Middle Eastern and Asian Views*. The Henry L. Stimson Center.

Gillam, C., & Charles, A. (2018). Fishers in a Brazilian Shantytown: Relational wellbeing supports recovery from environmental disaster. *Marine Policy*, *89*, 77–84. https://doi.org/10.1016/j.marpol.2017.12.008

Gillett, R. (2004). *The marine fisheries of Cambodia*. Food and Agriculture Organization of the United Nations (FAO). ftp://193.43.36.93/docrep/fao/007/j1617e/j1617e00.pdf

Glantz, M. D., & Johnson, J. L. (1999). *Resilience and Development: Positive Life Adaptations*. Kluwer Academic Publishers. http://ebookcentral.proquest.com/lib/ottawa/detail.action?docID=3035427

Glavovic, B., Scheyvens, R., & Overton, J. (2003). Waves of adversity, layers of resilience: Exploring the sustainable livelihoods approach. In D. Storey, J. Overton, & B. N. Eds (Eds.), *Proceedings o 3rd Biennial Conference of the Aotearora New Zealand International Development Network (DevNet)* (pp. 289–293). Institute of Development Studies. https://www.academia.edu/31207793/WAVES_OF_ADVERSITY_LAYERS_OF_RESILIENCE_Exploring_the_sustainable_livelihoods_approach

Global Witness. (2009). *Country for Sale: How Cambodia's elite has captured the country's exractive industries*. Global Witness.

Global Witness. (2010). *Shifting Sand: How Singapore's demand for Cambodian sand threatens ecosystems and undermines good governance*. https://www.globalwitness.org/en/reports/country-sale/

Gooch, M., Butler, J. R. A., Cullen-Unsworth, L. C., Rigano, D., & Manning, C. (2012). Community-Derived Indicator Domains for Social Resilience to Water Quality Decline in a Great Barrier Reef Catchment, Australia. *Society & Natural Resources*, *25*(5), 421–439. https://doi.org/10.1080/08941920.2011.608183

Gough, I., & McGregor, J. A. (Eds.). (2007). *Wellbeing in Developing Countries: From Theory to Research*. Cambridge University Press. http://ebooks.cambridge.org/ref/id/CBO9780511488986

Gough, I., McGregor, J. A., & Camfield, L. (2007a). Chapter 1—Theorising wellbeing in international development. In *Wellbeing in Developing Countries*. Cambridge University Press. http://dx.doi.org/10.1017/CBO9780511488986.002

Gough, I., McGregor, J. A., & Camfield, L. (2007b). Theorising wellbeing in international development. In *Wellbeing in Developing Countries*. Cambridge University Press. http://dx.doi.org/10.1017/CBO9780511488986.002

Grigg, D. B. (1977). E. G. Ravenstein and the "laws of migration." *Journal of Historical Geography*, *3*(1), 41–54. https://doi.org/10.1016/0305-7488(77)90143-8

Haan, A. de. (2000). *Migrants, Livelihoods, and Rights: The relevance of migration in development policies*. 44.

Haan, A. de, Brock, K., Carswell, G., Coulibaly, N., Seba, H., & Ali Toufique, K. (2000). *Migration and livelihoods: Case studies in Bangladesh, Ethiopia and Mali* (IDS Research Report Issue 46). Institute of Development Studies.

Haapala, U. (2003). *Where do you go? Migration and urbanisation in Cambodia*. http://agris.fao.org/agris-search/search.do?recordID=GB2013200064

Hanh, T. T. H. (2011). *Income Diversification In Fishing And Aquaculture In The Tam Giang Lagoon – Adaptation To Climate Change Or Not?* [Master Thesis, Hue Agricultural and Forestry University]. https://stud.epsilon.slu.se/2362/1/Hanh_Tong_110316.pdf

Hap, N., Un, S., & Nasielski, J. (2016). *A review of socioeconomic studies in the fisheries sector in Cambodia.* Inland Fisheries Research and Development Institute (Fisheries Administration) and WorldFish. http://pubs.iclarm.net/resource_centre/WF-4074.pdf

Harris, J. R., & Todaro, M. P. (1970). Migration, unemployment and development: A two-sector analysis. *The American Economic Review*, *60*(1), 126–142.

Heinonen, U. (2006a). Environmental Impact on Migration in Cambodia: Water-related Migration from the Tonle Sap Lake Region. *International Journal of Water Resources Development*, *22*(3), 449–462. https://doi.org/10.1080/07900620500482865

Heinonen, U. (2006b). Environmental Impact on Migration in Cambodia: Water-related Migration from the Tonle Sap Lake Region. *International Journal of Water Resources Development*, *22*(3), 449–462. https://doi.org/10.1080/07900620500482865
Heuveline, P. (1998). "Between One and Three Million": Towards the Demographic Reconstruction of a Decade of Cambodian History (1970-79). *Population Studies*, *52*(1), 49–65.
Heuveline, P., & Poch, B. (2007). The Phoenix Population: Demographic Crisis and Rebound in Cambodia. *Demography*, *44*(2), 405–426.
Hing, V., Lun, P., & Phann, D. (2011). *Irregular migration from Cambodia: Characteristics, challenges and regulatory approach*. CDRI. http://dirp4.pids.gov.ph/ris/dps/pidsdps1126.pdf
Holling, C. S. (1973). Resilience and Stability of Ecological Systems. *Annual Review of Ecology and Systematics*, *4*, 1–23.
Holling, C. S. (1996). Engineering Resilience versus Ecological Resilience. In P. Schulze (Ed.), *Engineering Within Ecological Constraints*. https://doi.org/10.17226/4919
Holling, C. S. (2001). Understanding the Complexity of Economic, Ecological, and Social Systems. *Ecosystems*, *4*(5), 0390–0405.
Horlings, J., & Marschke, M. (2019). Fishing, farming and factories: Adaptive development in coastal Cambodia. *Climate and Development*, *0*(0), 1–11. https://doi.org/10.1080/17565529.2019.1645637
Hortle, K. G. (2007). *Consumption and the yield of fish and other aquatic animals from the Lower Mekong Basin* (MRC Technical Paper No. 16). Mekong River Commission.
Hsieh, H.-F., & Shannon, S. (2005). Three Approaches to Qualitative Content Analysis. *Qualitative Health Research*, *15*(9), 1277–1288. https://doi.org/10.1177/1049732305276687
Hugo, G. J. (1981). Village-Community Ties, Village Norms, and Ethnic and Social Networks: A Review of Evidence from the Third World. In G. F. D. Jong & R. W. Gardner (Eds.), *Migration Decision Making* (pp. 186–224). Pergamon. https://doi.org/10.1016/B978-0-08-026305-2.50013-9
Human Rights Watch. (2011). *"They Deceived Us at Every Step": Abuse of Cambodian Domestic Workers Migrating to Malaysia*. Human Rights Watch. https://www.hrw.org/sites/default/files/reports/cambodia1111webwcover.pdf
Hursthouse, R., & Pettigrove, G. (2016). Virtue Ethics. In E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* (Winter 2016). Metaphysics Research Lab, Stanford University. https://plato.stanford.edu/archives/win2016/entries/ethics-virtue/
IDRC. (1997). *CBNRM - Community-Based Mangrove Management (Cambodia)—Phase I - Project Number: 040401*. http://idris.idrc.ca/app/Search?request=directAccess&projectNumber=040401&language=en
IDRC. (2000). *CBNRM - Community-Based Mangrove Management (Cambodia)—Phase II - Project Number: 100556*. http://idris.idrc.ca/app/Search?request=directAccess&projectNumber=100556&language=en
IDRC. (2003). *Sustainable Livelihoods—Community-based Coastal Resource Management (CBCRM) in Southeast Asia*. http://idris.idrc.ca/app/Search?request=directAccess&projectNumber=101093&language=en

IFReDI. (2013). *Food and nutrition security vulnerability to mainstream hydropower dam development in Cambodia* (Synthesis Report of the FiA/Danida/WWF/Oxfam Project "Food and Nutrition Security Vulnerability to Mainstream Hydropower Dam Development in Cambodia," p. 45). Inland Fisheries Research and Development Institute (IFReDI); Fisheries Administration. http://pubs.iclarm.net/resource_centre/IFReDI.2013.Mainstream-dams-and-nutrition-in-Cambodia.pdf

ILO. (2013). *Cambodia Labour Force and Child Labour Survey 2012: Labour Force Report*. International Labour Organization (ILO); International Programme on the Elimination of Child Labour (IPEC); National Institute of Statistics (NIS). http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---sro-bangkok/documents/publication/wcms_230721.pdf

ILO. (2014). *ASEAN community 2015: Managing integration for better jobs and shared prosperity*. International Labour Organization (ILO) and Asian Development Bank (ADB). https://www.adb.org/sites/default/files/publication/42818/asean-community-2015-managing-integration.pdf

IUCN. (2012, July 23). *IUCN - Fishery Communities in Koh Kong are being affected by climate change*. http://www.iucn.org/about/union/secretariat/offices/asia/asia_where_work/cambodia/?10505/Fishery-Communities-in-Koh-Kong-are-being-affected-by-climate-change

IUCN. (2013). *Building Resilience to Climate Change Impacts: Coastal Southeast Asia (Koh Kong Province, Cambodia)*. International Union for Conservation of Nature (IUCN).

IUCN. (2016). *Mangroves for the Future (MFF) Cambodia Fact Sheet*. International Union for Conservation of Nature (IUCN). https://www.iucn.org/sites/dev/files/content/documents/mff-cambodia_factsheet.pdf

IUCN. (2017, November 16). *Planning for the future of Peam Krasop Wildlife Sanctuary*. IUCN. https://www.iucn.org/news/cambodia/201711/planning-future-peam-krasop-wildlife-sanctuary

Jarre, A., Ragaller, S. M., & Hutchings, L. (2013). Long-term, Ecosystem-Scale Changes in the Southern Benguela Marine Pelagic Social-Ecological System: Interaction of Natural and Human Drivers. *Ecology and Society*, *18*(4). JSTOR. www.jstor.org/stable/26269422

Jentoft, S., Chuenpagdee, R., Barragán-Paladines, M. J., & Franz, N. (2017). *The Small-Scale Fisheries Guidelines: Global Implementation*. Springer.

Johnson, D., Acott, T., & Jentoft, S. (2016, September 1). *Diverse values, wellbeing, and the governance of small-scale fisheries* [TBTI Webinar # 8]. http://toobigtoignore.net/wp-content/uploads/2016/02/Diverse-values.pdf

Johnson, D. S. (2006). Category, narrative, and value in the governance of small-scale fisheries. *Marine Policy*, *30*(6), 747–756. https://doi.org/10.1016/j.marpol.2006.01.002

Jones, R. W., & Sok, S. (2015). Impacts and Implications of Deep Fisheries Reforms on the Governability of Small-Scale Fisheries in Tonle Sap Lake, Cambodia. In *Interactive Governance for Small-Scale Fisheries* (pp. 539–557). Springer, Cham. https://doi.org/10.1007/978-3-319-17034-3_28

Joseph, J. (2013). Resilience as embedded neoliberalism: A governmentality approach. *Resilience*, *1*(1), 38–52. https://doi.org/10.1080/21693293.2013.765741

Kapur, D. (2004). *Remittances: The New Development Mantra?* (No. 29; G-24 Discussion Paper Series). United Nations Conference on Trade and Development. https://unctad.org/en/Docs/gdsmdpbg2420045_en.pdf

Kastl, B., Kimsreng, K., Kong, S., Chuerattanakul, S., Prohorsarith, N., & Ran, O. (2013). *Study of Coastal Mangrove Forest Devastation and Channel Sedimentation: Community-based Solutions Koh Kong Province, Cambodia* (Building Coastal Resilience, p. 40). International Union for Conservation of Nature (IUCN).

Kaur, A. (2004). Economy and Society in Southeast Asia, c.1800. In *Wage Labour in Southeast Asia since 1840* (pp. 16–24). Palgrave Macmillan, London. https://doi.org/10.1057/9780230511132_2

Kaur, A. (2010a). Labour migration in Southeast Asia: Migration policies, labour exploitation and regulation. *Journal of the Asia Pacific Economy*, *15*(1), 6–19. https://doi.org/10.1080/13547860903488195

Kaur, A. (2010b). Labour migration trends and policy challenges in Southeast Asia. *Policy and Society*, *29*(4), 385–397. https://doi.org/10.1016/j.polsoc.2010.09.001

Kaur, A., & Metcalfe, I. (2006). *Mobility, labour migration and border controls in Asia*. Palgrave Macmillan.

Kawarazuka, N., & Béné, C. (2010). Linking small-scale fisheries and aquaculture to household nutritional security: An overview. *Food Security*, *2*(4), 343–357. https://doi.org/10.1007/s12571-010-0079-y

Kawarazuka, N., Locke, C., McDougall, C., Kantor, P., & Morgan, M. (2017). Bringing analysis of gender and social–ecological resilience together in small-scale fisheries research: Challenges and opportunities. *Ambio*, *46*(2), 201–213. https://doi.org/10.1007/s13280-016-0814-5

Keck, M., & Sakdapolrak, P. (2013). What is social resilience? Lessons learned and ways forwrd. *Erdkunde*, *67*(1), 5–19.

Kennard, M., & Provost, C. (2016, July 25). Inside the Corporate Utopias Where Capitalism Rules and Labor Laws Don't Apply. *In These Times*, *August Issue*. http://www.inthesetimes.com/features/special-economic-zones-corporate-utopia-capitalism.html

Khalili, S., Harre, M., & Morley, P. (2015). A temporal framework of social resilience indicators of communities to flood, case studies: Wagga wagga and Kempsey, NSW, Australia. *International Journal of Disaster Risk Reduction*, *13*(Complete), 248–254. https://doi.org/10.1016/j.ijdrr.2015.06.009

Khan, I. A., Ali, Z., Asaduzzaman, M., Bhuyan, R., & Harunur, M. (2010). *The social dimensions of adaptation to climate change in Bangladesh* (No. 58899; pp. 1–98). The World Bank. http://documents.worldbank.org/curated/en/920271468174884196/The-social-dimensions-of-adaptation-to-climate-change-in-Bangladesh

Kheang, S. (2013a). Vulnerability and Migration of Small-Scale Fishing and Fishing-Farming Households around Tonle Sap Lake MA Thesis. *Faculty of Political Science, Chulalongkorn University: Bangkok Uncategorized Project: Flooding and Migration in Southeast Asia Posted on January*, *1*. http://carlmiddleton.net/author/CarlMiddleton/

Kheang, S. (2013b). *Vulnerability and Migration of Small-Scale Fishing and Fishing-Farming Households around Tonle Sap Lake MA Thesis*. http://carlmiddleton.net/author/CarlMiddleton/

Kiernan, B. (2002). *The Pol Pot Regime: Race, Power, and Genocide in Cambodia Under the Khmer Rouge, 1975-79*. Yale University Press.

Kirbyshire, A., Lovell, E., Morsi, H., Sayers, P., Tanner, T., & Weingärtner, L. (2017). *Resilience Scan | July–September 2017: A review of literature, debates and social media on resilience*. Overseas Development Institute (ODI). https://www.odi.org/publications/11011-resilience-scan-july-september-2017

Kneebone, S. (2010). The Governance of Labor Migration in Southeast Asia. *Global Governance*, *16*(3), 383–396.

Kramer, R. A., Simanjuntak, S. M. H., & Liese, C. (2002). Migration and Fishing in Indonesian Coastal Villages. *AMBIO: A Journal of the Human Environment*, *31*(4), 367–372. https://doi.org/10.1579/0044-7447-31.4.367

Kurien, J. (2014). *On Developing Guidelines for Securing Sustainable Small-Scale Fisheries: Sharing Processes, Resources, and Lessons Learnt from Cambodia*. Food and Agricultural Organization. https://www.academia.edu/8280340/Formulating_Cambodias_Small-Scale_Fisheries_Guidelines

Lahmeyer, J. (2003). *Cambodia: Historical demographical data by administrative division*. http://populstat.info/Asia/cambodip.htm

Lamb, V., Marschke, M., & Rigg, J. (2019). Trading Sand, Undermining Lives: Omitted Livelihoods in the Global Trade in Sand. *Annals of the American Association of Geographers*, *0*(0), 1–18. https://doi.org/10.1080/24694452.2018.1541401

Langridge, R., Christian-Smith, J., & Lohse, K. (2006). Access and Resilience: Analyzing the Construction of Social Resilience to the Threat of Water Scarcity. *Ecology and Society*, *11*(2). https://doi.org/10.5751/ES-01825-110218

Larsen, R. K., Calgaro, E., & Thomalla, F. (2011). Governing resilience building in Thailand's tourism-dependent coastal communities: Conceptualising stakeholder agency in social–ecological systems. *Global Environmental Change*, *21*(2), 481–491. https://doi.org/10.1016/j.gloenvcha.2010.12.009

Lau, J. D., Hicks, C. C., Gurney, G. G., & Cinner, J. E. (2019). What matters to whom and why? Understanding the importance of coastal ecosystem services in developing coastal communities. *Ecosystem Services*, *35*, 219–230. https://doi.org/10.1016/j.ecoser.2018.12.012

Leach, M. (2008). *Re-framing resilience: Trans-disciplinarity, reflexivity and progressive sustainability–a symposium report*. http://opendocs.ids.ac.uk/opendocs/handle/123456789/2315

Lee, E. S. (1966). A theory of migration. *Demography*, *3*(1), 47–57.

Len, L., & Retka, J. (2018, September 10). How sand dredging in Koh Kong bled the fishing community dry. *Southeast Asia Globe Magazine*. http://sea-globe.com/sand-dredging-koh-kong/

Lewis, W. A. (1954). Economic development with unlimited supplies of labour. *The Manchester School*, *22*(2), 139–191.

Lorenz, D. (2013). The diversity of resilience: Contributions from a social science perspective. *Natural Hazards*, *67*(1), 7–24. https://doi.org/10.1007/s11069-010-9654-y

Luco, F. (2002). *Between the tiger and the crocodile: Management of Local Conflicts in Cambodia, an Anthropological Approach to Traditional and New Practice* (UNESCO Report KH/EDU/2002/RP/2). UNESCO. https://www.academia.edu/20210738/Between_the_tiger_and_the_crocodile

Mabogunje, A. L. (1970). Systems approach to a theory of rural-urban migration. *Geographical Analysis*, *2*(1), 1–18.
Maclean, K., Cuthill, M., & Ross, H. (2014). Six attributes of social resilience. *Journal of Environmental Planning and Management*, *57*(1), 144–156. https://doi.org/10.1080/09640568.2013.763774
Maclean, K., Ross, H., Cuthill, M., & Witt, B. (2017). Converging disciplinary understandings of social aspects of resilience. *Journal of Environmental Planning and Management*, *60*(3), 519–537. https://doi.org/10.1080/09640568.2016.1162706
MAFF. (2010). *"Fishing for the future": The Strategic Planning Framework for Fisheries: 2010—2019*. Ministry of Agriculture, Forestry and Fisheries (MAFF). http://extwprlegs1.fao.org/docs/pdf/cam143042.pdf
Magis, K. (2010). Community Resilience: An Indicator of Social Sustainability. *Society & Natural Resources*, *23*(5), 401–416. https://doi.org/10.1080/08941920903305674
Maimbo, S. M. R., Dilip. (2005). *Remittances: Development Impact and Future Prospects*. The World Bank. https://doi.org/10.1596/0-8213-5794-8
Maltoni, B. (2007). *Migration in Cambodia: Internal vs. External Flows*. 8th ARPMN Conference on "Migration, Development and Poverty Reduction," Fuzhou (China).
Marschke, M. (1999). *Using Local Environmental Knowledge: A case-study of mangrove resource management practices in Peam Krasaop Wildlife Sanctuary, Cambodia* [Master's Thesis, Dalhousie University]. http://www.collectionscanada.gc.ca/obj/s4/f2/dsk1/tape8/PQDD_0015/MQ49406.pdf
Marschke, M. (2005). *Livelihood in context: Learning with Cambodian fishers* [Doctoral thesis, University of Manitoba]. http://mspace.lib.umanitoba.ca/bitstream/handle/1993/18079/Marschke_Livelihood_in.pdf?sequence=1
Marschke, M. (2012). *Life, Fish and Mangroves: Resource Governance in Coastal Cambodia*. http://www.ruor.uottawa.ca/handle/10393/20676
Marschke, M. (2014, June 12). Sand mining returns – dredging for every last grain within Cambodia's coastal protected area. *Melissa Marschke*. https://melissamarschke.wordpress.com/2014/06/12/sand-mining-returns-dredging-for-every-last-grain-within-a-coastal-protected-area/
Marschke, M., & Berkes, F. (2005). Local level sustainability planning for livelihoods: A Cambodian experience. *International Journal of Sustainable Development & World Ecology*, *12*(1), 21–33. https://doi.org/10.1080/13504500509469615
Marschke, M., & Berkes, F. (2006). Exploring strategies that build livelihood resilience: A case from Cambodia. *Ecology and Society*, *11*(1), 42.
Marschke, M., Lykhim, O., & Kim, N. (2014). Can Local Institutions Help Sustain Livelihoods in an Era of Fish Declines and Persistent Environmental Change? A Cambodian Case Study. *Sustainability*, *6*(5), 2490–2505. https://doi.org/10.3390/su6052490
Marschke, M., & Nong, K. (2003). Adaptive co-management: Lessons from coastal Cambodia. *Canadian Journal of Development Studies/Revue Canadienne d'études Du Développement*, *24*(3), 369–383.
Marschke, M., & Sinclair, A. J. (2009). Learning for sustainability: Participatory resource management in Cambodian fishing villages. *Journal of Environmental Management*, *90*(1), 206–216. https://doi.org/10.1016/j.jenvman.2007.08.012

Marshall, N. A. (2007). Can policy perception influence social resilience to policy change? *Fisheries Research*, *86*(2–3), 216–227. https://doi.org/10.1016/j.fishres.2007.06.008
Marshall, N. A., & Marshall, P. A. (2007). Conceptualizing and operationalizing social resilience within commercial fisheries in northern Australia. *Ecology and Society*, *12*(1), 1.
Marshall, N., Marshall, P., & Abdulla, A. (2009). Using social resilience and resource dependency to increase the effectiveness of marine conservation initiatives in Salum, Egypt. *Journal of Environmental Planning and Management*, *52*(7), 901–918. https://doi.org/10.1080/09640560903180982
Martin-Breen, P., & Anderies, J. M. (2011). *Resilience: A literature review*. http://opendocs.ids.ac.uk/opendocs/handle/123456789/3692
Mason, J. (2004). Semistructured Interview. In M. Lewis-Beck, A. Bryman, & T. Liao, *Encyclopedia of Social Science Research Methods*. SAGE Publications, Inc. http://knowledge.sagepub.com/view/socialscience/n909.xml
Massey, D. S., Arango, J., Hugo, G., Kouaouci, A., Pellegrino, A., & Taylor, J. E. (1993). Theories of International Migration: A Review and Appraisal. *Population and Development Review*, *19*(3), 431. https://doi.org/10.2307/2938462
Massey, D. S., & España, F. G. (1987). The Social Process of International Migration. *Science*, *237*(4816), 733–738. https://doi.org/10.1126/science.237.4816.733
McCann, K. S., Gellner, G., McMeans, B. C., Deenik, T., Holtgrieve, G., Rooney, N., Hannah, L., Cooperman, M., & Nam, S. (2016). Food webs and the sustainability of indiscriminate fisheries. *Canadian Journal of Fisheries and Aquatic Sciences*, *73*(4), 656–665. https://doi.org/10.1139/cjfas-2015-0044
McCay, B. J., Weisman, W., & Creed, C. (2011). Coping with Environmental Change. In *World Fisheries: A Social-Ecological Analysis* (pp. 381–400). John Wiley & Sons, Ltd. https://doi.org/10.1002/9781444392241.ch23
McCubbin, L. D., McCubbin, H. I., Zhang, W., Kehl, L., & Strom, I. (2013). Relational Well-being: An Indigenous Perspective and Measure. *Family Relations*, *62*(2), 354–365. https://doi.org/10.1111/fare.12007
McDowell, C., & de Haan, A. (1997). *Migration and Sustainable Livelihoods: A Critical Review of the Literature*. https://opendocs.ids.ac.uk/opendocs/handle/123456789/3369
McGoodwin, J. (2001). *Understanding the Cultures of Fishing Communities: A Key to Fisheries Management and Food Security* [FAO fisheries technical paper 401]. Food and Agriculture Organization of the United Nations (FAO). http://www.fao.org/docrep/004/Y1290E/y1290e00.htm
McGregor, A. (2008). *Wellbeing, Poverty and Conflict* [Briefing Paper 1/08]. University of Bath. http://www.ids.ac.uk/publication/wellbeing-poverty-and-conflict
McGregor, D. P., Morelli, P. T., Matsuoka, J. K., & Minerbi, L. (2003). An ecological model of wellbeing. In H. A. Becker & F. Vanclay (Eds.), *The International Handbook of Social Impact Assessment: Conceptual and Methodological Advances* (pp. 109 – 126). Edward Elgar Publishing.
McGregor, J. Allister. (2007). Chapter 14—Researching wellbeing: From concepts to methodology. In *Wellbeing in Developing Countries*. Cambridge University Press. http://dx.doi.org/10.1017/CBO9780511488986.002
McGregor, J. Allister. (2008). Wellbeing, development and social change in Thailand. *Thammasat Economic Journal*, *26*(2), 1–27.

McGregor, J. Allister, Camfield, L., & Woodcock, A. (2009). Needs, Wants and Goals: Wellbeing, Quality of Life and Public Policy. *Applied Research in Quality of Life*, *4*(2), 135–154. https://doi.org/10.1007/s11482-009-9069-7

McGregor, J. Allister, McKay, A., & Velazco, J. (2007). Needs and resources in the investigation of well-being in developing countries: Illustrative evidence from Bangladesh and Peru. *Journal of Economic Methodology*, *14*(1), 107–131. https://doi.org/10.1080/13501780601170115

McGregor, J.A. (2009). Human Wellbeing in Fishing Communities. *"Building Capacity for Sustainable Governance in South Asian Fisheries: Poverty, Wellbeing and Deliberative Policy Networks."* Ecosystem Services and Poverty Alleviation (ESPA) Workshop 1, Institute for Ocean Management, Chennai, India. https://www.ids.ac.uk/idspublication/human-wellbeing-in-fishing-communities

McGregor, J.A., & Summer, A. (2009). *After 2015: '3D human wellbeing'"* (Policy Brief No. 09; In Focus Policy Briefing). Institute of Development Studies (IDS).

McKay, A., Mussida, C., & Veruete, L. (2016). *The nature of youth employment in Cambodia: Informal activity continues to dominate despite consistent economic growth*. http://www.aiel.it/cms/cms-files/submission/all20160905124043.pdf

McKenney, B., & Tola, P. (2002). *Natural Resources and Rural Livelihoods in Cambodia: A baseline assessment* [Working Paper 23]. Cambodia Development Resource Institute (CDRI).

McLeman, R., & Smit, B. (2006). Migration as an Adaptation to Climate Change. *Climatic Change*, *76*(1–2), 31–53. https://doi.org/10.1007/s10584-005-9000-7

MEA (Ed.). (2005). *Ecosystems and human well-being: Synthesis*. Island Press.

Middleton, C., & Un, B. (2017). Living with the flood: A political ecology of fishing, farming, and migration around Tonle Sap Lake, Cambodia. In C. Middleton, R. Elmhirst, & S. Chantavanich (Eds.), *Living with Floods in a Mobile Southeast Asia: A Political Ecology of Vulnerability, Migration and Environmental Change* (1st ed.). Routledge. https://doi.org/10.4324/9781315761435

Milne, S. (2015). Cambodia's Unofficial Regime of Extraction: Illicit Logging in the Shadow of Transnational Governance and Investment. *Critical Asian Studies*, *47*(2), 200–228. https://doi.org/10.1080/14672715.2015.1041275

Milne, S., & Mahanty, S. (2015). *Conservation and development in Cambodia: Exploring frontiers of change in nature, state and society*. Routledge.

Ministry of Planning. (2013). *Cambodia Inter-Censal Population Survey 2013* (p. 148). Ministry of Planning (Cambodia). http://countryoffice.unfpa.org/cambodia/?publications=8711

MLVT. (2014). *Policy on Labour Migration for Cambodia*. Ministry of Labour and Vocational Training (MLVT). http://un-act.org/publication/view/policy-on-labour-migration-for-cambodia/

MoE Cambodia. (2000). *Mangrove Meanderings: Learning about life in Peam Krasaop Wildlife Sanctuary* (Participatory Management of Mangrove Resources (PMMR) Phase 1 Final Report). IDRC & Ministry of Environment (MoE) Cambodia. https://idl-bnc-idrc.dspacedirect.org/handle/10625/30977

MoE Cambodia. (2001). *Map of Koh Kang's Community InProtected Area of Peam Krasaop Wildlife Sanctuary (PKWS)* [Map]. Ministry of Environment (Cambodia).

Moench, M., Norton, R., & Venkateswaran, K. (2015). *Refining the Resilience Narrative: A critical reflective review of the current discourse*. Institute for Social and Environmental Transition (ISET)-International.

Molyaneth, H. (2012). *Revisiting Poverty-Migration Nexus: Causes and Effects of Cambodia-Thailand Cross-Border Migration* [PhD dissertation]. Nagoya University.

Mousset, E., & Baran, E. (2016). Variability in the contribution of fisheries to the welfare of rural Cambodians. *Catch and Culture - Environment*, *22*(02). https://www.academia.edu/31846092/Variability_in_the_contribution_of_sheries_to_the_welfare_of_rural_Cambodians

Mousset, E., Rogers, V., Saray, S., Ouch, K., Srey, S., Mith, S., & Baran, E. (2016). *Role and value of fish in the welfare of rural communities in Cambodia (welfare data analysis)* (p. 102). Inland Fisheries Research and Development Institute (Fisheries Administration) and WorldFish.

Muyhong, C. (2015, June 16). El Niño raises drought fears. *Phnom Penh Post*. http://www.phnompenhpost.com/business/el-nino-raises-drought-fears

Narim, K., & Paviour, B. (2016, November 17). Sand Extraction in Koh Kong Province Halted, Ministry Says. *The Cambodia Daily*. https://www.cambodiadaily.com/news/sand-extraction-koh-kong-province-halted-ministry-says-120637/

Nasielski, J., Baran, E., & Tress, J. (2013, April 28). *Role of fish in rural livelihoods: Methodology for a welfare-based assessment*. 10th Asian Fisheries and Aquaculture Forum (30 April – 4 May 2013), Yeosu, Korea. https://doi.org/10.13140/RG.2.1.4405.2084

Nayak, P. K., Oliveira, L. E., & Berkes, F. (2014). Resource degradation, marginalization, and poverty in small-scale fisheries: Threats to social-ecological resilience in India and Brazil. *Ecology and Society*, *19*(1), 73.

Ngor, P. B., McCann, K. S., Grenouillet, G., So, N., McMeans, B. C., Fraser, E., & Lek, S. (2018). Evidence of indiscriminate fishing effects in one of the world's largest inland fisheries. *Scientific Reports*, *8*(1), 1–12. https://doi.org/10.1038/s41598-018-27340-1

NIER. (2015). *Social Protection and Migration in Cambodia*. Nuppun Institute for Economic Research (NIER).

NIS. (1998). *Cambodia General Population Census 1998*. National Institute of Statistics (NIS). http://redatam.org/redkhm/census/khm1998/

NIS. (2009). *General Population Census of Cambodia 2008—National Report on Final Census Results*. National Institute of Statistics (NIS). http://www.stat.go.jp/english/info/meetings/cambodia/final_br.htm

NIS. (2013). *Cambodia Inter-Censal Population Survey 2013* (p. 148). National Institute of Statistics (NIS). http://countryoffice.unfpa.org/cambodia/?publications=8711

NIS. (2014). *Cambodia Inter-censal Economic Survey 2014*. National Institute of Statistics (NIS).

NIS. (2016). *Cambodia Socio-Economic Survey (CSES) 2015*. National Institute of Statistics (NIS), Ministry of Planning. http://www.nis.gov.kh/nis/CSES/Final%20Report%20CSES%202015.pdf

Nong, K., & Marschke, M. (2006). Building networks of support for community-based coastal resource management in Cambodia. In S. Tyler (Ed.), *Communities, Livelihoods, and Natural Resources—Action Research and Policy Change in Asia*. International Development Research Centre (IDRC).

http://www.idrc.ca/EN/Resources/Publications/openebooks/230-9/index.html#page_151
O'Brien, K., Hayward, B., Berkes, F., & others. (2009). Rethinking social contracts: Building resilience in a changing climate. *Ecology and Society*, *14*(2), 12.
Obrist, B., Mayumana, I., & Kessy, F. (2010). Livelihood, malaria and resilience: A case study in the Kilombero Valley, Tanzania. *Progress in Development Studies*, *10*(4), 325–343. https://doi.org/10.1177/146499340901000405
Obrist, B., Pfeiffer, C., & Henley, R. (2010). Multi-layered social resilience: A new approach in mitigation research. *Progress in Development Studies*, *10*(4), 283–293. https://doi.org/10.1177/146499340901000402
ODC. (2015, September 7). Fisheries production. *Open Development Cambodia (ODC)*. https://opendevelopmentcambodia.net/topics/fisheries-production/
ODC. (2016). *Community Fisheries in Cambodia* [Map]. Open Development Cambodia (ODC). https://data.opendevelopmentmekong.net/dataset/8ce1f213-2efc-4815-97b2-f755c84f9488/resource/5b8e9d5d-2991-49b0-b0b3-3344efd4549f/download/community-fisheries.jpg
OECD. (2017). *How's Life? Measuring Well-being* [Text]. Organisation for Economic Cooperation and Development (OECD). https://www.oecd-ilibrary.org/economics/how-s-life-2017_how_life-2017-en
Orbeta, A. C., & Gonzales, K. (2013). *Managing International Labor Migration in ASEAN: Themes from a Six-Country Study* (Discussion Paper No. 2013–26; PIDS Discussion Paper). Philippine Institute for Development Studies.
Otis, D. (2013, December 31). *Phnom Penh's Most Famous Urban Planner Sees a City on the Verge of Collapse*. https://nextcity.org/daily/entry/phnom-penhs-famous-urban-planner-sees-a-city-on-the-verge-of-collapse
Oudenhoven, F. J. W. van, Mijatovic, D., & Eyzaguirre, P. B. (2011). Social-ecological indicators of resilience in agrarian and natural landscapes. *Management of Environmental Quality: An International Journal*, *22*(2), 154–173. https://doi.org/10.1108/14777831111113356
Oudry, G., Pak, K., & Chea, C. (2016). *Assessing Vulnerabilities and Responses to Environmental Changes in Cambodia* (The Migration, Environment and Climate Change Nexus). International Organization for Migration (IOM). http://www.environmentalmigration.iom.int/sites/default/files/publications/MECC_Cambodia%20report.pdf
Pahl, R. (2005). Are all Communities Communities in the Mind? *The Sociological Review*, *53*(4), 621–640. https://doi.org/10.1111/j.1467-954X.2005.00587.x
Pain, A., & Levine, S. (2012). *A conceptual analysis of livelihoods and resilience: Addressing the 'insecurity of agency.'* Overseas Development Institute (ODI). https://www.odi.org/publications/6976-resilience-livelihoods-agency-socio-economic-security
Paling, W. (2012). Planning a Future for Phnom Penh: Mega Projects, Aid Dependence and Disjointed Governance. *Urban Studies*, *49*(13), 2889–2912. https://doi.org/10.1177/0042098012452457
Paprocki, K., & Cons, J. (2014). Life in a shrimp zone: Aqua- and other cultures of Bangladesh's coastal landscape. *The Journal of Peasant Studies*, *41*(6), 1109–1130. https://doi.org/10.1080/03066150.2014.937709

Parsons, L. (2016a). Under Pressure: Environmental Risk and Contemporary Resilience Strategies in Rural Cambodia. In K. Brickell & S. Springer (Eds.), *The Handbook of Contemporary Cambodia* (1st ed.). Routledge. https://www.taylorfrancis.com/books/e/9781317567837

Parsons, L. (2016b). Mobile inequality: Remittances and social network centrality in Cambodian migrant livelihoods. *Migration Studies*, *4*(2), 154–181. https://doi.org/10.1093/migration/mnw005

Pasadilla, G. O. (2011). *Social security and labor migration in ASEAN* (Policy Brief No. 34). Asian Development Bank Institute. https://openaccess.adb.org/handle/11540/4077

Passaris, C. (1989). Immigration and the Evolution of Economic Theory. *International Migration*, *27*(4), 525–542. https://doi.org/10.1111/j.1468-2435.1989.tb00469.x

Patton, M. Q. (1990). Qualitative Designs and Data Collection: Purposive Sampling. In *Qualitative evaluation and research methods* (pp. 169–186). Sage.

Pauly, D. (1998). Fishing Down Marine Food Webs. *Science*, *279*(5352), 860–863. https://doi.org/10.1126/science.279.5352.860

Pauly, Daniel, Christensen, V., Dalsgaard, J., Froese, R., & Torres, F. (1998). Fishing Down Marine Food Webs. *Science*, *279*(5352), 860–863. https://doi.org/10.1126/science.279.5352.860

Pauly, Daniel, Christensen, V., Guenette, S., Pitcher, T. J., Sumaila, U. R., Walters, C. J., & Dirk, R. W. (2002). Towards sustainability in world fisheries. *Nature*, *418*(6898), 689.

Pelling, M. (2003). *The vulnerability of cities: Natural disasters and social resilience*. Earthscan Publications.

Pelling, M., & Manuel-Navarrete, D. (2011). From Resilience to Transformation: The Adaptive Cycle in Two Mexican Urban Centers. *Ecology & Society*, *16*(2). http://search.ebscohost.com/login.aspx?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=17083087&AN=66785261&h=8QKrZzBRA6i7qmLNsD2x9jC%2ByDH9y6TxLHBDGGNfdy0T6YCR5W9HMu4lMTFSskKjj1t0zhEWzoBgJ1H96g0ixA%3D%3D&crl=c

Peou, C. (2016). Negotiating rural-urban transformation and life course fluidity: Rural young people and urban sojourn in contemporary Cambodia. *Journal of Rural Studies*, *44*, 177–186. https://doi.org/10.1016/j.jrurstud.2016.02.002

Perry, R. I., Ommer, R. E., Barange, M., Jentoft, S., Neis, B., & Sumaila, U. R. (2011). Marine social-ecological responses to environmental change and the impacts of globalization: Marine systems, environmental change and globalization. *Fish and Fisheries*, *12*(4), 427–450. https://doi.org/10.1111/j.1467-2979.2010.00402.x

Perry, R. I., Ommer, R. E., Barange, M., & Werner, F. (2010). The challenge of adapting marine social–ecological systems to the additional stress of climate change. *Current Opinion in Environmental Sustainability*, *2*(5), 356–363. https://doi.org/10.1016/j.cosust.2010.10.004

Pilgrim, J., Ngin, C., & Diepart, J.-C. (2012). Multiple migrations, displacements and land transfers at Ta Kream in Northwest Cambodia. *Migration, Rural Livelihoods and Natural Resource Management*, 33–56.

Piore, M. J. (1979). *Birds of passage: Migrant labor and industrial societies*. Cambridge University Press.

Pollnac, R. B., & Kotowicz, D. (2012). Post Tsunami Job Satisfaction Among the Fishers of Na Pru Village, on the Andaman Sea Coast of Thailand. *Social Indicators Research*, *109*(1), 67–80. https://doi.org/10.1007/s11205-012-0056-2

Pollnac, R. B., & Poggie, J. J. (2006). Job Satisfaction in the Fishery in Two Southeast Alaskan Towns. *Human Organization*, *65*(3), 329–339.
Pollnac, R. B., & Poggie, J. J. (2008). Happiness, well-being, and psychocultural adaptation to the stresses associated with marine fishing. *Human Ecology Review*, *15*(2), 194.
Pollnac, R. B., Pomeroy, R. S., & Harkes, I. H. T. (2001). Fishery policy and job satisfaction in three southeast Asian fisheries. *Ocean & Coastal Management*, *44*(7–8), 531–544. https://doi.org/10.1016/S0964-5691(01)00064-3
Pollnac, R., Bavinck, M., & Monnereau, I. (2012). Job Satisfaction in Fisheries Compared. *Social Indicators Research*, *109*(1), 119–133. https://doi.org/10.1007/s11205-012-0059-z
Pomeroy, R., Parks, J., Courtney, K., & Mattich, N. (2016). Improving marine fisheries management in Southeast Asia: Results of a regional fisheries stakeholder analysis. *Marine Policy*, *65*, 20–29. https://doi.org/10.1016/j.marpol.2015.12.002
PPSEZ Plc. (2019). *Companies at Phnom Penh SEZ*. http://ppsez.com/en/about/customer?limit=20&page=1
RAMSAR. (2012). *Ramsar Information Sheet (RIS)—Koh Kapik and Associated Islets*. https://rsis.ramsar.org/ris/998
Revelle, R., & Suess, H. E. (1957). Carbon Dioxide Exchange Between Atmosphere and Ocean and the Question of an Increase of Atmospheric CO2 during the Past Decades. *Tellus*, *9*(1), 18–27. https://doi.org/10.1111/j.2153-3490.1957.tb01849.x
Rice, J. C., & Garcia, S. M. (2011). Fisheries, food security, climate change, and biodiversity: Characteristics of the sector and perspectives on emerging issues. *ICES Journal of Marine Science*, *68*(6), 1343–1353. https://doi.org/10.1093/icesjms/fsr041
Rigg, J. (2007). Moving lives: Migration and livelihoods in the Lao PDR. *Population, Space and Place*, *13*(3), 163–178. https://doi.org/10.1002/psp.438
Robards, M. D., Schoon, M. L., Meek, C. L., & Engle, N. L. (2011). The importance of social drivers in the resilient provision of ecosystem services. *Global Environmental Change*, *21*(2), 522–529. https://doi.org/10.1016/j.gloenvcha.2010.12.004
Rockström, J. (2004). Making the best of climatic variability: Options for upgrading rainfed farming in water scarce regions. *Water Science and Technology: A Journal of the International Association on Water Pollution Research*, *49*(7), 151–156.
Rodenburg, J. (1997). *In the shadow of migration: Rural women and their households in North Tapanuli, Indonesia*. KITLV Press.
Rolfe, G. (2006). Validity, trustworthiness and rigour: Quality and the idea of qualitative research. *Journal of Advanced Nursing*, *53*(3), 304–310. https://doi.org/10.1111/j.1365-2648.2006.03727.x
Ross, N. (2015). Understanding the Fishing 'Community': The Role of Communities of the Mind. *Sociologia Ruralis*, *55*(3), 309–324. https://doi.org/10.1111/soru.12094
Runsinarith, P. (2011). *Determinants of Rural Poverty in Cambodia*. Nagoya University. https://www2.gsid.nagoya-u.ac.jp/blog/anda/publications/files/2011/08/26-phim_runsinarithe38080.pdf
Saldana, J. (2009). *The Coding Manual for Qualitative Researchers*. SAGE Publications.
Salmi, P. (2005). Rural Pluriactivity as a Coping Strategy in Small-Scale Fisheries. *Sociologia Ruralis*, *45*(1–2), 22–36. https://doi.org/10.1111/j.1467-9523.2005.00288.x
Samnang, L. (2019). *The Cambodian Debt Trap?A Study of the Relationship between Remittance and Household Debt* (Working Paper No. 01). Future Forum.

https://docs.voanews.eu/en-KH/2019/03/12/a90fd9b7-81e6-4282-8011-20591f12ec80.pdf
Sarkar, M. (2017). Constrained Labour as Instituted Process. *European Journal of Sociology*, *58*(01), 171–204. https://doi.org/10.1017/S0003975617000054
Sarker, S., & Hossain, M. S. (2012). Climate Change Disasters and Community Based Mitigation Options at Ramgati Coast, Bangladesh. *Agricultural Science Research Journal*, *2*, 346–354.
Savo, V., Morton, C., & Lepofsky, D. (2017). Impacts of climate change for coastal fishers and implications for fisheries. *Fish and Fisheries*. https://doi.org/10.1111/faf.12212
Scheffer, M. (2009). *Critical Transitions in Nature and Society*. Princeton University Press.
Scheffer, M., Bascompte, J., Brock, W. A., Brovkin, V., Carpenter, S. R., Dakos, V., Held, H., van Nes, E. H., Rietkerk, M., & Sugihara, G. (2009). Early-warning signals for critical transitions. *Nature*, *461*(7260), 53–59. https://doi.org/10.1038/nature08227
Scheffran, J., Marmer, E., & Sow, P. (2012). Migration as a contribution to resilience and innovation in climate adaptation: Social networks and co-development in Northwest Africa. *Applied Geography*, *33*, 119–127. https://doi.org/10.1016/j.apgeog.2011.10.002
Schwarz, A.-M., Béné, C., Bennett, G., Boso, D., Hilly, Z., Paul, C., Posala, R., Sibiti, S., & Andrew, N. (2011). Vulnerability and resilience of remote rural communities to shocks and global changes: Empirical analysis from Solomon Islands. *Global Environmental Change*, *21*(3), 1128–1140. https://doi.org/10.1016/j.gloenvcha.2011.04.011
Scoones, I. (1998). *Sustainable Rural Livelihoods: A Framework for Analysis*. https://opendocs.ids.ac.uk/opendocs/handle/20.500.12413/3390
Scoones, I. (2009). Livelihoods perspectives and rural development. *Journal of Peasant Studies*, *36*(1), 171–196. https://doi.org/10.1080/03066150902820503
Seara, T., Pollnac, R. B., Poggie, J. J., Garcia-Quijano, C., Monnereau, I., & Ruiz, V. (2017). Fishing as therapy: Impacts on job satisfaction and implications for fishery management. *Ocean & Coastal Management*, *141*(Complete), 1–9. https://doi.org/10.1016/j.ocecoaman.2017.02.016
Sen, A. (1999). *Development as Freedom*. Oxford University Press.
Seng, K. (2016). Unseen: Undocumented Cambodian Migrant Workers in Thailand. In S. Gaspar & K. Um (Eds.), *Southeast Asian Migration people on the move in search of work, refuge and belonging*. Sussex Academic Press 2016. https://login.proxy.bib.uottawa.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&scope=site&db=nlebk&db=nlabk&AN=1090515
Sensereivorth, T., & Rady, H. (2013). *Overview of Fisheries Data Collection (Capture Fisheries) in Coastal and Inland Small-scale Fisheries in Cambodia*. Fisheries Administration (FiA). http://www.rebyc-cti.org/downloads/doc_download/114-ref-06-overview-of-fisheries-data-collection-capture-fisheries-in-coastal-and-inland-small-scale-fisheries-in-cambodia
Sideth, M., Rattana, J., An, K., Virak, V., Chea, S., Vanntha, N., Nong, K., & Marschke, M. (2000). *Smashed livelihoods: Life as a charcoal producer in PKWS, Koh Kong; a case study*. Cambodia Ministry of Environment / IDRC. https://idl-bnc-idrc.dspacedirect.org/handle/10625/28388
Sievanen, L. (2014). How do small-scale fishers adapt to environmental variability? Lessons from Baja California, Sur, Mexico. *Maritime Studies*, *13*(1), 9. https://doi.org/10.1186/s40152-014-0009-2

Silvey, R. (2004). Power, difference and mobility: Feminist advances in migration studies. *Progress in Human Geography*, *28*(4), 490–506. https://doi.org/10.1191/0309132504ph490oa

Sjaastad, L. A. (1962). The Costs and Returns of Human Migration. *Journal of Political Economy*, *70*(5), 80–93. https://doi.org/10.1086/258726

Skeldon, R. (1990). *Population mobility in developing countries: A reinterpretation*. Belhaven Press.

Slocomb, M. (2010). Economic Outlook for the Twentieth Century. In *An Economic History of Cambodia in the Twentieth Century*. University of Chicago Press. http://econpapers.repec.org/bookchap/ucpbkecon/9789971694999.htm

Sok, S. (2014). Limited state and strong social forces: Fishing lot management in Cambodia. *Journal of Southeast Asian Studies*, *45*(2), 174–193. https://doi.org/10.1017/S0022463414000058

Sokheng, V., & Strangio, S. (2009, March 10). Sand mining spikes in Koh Kong estuaries. *Phnom Penh Post*. https://www.phnompenhpost.com/national/sand-mining-spikes-koh-kong-estuaries

Som, S. (1999). *Proposal for improvement of marine fisheries management in Cambodia*. http://commons.wmu.se/cgi/viewcontent.cgi?article=1188&context=all_dissertations

Sørensen, N. N., & Olwig, K. F. (2003). *Work and migration: Life and livelihoods in a globalizing world*. Routledge. http://public.eblib.com/choice/publicfullrecord.aspx?p=171073

Spalding, M., Kainuma, M., & Collins, L. (2010). *World Atlas of Mangroves*. Earthscan.

Stacey, N., Steenbergen, D. J., Clifton, J., & Acciaioli, G. (2018). Understanding Social Wellbeing and Values of Small-Scale Fisheries amongst the SamaBajau of Archipelagic Southeast Asia. In Derek S. Johnson, T. G. Acott, N. Stacey, & J. Urquhart (Eds.), *Social Wellbeing and the Values of Small-scale Fisheries* (Vol. 17). Springer International Publishing. https://doi.org/10.1007/978-3-319-60750-4

Stark, O., & Bloom, D. E. (1985). The new economics of labor migration. *The American Economic Review*, *75*(2), 173–178.

Stiglitz, J. E., Sen, A., & Fitoussi, J.-P. (2009). *Report by the commission on the measurement of economic performance and social progress*. Paris: Commission on the Measurement of Economic Performance and Social Progress. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.215.58&rep=rep1&type=pdf

Stone-Jovicich, S. (2015). Probing the interfaces between the social sciences and social-ecological resilience: Insights from integrative and hybrid perspectives in the social sciences. *Ecology and Society*, *20*(2). https://doi.org/10.5751/ES-07347-200225

Suri, H. (2011). Purposeful Sampling in Qualitative Research Synthesis. *Qualitative Research Journal*, *11*(2), 63–75. https://doi.org/10.3316/QRJ1102063

Symes, D., Phillipson, J., & Salmi, P. (2015). Europe's Coastal Fisheries: Instability and the Impacts of Fisheries Policy. *Sociologia Ruralis*, *55*(3), 245–257. https://doi.org/10.1111/soru.12096

Tang, L. L. (2005). *Statelessness, human rights and gender: Irregular migrant workers from Burma in Thailand*. Nijhoff ; Brill.

Tanner, T., Bahadur, A., & Moench, M. (2017). *Challenges for resilience policy and practice* (Working paper 519; p. 25). Overseas Development Institute (ODI). https://www.odi.org/publications/10903-challenges-resilience-policy-and-practice

Taylor, E. J. (1999). The New Economics of Labour Migration and the Role of Remittances in the Migration Process. *International Migration*, *37*(1), 63–88. https://doi.org/10.1111/1468-2435.00066

Taylor, J. E. (1987). Differential Migration, Networks, Information and Risk. In O. Stark & I. Sirageldin (Eds.), *Migration Theory, Human Capital and Development* (pp. 147–171). Jai Pr.

Teh, L., Shon, D., Zylich, K., & Zeller, D. (2014). Reconstructing Cambodia's Marine Fisheries Catch, 1950-2010. *Fisheries Centre - University of British Columbia*. http://www.seaaroundus.org/doc/publications/wp/2014/Teh-et-al-Cambodia.pdf

The Economist. (2017, January 21). Why Cambodia has cosied up to China. *The Economist*. https://www.economist.com/news/asia/21715010-and-why-it-worries-cambodias-neighbours-why-cambodia-has-cosied-up-china?zid=306&ah=1b164dbd43b0cb27ba0d4c3b12a5e227

They, K., & Treleaven, E. (2012). *Migration in Cambodia: Report of the Cambodian Rural Urban Migration Project (CRUMP)*. Ministry of Planning (Cambodia). http://countryoffice.unfpa.org/cambodia/drive/Rural-urbanMigrationinCambodiaReport2012_EngVersion.pdf

They, K., & Treleaven, E. (2013). *Women and Migration in Cambodia*. UNFPA and National Institute of Statistics.

Thompson, N. A. (2017, October 25). *In Cambodia, Exposing the Ecological Scars of Sand Mining*. Undark. https://undark.org/article/sand-mining-dredging-cambodia/

Todaro, M. P. (1969). A model of labor migration and urban unemployment in less developed countries. *The American Economic Review*, *59*(1), 138–148.

Tompkins, E. L. (2005). Planning for climate change in small islands: Insights from national hurricane preparedness in the Cayman Islands. *Global Environmental Change*, *15*(2), 139–149. https://doi.org/10.1016/j.gloenvcha.2004.11.002

Torres, A., Brandt, J., Lear, K., & Liu, J. (2017). A looming tragedy of the sand commons. *Science*, *357*(6355), 970–971. https://doi.org/10.1126/science.aao0503

Trimble, M., & Johnson, D. (2013). Artisanal fishing as an undesirable way of life? The implications for governance of fishers' wellbeing aspirations in coastal Uruguay and southeastern Brazil. *Marine Policy*, *37*, 37–44. https://doi.org/10.1016/j.marpol.2012.04.002

Tuckey, J. W., Alexander, M., Bennett, H. S., Brady, N. C., Calhoun, J. C., Haagen-Smit, A., Hackerman, N., Hartgering, J. B., Pimentel, D., Revelle, R., Roddis, L. H., Stewart, W. H., Whittenberger, J. L., & Buckley, J. L. (1965). *Restoring the Quality of Our Environment* [Report of the Environmental Pollution Panel, President's Science Advisory Committee (PSAC)]. The White House. https://dge.carnegiescience.edu/labs/caldeiralab/Caldeira%20downloads/PSAC,%201965,%20Restoring%20the%20Quality%20of%20Our%20Environment.pdf

Tunon, M., & Rim, K. (2013). *Cross-border labour migration in Cambodia: Considerations for the national employment policy* (ILO A Sia-P Acific Working P Aper Series). International Labour Organization (ILO) Regional Office for Asia and the Pacific. http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms_228484.pdf

Turner, B. L., Kasperson, R. E., Matson, P. A., McCarthy, J. J., Corell, R. W., Christensen, L., Eckley, N., Kasperson, J. X., Luers, A., Martello, M. L., Polsky, C., Pulsipher, A., & Schiller, A. (2003). A Framework for Vulnerability Analysis in Sustainability Science.

Proceedings of the National Academy of Sciences of the United States of America, *100*(14), 8074–8079.
Turner, M. D. (2013). Political ecology I: An alliance with resilience? *Progress in Human Geography*. https://doi.org/10.1177/0309132513502770
Un, B., Pech, S., & Baran, E. (2015). *Aquatic agricultural systems in Cambodia: National situation analysis* (Program Report: AAS-2015-13; CGIAR Research Program on Aquatic Agricultural Systems). CGIAR. http://pubs.iclarm.net/resource_centre/AAS-2015-13.pdf
UN DESA. (2014). *2014 World Urbanization Prospects*. United Nations Department of Economic and Social Affairs/Population Division. https://esa.un.org/Unpd/Wup/
UN DESA. (2017). *World Population Prospects: The 2017 Revision, Volume II: Demographic Profiles*. United Nations Department of Economic and Social Affairs/Population Division. https://esa.un.org/unpd/wpp/Publications/Files/WPP2017_Volume-II-Demographic-Profiles.pdf
UNESCO. (1994). *Convention on Wetlands of International Importance especially as Waterfowl Habitat*. http://www.ramsar.org/sites/default/files/documents/library/scan_certified_e.pdf
University of Bath. (2008). *Wellbeing in Developing Countries (WeD) ESRC Research Group—Research Statement*. http://www.bath.ac.uk/soc-pol/welldev/research/aims.htm
Urquhart, J., & Acott, T. (2014). A Sense of Place in Cultural Ecosystem Services: The Case of Cornish Fishing Communities. *Society & Natural Resources*, *27*(1), 3–19. https://doi.org/10.1080/08941920.2013.820811
US State Department. (2015). *2015 Investment Climate Statement—Cambodia*. U.S. Department of State. http://www.state.gov/e/eb/rls/othr/ics/2015/241508.htm
Vanderkamp, J. (1977). THE GRAVITY MODEL AND MIGRATION BEHAVIOUR: AN ECONOMIC INTERPRETATION. *Journal of Economic Studies*, *4*(2), 89–102. https://doi.org/10.1108/eb002472
Vicheth, P., Carson, T., Narin, N., Chhay, S., Lim Song, S., Dara, C., Siphan, O., Monyneath, V., Kosal, M., O'Callaghan, B., & Torell, M. (1997). Institutional and Policy Issues in the Management of Fisheries isheries and Coastal Resources in Cambodia. In M. Torell & A. M. Salamanca (Eds.), *Institutional Issues and Perspectives in the Management of Fisheries and Coastal Resources in Southeast Asia*. ICLARM – The World Fish Center. http://pubs.iclarm.net/libinfo/Pdf/Pub%20TR4%2060.pdf
Vong, S. (2009, July 2). Hun Sen again calls for sand export ban, study of impacts. *Phnom Penh Post*. https://www.phnompenhpost.com/national/hun-sen-again-calls-sand-export-ban-study-impacts
Walker, B. H., & Salt, D. (2006). *Resilience thinking: Sustaining ecosystems and people in a changing world*. Island Press.
Walker, B., Holling, C. S., Carpenter, S. R., & Kinzig, A. (2004). Resilience, adaptability and transformability in social–ecological systems. *Ecology and Society*, *9*(2), 5.
Wallerstein, I. M. (1974). *The modern world-system: Capitalist agriculture and the origins of the European world-economy in the sixteenth century*. Academic Press.
Warr, P. G., & Menon, J. (2015). *Cambodia's Special Economic Zones*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2708828

Weeratunge, N., Béné, C., Siriwardane, R., Charles, A., Johnson, D., Allison, E. H., Nayak, P. K., & Badjeck, M.-C. (2014). Small-scale fisheries through the wellbeing lens. *Fish and Fisheries*, *15*(2), 255–279. https://doi.org/10.1111/faf.12016

Welsh, M. (2014). Resilience and responsibility: Governing uncertainty in a complex world. *The Geographical Journal*, *180*(1), 15–26. https://doi.org/10.1111/geoj.12012

WFP. (2016). *Household Resilience in Cambodia: A Review of Livelihoods, Food Security and Health* (Part 1: 2015/2016 El Niño Situation Analysis). World Food Programme (WFP). https://www.humanitarianresponse.info/en/node/132541

White, C. (2018). Symbols of Resilience and Contested Place Identity in the Coastal Fishing Towns of Cromer and Sheringham, Norfolk, UK: Implications for Social Wellbeing. In Derek S. Johnson, T. G. Acott, N. Stacey, & J. Urquhart (Eds.), *Social Wellbeing and the Values of Small-scale Fisheries* (Vol. 17, pp. 45–74). Springer International Publishing. https://doi.org/10.1007/978-3-319-60750-4_3

White, S. (2009). *Bringing wellbeing into development practice* [Wellbeing into Development (WeD) Working Paper 09/50]. Centre for Development Studies, University of Bath, UK. http://opus.bath.ac.uk/15944/

White, S. (2010). Analysing wellbeing: A framework for development practice. *Development in Practice*, *20*(2), 158–172. https://doi.org/10.1080/09614520903564199

White, S. (2013). *An Integrated Approach to Assessing Wellbeing*. http://opus.bath.ac.uk/38009/

White, S., & Ellison, M. (2007). Ch. 7—Wellbeing, livelihoods and resources in social practice. In I. Gough & J. A. McGregor (Eds.), *Wellbeing in Developing Countries: From Theory to Research*. Cambridge University Press. http://ebooks.cambridge.org/ref/id/CBO9780511488986

World Bank. (2009). *Poverty profile and trend in Cambodia: Findings from the 2007 Cambodia Socio-Economic Survey (CSES)* (No. 48618). World Bank. http://documents.worldbank.org/curated/en/504061468237543422/pdf/486180WP0P11191ofile120071withCover.pdf

World Bank. (2016). *Mobile cellular subscriptions (per 100 people)—Cambodia*. https://data.worldbank.org/indicator/IT.CEL.SETS.P2?locations=KH

World Bank. (2017). *Migration and Remittances Data* [Text/HTML]. World Bank. http://www.worldbank.org/en/topic/migrationremittancesdiasporaissues/brief/migration-remittances-data

World Bank. (2018a). *Cambodia: GDP growth (annual %) | World Bank*. https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?end=2017&locations=KH&start=1999

World Bank. (2018b). *Cambodia: GNI per capita, (current US$) | Data*. https://data.worldbank.org/indicator/NY.GNP.PCAP.CD?locations=KH

World Bank. (2018c). *Cambodia: Population, total | World Bank Open Data*. https://data.worldbank.org/indicator/SP.POP.TOTL?locations=KH

World Bank. (2018d). *Cambodia: Rural population | World Bank Open Data*. https://data.worldbank.org/indicator/SP.RUR.TOTL?end=2016&locations=KH&start=1960

World Bank. (2018e). *Korea, Rep. GNI per capita, (current US$) | Data*. https://data.worldbank.org/country/korea-rep

World Bank. (2018f). *Malaysia GNI per capita, (current US$) | Data*. https://data.worldbank.org/country/malaysia

World Bank. (2018g). *Thailand GNI per capita, (current US$) | Data*. https://data.worldbank.org/country/thailand

Worm, B., & Branch, T. A. (2012). The future of fish. *Trends in Ecology & Evolution*, *27*(11), 594–599. https://doi.org/10.1016/j.tree.2012.07.005

Yang, A. (2008). *No Redemption—The Failing Khmer Rouge Trial*. Harvard International Review. https://www.globalpolicy.org/component/content/article/163/28940.html

Zelinsky, W. (1971). The Hypothesis of the Mobility Transition. *Geographical Review*, *61*(2), 219–249. https://doi.org/10.2307/213996

Appendix A – List of interviewee participants

Note: names have been removed for anonymity as promised to the participants; *hh = household.

Villages

No.	Interview type	Age	Gender	Occupation	# of years in village	Place of birth	Anyone in hh* leave?	Scoping survey participant?
Peam Krasaop								
1	Individual	45	F	Fisher	10	Takeo province	N	Y
2	Individual	49	F	Fisher	11	Kampot province (Angkor chey)	Y	Y
3	Individual	38	M	Fisher	22	Takeo province	N	Y
4	Individual	50	M	Fisher	10	Takeo province	Y	Y
5	Individual	30	M	Fisher	8	Kampot province (Dong teung district)	N	Y
6	Individual	34	M	Fisher	10	Kampot province (in town)	N	Y
7	Individual	27	M	Fisher	3	Kampot district (trorpaing pring village)	N	Y
8	Individual	54	M	Fisher	25	Kampot province	Y	Y
9	Individual	54	M	Fisher	25	Kampot province	Y	Y
10	Individual	54	M	Fisher	34	Sihanoukville (preah Nb district)	Y	Y
11	Individual	52	M	Fisher	34	Sihanoukville (Veal Ring)	Y	Y
12	Individual	50	F	Fisher / Farmer	7	Kampot province	N	Y
13	Individual	35	M	Fisher	10	Takeo province	N	Y
14	Individual	48	M	Fisher	10	Thomo Saw commune (Koh Kong)	Y	Y
15	Individual	26	M	Tuk tuk driver	15	Sihanoukville town	N	Y
16	Individual	46	F	Fisher	23	Sihanoukville (Veal ring district)	Y	Y
17	Individual	47	F	Fisher / transporter	0.5	Kampot (Chouk district)	N	N
18	Individual	—	M	Community leader	—	—	—	N

19	Individual	32	M	Police officer	—	—	—	N
20	Individual	50	M	Fisher	20	—	—	N
21	Individual	—	F	Wife of #20	20	—	—	N
22	Individual	30	M	Fisher	—	—	—	N
23	Individual	42	M	Fisher	—	—	—	N
24	Individual	36	M	Fisher	—	Sihanoukville	N	N
25	Individual	53	M	Fisher	—	—	—	N
26	Individual	—	M	Fisher	—	—	—	N
27	Group	—	1 F; 2 M	—	—	—	—	N
28	Group	—	6 F	—	8	—	—	N
29	Group	—	11 M	Fisher	8 to 10	—	—	N
30	Group	—	6 M/F	—	—	—	—	N
31	Group	—	8 M	Fisher	—	—	—	N
Koh Sralao								
32	Individual	62	M	Fisher; sells goods	14	Preak Sangke village (Sihanoukville)	N	Y
33	Individual	55	M	Sells medicine; Farmer	29	Kampung Speu	Y	Y
34	Individual	42	M	Deputy village chief; sells goods	11	Sihanoukville	N	Y
35	Individual	65	M	Mechanic (boats)	22	Bantey Meanchey	Y	Y
36	Individual	44	M	Fisher; fixes boat hulls	20	Kandal province (Sahang district)	N	Y
37	Individual	55	M	None	21	Kandal province	Y	Y
38	Individual	55	M	Farmer	31	Sihanoukville	Y	Y
39	Individual	54	M	Fisher	25	Takeo province	Y	Y
40	Individual	64	M	Fisher	31	Preah Nouk district (Kampot)	N	Y
41	Individual	53	M	Teacher at local mosque (No salary)	20	Kampot town	N	Y
42	Individual	52	M	Fisher; Farmer	20	Kien Svay (Kandal province)	Y	Y
43	Individual	46	F	Fisher; Farmer; tailor	17	Kampung Trach district (Kampot province)	Y	Y

44	Individual	53	M	Sells goods	17	Battambang province	Y	Y
45	Individual	75	M	Makes roofing material; Fisher	36	Preah Svay village (Koh Kong)	N	Y
46	Individual	60	M	Fisher; Farmer	14	Lam Dam village (Koh Kong)	Y	Y
47	Individual	55	M	Fisher	13	Preah Veng (Koh Kong)	Y	Y
48	Individual	36	M	Fisher	29	Kampot province	N	Y
49	Individual	53	M	Fisher; carpenter	29	Svay Rieng province	Y	Y
50	Individual	42	M	Fisher; migrant labourer	15	Kampong Kien commune (Kampot province)	N	Y
51	Individual	47	M	Fisher	10	Kampung Treach (Kampot)	N	Y
52	Individual	28	M	Fisher	3	Andong Teuk village (Koh Kong)	Y	Y
53	Individual	37	M	Fisher; migrant labourer	7	Kampong Cham (Kor commune)	N	Y
54	Individual	53	M	Fisher	3	Tuek Chou (Kampot)	N	N
55	Individual	—	M	Fisher / Farmer / environmental officer / water seller	—	—	Y	N
56	Individual	54	F	collecting shells	15	Sihanoukville (Teuk Thla)	Y	N
57	Individual	38	F	Sells goods; sell electricity	20	Preah Veng	N	N
58	Individual	53	M	Fisher; building boats/houses	30	Kandal province	Y	N
59	Individual	—	M	Village chief; fish farming; catching crab	—	—	Y	N
60	Individual	51	M	Fisher	22	Kandal province	—	N
61	Individual	57	F	Wife of #62	30	Takeo	—	N
62	Individual	65	M	Husband of #61	30	Takeo	—	N
63	Individual	25	F	Daughter of # 61 & 62	—	—	—	N
64	Individual	46	M	Rents out boat	10	Kampot	Y	N

65	Individual	30	M	Fisher	1	—	—	N
66	Individual	66	F	Fisher	16	Kandal	—	N
67	Individual	64	F	—	—	Preah Veng	—	N
68	Individual	27	F	—	10	—	—	N
69	Individual	43	M	Fisher	14	Kandal	—	N
70	Individual	45	F	—	—	—	—	N
71	Individual	41	F	Middleperson	10	—	—	N
72	Individual	—	M	Fisher (collects oysters only)	20	—	—	N
73	Individual	—	M	Fisher (catches crab)	10	—	—	N
74	Individual	—	M	Fisher	29	—	—	N
75	Individual	50	M	Repairman (engines/electronics)	10	—	—	N
76	Individual	55	F	—	—	—	—	N
77	Individual	52	M	Fisher	30	—	—	N
78	Individual	53	M	Fisher	30	—	—	N
79	Individual	56	M	Fisher	30	—	—	N
80	Individual	—	M	Former Fisher and village chief (1985-2000)	34	—	—	N
81	Individual	—	M	Fisher	3	—	—	N
82	Individual	—	M	Fisher	10	—	—	N
83	Individual	—	F	Crab peeler	—	—	Y	N
84	Individual	—	M	Fisher	—	—	—	N
85	Individual	—	M	Fisher	26	—	Y	N
86	Individual	57	M	Farmer	33	—	Y	N
87	Individual	55	F	Farmer	33	—	—	N
88	Individual	29	M	Farmer	—	—	—	N
89	Individual	35	M	Fisher	—	—	—	N
90	Individual	31	F	Worked in Thailand for three to four months on a chili farm; had no job in Koh Sralao	—	—	—	N

91	Individual	35	M	Fisher; used to work in Thailand as labourer on fishing boat	—	—	—	N
92	Individual	24	M	Fisher; in Thailand, worked as labourer on boat, in restaurant and as a nanny	—	—	—	N
93	Individual	26	M	Fisher; in Thailand: labourer on boat and on land	—	—	—	N
94	Group	—	10 M	Fisher	—	—	—	N
95	Group	—	5 M	Fisher	—	—	—	N
96	Group	50s	3 M	Fisher	30	—	—	N
Koh Kapic								
97	Individual	53	F	Fisher	34	Ksach district (Kandal province)	N	Y
98	Individual	55	M	Fisher	8	Kampung Treach (Kampot)	Y	Y
99	Individual	58	F	Selling goods and boat equipment	31	Pursat province	Y	Y
100	Individual	65	F	Retired school teacher	34	Bati district (Takeo province)	Y	Y
101	Individual	81	M	Retired	30	Sihanoukville (Vereng district)	Y	Y
102	Individual	53	M	Fisher	29	Svei Reng province	Y	Y
103	Individual	33	M	Fisher	23	Kampot	N	Y
104	Individual	—	M	Fisher	43	Kampung Treach (Kampot)	Y	Y
105	Individual	28	M	Fisher	28	Koh Kapic	N	Y
106	Individual	35	M	Fisher	15	Sihanoukville	N	Y
107	Individual	35	M	Fisher	35	Koh Kapic	N	Y
108	Individual	33	M	Fisher	—	Preah Nouk (Sihanoukville)	N	Y
109	Individual	31	F	—	26	Veah Ing (Sihanoukville)	N	Y
110	Individual	54	M	Fisher	30	Koh Andet district (Takeo)	Y	Y
111	Individual	23	M	Fisher	23	Koh Kapic	N	Y

112	Individual	52	M	Fisher	34	Sihanoukville	N	Y
113	Individual	63	M	Fisher	33	Sihanoukville (Preah Nouk district)	Y	Y
114	Individual	35	F	Farmer	35	Koh Kapic	N	Y
115	Individual	33	M	Fisher	1	Kampot	N	Y
116	Individual	51	M	Fisher	31	Takeo	Y	Y
117	Individual	57	M	Sells goods	30	Takeo	N	Y
118	Individual	27	F	Farmer	5	Kampot (Tu Minh district)	N	Y
119	Individual	62	M	Fisher	28	Takeo (Prey Veng district)	Y	Y
120	Individual	49	M	Fisher	21	Preah Veng (Chi Mea district)	N	Y
121	Individual	60	F	Sells Nodle soup	20	Veah Reng (Sihanoukville)	Y	Y
122	Individual	33	M	Fisher	12	Veah Reng (Sihanoukville)	N	Y
123	Individual	51	M	Buys crabs and sells them in Koh Kong town	20	Kampung Sam (Sihanoukville)	Y	Y
124	Individual	59	M	Moneylender	59	Koh Kapic	Y	Y
125	Individual	57	M	Fisher	57	Koh Kapic	N	Y
126	Individual	49	M	Fisher Farmer	35	Kampung Cham (Batehy district)	Y	Y
127	Individual	35	M	Shrimp farming	20	Preah Nouk (Sihanoukville)	N	Y
128	Individual	33	M	Shrimp/crab Farmer	—	—	—	N
129	Individual	—	M	Shrimp/crab Farmer	—	—	—	N
130	Individual	31	M	Fisher	21	—	—	N
131	Individual	35	M	Fisher	22	—	—	N
132	Individual	48	M	Koh Kapic commune chief	29	Phnom Penh	—	N
133	Individual	65	M	Fisher	25	—	—	N
134	Individual	58	M	Fisher + village chief	30	—	—	N
135	Individual	61	M	Fisher	33	—	—	N
136	Individual	61	M	Fisher	34	—	—	N
137	Individual	61	M	Fisher	34	—	—	N

138	Individual	52	M	Fisher & director of primary school	32	—	—	N
139	Individual	52	M	Fisher	52	Koh Kapic	—	N
140	Individual	66	M	Fisher	36	—	—	N
141	Individual	57	F	Fisher	57	Koh Kapic	—	N
142	Individual	—	F	Retired; former committee member leader (2005 - 2010)	36	—	—	N
143	Individual	—	M	Fisher	20	—	—	N
144	Individual	—	M	Village chief	—	—	—	N
145	Individual	53	M	Fisher	—	—	—	N
146	Individual	53	M	Fisher	—	—	—	N
147	Individual	47	M	Fisher	—	—	—	N
148	Individual	—	F	—	—	—	—	N
149	Individual	—	M	Fisher	—	—	—	N
150	Group	50s	6 M	Fisher	—	—	—	N
151	Group	—	M	Fisher	—	—	—	N
152	Group	50s	2 F; 1 M	Fisher (M)	—	—	—	N

Migrants

No.	*Interview type*	*Age*	*Gender*	*Sending village*	*Occupation*	*Location*
1	Individual	25	female	Koh Sralao	SEZ factory worker	Koh Kong town
2	Individual	—	female	Koh Sralao	SEZ factory worker	Koh Kong town
3	Individual	24	female	Koh Sralao	SEZ factory worker	Koh Kong town
4	Individual	19	female	Koh Sralao	SEZ factory worker	Koh Kong town
5	Individual	22	female	Koh Sralao	SEZ factory worker	Koh Kong town
6	Individual	22	female	Koh Sralao	SEZ factory worker	Koh Kong town
7	Individual	16	female	Koh Sralao	SEZ factory worker	Koh Kong town
8	Individual	28	female	Koh Sralao	SEZ factory worker	Koh Kong town
9	Individual	25	female	Koh Sralao	SEZ factory worker	Koh Kong town
10	Individual	—	male	Koh Sralao	Tuk Tuk driver	Koh Kong town
11	Individual	—	male	Koh Sralao	Construction worker	Koh Kong town

12	Individual	—	female	Koh Sralao	Construction worker	Koh Kong town
13	Individual	22	female	Koh Sralao	SEZ factory worker	Koh Kong town
14	Individual	19	Male	Koh Sralao	Student	Phnom Penh
15	Individual	20	Male	Koh Sralao	Student	Phnom Penh
16	Individual	—	Male	Koh Sralao	Student	Phnom Penh
17	Individual	—	Male	Koh Sralao	Runs cell phone shop	Takmao (Kandal)
18	Group	—	Male	Koh Sralao	Welder	Takmao (Kandal)
19	Group	—	Female	Koh Sralao	Wife of #18	Takmao (Kandal)
20	Group	—	Male	Koh Sralao	Welder	Takmao (Kandal)
21	Individual + Group	—	Male	Koh Sralao	Welder	Takmao (Kandal)
22	Group	—	Female	Koh Sralao	Wife of #21	Takmao (Kandal)
23	Group	—	Male	Koh Sralao	Welder; brother of #21	Takmao (Kandal)
24	Individual	—	Male	Koh Sralao	Ice seller/transporter	Phnom Penh
25	Individual	28	Male	Koh Sralao	Gardner	Phnom Penh
26	Individual	—	Female	Koh Kapic	Accountant	Phnom Penh
27	Individual	28	Female	Koh Sralao	Garment factory worker	Phnom Penh
28	Individual	25	Female	Koh Sralao	Garment factory worker	Phnom Penh
29	Individual	—	Female	Koh Kapic	Hairdresser	Phnom Penh
30	Individual	—	Female	Koh Sralao	Noodle maker	Phnom Penh
31	Individual	—	Male	Koh Kapic	University student (engineering)	Phnom Penh

Government/NGO

No.	*Gender*	*Organization*	*Position/Role*
1	F	Fishery Administration	Director - Coastal Fisheries
2	M	Fishery Administration	Deputy Director
3	M	Fishery Administration	Deputy Director General
4	F	Inland Fisheries Research and Development Institute	Deputy Director
5	M	Cambodia Development Resource Institute (CDRI)	Research Fellow - Natural Resource and Environment Unit
6	M	International Union for the Conservation of Nature (IUCN)	Cambodia Country Coordinator & National Coordinator for Critical Ecosystem Partnership Fund (CEPF) and Mangroves for the Future (MFF)
7	F	Fishery Administration	Deputy Director General - Marine Fisheries
8	M	Fisheries Action Coalition Team (FACT)	Executive Director
9	M	Coalition of Cambodian Fishers - Tonle Sap	Chief
10	M	Community Fisheries Federation	Chief
11	M	United Nations Action for Cooperation Against Trafficking in Persons (UN-ACT)	National Project Coordinator
12	M	International Organization on Migration (IOM)	Project Officer
13	M	International Organization on Migration (IOM)	National Project Officer
14	M	Ministry of Agriculture, Forestry, and Fisheries (MAFF); formerly Oxfam	Planning, Monitoring, and Evaluation Advisor
15	F	Koh Kong SEZ Co. Ltd.	Representative

Appendix B – Ethics application approval

File Number: 09-15-14 **Date (mm/dd/yyyy):** 11/25/2015

Université d'Ottawa University of Ottawa
Bureau d'éthique et d'intégrité de la recherche Office of Research Ethics and Integrity

Ethics Approval Notice

Social Sciences and Humanities REB

Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

First Name	Last Name	Affiliation	Role
Melissa	Marschke	Social Sciences / Others	Supervisor
Furqan	Asif	Social Sciences / Others	Student Researcher

File Number: 09-15-14

Type of Project: PhD Thesis

Title: Leaving the coast: the interplay of migration, well-being and resilience in Cambodian coastal fishing communities

Approval Date (mm/dd/yyyy)	Expiry Date (mm/dd/yyyy)	Approval Type
11/25/2015	11/24/2016	Ia

(Ia: Approval, Ib: Approval for initial stage only)

Special Conditions / Comments:
N/A

550, rue Cumberland, [redacted] 550 Cumberland Street, [redacted]
Ottawa (Ontario) K1N 6N5 Canada Ottawa, Ontario K1N 6N5 Canada
(613) 562-5387 • Téléc./Fax (613) 562-5338
www.recherche.uottawa.ca/deontologie/ www.research.uottawa.ca/ethics/

File Number: 09-15-14 **Date (mm/dd/yyyy):** 11/25/2015

Université d'Ottawa University of Ottawa
Bureau d'éthique et d'intégrité de la recherche Office of Research Ethics and Integrity

This is to confirm that the University of Ottawa Research Ethics Board identified above, which operates in accordance with the Tri-Council Policy Statement (2010) and other applicable laws and regulations in Ontario, has examined and approved the ethics application for the above named research project. Ethics approval is valid for the period indicated above and subject to the conditions listed in the section entitled "Special Conditions / Comments".

During the course of the project, the protocol may not be modified without prior written approval from the REB except when necessary to remove participants from immediate endangerment or when the modification(s) pertain to only administrative or logistical components of the project (e.g., change of telephone number). Investigators must also promptly alert the REB of any changes which increase the risk to participant(s), any changes which considerably affect the conduct of the project, all unanticipated and harmful events that occur, and new information that may negatively affect the conduct of the project and safety of the participant(s). Modifications to the project, including consent and recruitment documentation, should be submitted to the Ethics Office for approval using the "Modification to research project" form available at: http://research.uottawa.ca/ethics/submissions-and-reviews.

Please submit an annual report to the Ethics Office four weeks before the above-referenced expiry date to request a renewal of this ethics approval. To close the file, a final report must be submitted. These documents can be found at: http://research.uottawa.ca/ethics/submissions-and-reviews.

If you have any questions, please do not hesitate to contact the Ethics Office at extension [redacted] or by e-mail at: ethics@uOttawa.ca.

Signature:

[redacted]

Riana Marcotte
Protocol Officer for Ethics in Research
For Barbara Graves, Chair of the Social Sciences and Humanities REB

550, rue Cumberland, [redacted] 550 Cumberland Street, [redacted]
Ottawa (Ontario) K1N 6N5 Canada Ottawa, Ontario K1N 6N5 Canada
(613) 562-5387 • Téléc./Fax (613) 562-5338
www.recherche.uottawa.ca/deontologie/ www.research.uottawa.ca/ethics/

File Number: 09-15-14 **Date (mm/dd/yyyy):** 04/12/2017

Université d'Ottawa
Bureau d'éthique et d'intégrité de la recherche

University of Ottawa
Office of Research Ethics and Integrity

Ethics Approval Notice

Social Sciences and Humanities REB

Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

First Name	Last Name	Affiliation	Role
Melissa	Marschke	Social Sciences / Others	Supervisor
Furqan	Asif	Social Sciences / Others	Student Researcher

File Number: 09-15-14

Type of Project: PhD Thesis

Title: Leaving the coast: the interplay of migration, well-being and resilience in Cambodian coastal fishing communities

Renewal Date (mm/dd/yyyy)	Expiry Date (mm/dd/yyyy)	Approval Type
11/25/2016	11/24/2017	Renewal

Special Conditions / Comments:
N/A

550, rue Cumberland, [redacted] 550 Cumberland Street, [redacted]
Ottawa (Ontario) K1N 6N5 Canada Ottawa, Ontario K1N 6N5 Canada
(613) 562-5387 • Téléc./Fax (613) 562-5338
www.recherche.uottawa.ca/deontologie/ www.research.uottawa.ca/ethics/

File Number: 09-15-14 **Date (mm/dd/yyyy):** 04/12/2017

Université d'Ottawa University of Ottawa
Bureau d'éthique et d'intégrité de la recherche Office of Research Ethics and Integrity

This is to confirm that the University of Ottawa Research Ethics Board identified above, which operates in accordance with the Tri-Council Policy Statement (2010) and other applicable laws and regulations in Ontario, has examined and approved the ethics application for the above named research project. Ethics approval is valid for the period indicated above and subject to the conditions listed in the section entitled "Special Conditions / Comments".

During the course of the project, the protocol may not be modified without prior written approval from the REB except when necessary to remove participants from immediate endangerment or when the modification(s) pertain to only administrative or logistical components of the project (e.g., change of telephone number). Investigators must also promptly alert the REB of any changes which increase the risk to participant(s), any changes which considerably affect the conduct of the project, all unanticipated and harmful events that occur, and new information that may negatively affect the conduct of the project and safety of the participant(s). Modifications to the project, including consent and recruitment documentation, should be submitted to the Ethics Office for approval using the "Modification to research project" form available at: https://research.uottawa.ca/ethics/forms.

Please submit an annual report to the Ethics Office four weeks before the above-referenced expiry date to request a renewal of this ethics approval. To close the file, a final report must be submitted. These documents can be found at: https://research.uottawa.ca/ethics/forms.

If you have any questions, please do not hesitate to contact the Ethics Office at extension [redacted] or by e-mail at: ethics@uOttawa.ca.

Signature:

[redacted]

Mélanie Rioux
Ethics Coordinator
For Catherine Paquet, Director of the Office of Research Ethics and Integrity

550, rue Cumberland, [redacted] 550 Cumberland Street, [redacted]
Ottawa (Ontario) K1N 6N5 Canada Ottawa, Ontario K1N 6N5 Canada
(613) 562-5387 • Téléc./Fax (613) 562-5338
www.recherche.uottawa.ca/deontologie/ www.research.uottawa.ca/ethics/

Appendix C – Scoping Survey Frequency Tables

Peam Krasaop

Age	
46	1
48	1
34	1
27	1
26	1
38	1
45	1
49	1
52	1
54	3
50	2
35	1
30	1

Year of arrival to village	
1995	1
1993	1
1981	1
2000	1
1986	1
2012	1
2006	1
1981	1
2008	1
2005	3
2004	1
1993	2
1990	1

Place of birth	
Kampot province (Dong teung district)	1
Sihanoukville (Veal ring district)	2
Thomo Saw commune (Koh Kong)	1
Kampot province	2
Kampot province (Angkor chey)	1
Kampot district (trorpaing pring village)	1
Sihanoukville town	1
Kampot province	1
Sihanoukville (preah nob district)	1
Takeo province	4
Kampot province (in town)	1

Previous place of residence	
Beung krorcha (village)/Koh Kong	1
Dong Teung commune (Koh Kong)	1
Dong Thun village (Koh Kong)	1
Kampot	1
Kampot province (Kampung Treng)	1
Koh Kang	3
Koh Kong town (worked as construction worker)	1
Kompot province	1
Nesat Chas village (Koh Kong)	1
Sihanoukville	1
Sihanoukville town	1
Takeo province	1
Thailand (2013) - Chanburi	1
Thomo Saw commune (Koh Kong)	1

Gender	
Male	12
Female	4

Occupation (household head)	
General labourer	2
Fisher	15
Farmer	1
Other*	8

Note: frequency total is higher than number of people because some respondents reported more than one livelihood.

*Includes one each of: snail collector (wife works in factory in Koh Kong); selling goods from home; goes to Thailand, works in ice factory and collects snails; *tuk tuk* driver (before: fisher); teacher; noodle soup seller; works in wire factory in SEZ; constructs houses for villagers.

Anyone in your hh left the village?	
Yes	8
No	8

Where have they gone?	
Phnom Penh	4
Thailand	1
In Koh Kong town and Thailand (Trat)	1
Thailand (Chanbori province)	2

What is their occupation?	
Factory worker	3
Welder	1
Street food seller	1
Student (secondary)	1
Transports goods	1
Construction worker (Thailand)	1

Koh Sralao

Age	
46	1
53	4
28	1
64	1
44	1
60	1
47	1
65	1
37	1
54	1
75	1
62	1
55	4
42	2
52	1
36	1

Gender	
Male	22
Female	1

Occupation (household head)	
Fisher	16
Farmer	6
Other*	15

Note: frequency total is higher than number of people because some respondents reported more than one livelihood.

*Includes: Sells goods from home (2); no longer does fishing, stopped two years ago, daughter sells goods; goes to Thailand during rainy season (harvest fruit); makes roofing material from leaves; sells groceries; helps repair boat hulls; tailor; raising duck and chicken; mechanic (fixes boat engines); stays at home takes care of kids (poor eyesight prevents him from fishing); carpenter (houses/boats); has gone to Thailand once for labour with (harvest crops) during rainy season; teacher at mosque (no salary); son fishes; used to farm but no longer because company took his land; sells medicine.

Year of arrival to village	
1979	1
1984	1
1985	1
1986	1
1986	2
1990	1
1994	2
1995	1
1995	1
1995	1
1998	2
1998	1
2000	1
2001	1
2002	1
2004	1
2005	1
2008	1
2012	2

Place of birth	
Andong Teuk village (Koh Kong)	1
Bantey Meanchey	1
Battambang province	1
Kampong Cham (Kor commune)	1
Kampong Kien commune (Kampot province)	1
Kampot province	1
Kampot town	1
Kampung Speu	1
Kampung Trach district (Kampot province)	1
Kampung Treach (Kampot)	1
Kandal province	1
Kandal province (Sahang district)	1
Kien Svay (Kandal province)	1
Lam Dam village (Koh Kong)	1
Preah Nouk district (Kampot)	1
Preah Svay village (Koh Kong)	1
Preah Veng (Koh Kong)	1
Preak Sangke village (Sihanoukville)	1
Sihanoukville	2
Svay Rieng province	1
Takeo province	1
Tuek Chou (Kampot)	1

Previous place of residence	
Kampung Treach (Kampot)	1
Kandal province (Saang district)	1
Dong Tong (Koh Kong)	1
Koh Kong town	4
Kampot town	1
Thailand (to escape Pol Pot regime)	1
Preah Veng (Koh Kong)	1
Dong Teung village (Koh Kong)	1
Kampot province	2
Kbal Meas commune	1
Sihanoukville	4
Kandal province	1
Battambang province	1
Near Poipet border	1
Kandal province	1
Preak Sangke village (Sihanoukville)	1

Koh Sralao

Anyone in your hh left the village?	
Yes	12
No	11

Where have they gone?	
Sihanoukville	1
Preah Veng (province)	1
Koh Kong town (Dong Tong)	9
Phnom Penh	7
Kampot	2
Kampung Cham	2

What is their occupation?	
Factory worker	3
School teacher	1
Student	9
Farmer	1
Ice seller/transporter	1
Housewife	1
Fruit seller	1
Fishing	1
Works at microfinance institution	1
Doctor	1
Nurse	2

Koh Kapic

Age	
23	1
27	1
28	1
31	1
33	4
35	4
49	2
51	2
52	1
53	2
54	1
55	1
57	2
58	1
59	1
60	1
62	1
63	1
65	1
81	1

Gender	
Male	25
Female	6

Year of arrival to village	
2015	8
2014	1
2010	1
2007	1
2005	1
2003	1
2000	1
1995	2
1994	1
1992	1
1987	1
1986	1
1985	3
1984	2
1982	1
1981	1
1980	1
1979	2
1972	1

Place of birth	
Kampung Treach (Kampot)	2
Bati district (Takeo province)	1
Takeo	2
Kampung Sam (Sihanoukville)	1
Preah Nouk (Sihanoukville)	2
Sihanoukville (Preah Nouk district)	1
Takeo (Prey Veng district)	1
Ksach district (Kandal province)	1
Pursat province	1
Preah Veng (Chi Mea district)	1
Sihanoukville	2
Kampot	2
Sihanoukville (Vereng district)	1
Koh Andet district (Takeo)	1
Kampung Cham (Batehy district)	1
Kampot (Tu Minh district)	1
Veah Ing (Sihanoukville)	1
Koh Kapic	5
Veah Reng (Sihanoukville)	2
Svei Reng province	1

Previous place of residence	
Born in Koh Kapic	7
Preah Veng	1
Takeo	4
Kampot town	1
Preah Nouk (Sihanoukville)	1
Kampung Cham	1
Phnom Penh	2
Pursat	1
Sihanoukville	5
Kampung Treach	1
Kampot	2
Kandal province	1
Takeo province	1
Veah Reng	1
Kampung Sam	1
Veah Reng (Sihanoukville)	1

Anyone in your hh left the village?	
Yes	13
No	18

Occupation (household head)	
Fisher	21
Primary school teacher	2 (one retired)
Sells goods	2
Sells noddle soup	1
Buy/sell crabs in Koh Kong town	1
Farmer	2
General labour	1
Moneylender	1
Shrimp farming	1

Where have they gone?	
Phnom Penh	8
Koh Kong town	6
Lam Dam	1
Takeo	1
Kampung Speu	2
Kampung Treach	1
Battambang	1
Thailand	9
Siem Reap	1
Sihanoukville	1
Kampot (Rich Nil)	1

What is their occupation?	
Hairdresser	1
Sells groceries	1
Maid	2
Student	3
Factory worker	8
Office worker	1
Unemployed (recent university grad)	1

Appendix D – Research questions

Structured interview questions (adapted from Coulthard et al. (2015) *Exploring wellbeing in fishing communities: methods handbook*)

1. How would you describe, in general, a person that is doing well in this community? How would you describe, in general, a person that is not doing well?
2. In your life here in the fishing village, what do you need to live well in this coastal community (and why)?
3. What are the key changes/trends or particular events that have occurred over the last 10 years that have affected your ability to meet these wellbeing criteria (positive or negative)?
4. Do you feel that for you, life is getting better or worse? Why?
5. Let's talk about the fishery and coastal area 10 years from now…how would the fishery look like for someone to be doing well?
6. What would you be doing in this picture?

Group interview questions (adapted from Coulthard et al. (2015) *Exploring wellbeing in fishing communities: methods handbook*)

General perspective about wellbeing

1. How would you describe, in general, a person that is doing well in this community?
    a. How would you describe, in general, a person that is not doing well?

2. In your life here in the fishing village, what do you need to live well in this coastal community (and why)? These can be things you need to have, things you need to be able to do, the sort of person you need to be, people you need to know, information you need to know, etc.

Assessment of changes in wellbeing

1. What are the key changes/trends or particular events that have occurred over the last 10 years that have affected your ability to meet these wellbeing criteria (these can be positive or negative aspects)?
2. Do you feel that life (for people like you) is getting better or worse? Why?
3. Reflecting on each of these important changes/events that you have mentioned, in the community (as a whole), have people been affected differently?
    a. If so, who has lost out, who has gained from these changes?

The linkage between the coast/fishing village and wellbeing

1. Let's talk about the fishery and coastal area 10 years from now…how would the fishery look like for your group to be doing well? [Prompt: what sort of people would you want to be fishing e.g. young, old, migrants, women, men, status i.e. well off or poor?]
2. What would you be doing in this picture? (Where would you like to be, what would you like to be doing?)
3. Referring to this future fishery, what needs to happen for this fishery to come about? What might prevent this fishery coming about?

Closing question: Is there anything else you would like to add?

Semi-structured interview schedule

Main question	*Sub questions*	*In-field questions*
▪ How have coastal villagers responded to recent socio-economic and ecological changes? ▪ Where does migration fit within household livelihood strategies/responses?	▪ Why do people migrate? ▪ Where are people going? ▪ What purpose does migrating serve? ▪ What kinds of things are migrants doing? ▪ What is the prevalence of migration within a) household(s) and b) village(s)? ▪ What do those who stay in the fishing village do?	▪ What are your thoughts on the state of coastal fisheries? ▪ What are the top three challenges in making a living in the village? ▪ How do you address these challenges? ▪ Have you noticed people leaving the village? ▪ Why are people leaving the fishing village? ▪ Where are people going when they leave? ▪ What are the three main reasons that people leave? ▪ What do the people who leave end up doing in the place they go? ▪ How popular is leaving the fishing village among households? ▪ Why have you stayed in the fishing village? ▪ *Migrants*: Why have you left the fishing village? ▪ As someone who lives in the village, what do you do to make a living? ▪ *Migrants*: As someone who has left the village, what do you do to make a living? ▪ If you were to list the different options people/households have by importance, where would leaving the fishing village be?
What impact does migration have on the wellbeing of those who leave but also those who remain in the villages?	▪ What is the relationship like between the sending household and the migrant(s)? ▪ What views are held about migration by villagers and migrants alike? ▪ What do you value about living in a fishing village? ▪ How is your ability to make decisions on livelihood choices	▪ What do you enjoy about fishing? ▪ What do you enjoy about living in the fishing village? ▪ Have you noticed any changes in your village because people have left? ▪ Do you think life is better for those who have left the village? ▪ What is your opinion of people who leave the fishing village? ▪ Do you feel like you have more or less control over how you make a living now compared to the past? ▪ Do you feel that people leaving has changed the relations within households? ▪ If you could leave the fishing village, would you? And why?

	affected by things outside of your control? ▪ What kind of trade-offs do you find yourself making by staying in the fishing village? ▪ How has migration affected household roles and relationships?	▪ What do you feel like you're giving up by staying in the fishing village? ▪ What do you feel like you're gaining by staying in the fishing village? ▪ *Migrants:* what is your opinion of people who stay in the fishing village? ▪ *Migrants:* What did you hope life would be like outside the village? ▪ *Migrants:* What is life like for you, living here, outside the village? ▪ *Migrants*: what do you enjoy about living outside the fishing village? ▪ *Migrants*: What do you feel like you're giving up by having left the fishing village? ▪ *Migrants*: What do you feel like you're gaining by having left the fishing village? ▪ *Migrants*: if you could make a good living in the village, would you move back?