

Reworking the land

A review of literature on the role of migration and remittances in the rural livelihoods of Southeast Asia

Rob Cole

Grace Wong

Maria Brockhaus

Reworking the land

A review of literature on the role of migration and remittances in the rural livelihoods of Southeast Asia

Rob Cole

PhD candidate, Department of Geography, National University of Singapore

Grace Wong

CIFOR

Maria Brockhaus

CIFOR

Working Paper 187

© 2015 Center for International Forestry Research



Content in this publication is licensed under a Creative Commons Attribution 4.0 International (CC BY 4.0), <http://creativecommons.org/licenses/by/4.0/>

ISBN 978-602-1504-96-3

DOI: 10.17528/cifor/005621

Cole R, Wong G and Brockhaus M. 2015. *Reworking the land: A review of literature on the role of migration and remittances in the rural livelihoods of Southeast Asia*. Working Paper 187. Bogor, Indonesia: CIFOR.

Photo by Christian Gooner/CIFOR

CIFOR
Jl. CIFOR, Situ Gede
Bogor Barat 16115
Indonesia

T +62 (251) 8622-622
F +62 (251) 8622-100
E cifor@cgiar.org

cifor.org

We would like to thank all donors who supported this research through their contributions to the CGIAR Fund. For a list of Fund donors please see: <https://www.cgiarfund.org/FundDonors>

Any views expressed in this publication are those of the authors. They do not necessarily represent the views of CIFOR, the editors, the authors' institutions, the financial sponsors or the reviewers.

Contents

Acknowledgments	v
Executive summary	vi
1 Introduction	1
2 Trends and estimates	3
3 Theoretical foundations	6
3.1 Grand narratives	6
3.2 Great divides	7
3.3 A 'third way'? From NELM to capabilities	7
4 Reworking the land: Migration and remittances in rural Southeast Asia	9
4.1 Migration as a livelihood strategy	9
4.2 Labor, remittances and investment	11
4.3 Reworking landscapes	14
4.4 Negotiating migration pathways	17
5 Conclusion	19
6 Agenda for further research	21
7 References	22
Appendixes	
1 Summary of key theoretical developments in migration.	25
2 Summary of reviewed empirical studies by author.	26

List of figures and tables

Figures

- | | | |
|---|---|----|
| 1 | Southeast Asian migration flows (based on World Bank bilateral estimates). | 4 |
| 2 | Potential linkages between migration and environmental health, mediated by social resilience. | 10 |
| 3 | Schematic model of household survival decision strategies. | 14 |

Tables

- | | | |
|---|---|----|
| 1 | Estimated international migration in Southeast Asia. | 4 |
| 2 | Effect of migration on agriculture in northern and southern Vietnam, 1993 and 1998. | 12 |

Acknowledgments

This literature review has been conducted as part of broader activities under the ASEAN-Swiss Partnership on Social Forestry and Climate Change. Early drafts greatly benefitted from the advice and analytical input of Professor Jonathan Rigg at the Geography Department of the National University of Singapore.

Executive summary

CIFOR research under the ASEAN-Swiss Partnership on Social Forestry and Climate Change (ASFCC)

This literature review examines the patterns of migration and remittances in rural Southeast Asia, and highlights some of the consequences for the management and use of forests and land. Migration in this region, as in much of the world today, is more complex than national censuses and overviews suggest (Tacoli and Mabala 2010). While national statistics can capture permanent migration, they often fail to capture temporary or circular movements that fall in the interval between censuses, and lack standardized data collection approaches (Deshingkar 2006). Tacoli (2011, 5) suggests that migration should be defined as: “an adaptive response to socioeconomic, cultural, political and environmental transformations, in most instances closely linked to the need to diversify income sources”, as an attempt to capture the complexities. This changing demography is an important piece of the puzzle in the changing rural structure of a fast developing and urbanizing Southeast Asia, and could have far-reaching consequences for how rural development and forest management are considered within policy in the future.

Intensifying market demands and economic incentives have led to increasing commercialization and homogenization of land use across wide swaths of Southeast Asia and the increasing importance of off-farm employment (Winkels 2008; Rigg and Salamanca 2009). As economic development is leading to increasing de-agrarianization, large numbers of people continue to undertake risky and expensive migration (domestically and internationally, temporarily and permanently) to take part in crop and forest product booms (De Koninck 2003; Hall 2011). The effects of migration and the flow of remittances from migrant labor could have potentially significant impacts on forests and land-use investments. The study of these flows and effects is still under-researched.

Population movements in Southeast Asia are also driven by national policies with varying impacts on

forests and agriculture. Such State-driven movements include, for example, the transmigration programs of Indonesia (TAG 1991; Tjondronegoro 1991) and the various resettlement programs in Laos of upland swidden farmers or communities displaced by development activities (Cunnington 2011; Kenney-Lazar 2013). Understanding underlying socio-cultural and economic contexts driving specific forest and land-use responses is important, if only to avoid simplified one-size-fits-all policies.

All of these multidirectional shifts are increasing the level of complexity in our understanding of present and future changes in land and forest use, the changing systems of rights, rewards and incentives, and how forests are being valued and managed by Southeast Asian communities. What do these shifts mean for social forestry systems and the region's future sustainability? Numerous questions remain unanswered: How is migration affecting the sustainability of rural mosaic landscapes and urban areas? What is the magnitude of remittances; how are/can they be transferred and invested in rural areas? How significant could remittances be as tools for rural development? How can migration and mobility serve as adaptation strategies to climate and other environmental change?

This review examines current literature to understand how migration patterns in Southeast Asia have affected labor availability and the sending of remittances and in turn, how these have influenced the use and management of forests and land. This work is an output of CIFOR's ASEAN-Swiss Partnership on Social Forestry and Climate Change (ASFCC) project. Under ASFCC, CIFOR carries out research on REDD+ and swidden systems in Vietnam, Lao PDR and Indonesia with the aim of generating a stronger understanding of the mobility of swidden households and communities, their patterns of remittances and how their existing social networks influence information and resource exchange.

This review serves to identify some of the important gaps in knowledge and the implications for future research needs on migration and remittances in rural forest-agriculture landscapes of fast-changing Southeast Asia. It would be impossible for Southeast Asian governments to develop effective policies on social forestry and rural development without understanding the role of forests in these contexts and how they have changed in light of the migration-remittances-development nexus.

After framing the discussion in the introduction, trends and estimates of migration in Southeast Asia are considered from the standpoint of the data challenges presented by the diversity of human mobility (Section 2). The complexities of dealing with such diversity has shaped much of the theoretical debate surrounding migration, moving from grand narratives to seeking more contextually grounded understandings, to the need for parsimonious frameworks that attempt to bridge the gaps between these approaches (Section 3). Section 4 discusses findings and approaches of selected empirical studies that examine migration as an increasingly important aspect of rural livelihoods in Southeast Asia amid broader social, economic and environmental change. Studies from a number of countries across the region are examined from four perspectives: first, in terms of migration as a facet of livelihood strategies; second, the dynamics of labor, remittances and investments; third, the effects of these on rural landscapes; and fourth, the changing social and policy contexts within which migration takes place.

What emerges most strongly from the empirical section is the defining role of prevalent conditions in the location of study in how migration affects land-use and livelihood decisions, whether based on allocation of labor, remittances or otherwise. Perceived returns to investments in both monetary and labor terms are critical to how migration influences household land-use decisions, which in turn affect the immediate environment. Meanwhile, initially profitable investments and conducive local conditions enable successive enhancement and diversification of livelihoods. However, potential for high agricultural returns in contexts of rural in-migration often appears to predicate rapid commodification and enclosure of land, social stratification and exclusion.

The review concludes that the expansive literature relating to migration and development often alludes

to, yet stops short of, directly examining migration and remittance effects on land and forest cover change. The literature on land-use change and swidden systems meanwhile often overlooks or briefly references migration, but migration rarely forms the central point of enquiry. Bringing livelihoods, land-use change and migration together for analysis would offer a rich area for future research and would be a move towards populating wide scholarly gaps on migration in rural contexts, particularly in relation to agrarian and environmental change. This research would be better positioned to inform policies relating to land use, agriculture and forestry in rural regions of Southeast Asia, where multi-local livelihoods are increasingly entwined with globalized processes, including those driving environmental changes that such policies seek to govern.

An agenda for further research is outlined here using as a starting point key questions set out by Deshingkar (2012, 1) in relation to the interface between migration and the management of agriculture and natural resource management, as follows:

- Under what circumstances do households with migrants invest (capital and labor) in agriculture and natural resource management?
- How do household factors (e.g. assets, education, kinship, networks, individual attributes) and contextual factors (e.g. agro-climatic conditions, markets, policies) shape migration and natural resource management practices and outcomes?

The proposed research agenda seeks to expand on these themes to examine the types of initial investment made by households with migrant members, and the extent to which migration cross-subsidizes or contributes to the decline of traditional farming practices such as swidden. Increased rural-urban interactions via a combination of engagement in (globalized) market-based production and accelerating migration flows could have far-reaching implications for land and forest cover change, as could interactions between migration and climate-induced pressures – both of which are understudied. Further initial questions on these themes are suggested as follows:

- How could remittances be redirected as tools for rural landscape development and forest management?
- In which ways do migration, remittances and access to information/technology contribute to changes in agriculture practices or reinforce

traditional farming practices, such as swidden with its forest-crop mosaics?

- How effective are migration and remittances as risk-coping strategies within swidden and other traditional farming and social forestry practices?
- How does migration affect the sustainability of rural-urban interactions and what are the implications of these for rural land and forest cover change?

- How and when are migration and mobility used as adaptive or coping strategies for climate and other environmental change?

The proposed further research also recommends drawing on existing reviews in Latin American and African contexts, which are beyond the scope of the present paper but can offer numerous valuable directions for fresh studies and comparative work.

1 Introduction

This paper reviews literature on migration within and from rural areas of Southeast Asia to examine the resulting, often transformative, effects of redistribution of labor and remittances on livelihoods and land-use practices. The paper further seeks to identify contexts in which migration drives, yet is also driven by, social and environmental change. Accelerating rural change across the developing world has been accompanied in many cases by heightened human mobility, and migration has increasingly been acknowledged as both a contributing factor and a consequence of agrarian transitions (Kelly 2011). Agricultural returns are declining both at household level and as a share of national economies, while the expansion of the industry and service sectors has created new opportunities, diversifying rural livelihoods and in many cases tipping the balance of household earnings from natural to human capital. Embedded in these broader processes of change, redistribution of income via remittances together with reallocation of labor can have transformative effects on livelihoods and how land is used. This review seeks to identify some of these effects in the context of rural Southeast Asia, and to highlight gaps in the literature, along with areas of contention and debate.

Causal factors behind migration are enormously varied and frequently contradictory in different contexts. Some migrants are driven to seek better opportunities by poverty and resource scarcity, while elsewhere only the better-off are able to benefit from migration decisions, further widening inequalities (Rigg 2007). This paper avoids attempting to exhaustively list social, economic and environmental factors that feature in migration decisions, which are covered in other studies (e.g. Vargas-Lundius and Lanly 2008; Huguet 2013), instead drawing on a range of empirical literature (Section 4) to examine such factors in context, seeking common thematic areas of analysis from which patterns can be identified. Amid this diverse and much bifurcated field of study, a heavily debated and long-standing question is whether remittances to rural villages stimulate investment in agricultural productivity among migrant-sending households, or foster increased consumption and economic dependence on migrant household members (Leinbach and

Watkins 1998; De Haan 1999; Davis et al. 2010; De Haas 2010; Garip 2014; Manivong et al. 2014). A common interaction underlying this question relates to how reduced labor is compensated once a household member migrates, whether by substituting remittances for agricultural production (i.e. covering consumption needs with remitted income), hiring additional labor or by investing remittances in intensification, such as via the purchase of agricultural inputs (Gray and Bilsborrow 2014). While recent literature expands on the role of investment in social capital (particularly education, e.g. Adger et al. 2002), together with how social remittances in the form of the transmission of ideas reshape norms and practices (King and Skeldon 2010; Barney 2012), the question of how remittances are invested (or not) in the land remains perhaps central to studies of how migration affects livelihoods and land-use change. Yet this question is far from binary, and it is likely that remittances are allocated for both consumption and production purposes, prioritized on the basis of relative scarcities and expected returns (Adger et al. 2002). While related theoretical debates have spanned several decades, empirical studies have had mixed findings, and whether remittances stimulate productive spending still remains an open question (Davis et al. 2010), although examples do exist (Lukasiewicz 2011). Studies on these themes rarely refer to environmental consequences (Adger et al. 2002) and evidence of direct effects of migration remittances on land-use change is identified as scarce (Lambin and Meyfroidt 2011), as are empirical studies on how local labor markets are affected by loss of human resources from communities with out-migration (Vargas-Lundius and Lanly 2008).

Existing studies frequently emphasize that remittances are only invested for agricultural purposes where such investment is perceived viable (Elmhirst 2012; Bylander 2014; Manivong et al. 2014), which may not often be the case in poor sending regions with weak infrastructure, markets and State provision (Davis et al. 2010), and where marginal environments preclude profitable expansion or intensification. In contexts where yields are inadequate to support households, migration has been identified as a way of coping with risks to

(particularly rain-fed, subsistence) livelihoods, as well as an important adaptive strategy to climate-induced livelihood pressures (Deshingkar 2012). Overall, the expansive literature on migration and development often alludes to, yet stops short of directly examining, migration and remittance effects on land and forest cover change. Linkages between migration and conversion of forests, more studied in Latin America (e.g. Hecht 2010; Gray and Bilsborrow 2014; Davis and Lopez-Carr 2014), remain at best partially explored in the context of Southeast Asia; this interaction tending to be couched in neo-Malthusian terms in which migration drives localized population increases, resulting in mounting pressure on forests and resources (De Jong et al. 2006). The literature on environmental and resource-use outcomes resulting from demographic change and shifts in production and consumption patterns often focuses on forest cover change, agricultural intensification and over-exploitation of resources, but without considering migration effects (Adger et al. 2002). The International Organization

for Migration (IOM) highlights increased internal migration as a likely response to mounting climate stresses across Southeast Asia, based on a range of projected impacts including increased flooding and drought (2013). Changes in patterns of demand for and conversion of land for agriculture are foreseeable in destination areas, with subsequent implications for carbon storage, although these themes remain little understood in the context of the region's rural and forested landscapes. More light can be shed on these under-researched areas through spatially situated studies, which have come to the fore relatively recently in migration literature. This paper proceeds with a brief summary of present migration estimates and trends, followed by a review of theoretical developments relating to migration (Section 3). This frames the main discussion of empirical studies linking migration, remittances, livelihoods and land-use in Southeast Asia (Section 4.). The conclusion seeks to locate findings to date in relation to the above research gaps, and extend an agenda for further research.

2 Trends and estimates

Trends and estimates of migration are commonly based on data of mixed quality, often due to weak, inconsistent and non-standardized national collection and much irregular (undocumented) movement. Recent figures place worldwide international migration at approximately 214 million persons, and internal migrants at about 740 million (UNDP 2009). The latter figure in particular has been noted as somewhat speculative (King and Skeldon 2010), as are all internal estimates in contexts of increasing mobility, deficient registration processes, inadequate censuses and bureaucracies that struggle to keep pace with social change (Anh et al. 2012), particularly where temporary movements dominate, which national statistics usually fail to capture (Deshingkar 2006). With this said, it is clear that internal migration dwarfs migration across national boundaries, occurring as it does across a much broader base. Internal migration has also seen rapid expansion across Asia in recent decades, driven by (as well as powering) economic growth and resulting labor demands in different sectors (Deshingkar 2006). This is important when considered in terms of the potential for migration to redistribute income to poor rural communities, which is often the focus of development agencies and governments (King and Skeldon 2010), as while it is perhaps intuitive to concentrate on (arguably more readily measurable) international migration and remittance data, the development impacts of internal migration may be much larger. The IOM's *2013 World Migration Report* used estimates from two UN agencies and the World Bank to further subdivide international figures into migration pathways, identifying South-South flows to be approaching the level of South-North flows, at 75–85 million people for each pathway (IOM 2013). Reflecting the diversifying fortunes of developing countries, the South-South pathway has been a major growth area in Asia since the mid-1980s, with rising migration particularly from less wealthy countries with low employment opportunities and high fertility rates to those with rising labor demand as a result of industrial growth and fertility decline (Castles et al. 2014). Focusing on Southeast Asia, Kelly (2011) emphasizes that different variables (e.g. duration, distance, gender) would always provide different typologies, but offers the following basic categories:

- Transcontinental permanent flows – to (mainly Northern) immigrant receiving countries
- Regional temporary flows – contract labor, encompassing S.E., S. and E. Asia, Middle East
- Intra-national rural-urban flows – to cities and peri-urban areas, often part of rural livelihood diversification
- National and cross-border rural-rural flows – seasonal migration, (re)settlement of 'frontiers', displacement by land-intensive development processes or struggle/conflict
- Everyday mobility – increased rural movement since 1990s via enhanced transportation

Table 1 (below) summarizes available estimates on international movements in Southeast Asia drawn from IOM research (Huguet 2013), with estimates from World Bank data in the right-hand column (*in Kelly 2011*).

Among South-South trends between Southeast Asian countries, major labor-absorbers include Singapore, Brunei Darussalam, Malaysia and Thailand. The latter two have large numbers of irregular migrants (Huguet 2013); Malaysia in particular having high dependence on migrant labor for the low-wage sectors, including agriculture (Hall 2011). The high levels of irregularity are partly driven by costs and difficulties in obtaining documents, and undocumented migration to Thailand from Myanmar, Lao PDR and Cambodia is common (Kelly 2011). Meanwhile, irregular migrants to Malaysia often originating from Indonesia and the Philippines, occasionally face crackdowns by authorities despite their vital contribution to the workforce (Kelly 2011). This points to the selective nature of regulatory enforcement in tight labor markets, where States have strong interests in enabling firms' access to "easily available and exploitable workers" (Castles et al. 2014, 155). Significant and well documented Vietnamese and Philippines diasporas provide large flows of international remittances, substantially contributing to national GDP and with varying localized effects (Kelly 2011) – further discussed in Section 4. The Philippines is among the biggest contributors to global labor circulation, and about two-thirds

Table 1. Estimated international migration in Southeast Asia.

Country	Foreign residents, workers	Estimated irregular	Migrants abroad	2010 migrants (% of population)
Brunei Darussalam	R 96,296, 28% (2001) W 46.3% (2005)	~ 1,000 per year	No data	24,343 (6.1%)
Cambodia	No data	No data	249,055 registered in Thailand (2011)	350,485 (2.4%)
Indonesia	W 20,000	No data	696,746 in 2007	2,504,297 (1.1%)
Lao PDR	W 15,000	Included left	105,364 registered in Thailand (2011)	366,663 (5.8%)
Malaysia	1.85 million	700,000	300,000 (2006)	1,481,202 (5.4%)
Myanmar	No data	No data	3m (657,024 registered in Thailand in 2011)	515,667 (1%)
Philippines	R 236,516	No data	Diaspora: 8.7m (2009) (1.47m deployed in 2010)	4,275,612 (4.6%)
Singapore	W 670,000 (2006) W 1,057,700 (2008)	No data	100,000–150,000	297,234 (5.9%)
Thailand	3.5m, 1.1m registered to work (2010)	1.4m	143,795 deployed in 2010	811,123 (1.2%)
Vietnam	No data	No data	Diaspora: 3 million 79,000 deployed in 2006	2,226,401 (2.6%)

Source: Huguet (2013) mixed data sources; italics: Kelly (2011), bilateral estimates based on national data compiled by the World Bank.

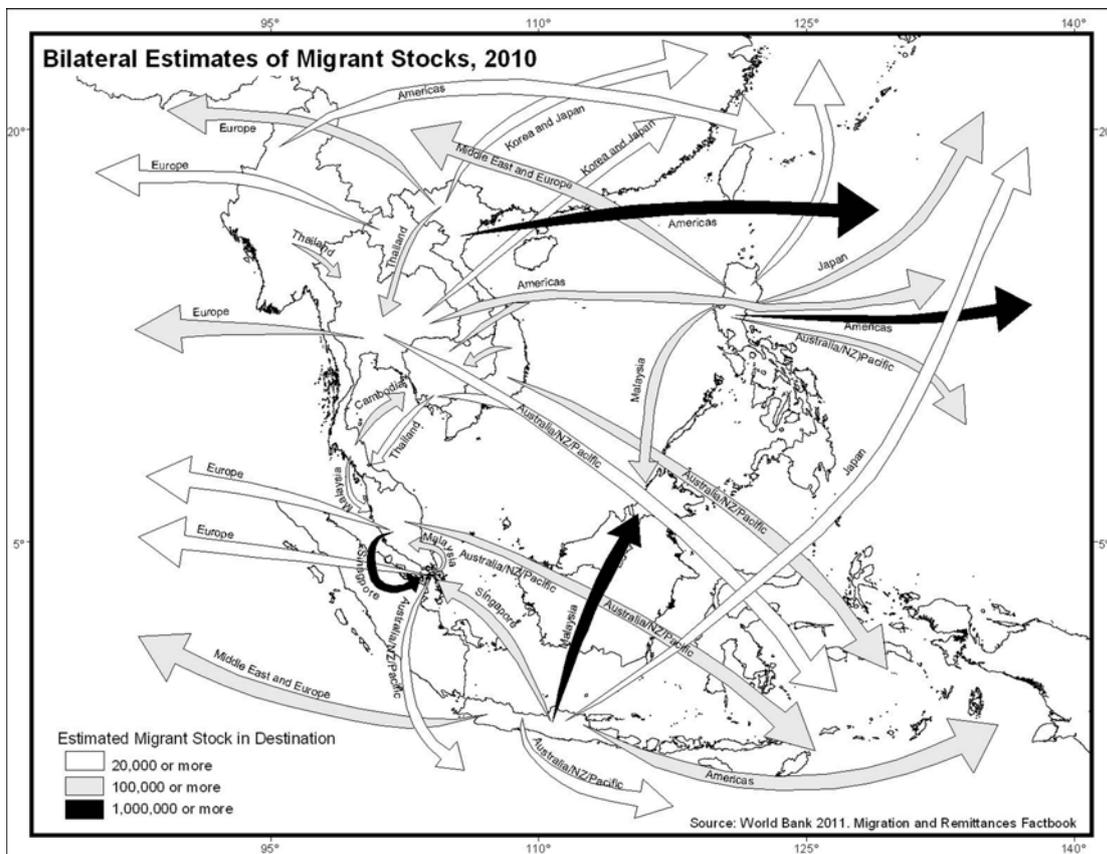


Figure 1. Southeast Asian migration flows (based on World Bank bilateral estimates).
Source: Kelly (2011)

of Philippine migrants originate from or within families in rural communities (Lukasiewicz 2011). Figure 1 maps bilateral estimates by the World Bank from Table 1, showing a range of common migrant pathways within and beyond Southeast Asia.

In addition to the transcontinental and regional flows introduced above, intra-national rural-urban and national/cross-border rural-rural flows are of principal interest to this review, which often defy attempts at aggregation, with the exception of occasional migration-specific censuses (Lukasiewicz 2011). Part of the reason migration in general and internal migration in particular are so hard to quantify and categorize is the seemingly irreconcilable tension between abstraction and inherent, mass diversity.

Clearer definitions that build on basic typologies such as those set out by Kelly (2011) above can help organize analyses around particular forms of mobility. Meanwhile, the underestimation of internal migration in national statistics (Deshingkar 2006) can be lessened with more rigorous censuses (albeit dependent on the institutional and social contexts in which they are conducted) together with spatially situated studies, which could in concert offer ways of modeling internal trends more precisely. The perennial tension between abstraction and diversity in the study of a fluid subject can be equally considered to have shaped theoretical developments surrounding migration; this is discussed in the following section.

3 Theoretical foundations

To frame discussion of empirical studies on migration in Southeast Asia in the next section, it is useful to first consider the evolution of migration theories and discourse that has underpinned later research. These have generally approached migration in the context of economic development, at the outset in terms of internal, rural-urban flows, and significantly expanded since the mid-twentieth century in parallel with broader shifts in social and economic theory.

3.1 Grand narratives

Ways of thinking about the dynamics of migration often draw lineage back to Ravenstein's *Laws of migration* (1885, 1889), that theorizes a kind of gravitational pull exerted over migrants by "great centres of human industry" or regions "whose resources have only recently become available", reducing in strength with distance from the point of origin, and driven by desire for personal betterment (1889, 288). The force of attraction put forward by Ravenstein's work in industrial revolution Britain gave way to 'push' and 'pull' factors emerging after the 1950s, epitomized in Textor's early study of migrant pedicab drivers in Bangkok: "these upcountry folk have either been pushed by bad conditions in the agricultural hinterland, or pulled by the attraction, real or false, of a better life in the capital" (Textor 1961, 1). Textor's study highlights the prevailing developmental view of migration as a bidirectional (often seasonal) process, in which migrants raise money to overcome economic hardship and return home. The author describes how the migrant "returns with relative affluence and prestige. He is, then, a potentially important agent of social and cultural change" (Textor 1961, 2). Lee later adopted and modified Ravenstein's laws and push-pull notions in his prominent *Theory of migration* (1966), which became a common starting point for numerous later theoretical developments. Lee's theory states that, "in every area there are countless factors which act to hold people within the area or attract people to it, and there are others which tend to repel them ... the balance in favor of the move must be enough to overcome the natural inertia which always exists" (1966, 50). Todaro's *Model of labor migration and urban unemployment in less developed countries* (1969) attempted to broaden

simplistic differentials to account for rural-urban migration despite the existence of urban unemployment as a logical disincentive to move. Todaro's model rejects assumptions of migration as a one-stage phenomenon – in which workers move (or are 'repelled') from low-productivity rural work to higher-productivity urban work – separating the decision into the presence of rural-urban wage differentials and the probability of finding urban work. Migrants balance risking periods of unemployment or underemployment against rising wage differentials from which they later stand to gain. Where Lee essentially restated Ravenstein's laws for a new century, Todaro took important steps towards greater understanding of migration in developing contexts, although the resulting model remained embedded in the deterministic approaches of the time.

Zelinsky's subsequent *Hypothesis of the mobility transition* (1971) significantly expanded the field, drawing parallels between mobility and demographic transition and bringing themes of urbanization and internal migration covered by Ravenstein and Lee together with international migration. In prefacing his hypothesis, Zelinsky points to Lee's theory as mostly arising from "the broader principle of least effort, according to which actors reach decisions whether and whither to move on the basis of relative known costs and returns" (Zelinsky 1971, 220). The author sought to deepen understanding by setting out a five-phase transition, starting with the limited circulation of 'pre-modern traditional society'; moving to major rural-urban, frontier settlement and emigration flows in an 'early transitional society'; lessening of flows but increased circulation in a 'late transitional society'; an 'advanced society' of stabilized internal flows but significant immigration of unskilled workers from developing countries and potential migration of skilled professionals; culminating in a 'future advanced society', characterized by advanced communications and tighter political controls over internal and international movement. Although later contested, perhaps the key contribution of Zelinsky's mobility transition has been in widening pathways for further theoretical development and phases of the transition remain recognizable in many contexts. King and Skeldon highlight the flawed starting point of a more or less immobile pre-modern society and unclear linkages with demographic transition theory (2010). Perhaps more problematic is the (by then already outmoded)

assumption that all countries follow the same stages of development experienced by what might now be future advanced societies (King and Skeldon 2010), which closely parallels critiques of modernization narratives of that era, epitomized in Rostow's influential *Stages of economic growth* (1960).

3.2 Great divides

Decades of study further broadened the recognized simplicity of early theoretical developments by Ravenstein, Lee, Todaro and Zelinsky, attempting to better capture the nuance of lived experience, with several key shifts in migration discourse more or less concurrent with wider directional changes in approaches to development. This evolution is effectively summarized by de Haas (2010), who loosely characterizes two broad approaches to migration theory. Migration 'optimists' are those grounded in neoclassical, developmental ideology from the 1950s to the present, viewing migrants as utility maximizing participants in a vast process of labor optimization. This approach foresees that "labor movements could be viewed as complementing the movement of capital from capital-abundant to labor- and natural-resource abundant countries, contributing to benefits from a more productive allocation of global resources in terms of factor productivity" (UNCTAD and IOM 1995, 3). The North-South transfer of capital, in the neoclassical view, would be coupled with wage increases as local labor supply declines, ultimately resulting in factor price equalization (de Haas 2010). Pessimists meanwhile approach migration from a Marxian, historical-structuralist position that gained traction in the 1970s and 1980s, as a function of spatial disparities brought about by capitalist expansion. In this view, migrants act in response to interactions between peripheral and core regions, the lack of investment and opportunity in peripheries catalyzing feedbacks of immigration to and accelerated investment in the core, widening uneven growth and inequality between the two (de Haas 2010). In a pioneering study of empirical evidence of the time on rural migration, Connell et al. offer some conclusions that are perhaps demonstrative of this view: "migration is indeed the child of inequality. It is from the village where land is most unequally distributed that migration rates are highest ... Migration, however is also the father of inequality. It confers cumulative gains upon the richer migrant's family ... for the poorer migrant, migration is increasingly a wandering search for work" (Connell et al. 1976, 197). Like the neoclassical perception,

historical-structuralism maintains a strong influence: "the relationship between migration and poverty is two-way: inequality may drive migration and migration has an effect on inequality both within the sending area and between regions" (Deshingkar 2006, 4). Seen in the context of rising internal migration from poorer areas of many Asian countries, the effects of uneven development and spatial inequalities interact with regional communication and transport improvements to generate conditions for what Deshingkar terms "unprecedented" internal movement of people (Deshingkar 2006).

The neoclassical position appears most germane when considering higher skilled forms of migration, while migration from impoverished conditions seems to adhere more readily to the historical-structuralist view (Castles et al. 2014). The former position has tended to theorize that migration remittances are productively invested by sending households, while the latter has emphasized evidence that remittances are allocated to immediate consumption needs, creating economic dependence on the migrant family members. Empirical findings can go in either direction but in terms of land-use practices remittances have been shown to both intensify and dis-intensify agriculture depending on contextual factors, discussed further in the proceeding sections. De Haas points out that both views falter on the assumption of migration as a linear function of economic conditions (2010), with a kind of attached inevitability in the allocation of remittances. The inherent inconsistencies of this contributed to the emergence of pluralist, hybrid approaches in the 1990s, concurrent with gradual shifts away from the pursuit of grand narratives, extending from dissatisfaction with the performance of deterministic views in the face of diverse findings. Stemming equally from a diversification of theoretical ideas in the social sciences, these shifts have carried with them a post-structural scepticism towards overarching theories that "universalize and essentialize" (Kelly 2011). That said, pursuit of a middle-range between "unattainable theoretical utopia and a myriad of empirical case studies" (King and Skeldon 2010, 1640) remains evident and yet unattained, aiming to strengthen understanding of migration as an embedded process.

3.3 A 'third way'? From NELM to capabilities

A prominent development towards this aim has been that of the New Economics of Labor Migration

(NELM), that emerged as a ‘third way’ to bridge the divide between earlier theoretical positions (Abreu 2012). Advanced by Stark and Bloom (1985), NELM offers a response to the neoclassical focus on individual utility as well as the minimal agency innate in historical-structuralism, framing individual behavior on the basis of joint decisions between migrating and non-migrating family members, who share related costs and returns. NELM theory views migration as based on mutual interdependence, a “‘calculated strategy’, and not as an act of desperation or boundless optimism” (Stark and Bloom 1985, 175), through which households might overcome missing or incomplete markets for credit or insurance. Remittances are thus considered to catalyze development by enabling poor households to overcome production and investment constraints (Taylor 1999). NELM theory significantly widens points of analysis relating to migration in developing contexts, in particular towards migratory wage work and remittances as ways of diversifying farm-based livelihoods to spread risk and engage in capital markets (Davis and Lopez-Carr 2014), with changes in agricultural practices an expected result (both via remittances and exposure to different livelihood practices on the part of migrants). The neoclassical underpinnings remain apparent, critiqued as being little more than the same “theoretical account, albeit in a more sophisticated information-theoretic clothing” (Abreu 2012, 47). NELM nonetheless significantly narrows the previous divide, remaining influential over contemporary migration studies, and much of the literature examining linkages between migration, livelihoods and remittance investments draws on NELM (e.g. Leinbach and Watkins 1998; Yang and Choi 2007; De Brauw 2010). For de Haas (2010), a logical step beyond earlier deterministic views of migration-development interactions is to build on the ‘third way’ offered by NELM, with stronger emphasis on migration as central to livelihood strategies and incorporating Sen’s capabilities approach (Sen 1999), migration becoming a facet of people’s freedom to choose the ways of living they value. Castles, de Haas and Miller extend this application, that migration should be considered intrinsic to broader development, decisions to migrate being far from “passive or predictable responses to poverty and spatial equilibria” (Castles et al. 2014, 51), but drawn from increased human capabilities and aspirations driven by and resulting from development. The value of capabilities as a non-linear approach to counter the prevailing discourse is clear, although it is less clear how a capabilities framework can be applied to migration as an aspect of livelihood strategies, as

has also been the case with other work extending the capabilities approach (e.g. Robeyns 2005; Anand et al. 2009). This could equally be viewed as reflective of the preceding need to move on from abstraction and combine applicable aspects of multiple theories to context-based analyses.

Where the de Haas review (2010) explored theoretical developments over several decades, de Haas interrogates empirical studies from across the developing world to highlight conflicting patterns across many factors associated with the role of migration in livelihoods and poverty (1999). Echoing critiques of the Todaro model, de Haas stresses the erroneous starting point from which theory has often begun: that populations are sedentary and pushed or pulled into moving by various economic stimuli, with clearly discernible patterns of cause and effect. While the author is accurate to point out that migration is common to most societies and always has been, there can be no doubt that present trends are amplified far beyond those of even the recent past, with rationales for and experiences of migration increasingly influenced by strengthened spatial connectivity (Kelly 2011) in terms of transport, communications and markets. De Haas’s broad analysis on migration and remittance effects on rural livelihoods, while cognizant of the limits to generalization, concludes that rather than being a transformative force, migration complements and enables the maintenance of livelihoods, while the allocation of remittances hinges on the incentives for agriculture in the sending community.

This section has presented a brief review of the evolution of migration theory, from the pursuit of grand narratives along largely neoclassical, developmentalist lines, to historical structuralist considerations of inequalities and uneven development, to multi-faceted approaches that bring migration into the scope of livelihood strategies. The application of multiple frameworks offers greater purchase in understanding the circumstances that lead migrants to invest capital and labor in agriculture, and the household and contextual factors that influence migration and how resources are managed (Deshingkar 2012), with a range of impacts on land-use practices, livelihoods and environmental outcomes. The latter will be the object of focus in the next section, drawing from a selection of recent Southeast Asia-focused empirical studies, with particular attention to those seeking to identify effects of migration and remittances on livelihoods and land-use practices.

4 Reworking the land: Migration and remittances in rural Southeast Asia

Having framed relevant theoretical developments, this section discusses findings of selected empirical studies that examine migration as an increasingly important aspect of rural livelihoods in Southeast Asia amid broader social, economic and environmental change. These changes are in turn influenced by the integration of rural regions within global markets with far-reaching impacts that significantly reshape land use (Hecht 2010). In Southeast Asia, intraregional trade between the members of the Association of Southeast Asian Nations (ASEAN) is surging (*The Economist* 2014), and is expected to continue to do so as the region further strengthens integration under the upcoming ASEAN Economic Community. Stratification and geographical variances within ASEAN will also determine localities and modes of production of agricultural commodities, whether in the form of volatile booms or more settled modes of production based on localized comparative advantage, which contribute to shaping migration trends. Equally important to present and future migration flows in Southeast Asia are transport infrastructure developments, which are progressively strengthening connectivity between the region's industrial centers, and linking outlying populations to an array of new economic opportunities. Concurrently with these processes, rural migration flows have been influenced by regional shifts in land availability and loci of production brought about by gradual closing of agricultural frontiers in some countries (such as in Thailand, the Philippines and Vietnam), coupled with the rise of reforestation policies, protected areas and resource enclosure, restricting agricultural expansion (Potter 2006). Acknowledging the immense cultural diversity and economic disparities of Southeast Asia (Castles et al. 2014), and within the limitations of scope and space, literature has been actively selected on the basis of direct references to land-use practices and livelihoods. Coverage of countries within Southeast Asia varies, some remaining absent from the analysis on the basis of the limited availability of research that links to the key themes of this review. Although they may certainly affect livelihoods and land-use practices, thematic areas that lack studied linkages with those of the review are avoided (such as literature on transnationalism, forced migration and displacement

on the basis of conflict). In the following subsections, empirical studies are examined from four perspectives: first, in terms of migration as a facet of livelihood strategies; second, the dynamics of labor, remittances and investments; third, the effects of these on rural landscapes; and fourth, the changing social and policy contexts within which migration takes place. A summary table of reviewed literature detailing authors, locations, frameworks and main findings is included in Appendix 2.

4.1 Migration as a livelihood strategy

Migration in developing contexts is recognized as increasingly central to livelihood strategies that are in turn embedded in (and responses to) conditions faced by households (Leinbach and Watkins 1998) on the basis of social, economic and environmental change. The ability of agriculture alone to sustain rural livelihoods is diminishing and rural migrants may often pursue a range of activities in response, with the greatest mobility between rural regions and informal (particularly urban) labor markets (Deshingkar 2006). In these ways, migrant-sending households construct livelihood strategies to deal with the “scissor effect of stagnating returns to work in farming locally and expanding opportunities in the nonfarm sector extra-locally” (Rigg et al. 2014, 192). Migration enables households to cross-subsidize smallholder production by accessing other income streams that in many cases more reliably support household accumulation and protect against environmental and economic shocks, particularly those dependent on (often declining) access to natural resources. Literature in this area is gradually pulling together earlier common bifurcations which are increasingly problematic, such as distinctions between temporary and permanent migration – circular migration becoming a common, seasonal response to local constraints and extra-local opportunities.

Drawn from Adger et al.'s longitudinal study of the implications of migration in post-reform Vietnam for social resilience (defined as communities' ability to “absorb external changes and stresses while maintaining the sustainability of their livelihoods”

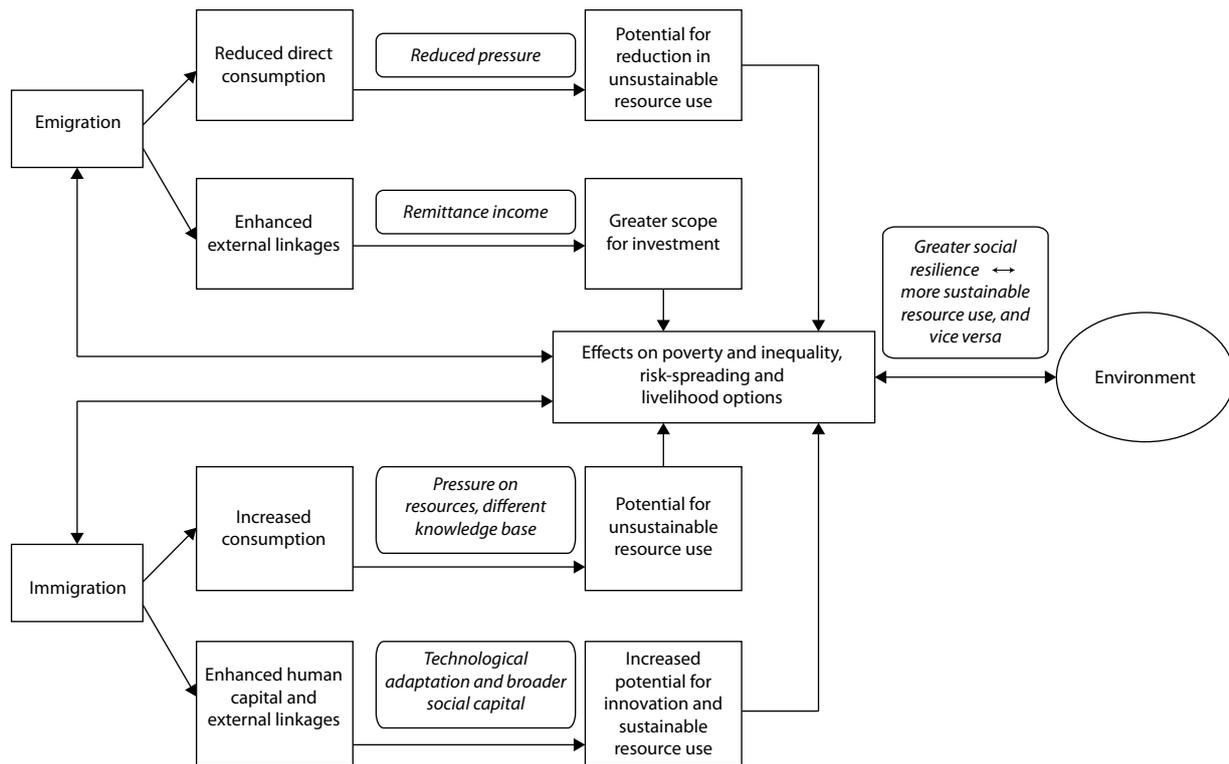


Figure 2. Potential linkages between migration and environmental health, mediated by social resilience.

Source: Adger et al. (2002)

(Adger et al. 2002, 358), Figure 2 offers a useful visualization for the incorporation of migration in livelihood strategies in response to uncertain access to natural capital.

Adger et al.’s findings from household data from 1995 and 2000 in the Red River Delta province of Nam Dinh show two distinct migration patterns, which highlight interactions between social conditions and outcomes in terms of social resilience (shaped by livelihood strategies, access to resources and social institutions). Often coming from better educated and higher-income households at the outset, rural-urban migrants use existing social networks to access urban employment, remitting their earnings for investment in agriculture, including crops, livestock and aquaculture. While the authors stress that migration cannot be seen as the only driver for aquaculture expansion, in the context of the study sites, areas in which this practice is introduced or expanded were often cleared of mangroves, simultaneously undermining natural capital and excluding poorer members of the community from mangrove resources on which they had depended. Rural-rural migrants were more often from poorer households and travelled greater distances to the

Central and Southern Highlands, to engage in new livelihoods, which often involved clearance of land and forests for coffee or extraction. These migrants tended to send remittances to their places of origin only after establishing reliable livelihood strategies over the course of several years; their initial focus was on gaining access to land, resources or wage income and they were sometimes assisted by seasonal migration of other family members from the origin community. The selectivity of these migration patterns highlights the different ways migration is incorporated into livelihood strategies based on household circumstances and the greater difficulties faced by marginalized social groups in adjusting to new conditions. The authors observe that remittances offset adverse trends in social resilience by enabling risk spreading and investment (examined in further detail in the following section), in this case particularly in education, which is considered an indirect investment in accessing nonfarm income (Adger et al. 2002).

A further key way in which migration influences livelihood strategies is in connecting multi-local practices to global networks and markets, through which distinctions on the basis of national and

international migration – which have up to now been studied from mostly separate conceptual and theoretical standpoints (King and Skeldon 2010) – are becoming blurred in some contexts. The increasing significance of off-farm wage migration globalizes multi-local livelihoods, not only where wage migration is across borders, but changing livelihood practices in sending communities are also increasingly linked with global markets. The globalization of livelihoods is illustrated by McKay's (2005) study of the role of remittances in shaping rural landscapes in the Philippines. Migration for overseas contract work is identified in this case study of Ifugao province, Northern Luzon, as both enabled by and a catalyst of land-use change, as women increasingly withdraw from unpaid, manual, subsistence rice production to engage in overseas opportunities. Their ability to do so partially results from gendered labor patterns, not only in terms of the destination opportunities (domestic work), but shifts away from subsistence practices at home, more commonly carried out by women, towards market-oriented production have fostered greater male involvement. Livelihoods combining paddy and swidden cultivation on subsistence and small-scale commercial bases have subsequently been reshaped by a convergence of remittance earnings, land pressures and reduced farm labor to favor widespread conversion to commercial crops (McKay 2005), a pattern that resonates with other contexts and is explored in greater depth below.

4.2 Labor, remittances and investment

The widening gap in returns to labor between farm and off-farm activities to which migration is a common response is linked to a range of factors such as access to markets, input costs and seasonal shifts in labor supply (e.g. Leinbach and Watkins 1998). Resulting effects of migration on land-use practices are varied and can both intensify (e.g. via investment of remittances in inputs to offset labor loss) and dis-intensify agriculture (e.g. by turning towards labor saving practices) (Deshingkar 2012). Manivong et al. (2014) contextualize remittance and labor effects of migration in southern Laos amid rapid transformation of farming and livelihood systems that are linked to earlier discussed regional economic changes. The authors found many households in the study area of Champassak province increasingly relied on wage work to varying degrees, particularly youth migration to neighboring Thailand (see also Barney 2012, discussed in Section 4.4), creating labor

dynamics that depart from State aims to intensify rice production as a foundation of socioeconomic development, prioritizing the reduction of land pressures as opposed to saving labor. In the study, high rates of out-migration for wage work drove up local labor hire costs, while returns to rice production remained low. Staying on the land instead of seeking more remunerative off-farm work hence came with significant opportunity costs. Higher returns to labor were sought in sending villages by switching to commercial crops rather than rice intensification (for which yield-boosting inputs were not seen as worthy investments). This freed household labor to continue pursuing migration opportunities and remitting a portion of income to support household consumption and farm production needs. The authors suggest that in this case, many households were enabled to diversify to two or more livelihood activities because migration remittances (which now provide most of the household income) could be invested in productive activity instead of being solely allocated for subsistence needs (Manivong et al. 2014). The study stops short of identifying what form such investments might commonly (or initially) take, which would illustrate more clearly the direct effects of remittances on land-use practices, though it is clear that the diversification of household income streams enabled by remittances reduced household reliance on natural capital.

De Brauw (2010) finds similar trends in household panel data from Vietnam in the 1990s, which demonstrate clear shifts from rice to non-rice production in response to migration, together with declining input usage among households with migrant members compared to those without (see Table 2). The author suggests further causal links in changing livelihoods via possible substitution of capital for labor-saving technologies (mechanization was observed although this could not be isolated to households with migrants), shifts from relatively labor-intensive to relatively land-intensive crops, or larger increases in total factor productivity among migrant households. De Brauw's study resonates with the above empirical observations in neighboring Laos, albeit amid markedly different labor and land markets. However, reliance on panel data offers an abridged reality, as acknowledged by the author, potentially missing "unobservables that affect the migration decision [and] almost certainly affect decisions regarding other household outcomes" (De Brauw 2010, 115). De Brauw further describes the potential effects of migration on agriculture as "theoretically indeterminate and likely [to] depend

Table 2. Effect of migration on agriculture in northern and southern Vietnam, 1993 and 1998.

Dependent variable	North	South
Rice production	-0.444 (0.237)*	0.436 (0.675)
Total farm revenue	0.011 (0.218)	0.328 (0.708)
Non-rice production	1.764 (0.704)**	-2.945 (2.670)
Rice fertilizer	-1.310 (0.507)**	1.004 (0.701)
Total fertilizer	-1.084 (0.407)**	-0.251 (0.475)
Labor days, men	-1.183 (0.709)*	-1.396 (0.933)
Labor days, women	-0.375 (0.440)	-2.435 (0.781)**
Other expenditures	-0.904 (0.513)*	-0.028 (0.856)

Notes: * indicates significance at the 10% level; ** indicates significance at the 5% level. Regressions all include the household demographic variables, appropriate agricultural price variables, commune controls and regional dummies. Standard errors clustered at the commune level in parentheses. All equations differenced to remove household-level fixed effects, and are estimated using an IV-GMM procedure.

Source: De Brauw (2010)

upon constraints and the relative values of specific inputs" (ibid). The study finds that incomplete labor, land or credit markets define whether household production rises or falls as a result of migration, based on the ability to substitute hired labor or technology for migrant household members, switch to land-intensive crops, or relieve monetary constraints via remittances.

Questioning the role of missing credit markets in farm investment and migration behavior, Bylander (2014) examines the confluence of micro-credit and migration in rural Chanleas Dai, Cambodia – perhaps a defining case in which minimal expectations preclude investment (whether of remittances or otherwise) in farm activities. Here, the risks of village-based livelihood strategies were perceived as significantly higher than the uncertainties of migration as Chanleas Dai endured successive poor harvests due to environmental shocks throughout the 2000s. Over the same period, labor migration to neighboring Thailand became a primary

livelihood activity as networks strengthened, income became more reliable and the process grew easier and safer, even entailing a certain level of protection under Thailand's worker registration scheme. In this context, micro-credit became a source of enabling funds ('migra-loans') to pay labor agents, as well as a form of pay advance for household consumption needs, or distress loans when circumstances (such as illness) led households into unmanageable debt; in each case they were subsequently repaid with remittances. These strategies thus combine micro-credit and remittances to overcome inadequate agricultural returns, as opposed to releasing farmers from credit constraints to enhance productivity and thereby support 'settled' livelihoods, which would be more in line with theories both on migration and micro-credit (Bylander 2014).

The use of remittances to spread risk in unfavorable climatic conditions is further explored in Yang and Choi's (2007) study of remittance responses to rainfall-derived income shocks in the Philippines, identified as an increasingly possibility across Southeast Asia, with climate change projected to alter rainfall regimes and bring more extreme weather events (Lebel 2013). Using national household panel data and rainfall records, the authors show that among households with overseas migrants, falling household incomes during years with rainfall shocks correlate with increased remittance transfers, consistent with these flows performing an insurance role among migrant-sending households. Findings show as much as 60% of domestic household income being replaced by remittances in such instances, maintaining household consumption, while consumption responds strongly in households without migrant members. Rainfall shocks are also shown to have a positive causal impact on overseas migration among households previously without migrant members. The authors point out that the large remittance response to rainfall-derived income shocks may partly result from difficulty accessing credit or inter-household assistance during periods when many households in a given area are affected by the same environmental impact. This can potentially simultaneously price some households out of credit markets while driving down prices for stress sales of assets, in which case remittance flows may substitute these local risk-coping mechanisms (Yang and Choi 2007).

Examining the potential for various forms of migration as adaptation strategies, Dun (2011) seeks to determine the extent that flooding can be

considered a cause of displacement or migration (whether seasonal, temporary or permanent) within and from Vietnam's Mekong Delta, a region considered highly vulnerable to climate change (MRC 2011). Drawing on semi-structured interviews with migrants from the delta to Ho Chi Minh City, riverine locations in the delta province of An Giang and across the border in the Cambodian capital of Phnom Penh, Dun identifies patterns in migration decisions and above average flooding that has increasingly affected low-lying areas of the delta in recent decades (Dun 2011). Some respondents undertook regular seasonal migration for urban-based work during the flood season to subsidize unreliable livelihoods based on river resources, farming and wage labor, while those whose crops were repeatedly destroyed by successive flood events sometimes moved more permanently to try to transition to different forms of employment. Among those suffering extreme impacts from flood events, the study found evidence of trafficking as well as influxes of children into childcare centers in Ho Chi Minh City when relief aid was not available; while State-planned resettlement of those living in particularly vulnerable riverine communities also took place. The nascent nature of the research is emphasized; the present or potential scale of environmentally induced migration in Vietnam is beyond the scope of the work, although the high population density of the delta region coupled with the vulnerability of livelihoods to changes in the Mekong's flood regime due to rainfall variations and sea-level rise suggest possible future displacement within and beyond national boundaries. The author stresses that flooding should not be considered a direct cause of migration, but more of a trigger for decisions to adopt multi-local strategies when livelihoods are negatively impacted, such as by repeated loss of crops (Dun 2011).

Leinbach and Watkins (1998) further sharpen focus on the relative weightings of contextual conditions that shape multi-local livelihood strategies via empirical study of participants in Indonesia's long-running State-sponsored transmigration program to settle outlying areas (in this case South Sumatra). The findings demonstrate how income from circular wage migration by members of poor migrant households is prioritized initially towards securing basic survival needs (similarly to credit, as outlined above), and subsequently economic accumulation and advancement (including productive investments) once stability is achieved. The authors take the market and household settings in which this

process is embedded as the basis of a schematic (see Figure 3, below) for family decisions, actions and responses, based on (i) initial conditions and those at destination (relating to marginal productivity); (ii) household response (in terms of consumption levels and labor allocation to agricultural, wage employment or migration); and (iii) landholdings response (conversion, purchase or sale). In each examined case however, external forces come into play which could not be effectively represented by the schematic. For example, potentially unforeseen conditions at the destination such as discrimination, the difficulty of separation from family or fulfilling a position in direct competition with many other workers, may limit migrants' abilities to maximize benefits. The most successful households benefitted from specific policy (input subsidies) and market (contract farming) conditions at different points in time, capitalizing on each successful livelihood endeavor while gaining increasing political agency. Reminiscent of the iterative progress of migration theory discussed in the previous section, the limitations to Leinbach and Watkins' attempt to model household decision-making on migration highlight how comprehensive any such model would need to be to fully represent a given context. The authors emphasize the complexity of the decision process, for which imperfect understanding "must be deepened by a more refined model of the livelihood process that identifies specific triggering elements and the timing of these" (Leinbach and Watkins 1998, 61), returning us to the context-dependent nature of analysis relating to migration. Such decisions hinge not only on returns to labor and potential gains in income, but a diversity of concurrent processes, opportunities and capabilities on the part of migrants.

Investment of migration remittances as a progressive process is also illustrated by McKay's earlier cited study in the Philippines (2005), in which remittances are seen to first stabilize household income, then offer capital to invest in commercial bean gardens to maintain and seek greater profits from agriculture with reduced female labor at home. Migrant women equally described their remittances as "scattered" for consumption needs however, supporting both the view that remittances are invested productively and absorbed by household consumption as required, the latter with negligible resulting enhancement of livelihoods. The importance of initial conditions to decisions over remittance investments is exemplified by Lukasiewicz (2011), observing largely opposite conditions elsewhere in the Philippine island of

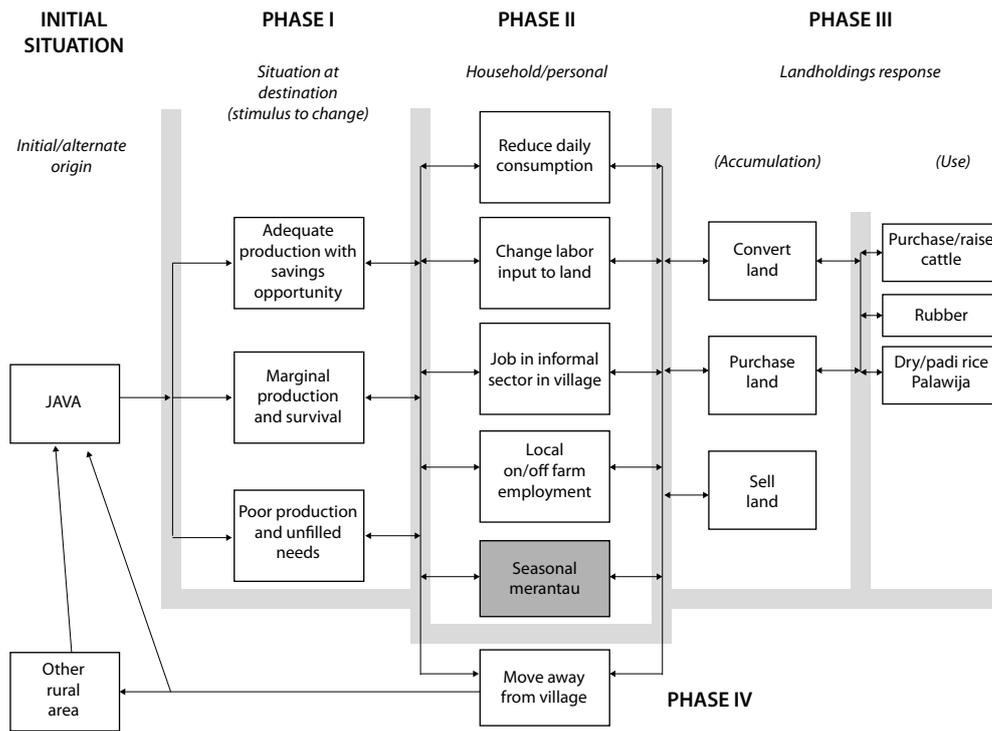


Figure 3. Schematic model of household survival decision strategies.

Source: Leinbach and Watkins (1998)

Luzon, in Quezon province, where a large proportion of men migrated and women took on management of the household’s farmholdings. Here, remittances were clearly invested in productive ways such as on land purchases and the expansion of agriculture activities. A key difference between Lukasiewicz’s study area and that of McKay is that rich soils make mixed agricultural investments including additional rice land, coconut groves and livestock that much more viable, investment decisions in many cases taken by the women who stayed (although in others the decision was the migrant husband’s, from afar). These studies demonstrate how remittances might be considered subject to a multiplier effect, in that initially profitable investments and conducive local conditions can enable successive enhancement and diversification of livelihoods, echoing findings in other regions (e.g. Deshingkar 2012). In this way, stable incomes, such as from expansion of cultivable land, conversion to commercial crops and livestock raising, enable remittances or other earnings to be used more flexibly (Leinbach and Watkins 1998). Similar observations have been made in Latin America, along with the fact that longer periods of migration strengthen earning potential and hence the ability to remit income (Davis and Lopez-Carr

2014), although investments in productive land uses, while beneficial to poor farmers, may not always prove positive in terms of conservation of resources (Deshingkar 2012). The diverse ways that such investments could impact on land-use change remain understudied in Southeast Asia, although the following cases offer several insights.

4.3 Reworking landscapes

As well as the above considerations of migration as a component of livelihood strategies, household investments and risk spreading, understanding the environmental effects of migration and remittances in rural contexts requires us to view human mobility as embedded within wider dynamics of landscape change. Pressures on land and forests can potentially be lessened by reductions in farm area that might result from investing migrant earnings in productivity improvements, although widespread intensification can also have negative sustainability impacts (Deshingkar 2012). Hecht (2010) observes that where small-scale agricultural investments are viable, remittances may be linked to increases in land clearance or intensified agriculture depending

on the prevailing conditions of production, while welfare investments take priority where low prices or volatility dis-incentivize agriculture. In the context of contemporary agricultural landscapes in Southeast Asia, while a gradual decline in the importance of farming as both a livelihood and economic sector is ongoing, participation in agriculture (including on a migratory basis, Hall 2011) remains substantial. Hall points to three key related trends in the Southeast Asian context: spontaneous movement to agricultural frontiers to join boom crop production as smallholders; State or public-private sponsored relocation and organized farming schemes (such as those relating to transmigration programs in Indonesia and historically in Malaysia); and wage migration for plantation labor or to work for other smallholders (Hall 2011). State-sponsored schemes, in the case of Indonesia and post-war Vietnam, have been followed by substantial spontaneous migration once remote areas had been settled, although such schemes commonly involved failed attempts at establishing particular crops (Potter 2006). In Vietnam, many spontaneous migrants moved on in the face of poor livelihood prospects, while Indonesia's transmigrants sometimes responded to failing productivity by adopting indigenous practices such as swidden, although in short rotation and with degrading impacts on cultivated land (Potter 2006). In terms of participation in crop-booms, Murray Li (2002) identifies several key catalysts as a ready supply of land (especially forest frontiers with productive soils), a labor pool to instigate spontaneous migration and a gap in global supply of a commodity. Resulting movements of people often trigger large-scale land-use change as migrants move in significant numbers to agricultural frontiers seeking to join and benefit from crop booms. Rapid circulation of land between established smallholders and new arrivals often follows, as well as sale or conversion of potentially contestable plots (such as swiddens) to permanent crops, to avoid loss to land-grabbers and/or to demonstrate tenure (Hall 2011). This process is manifested in the transformations brought about as global market demand is "translated into new landscapes, livelihoods and social relations" (Murray Li 2002). Examining the declining trajectory of swidden agriculture in Sarawak, Mertz et al. suggest rural *out-migration* as a contributor to the reduction of areas under swidden cultivation, although the broader transition to commercial crops has a much greater impact in terms of land-use change (Mertz et al. 2012). One way that migration contributes to this process is by enabling migrant members of poorer households to raise capital

for land purchases for conversion to palm oil, the propensity for which also reduces secondary forest buffers to protected areas, with forest islands a likely future. Migration is not a key focus of this study, but the potential ways it could interact in this context are clear. Examining transitions to cash crops with a focus on migration and remittances would enrich analyses of the dynamics of such processes.

The effects of such a transition on land use and ownership, coupled with the feedback processes created by in-migration from other regions are illustrated in Murray Li's (2002) study of the engagement of smallholders in Sulawesi, Indonesia in global markets via cocoa production. This process saw vast areas converted to mono crop cocoa plantations, including former rotational swidden systems and forest. Such was the lure of rapid returns derived from the crop, particularly on the back of the plummeting national currency during the 1998 Asian financial crisis (while cocoa exports remained pegged to the US dollar) that long-standing customary land claims were quickly reworked. A process of land commodification ensued as plots of a common inherited land pool were incrementally planted with trees to enclose and claim them, thereby breaking the rotational cycle until all swiddens were eventually replaced. This process has reworked class relations as some farmers expanded their holdings by accessing more capital and labor and by being better placed to prove ancestral claims. Once enclosed and planted, land transactions became common and less fortunate groups would eventually sell all their holdings to work as wage laborers, with a further stage of commodification as coastal and urban elites began buying up established cocoa groves. In-migration has significantly reorganized rural populations in this study; some villages have doubled in size in the space of a few years with indigenous populations, often being less swift to act, left behind in the uptake and enclosure of land with cocoa (Murray Li 2002), an experience echoed in transmigrant settlements in other parts of Indonesia (Potter 2006). In a comparable case set out by Eghenter (2006), return migrants to the Kalimantan interior, after failing to engage profitably in the lowland economy, found themselves competing with a wave of in-migrants cashing in on surging demand for fragrant resinous woods. A localized single-commodity economy formed around the influx of outsider collectors, destabilizing local prices for all goods and creating inflationary pressures. Social divisions arose in the communities on the basis of uneven distribution of benefits, as available resources were meanwhile

exploited by undermining increasingly contested customary access arrangements. This operation was mainly coordinated by outsider transmigrant collectors and middlemen, together with international traders (Eghenter 2006), highlighting linkages between comparatively remote livelihoods and global markets.

A wider drive to commercialize agriculture has had a transformative impact on Vietnam's Central Highlands, with similar outcomes in terms of access to land and resources to those discussed above, driven at the outset by State policies to settle a sparsely-inhabited, forest-rich region and later to reclaim it (Tran 2006). In the context of Vietnam's sweeping *Doi Moi* (renovation) reforms, institutional changes around de-collectivization, tenure reforms that enabled a land market, and relaxing of household registration operated in concert to alter patterns of human mobility and remittance flows, with significant environmental and resource impacts (Adger et al. 2002). State-sponsored migration to reduce land and resource pressures elsewhere gained traction in the 1980s, but spontaneous flows exceeded government plans and controls, accelerating forest loss to meet demand for agricultural land and wood products to accommodate the expanding highland population (Tran 2006). Most in-migrants sought alternatives to economic deprivations of the time, some searching out new areas to enable continuation of swidden practices in the face of declining availability of productive lands in other upland regions of the country. Swidden became subject to tightening controls as land was enclosed by State claims and for commercial developments, logging and agriculture, but persisted in marginal areas. Booming coffee, rubber, sugarcane and pepper in the 1990s hastened conversion of and competition over land; more affluent urban dwellers investing in plantations (as in the case of Sulawesi's cocoa boom) as the forest frontier retreated. In a familiar pattern, indigenous farmers incrementally sold customarily held lands for agriculture and residential purposes, retreating further into the highlands together with the forest (Tran 2006). Where Tran's study demonstrates the physical imprint of in-migration on the landscape, that of out-migration is encapsulated by what McKay (2005) describes as "remittance landscapes"; those with clear, wide conversion to commercial agriculture resulting in large part from the departure of labor and subsequent inflow of remittances. McKay frames these dynamics within linked processes of landscape change, which in the Philippines case entailed the clearing of upper slope areas for swiddens and gardens by poorer, landless

households, impacting on the watershed, which in turn affected downstream paddy cultivation. Conversion of rice terraces to commercial bean gardens in the study not only reflected investment of remittances and the effects of reduced labor, but was an environmental necessity with the heightened loss of forest in the upper watersheds affecting water access (McKay 2005). This pattern of remittance investment had deleterious effects on soil properties, in which land later returned to rice production could not support crops without the heavy use of inputs. Livelihood aspirations (with potential land-use effects) were found to be strikingly gendered; a female respondent hoping for a secure future by investing in rice land while her partner would prefer to clear cheaper, frontier land for farming, and to invest his commercial agriculture profits (catalyzed by remittances) in a chainsaw to make an additional logging income. McKay's study highlights that many linked processes underway in the "remittance landscapes" have degrading impacts on land, while livelihoods are increasingly attached to commercial production.

Much of the preceding discussion in some way links to how rural economies engage with, or as observed by Hecht (2010), are restructured by, global markets. This engagement and its effects on human mobility has often been shown to have numerous negative environmental and social consequences. Hecht however points to a cognitive bias in the literature towards the battlegrounds of deforestation, environmental protection and issues relating to resource access and management rights. This bias, together with global data which fail to capture anthropogenic or successional forests may obscure the conservation of resources by small-scale farming populations, overlooking forest gains in some instances. Broad transition theories (such as the environmental Kuznets curve and forest transition theory) emphasize national-level change and underlying Malthusian considerations of human impacts on forests, out-migration of rural populations being an assumed basis for land pressures to lessen and forests to recover (Hecht 2010). This correlates with some of the Southeast Asian contexts examined above, where out-migration has brought about a dis-intensification of agriculture due to declining labor supply, although such interactions are found to be dependent on context. Gray and Bilsborrow (2014) identify similar patterns in rural Ecuador, although together with dis-intensified production to cope with labor loss, migration remittances commonly led to expansion of cultivated land. These findings challenge assumptions that out-migration and resulting remittance flows lead to abandonment of agriculture

and forest regrowth (in line with forest transition theory), and highlight the enduring security and social values attached to land, explored in greater detail in the next section.

4.4 Negotiating migration pathways

In addition to the economic and environmental concerns discussed above, migration patterns and their effects on land use are fundamentally shaped by underlying (and changing) social and policy landscapes, together with the values (both monetary and cultural) attached to land and rural livelihoods. Studies tend towards agreement that internal and external migrants from developing countries endeavor to improve the social and economic status of their families (Castles et al. 2014), with remittances central to this process. Temporary and circular migration are dominant among the rural poor in Asia, who tend to “keep one foot in the village either by necessity or choice” (Deshingkar 2006, 2). The ability to embark on income-generating activities, whether at origin or destination, hinges on the options open to would-be migrants, and forms of social enablement or barriers to opportunity. Outcomes are commonly framed from an economic perspective, and the extent that monetary remittances are invested in productive activities that enhance livelihoods and land-use practices is a prominent consideration in the reviewed literature. In seeking to examine this issue in different settings, studies often find the answer strongly linked to conditions of productivity in the immediate environment that incentivize (or dis-incentivize) investment, tending to support the neoclassical view that “when agriculture is profitable, migrant remittances are often used for investment in agricultural improvement” (UNCTAD and IOM 1995, 34). Indian studies show where such enabling conditions are evident, it is the combination of assets, knowledge and skills gained via migration that can result in productive investments, but on a very limited scale in some instances (Deshingkar 2012). Beyond financial remittances, livelihoods may also be reworked by social remittances drawn from periods of life in different locations that gradually alter social norms and behaviors at home (King and Skeldon 2010), while also bringing new knowledge and ideas, entrepreneurialism and sometimes a reduction of interest in continuing farming. Social remittance effects are hard to encapsulate in a measurable form, although their implications in terms of social reproduction and the continuation, adoption or abandonment of agricultural practices may be significant (Barney 2012). Meanwhile, the

focus on productive versus consumption-supporting use of remittances is in some cases identified as shaping discourse in unhelpful ways, such as whether diversified livelihoods are considered poverty reducing and enhancing of resilience (as often stated in development literature), or whether migration (particularly to forest frontiers) risks environmental impacts. How these positions are discursively framed effectively directs whether rural migrants are considered “deserving recipients of largesse and support or as threats to be demonized and displaced” (Elmhirst 2012). State agendas are thus dependent on the level of emphasis placed on latent positive outcomes of migration, based on government perceptions with historic tendencies to “fear the populations beyond the gates” (King and Skeldon 2010, 1638).

Embodying the (often unanticipated) influence of policy in shaping migrant behavior, Elmhirst (2012) adopts a Foucauldian lens to chart change in the subjective positioning of Javanese transmigrants to Sumatra, Indonesia, which shifted from pioneering settlers to “forest squatters” requiring control as environmental concerns and land pressures tightened. Migrant families (previously extolled for opening remote areas) responded by constructing livelihood strategies that sought extra-local employment to augment meager farm incomes, while maintaining a presence in the settled region to signal “belonging”, negotiate their political position and uphold entitlement to State resources. Remittances were not found to be channeled into agriculture in Elmhirst’s study (which was considered not worth investing in unless for capital-intensive oil palm conversion), mainly being spent on housing and education. Land enclosure for commercial agriculture or conservation, combined with the “failure of urban labor markets to provide viable alternatives to agrarian livelihoods”, are identified as drivers of rural vulnerabilities in Indonesia, further highlighting the importance of migration in the face of uncertain subsistence (Elmhirst 2012, 131). The interaction between migration and land enclosure is further explored in a study (Barney 2012) on youth out-migration and agrarian change in Khammouane province, Laos, against a backdrop of State- and investor-driven extractive resource capture and uneven distribution of rents. Findings identify a sharp rise in migration as local livelihoods and ecologies were being progressively undermined by extractive development projects (hydropower and plantations), weakening the potential for productive agricultural activities. This took place as transport access eased and brokers bridged information and communication gaps with burgeoning labor demands in neighboring Thailand.

Remittances are often identified in this study as supporting consumption needs, although the fungible nature of the (small in this case) additional income is also emphasized in that capital may be freed for other livelihood investments. Smallholder commercial rubber is one such activity in the study area, which is taken up concurrently with the rise in migration, and has the potential for triggering similar patterns of differentiation between early adopters and other villagers as found by Murray Li in Sulawesi. In the Laos case, enclosure of land and forest by the projects, coupled with land purchases by outsiders along main highways again catalyzed commoditization of formerly common swiddens, which Barney identifies as critical in instigating new rural migration patterns. The link between extractive development and the transfer of external costs to villagers in terms of access to land and resources warrants further investigation, while youth perceptions of modernity in neighboring Thailand and declining ambition to continue farming are also identified as contributing factors (Barney 2012).

Changes in the economic and social value assigned to rural livelihoods among households with migrant members are also evident in Rigg et al.'s (2014) study of the influence of ties to home villages over migrants' life-course behavior and decisions in rural northeast Thailand. This inter-generational study shows how migrants, even given supposedly life-opportunity enhancing accumulation of skills, appear economically trapped by choosing to maintain attachment to their natal villages, "the locus of familial belonging and livelihood security" (Rigg et al. 2014, 184). Here again, migration remains central to livelihoods as a way of coping with land pressures and the decline in returns to farm labor, while also meeting increasing monetary and consumption needs not provided by subsistence production. Remittances are examined from the point of view of their investment in human capital via education of the next generation, although in this regard migration was found to be deskilling, second generation migrants often finding themselves overqualified for the precarious and low-skilled manufacturing work they find available when entering the job market. Thailand's middle income trap is thus perpetuated by a combination of individuals' failings to deploy their human capacity to its full extent given their continued attachment (both in personal and livelihood terms) to rural locations; weak State human capital development efforts and imperfections on the part of firms in the utilization of available human capital (Rigg et al. 2014). Anh et al. (2012) observe comparable behavior based on

differing perspectives in their longitudinal study of the engagement of rural migrants with urban labor markets in Hanoi, Vietnam. Here, livelihood strategies are reworked in the spaces between increasingly blurred distinctions of rural, urban, worker and farmer; respondents in the study strongly identifying 'home' with their rural origins and retained lands there, although many no longer farmed them. In this way, migrants reserved access to what they perceived as low prospect but secure agricultural livelihoods, sometimes turning land over to relatives, their own farming activities having been largely abandoned in pursuit of more remunerative (albeit riskier) jobs in Hanoi. Davis and Lopez-Carr offer a similar observation from studies in Central America, in that land provides "some foundation from which smallholder farmers can base their security and retain important cultural identities, thus making them loath to abandon it completely" (Davis and Lopez-Carr 2014, 12). In Anh et al.'s study, those continuing to farm concurrently with urban, nonfarm work did so on a subsidiary basis, rural attachments gradually becoming compromised, although the poorest households continued to direct surplus income to the upkeep of family members and land in their home village (2012). This is perhaps indicative of a cumulative process of household capabilities geared towards lives of more perceived value in urban areas, while the home village remains fixed in mind, more often as a place to retire than to work and raise a family.

While some of these findings suggest a trend towards de-agrarianization, Rungmanee (2014) disputes linear understandings of this process. Supporting the findings of Rigg et al. (2014), Rungmanee highlights the enduring value apportioned to agricultural livelihoods in northeast Thailand, while expanding on the generational and educational factors that influence differentiation of rural communities. Findings showed that diversification to off-farm activities among rural households was enabled by supportive State policy (pricing and crop insurance schemes), together with a pool of low cost labor from across the Mekong river in Laos to substitute local youth out-migration and avoid substantial investments necessary for mechanization. Rungmanee's study, considered with the effects of labor migration on sending communities in mind (e.g. Barney 2012), highlights how migration effects "rippled through geographical settlements, economic sectors and society" (Anh et al. 2012, 1128). This perspective offers a way of scaling understandings of migration to consider the complexity of continent-wide, interlinked patterns of movement that connect diverse multi-local livelihoods across space.

5 Conclusion

This paper has reviewed the literature on migration within and from rural areas of Southeast Asia to examine the resulting, often transformative effects of the redistribution of labor and remittances on livelihoods and land-use practices. The paper has further sought to understand contexts in which migration drives, yet is also driven by, social and environmental change, identifying some of these effects in the context of rural Southeast Asia, and highlighting gaps in the literature, along with areas of contention and debate.

Trends and estimates of migration remain challenged by the diversity of human mobility at multiple scales, composed of households and individuals in myriad circumstances, which in turn affect how migration impacts on land use and livelihood practices (Deshingkar 2012). While recognizing the enormous challenges to national statistical institutions of improving the rigor of censuses, together with limits to generalization of spatially situated studies, the combination of these activities can offer ways to bring migration analyses more firmly into research, debates and policymaking on land-use and forest cover change than is presently the case.

The theoretical section of this paper examined how thinking on migration has moved from grand narratives to seeking more contextually grounded understandings, to the need for parsimonious frameworks that attempt to bridge the gaps between these approaches. In considering migration from the perspective of numerous transition theories put forward in different fields (e.g. fertility, mortality, urbanization, agrarian, gender), it is suggested that “while no single pathway through any migration or developmental transition exists, it nevertheless needs to be accepted that a retreat to total relativism is counterproductive” (Skeldon 2012, 154). This perspective, while seeking to avoid the much-critiqued linearity of earlier theories, acknowledges that broad changes are nevertheless underway, arguing that regional and local transitions can be identified that incorporate changes in agriculture, industry and State structures to offer a “framework for the structure of human movement in time and space” (Skeldon 2012, 164). Bringing transitional ideas of social and environmental change together

with spatially located studies that seek to identify causal linkages between migration and changes in livelihoods and land-use practices may be one way that such approaches could be applied.

Meanwhile, viewing capabilities as part of people’s substantive freedoms to enact the lives of their choosing (Sen 1999) offers an inductive theory for considering the dynamics and decisions relating to migration, moving beyond the limited understanding offered by push-pull and purely economic considerations. In this parlance, migrants accumulate freedoms to choose new functioning combinations that might not have been previously attainable, diversifying livelihoods and enabling household members to engage in broader opportunities, whether in terms of learning or perhaps exiting agriculture altogether. Productive abilities are enhanced and capabilities accumulated against a backdrop of wider development in which migration is both a cause and a consequence. While wage migration to bolster increasingly hard-won agricultural returns may not always reflect freedom to choose, it is no less the case that in all scenarios people migrate because of lack of other alternatives.

What emerges most strongly from the empirical section is the defining role of prevalent conditions in the location of study over how migration affects land-use and livelihood decisions, whether based on allocation of labor, remittances or otherwise. Certainly the perceived returns to investments in both monetary and labor terms are critical to how migration influences household land-use decisions, which in turn affect the immediate environment. The potential for high agricultural returns in contexts of rural in-migration often appear to predicate rapid commodification and enclosure of land, social stratification and exclusion. Capabilities perhaps play a more defining role in life-course decisions (though these may also be attached to security and belonging, as shown in Rigg et al. [2014]), which can be viewed as cumulative in their expansion of choices, albeit within the confines of local and extra-local opportunities and conditions.

The expansive literature relating to migration and development often alludes to, yet stops short of,

directly examining, migration and remittance effects on land and forest cover change. The literature on land-use change often overlooks or briefly references migration, but migration rarely forms the central point of enquiry. Mertz et al.'s study discussed above for example, although not specifically about migration, nevertheless alludes to its role in the transition to commercial crops in an agrarian setting, together with environmental impacts of that process (2012). Kelly, among others, points out that much of the agrarian literature still tends to view rural social change as taking place within an *in-situ* population

(2011), which appears erroneous. Bringing livelihoods, land-use change and migration together analytically offers a rich area for future research and a move towards populating wide scholarly gaps on migration in rural contexts, particularly in relation to agrarian and environmental change. This research would be well positioned to inform policies relating to land use, agriculture and forestry in rural regions of Southeast Asia, where multi-local livelihoods are increasingly entwined with globalized processes, including those driving environmental changes that such policies seek to govern.

6 Agenda for further research

There remain numerous underexplored areas in the study of migration in Southeast Asia that offer many avenues for further research. Understanding of the linkages between migration and land use can be strengthened by spatially situated studies in different geographical settings across the region. Of particular importance to changes to forest cover would be studies focusing on upland and frontier areas, where rural communities continue to construct livelihoods around traditional agricultural practices and forest resources, but increasingly also featuring commodity production and wage-based migration. Pertinent lines of inquiry that could be followed in Southeast Asian contexts might extend from Deshingkar's comparative study of causal links between migration, remittances and resilience to environmental change in Mexico, Burkina Faso and India, which posed the following key questions (Deshingkar 2012, 1):

- Under what circumstances do households with migrants invest (capital and labor) in agriculture and natural resource management?
- How do household factors (e.g. assets, education, kinship, networks, individual attributes) and contextual factors (e.g. agro-climatic conditions, markets, policies) shape migration and natural resource management practices and outcomes?

Extending from these questions, a critical point that studies often appear to stop short of identifying is the types of initial investment made by households with migrant members, and whether patterns might be identified based on contextual factors which can then demonstrate causality in terms of changes in land-use and livelihood practices. As a subcategory of this, the lack of detailed knowledge on the extent to which migration cross-subsidizes or contributes to the decline of traditional farming practices such as swidden also warrants further research, potentially incorporating how (already long-enacted) migration behaviors change as communities engaged in these livelihoods increasingly orient towards market-based production and cash income. More broadly, heightened rural-urban interactions via a combination of such market engagement together with accelerating migration flows could have far-reaching implications for land and forest cover change, which remain understudied. Further initial questions on these themes are suggested as follows:

- How could remittances be redirected as tools for rural landscape development and forest management?
- In which ways do migration, remittances and access to information/technology contribute to changes in agriculture practices, or reinforce traditional farming practices, such as swidden with its forest-crop mosaics?
- How effective are migration and remittances as risk coping strategies within swidden and other traditional farming and social forestry practices?
- How does migration feature affect the sustainability of rural-urban interactions, and what are the implications of these for rural land and forest cover change?

Understanding of interactions between migration and climate would also benefit from studies on the ways in which migration and remittances contribute to and alter rural livelihoods, which may in some cases reduce forest cover and carbon values associated with resulting land-use practices, but in others may foster forest recovery (Hecht 2010). In anticipating rising internal migration as both an adaptive livelihood strategy and a response to climate-induced displacement, the IOM suggests that climate-adaptive mobility may extend from existing seasonal migration patterns (Lebel 2013), potentially building on existing networks through which migrants move and seek employment. This points to further ways that spatially situated studies can illuminate the functioning of such networks, as well as migrants' experiences with present regulatory structures, to inform policy that responds to environmental change as a catalyst as well as an outcome of migration.

- How and when are migration and mobility used as adaptive or coping strategies to climate and other environmental change?

Finally, significant bodies of research and applicable findings are available in Latin American and African contexts, which are beyond the scope of this review but can nonetheless offer numerous valuable directions for fresh studies and comparative work (Hecht et al. In press). The research questions identified above highlight knowledge gaps of the role of forests in light of the migration-remittances-development nexus in Southeast Asia – information which is critically needed for the development of effective policies on social forestry, rural development and landscape management.

7 References

- Abreu A. 2012. The new economics of labor migration: Beware of neoclassicals bearing gifts. *Forum for Social Economics* 41:46–67.
- Adger WN, Kelly PM, Winkels A, Huy LQ and Locke C. 2002. Migration, Remittances, Livelihood Trajectories, and Social Resilience. *Ambio* 31:358–66.
- Anand P, Hunter G, Carter I, Dowding K, Guala F and Van Hees M. 2009. The development of capability indicators. *Journal of Human Development and Capabilities* 10:125–52.
- Anh NT, Rigg J, Huong LTT and Dieu DT. 2012. Becoming and being urban in Hanoi: Rural-urban migration and relations in Vietnam. *Journal of Peasant Studies* 39:1103–31.
- Barney K. 2012. Land, livelihoods, and remittances. *Critical Asian Studies* 44:57–83.
- Bylander M. 2014. Borrowing across borders: Migration and microcredit in rural Cambodia. *Development and Change* 45:284–307.
- Castles S, De Haas H and Miller MJ. 2014. *The Age of Migration: International Population Movements in the Modern World*. Hampshire, UK: Palgrave Macmillan Limited.
- Connell J, Dasgupta B, Laishley R and Lipton M. 1976. *Migration from Rural Areas: Evidence from the Villages*. Oxford: Oxford University Press.
- Cunnington P. 2011. Village resettlement in Laos. Vientiane: European Commission.
- Davis B, Carletto G and Winters PC. 2010. Migration, transfers and economic decision making among agricultural households: An introduction. *Journal of Development Studies* 46:1–13.
- Davis J and Lopez-Carr D. 2014. Migration, remittances and smallholder decision-making: Implications for land use and livelihood change in Central America. *Land Use Policy* 36:319–29.
- De Brauw A. 2010. Seasonal migration and agricultural production in Vietnam. *Journal of Development Studies* 46:114–39.
- De Haan A. 1999. Livelihoods and poverty: The role of migration – A critical review of the migration literature. *Journal of Development Studies* 36:1–47.
- De Haas H. 2010. Migration and Development: A Theoretical Perspective 1. *International Migration Review* 44:227–64.
- De Jong W, Tuck-Po L and Ken-Ichi A. 2006. *The Social Ecology of Tropical Forests - Migration, Populations and Frontiers*. Kyoto University Press.
- De Koninck R. 2003. Southeast Asian agriculture post-1960: Economic and territorial expansion. In Lin Sien C, ed. *Southeast Asia Transformed: A Geography of Change*. Singapore: Institute of Southeast Asian Studies.
- Deshingkar P. 2012. Environmental risk, resilience and migration: Implications for natural resource management and agriculture. *Environmental Research Letters* 7:015603.
- Deshingkar P. 2006. *International migration, poverty and development in Asia: Including the excluded through partnerships and improved governance*. Asia 2015: Promoting Growth, Ending Poverty. London: Institute of Development Studies and Overseas Development Institute.
- Dun O. 2011. Migration and displacement triggered by floods in the Mekong Delta. *International Migration* 49:e200–e223.
- The Economist*. 2014. Growing ties between an oft-overlooked subgroup in ASEAN. *Economist Intelligence Unit*, 16 December 2014. Accessed 17 March 2015.
- Eghenter C. 2006. Movements, social entitlements and economic fortunes in the forests of the interior of Borneo. In: De Jong W, Tuck-Po L and Ken-Ichi A, eds. *The Social Ecology of Tropical Forests - Migration, Population and Frontiers*. Kyoto University Press.
- Elmhirst R. 2012. Displacement, resettlement, and multi-local livelihoods. *Critical Asian Studies* 44:131–52.
- Garip F. 2014. The impact of migration and remittances on wealth accumulation and distribution in rural Thailand. *Demography* 51:673–98.
- Gray CL and Bilsborrow RE. 2014. Consequences of out-migration for land use in rural Ecuador. *Land Use Policy* 36:182–91.
- Hall D. 2011. Where the streets are paved with prawns. *Critical Asian Studies* 43:507–30.
- Hecht S, Yang, AL, Basnett, BS and Padoch, C. in press. *People in Motion, Forests in Transition: Trends in Migration, Urbanization and Remittances, and their Effects on Tropical Forests and Forest-Dependent Communities*. CIFOR.

- Hecht S. 2010. The new rurality: Globalization, peasants and the paradoxes of landscapes. *Land Use Policy* 27:161–9.
- Huguet JW. 2013. Regional migration in ASEAN: Types of migrants and possible links to environment. In Chantavanich S, Middleton C and Ito M, eds. *On the Move: Critical Migration Themes in ASEAN*. Bangkok: International Organization for Migration and Chulalongkorn University - Asian Research Center for Migration.
- [IOM] International Organization for Migration. 2013. *World migration report: Migration, well-being and development*. Geneva: International Organization for Migration.
- Kelly PF. 2011. Migration, agrarian transition, and rural change in Southeast Asia. *Critical Asian Studies* 43:479–506.
- Kenney-Lazar M. 2013. *Shifting cultivation in Laos: Transitions in policy and perspective*. Vientiane: Secretariat of the Sector Working Group for Agriculture and Rural Development, Ministry of Agriculture and Forestry.
- King R and Skeldon R. 2010. 'Mind the gap!' Integrating approaches to internal and international migration. *Journal of Ethnic and Migration Studies* 36:1619–46.
- Lambin EF and Meyfroidt P. 2011. Global land use change, economic globalization, and the looming land scarcity. *Proceedings of the National Academy of Sciences of the United States of America* 108:3465–72.
- Lebel L. 2013. Climate change and migration in South-East Asia: Evidence, expectations and new questions. In Chantavanich S, Middleton C and Ito M, eds. *On the Move: Critical Migration Themes in ASEAN*. Bangkok: International Organization for Migration and Chulalongkorn University – Asian Research Center for Migration.
- Lee ES. 1966. A theory of migration. *Demography* 3:47–57.
- Leinbach TR and Watkins JF. 1998. Remittances and circulation behavior in the livelihood process: Transmigrant families in south Sumatra, Indonesia. *Economic Geography* 74:45–63.
- Lukasiewicz A. 2011. Migration and gender identity in the rural Philippines. *Critical Asian Studies* 43:577–93.
- Manivong V, Cramb R and Newby J. 2014. Rice and remittances: Crop intensification versus labor migration in southern Laos. *Human Ecology* 42:367–79.
- McKay D. 2005. Reading remittance landscapes: Female migration and agricultural transition in the Philippines. *Geografisk Tidsskrift-Danish Journal of Geography* 105:89–99.
- Mertz O, Egay K, Bruun TB and Colding TS. 2012. The last swiddens of Sarawak, Malaysia. *Human Ecology* 41:109–18.
- [MRC] Mekong River Commission. 2011. *Impacts of climate change and development on Mekong flow regimes: First assessment – 2009*. MRC Management Information Booklet Series. Vientiane: Mekong River Commission.
- Murray Li T. 2002. Local histories, global markets: Cocoa and class in Upland Sulawesi. *Development and Change* 33:415–37.
- Potter L. 2006. An overview of migration and deforestation in Southeast Asia: 1880 to 2002. In De Jong W, Tuck-Po L and Ken-Ichi A, eds. *The Social Ecology of Tropical Forests - Migration, Populations and Frontiers*. Kyoto University Press.
- Ravenstein EG. 1885. The laws of migration. *Journal of the Statistical Society of London* 48:167–235.
- Ravenstein EG. 1889. The laws of migration. *Journal of the Royal Statistical Society* 52:241–305.
- Rigg J. 2007. Moving lives: Migration and livelihoods in the Lao PDR. *Population, Space and Place* 13: 163–78.
- Rigg J, Promphaking B and Le Mare A. 2014. Personalizing the middle-income trap: An inter-generational migrant view from rural Thailand. *World Development* 59:184–98.
- Rigg J and Salamanca A. 2009. Managing risk and vulnerability in Asia: A (re)study from Thailand, 1982–83 and 2008. *Asia Pacific Viewpoint* 50:255–70.
- Robeyns I. 2005. The capability approach: A theoretical survey. *Journal of Human Development* 6: 93–117.
- Rostow WW. 1960. *The Stages of Economic Growth: A Non-Communist Manifesto*. Cambridge University Press.
- Rungmanee S. 2014. The dynamic pathways of agrarian transformation in the northeastern Thai–Lao borderlands. *Australian Geographer* 45:341–54.
- Sen A. 1999. *Development as Freedom*. Oxford University Press.
- Skeldon R. 2012. Migration transitions revisited: Their continued relevance for the development of migration theory. *Population, Space and Place* 18:154–66.
- Stark O and Bloom DE. 1985. The New Economics of Labor Migration. *American Economic Review* 75:173–8.

- Tacoli C. 2011. *Not only climate change: Mobility, vulnerability and socioeconomic transformations in environmentally fragile areas of Bolivia, Senegal and Tanzania*. Human Settlements Working Paper Series. London: International Institute for Environment and Development (IIED).
- Tacoli C and Mabala R. 2010. Exploring mobility and migration in the context of rural-urban linkages: Why gender and generation matter. *Environment and Urbanization* 22:389–95.
- [TAG] Transmigration Advisory Group. 1991. *Forest clearance study*. Jakarta, Indonesia: Ministry of Transmigration, Transmigration Advisory Group. UNEP/KLH.
- Taylor EJ. 1999. The new economics of labor migration and the role of remittances in the migration process. *International Migration* 37:63–88.
- Textor RB. 1961. *From Peasant to Pedicab Driver: A Social Study of Northeastern Thai Farmers Who Periodically Migrated to Bangkok and Became Pedicab Drivers*. New Haven, CT: Yale University Southeast Asia Studies. New Haven Conn
- Tjondronegoro SMP. 1991. Colonists and transmigrants in agricultural development: Planned and sponsored settlement in Indonesia. In Mollet J. ed. *Migrants in Agricultural Development: A study of Intrarural Migration*. Basingstoke: Macmillan. 132–52.
- Todaro MP. 1969. A model of labor migration and urban unemployment in less developed countries. *American Economic Review* 59:138–48.
- Tran VC. 2006. Migration and tropical forests in the central highlands of Vietnam. In: De Jong W, Tuck-Po L and Ken-Ichi A, eds. *The Social Ecology of Tropical Forests - Migration, Populations and Frontiers*. Kyoto University Press.
- [UNCTAD] United Nations Conference on Trade and Development and [IOM] International Organization for Migration. 1995. *Foreign Direct Investment, Trade, Aid and Migration*. Geneva: United Nations Conference on Trade and Development and International Organization for Migration.
- [UNDP] United Nations Development Programme. 2009. *Human development report - Overcoming barriers: Human mobility and development*. New York: United Nations Development Programme.
- Vargas-Lundius R and Lanly G. 2008. *International migration, remittances and rural development*. Rome: International Fund for Agricultural Development (IFAD), Food and Agriculture Organization of the United Nations (FAO).
- Winkels A. 2008. Rural in-migration and global trade: Managing the risks of coffee farming in the central highlands of Vietnam. *Mountain Research and Development* 28(1):32–40.
- Yang D and Choi H. 2007. Are remittances insurance? Evidence from rainfall shocks in the Philippines. *World Bank Economic Review* 21:219–48.
- Zelinsky W. 1971. The hypothesis of the mobility transition. *Geographical Review* 61:219–49.

Appendix 1. Summary of key theoretical developments in migration.

Author	Year	Contribution	Theoretical development
Ravenstein	1885, 1889	The Laws of Migration	<ol style="list-style-type: none"> 1. 'Currents of migration' direct movements of people across shortest distance to centers of industry 2. Pull of such centers diminishes with distance; waves of remote migrants fill 'gaps' in rural populations 3. Process of dispersion is inversely similar to absorption 4. Migration currents also produce counter currents 5. Long-distance migrants gravitate to larger centers of industry 6. Urban dwellers less likely to migrate 7. Women more likely to migrate than men
Lee	1966	Theory of Migration	<p>Extends Ravenstein's Laws to frame migrant decision-making as factors of attraction or repulsion that surpass inertia:</p> <ol style="list-style-type: none"> 1. Factors associated with area of origin 2. Factors associated with area of destination 3. Intervening obstacles 4. Personal factors
Todaro	1969	Model of Labor Migration and Urban Unemployment in Less Developed Countries	<p>Extends Lee's Theory to account for attraction of urban migration despite risk of unemployment. Migration decision a function of 1) urban-rural wage differential, and 2) probability of urban employment. Risk is offset by expected earnings</p>
Zelinsky	1971	Hypothesis of the Mobility Transition	<p>Draws parallels with demographic transition in 5-phase hypothesis:</p> <ol style="list-style-type: none"> 1. 'Pre-modern traditional society', limited circulation 2. 'Early transitional society', major rural-urban, frontier settlement and emigration flows 3. 'Late transitional society', lessening flows but increased circulation 4. 'Advanced society', stabilized internal flows, immigration of unskilled workers, migration of skilled professionals 5. 'Future advanced society', advanced communications, tightened political controls over internal and international migration
Stark and Bloom	1985	New Economics of Labor Migration	<p>Addressed implied lack of agency in above: 1) migration as a calculated strategy based on joint decisions between migrating and non-migrating family members, 2) costs/returns shared, 3) remittances as inter-temporal contractual arrangement between migrant and stayers</p>

Appendix 2. Summary of reviewed empirical studies by author.

Author	Pub. Year	Country/ Case	Analytical basis/ Framework(s)	Key findings	Proposed further research
Adger et al.	2002	Nam Dinh province, Red River Delta, Vietnam	Social resilience (communities' ability to absorb external changes/stresses while maintaining livelihoods)	Remittances offset effects on social resilience in changing social and political contexts. Migration is occurring alongside expansion of unsustainable practices (aquaculture), remittances and their investment being simultaneously beneficial to social resilience while widening social differentiation	Greater understanding of and innovative solutions for environmental problems created both by remittances in migrant-sending areas and by frontier expansion in destination areas
Anh et al.	2012	Hanoi, Vietnam	Sets out heterodox framework of 'urban-ness'/'rural-ness' based on legalistic, livelihoods, identity, socio-cultural and social networks criteria	Rural-urban migrants return with altered priorities – homeland as place of familial identity, not to work and raise family (better urban opportunities). Land is retained for livelihood security, even if not farmed	
Barney	2012	Khammouane province, Laos	Political ecology of global resource sector investment vs. culturally informed migration analysis	Youth out-migration as culturally complex, economic, spatial and socio-ecological process with feedbacks to agrarian conditions at origin. Resource extraction by external actors, State policies driving rural out-migration	Examine relationship between large-scale extractive resource projects, rent capture, agrarian transition and out-migration
Bylander	2014	Chanleas Dai, Cambodia	Remittances substituting missing credit markets (extending from NELM)	Microcredit in combination with migration enables households to meet consumption goals while retreating from insecure and unreliable livelihoods	Examine combined use of microcredit and migration in other locations. Ground theories of migration, microfinance and rural development in context, risk perception and motivations

... Continued to next page

Appendix 2 continue

Author	Pub. Year	Country/ Case	Analytical basis/ Framework(s)	Key findings	Proposed further research
De Brauw	2010	Northern Vietnam	Extending from NELM	Migrant households in Northern Vietnam move out from rice production and into other crops, reduce input use (consistent with shift from labor-intensive to land-intensive production)	Test whether more land rentals/sales occur in high migration areas, correlating with shift to land-intensive crops, plus other land-migration interactions
Dun	2011	Mekong Delta, Vietnam	Linkage between environmental change and migration (forced or voluntary)	Impacts of unusually large flooding events in the Mekong Delta can trigger household or individual migration decisions, as well as State-initiated resettlement of vulnerable communities. Socioeconomic and political context in which environmental stress occurs plays an important role in migration determining outcomes	Identifying environmental causes as factors in migration decisions among people directly dependent on vulnerable natural resources for livelihoods
Eghenter	2006	Kalimantan, Indonesia	Social ecology	Return migrants to Kalimantan interior were accompanied by a rush for resinous woods, coordinated by outsiders, sponsored by global market actors. Customary access arrangements were undermined and contested, social divisions arose from uneven distribution of benefits	Causal dynamics of migration and social ecology of non-timber forestry products and common resources
Elmhirst	2012	Lampung, Indonesia	Governmentality and production of subjectivities	Rural migrants use multi-local livelihoods to access non-local income while maintaining foothold on land (signals belonging, entitlement to State resources)	Investigate whether/how international development agency aspirations to integrate migration into poverty reduction strategies could work in politically turbulent contexts
Leinbach and Watkins	1998	South Sumatra, Indonesia	Extending from NELM, develops schematic model for decision pathways	Remittance behavior is spatially controlled and temporally variable; family decisions balance labor and capital among farm, local industry and investments plus unpredictable circular employment and remittances	Refined livelihood modeling to identify specific triggering elements and their timing with family action

... Continued to next page

Appendix 2 continue

Author	Pub. Year	Country/ Case	Analytical basis/ Framework(s)	Key findings	Proposed further research
Lukasiewicz	2011	Quezon province, Philippines	Gendered impacts of rural out-migration, transformative effects on notions of gender	Investments of migrant remittances in home farmland provide sustained income; staying women became managers, reworking gender ideologies, identities	Challenges faced by women in balancing farming with cultural prescribed expectations/ feminine roles
Manivong et al.	2014	Champassak province, Laos	Conditions of agricultural growth; link between migration and agricultural intensification and changes in demographic structure	Higher incomes from nonfarm employment, especially international migration, transform livelihoods away from reliance on natural capital (though this remains essential). Migration enables youth to support themselves independently while remitting to augment household consumption and capacity to invest	
McKay	2005	Ifugao province, Philippines	Globalized livelihoods, gendered labor divisions, remittance landscapes	Female migrants for overseas employment withdraw labor and knowledge from agriculture; staying fathers adapt by investing remittances in commercial crops. Female migration attached to household land-use decisions with long-term sustainability implications	Further exploration of linkages between migration, gender relations and transitions to commercial crops/ nonfarm labor in other remittance economies
Mertz et al.	2012	Sarawak, Malaysia	Influence of land-use change in land management and livelihoods	Rapid development of smallholder palm and rubber coupled with urbanization and rural-urban migration have reduced area under swidden cultivation since early 2000s	Smallholder plantations may offer 'productive fallow', enabling swidden rice to continue on smaller scale
Murray Li	2002	Sulawesi, Indonesia	Agrarian differentiation; historically, economically, politically and culturally embedded concepts of agency	Agrarian differentiation in upland settings leads to increasingly uneven access to land, labor and capital; diversified smallholder plots abandoned in favor of mono crop cocoa, reconfiguring communities	Share findings of other existing cocoa research with local and regional farmers/ actors; long-term engagement to generate locally grounded knowledge/ counterpoint

... Continued to next page

Appendix 2 continue

Author	Pub. Year	Country/ Case	Analytical basis/ Framework(s)	Key findings	Proposed further research
Rigg et al.	2014	Northeast Thailand	Personalized 'middle-income trap' based on barriers and inducements to sustainable and rewarding livelihoods	Migrant engagement with knowledge economy is limited by attachment to natal villages as locus of familial belonging and livelihood security; middle-income trap is personal as much as institutional	Intersection between skills, education and enduring central role of village in rural society and household livelihoods
Rungmanee	2014	Northeast Thai-Lao borderlands	Problematizes linear interpretation of de-agrarianization	Dependence on agriculture is determined by households' land holdings, education, gender and age structures. Lao migrant workers have supported livelihood diversification with cheap labor. Some local out-migrants have invested in cash crops and businesses; less educated migrants favored agriculture as more secure	Examine expanding range of contexts in which household livelihoods are spatially constituted amid broader agrarian transformation
Tran	2006	Central Highlands, Vietnam	Social ecology	State-sponsored migration to settle and establish commercial agriculture was followed by rapid spontaneous migration, enclosure and policies against traditional practices, pushing the forest frontier and upland farmers to increasingly remote areas	Customary forest management and community tenure systems to offer more alternatives for tenure arrangements and active, communal forest protection and management
Yang and Choi	2007	Philippines	Extending from NELM; overseas remittances as mechanism for coping with shocks ex post	Changes in income lead to opposite changes in remittances, consistent with an insurance motivation. About 60% of lost income associated with rainfall shocks are shown to be replaced by overseas remittances to smoothen consumption among migrant sending households. Consumption in non-migrant sending households responds strongly to the same income shocks	Whether remittances exhibit such large responses to idiosyncratic income shocks or those isolated to given households (would suggest reduced response as under these circumstances, households would have better access to local risk-pooling arrangements)

CIFOR Working Papers contain preliminary or advance research results on tropical forest issues that need to be published in a timely manner to inform and promote discussion. This content has been internally reviewed but has not undergone external peer review.

This paper reviews the literature on migration within and from rural areas of Southeast Asia to examine the effects of redistribution of labor and remittances on livelihoods and land-use practices, as well as contexts in which migration drives, yet is also driven by, social and environmental change. Gaps in the literature and areas of contention and debate are highlighted, informing an agenda for further research. Many studies approach ways in which labor dynamics and remittances to rural villages affect agricultural productivity among migrant-sending households, or compensate for lost labor by supporting household consumption, but the reality is often found to be a combination of both on the basis of immediate priorities. Perceived returns to investments in both monetary and labor terms are critical to how migration influences household land-use decisions, while initially profitable investments and conducive local conditions are seen to enable successive enhancement and diversification of livelihoods. Overall, the expansive literature relating to migration and development often alludes to, yet stops short of, directly examining migration and remittance effects on land and forest cover change. The literature on land-use change often overlooks or briefly references migration, but migration rarely forms the central point of enquiry. Understanding of the linkages between migration and land-use can be strengthened through spatially situated studies in different geographical settings. Such studies would be better positioned to inform policies relating to land-use, agriculture and forestry in rural regions of Southeast Asia, where multi-local livelihoods are increasingly entwined with globalized processes, including those driving environmental changes that such policies seek to govern.



RESEARCH
PROGRAM ON
Forests, Trees and
Agroforestry

This research was carried out by CIFOR as part of the CGIAR Research Program on Forests, Trees and Agroforestry (CRP-FTA). This collaborative program aims to enhance the management and use of forests, agroforestry and tree genetic resources across the landscape from forests to farms. CIFOR leads CRP-FTA in partnership with Bioversity International, CATIE, CIRAD, the International Center for Tropical Agriculture and the World Agroforestry Centre.

cifor.org

blog.cifor.org



Fund



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Agency for Development
and Cooperation SDC



Center for International Forestry Research (CIFOR)

CIFOR advances human well-being, environmental conservation and equity by conducting research to help shape policies and practices that affect forests in developing countries. CIFOR is a member of the CGIAR Consortium. Our headquarters are in Bogor, Indonesia, with offices in Asia, Africa and Latin America.

