Understanding how Laikipian households in Kenya move, stay connected and adapt through a political ecology of rural-urban livelihoods

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Abstract

This thesis asks to what extent do rural-urban livelihoods build the adaptive capacity of households experiencing a mix of natural and societal pressures and opportunities in Laikipia County, Kenya. It addresses the question of how people move, stay connected and adapt in contexts of change from a different and deliberate perspective. One that puts at its centre the concept of rural-urban livelihoods – a livelihoods framing of moving that up until now has remained under-utilised and under-theorised. And one that frames the analysis from the perspective of a political ecology of mobilities – an analytical approach that understands the myriad ways in which people move and adapt in the context of power relations, constructivism, relational thinking, plurality and difference. The thesis examines the relationship between rural-urban livelihoods and adaptive capacity from the perspective of livelihoods diversification, reciprocal exchange and rural-urban changes. The following kinds of questions are explored. For whom and under what circumstances do livelihoods diversification, reciprocal exchange and rural-urban changes build adaptive capacity? To what extent do they strengthen some of the levers of adaptive capacity, whilst simultaneously undermining others? How does this uneven picture balance out to inform adaptive capacity as a whole? And how and why do these dynamics shift over time and place? Three main conclusions emerge. Firstly, that the relationship between rural-urban livelihoods and adaptive capacity is characterised by fluidity and plurality. Secondly, that rural-urban livelihoods have incremental, rather than transformational, impacts on adaptive capacity. And thirdly, that underlying patterns and trends structure a broader logic or direction to this mixed and variable picture, albeit one that remains characterised by everyday contradiction, deviation and complexity

Chapter 1 - Introduction

In the context of environmental change, people's movements tend to be interpreted as unplanned and unwanted, as a last resort that occurs in the face of insurmountable challenge. In spite of the emergence of more nuanced and celebratory accounts of mobility, it is the 'crisis' – occurring 'beyond the realms of "normal" development and change' (Lindley, 2014, 2) – that continues to be perceived as the predominant factor explaining why people move as a result of environmental factors. In the words of Piguet et al. (2011, 15), 'The dominant view is that people who move because of environmental factors are in fact unable to adapt – and thus have no option but to leave'.

While many groups ultimately move under such circumstances of crisis and challenge, this overarching narrative remains problematic. It is highly political. Not only does a narrative of crisis speak to a long-standing sedentarist bias that prioritises fixity over mobility (Chapter 2), but it also speaks to the dominant framing of immigration into Europe and America. This 'crisis' framing also establishes a specific tone from the outset that subsequently limits the language we use, the questions we ask, the objects we study, and the methodologies we adopt (Bakewell, 2008, 432). It leaves little room for the everyday, easy to miss and uneventful micro-mobilities and translocal connections that are occurring, unnoticed, and all around us, and which play an increasingly important and often positive role in contemporary livelihoods.

The narrative of crisis is also inconsistent with growing (albeit conflicting and patchy) evidence that moving can contribute positively to both adaptation and development. In recent years, migration has come to be simultaneously conceptualised as a failure to adapt to environmental pressures and a potential strategy for adaptation. But then the outcomes of moving are always inherently mixed, unequal and context specific. A similarly mixed picture emerges from the migration and development literature, upon which much of this adaptation research builds. Migration is simultaneously associated with 'brain drain' and 'brain gain'. With economic dependency and stagnation, as well as a catalyst to local business and markets. With social inequality and breakdown, as well as the spread of new ideas that can inspire social change and equality. With new opportunities and prospects, as well as with hardship and suffering.

In spite of this mixed picture, this thesis argues that moving represents an increasingly important aspect of contemporary livelihoods and, by extension, a compelling and logical avenue through which to adapt to a mounting range of social and environmental pressures. This nuances the emphasis from 'migration as crisis' to everyday mobile livelihoods and practice. Moving does not have to be something special or exceptional. It can be an unremarkable part of everyday life, development and change that is not easily discernible from the wider undercurrents and transformations of urbanisation, globalisation, commodification, monetisation, devolution, demographic shifts, environmental change, and so on. This thesis thus addresses the question of how people move and adapt in contexts of change from a different and deliberate perspective. One that puts at its centre the concept of rural-urban livelihoods – a livelihoods framing of moving that up until now has remained under-utilised and under-theorised. And one that frames the analysis from the perspective

of a political ecology of mobilities – an analytical approach that understands the myriad ways in which people move and adapt in the context of power relations, constructivism, relational thinking, plurality and difference. The thesis asks to what extent do rural-urban livelihoods build the adaptive capacity of households experiencing a mix of natural and societal pressures and opportunities in Laikipia County, Kenya.

This academic contribution is particularly timely given a number of factors. Firstly, rural-urban livelihoods have not featured within the large number of studies on adaptive capacity. The links between adaptive capacity, vulnerability and resilience have been extensively theorised and researched (for example, Brooks et al., 2005; Folke et al., 2002; Gallopín, 2006; Smit and Wandel, 2006). Adaptive capacity has also been explored in relation to economic resources, information, technology and skills (B Smit et al., 2001), institutions and governance (Pahl-Wostl, 2009), social capital, trust and collective action (Adger, 2003), psycho-social attributes and risk perception (Grothmann and Patt, 2005), and local customs, traditions and attachment to place (Mortreux and Barnett, 2017). In contrast, there has been relatively little research into how rural-urban livelihoods might contribute to building household adaptive capacity. At the same time, adaptive capacity remains a fluid and heterogenous concept that has been associated over the years with a wide range of outcomes, including the ability to modify, change, adjust, respond, anticipate, prepare, act, moderate, take advantage, avoid and recover, among other actions. What makes adaptive capacity especially difficult to grasp is that it is a latent concept in that it is forward-looking, predictive and deals with potentiality rather than a current state of being (Engle, 2011; Rigg et al., 2016). While it is now widely accepted that adaptive capacity is comprised of different elements, there is much less consensus about what these elements might be.

Secondly, rural-urban livelihoods have grown in scope and importance in recent decades, making them an increasingly relevant area of enquiry. Improved transport and communication networks, and gendered and generational changes have made mobility cheaper, easier and more socially acceptable than it was for previous generations (Chapter 4). The uneven geographic distribution of resources and opportunities across rural and urban settings also means that moving has become an important mechanism for diversifying contemporary livelihoods (Chapter 6).[1] Likewise, the simultaneous squeezing of both rural and urban livelihoods means that people are moving in multiple directions in search of new opportunities towards and away from both rural and urban settings (Chapter 7). At the same time, secondary towns, market hubs and shopping centres that are neither rural nor urban, but inherently rural-urban, are burgeoning across much of Sub-Saharan Africa (Chapter 8). In the words of Rigg (1998, 515), 'The relationships between city and countryside has become ever more closely entwined so it is becoming ever harder to talk of discrete `rural' and `urban' worlds. This is not just a question of closer economic relations in terms of flows of goods and capital; even more striking are the human interactions that bring rural people to work in the city'. What is more, in a context of growing environmental pressures, it is likely that rural-urban livelihoods will become 'an increasingly important

[1] Most government services, large markets, financial institutions, formal employment opportunities, quality hospitals and good schools are located in towns rather than rural areas. Likewise, resources such as farming land, pasture, sufficient water for irrigation and livestock, and affordable casual labour for herding and farming, are typically found in rural settings.

element of adaptation to slow-onset climate change', thereby warranting more detailed and systematic academic enquiry (Tacoli, 2009, 520).

1. Rural-urban livelihoods

Rural-urban livelihoods remain an elusive and, at times, contested concept. To date, rural-urban interactions have been classified predominantly in terms of 'linkages' (for example, Bah et al., 2003; Djurfeldt, 2012; Owuor, 2007; Painter, 1996; Potts and Mutambirwa, 1990; Tacoli and Earthscan, 2006; Tostensen, 2004). But they are also similarly described in terms of 'connections' (for example, Andersson, 2002; Geschiere and Gugler, 1998; Ørtenblad et al., 2019), 'interactions' (for example, Loiske, 1995; Rigg, 1998; Tacoli, 2002) 'interfaces' (for example, Baker and Pedersen, 1992), 'relations' (for example, Evans and Ngau, 1991) and 'transitions' (for example, Lohnert, 2017). While this breadth of literature has contributed to theoretical advancement, its utility is nonetheless constrained by the vague and, at times, all-encompassing reach of rural-urban connections. The all-pervasiveness of rural-urban 'linkages' arguably undermines its usefulness as a unit of analysis, as the connections become so prevalent as to diminish its purpose or significance. While a far-reaching outlook that is flexible to changing contexts and timeframes is welcome, the downside is that rural-urban linkages are seen everywhere and in everything.

By narrowing the focus from rural-urban linkages to rural-urban livelihoods, and deepening our understanding of what these entail, this thesis aims to contribute to this academic gap. Rural-urban livelihoods are conceptualised as encompassing the activities, resources and networks that mobile and translocal households can access simultaneously across rural and urban settings through a combination of moving, staying put and staying connected (Chapter 4). The combination of migration, mobility, immobility and translocality (collectively defined as mobilities) are thus central to rural-urban livelihoods.

Rural-urban livelihoods emerge in two main ways. The first is activity-oriented, with an emphasis on livelihood diversification, migration and mobility. Viewed from this perspective, rural-urban livelihoods encompass the array of activities, resources and opportunities that households are able to engage in by moving between rural and urban settings. This is a 'rural-urban' twist on the concept of multi-local livelihoods, which is itself a 'spatially extensive form of livelihood diversification' (Ellis, 2000; Elmhirst, 2012, 146). A second way of looking at rural-urban livelihoods transfers the focus from livelihood activities per se to the people involved and the threads that connect them. This shifts the emphasis towards translocal connections, social support, remittances and reciprocity. Viewed from this perspective, rural-urban livelihoods encompass the array of connected individuals dispersed across rural and urban settings who stay in touch with and support one another to sustain a collective livelihood. These kinds of arrangements are often described as 'multi-sited households', whereby family members are dispersed across places of origin and destination in order to maximise income and diversify risks (Stark and Lucas, 1988). Both approaches present a collective approach to livelihoods – whether through the combined efforts of dispersed yet connected people who rely on a shared pool of resources, or through the accumulation of different activities that households increasingly rely on to make a living.

Rural-urban livelihoods, as an analytical starting point, can help to overcome the enduring tendency to treat 'rural' and 'urban' as separate spaces. Connections between the two are recognised in the literature, in particular from an economics perspective that emphasises how 'the fortunes of the rural and urban spheres are inextricably linked' (Baker and Pedersen, 1992, 11). Nevertheless, a rural-urban disconnect persists. 'Rural' and 'urban' remain as specific, distinct and definable entities, albeit entities that are connected by the flow of resources, goods, people and ideas. In this framing, people, places and their livelihoods are described and categorised as either rural or urban, and rarely as being simultaneously both. As a result, the multi-directional and relational dependencies that connect the rural and urban in complex webs of exchange and interaction remain poorly understood and regularly overlooked. This is problematic for a number of reasons.

Firstly, the dichotomous treatment of rural and urban mushrooms into wider, connected binaries. Indeed, 'urban-rural' can quickly reproduce as 'rich-poor', 'modern-traditional', 'individual-communal', 'change-continuity', and so on (Andersson, 2002, 7). The problem with these secondary binaries is that they suggest an inherent rural-urban hierarchy or order. Accordingly, rural and urban spaces are perceived in terms of stages of the development process, which shifts chronologically from less developed rural subsistence to more developed urban industry. Debate about this 'natural' sequence of events has pervaded economists' and donors' views for several decades, contributing to a pendulum-like swinging of influence since the 1950s. On the one side, there are those who associate 'urban' with modernisation and progress. On the other side, there are those who highlight an urban bias that drains much-needed resources and labour away from rural areas (Djurfeldt, 2012; Douglass, 2018; Rigg, 1998; Satterthwaite, 2006).

A second problem is that policy and programmes treat rural and urban as separate and isolated entities requiring different types of interventions. Not only does this ring-fenced, micro-scale and selective approach overlook how policy interventions in one place can influence (for better or worse) outcomes elsewhere. But it also downplays the influence of wider transformations (such as economic decline, urbanisation, environmental change, devolution, population growth) that are taking place over a territory at large or at another time. Indeed, events in one place enact an unpredictable ripple effect of consequences on connected elsewheres. What is more, the rural-urban differentiations upon which policy-makers rely are not particularly useful or relevant for people on the ground. In Zimbabwe, Andersson observed that: 'Urban and rural worlds are, from the actors' perspective, not separable… They constitute a single social universe encompassing both rural and urban geographical spaces… Social life that does not encompass both the rural and the urban seems unthinkable' (2001, 83-84).

A third problem with the rural-urban binary is that it fixes rural and urban within static constructs. This overlooks the complex ways in which people, places and livelihoods are created, constituted and altered in relation to others, both in the present and the past (see Appadurai, 1996; Biersack and Greenberg, 2006; Brickell and Datta, 2011; Gezon and

Paulson, 2005; Moore, 1998; Novak, 2007; Watts, 1991).[2] In the words of Doreen Massey, 'The identity of a place does not derive from some internalised history. It derives, in large part, precisely from the specificity of its interactions with the 'outside' (1994, 13). In the context of Somalia, for example Little (1992) found that the socioeconomic linkages between rural populations and small towns change dramatically depending on seasonal changes in rainfall and productivity. This transformed the relative importance of local towns throughout the year. During the rainy seasons (when water and pasture are more plentiful) Somali pastoralists relied much less on urban settlements – contributing to a shift in economic focus from urban to rural, and the temporary closure of urban settlements and business as traders and merchants move elsewhere to pursue pastoral customers. Rural-urban livelihoods are not therefore homogenous or static. Neither are the households that embark on them, nor the economies that are built on them. This relational stance challenges notions of fixity and, by extension, static binary interpretations such as rural and urban. People and places are changed, challenged, modified and adapted through their relations with interconnected others and elsewheres.

As an analytical approach, 'rural-urban livelihoods' respond to the above-mentioned issues. The approach embraces relational fluidity and change. It prioritises plurality over binaries. And it emphasises the multiple people and activities that collectively constitute a way of living that is characterised by multi-directional networks of connection, communication and exchange.

2. Political ecology of mobilities

This thesis analyses the relationship between rural-urban livelihoods and adaptive capacity through a political ecology of mobilities framework (Chapter 2). This frames the myriad of ways in which people move and adapt in terms of power relations, constructivism, relational thinking, plurality and difference from across the nature-society divide. In so doing, it provides an original platform for responding to some of the criticisms that have been levelled against much of the migration-environment literature. That it is apolitical (Zetter and Morrissey, 2014) and ahistorical (Davis, 2015), under-theorised (Greiner and Sakdapolrak, 2015) lacking in coherence (Nicholson, 2014), methodologically weak (Jónsson, 2010; Neumann and Hilderink, 2015), ideologically driven (Bettini et al., 2017; Bettini and Gioli, 2016; Farbotko et al., 2018a; Felli and Castree, 2012; Watts, 2015), not sufficiently multi-disciplinary (Hulme, 2008), top down and without adequate attention to local voices and perspectives (Adger et al., 2011; Kothari, 2013; Kothari and Arnall, 2015), and overly concerned with the environment to the neglect of wider societal factors (Black et al., 2011a; Tacoli, 2011).

Political ecology does not conform to a neat and tidy definition. It has evolved over the years and means different things to different people (Escobar, 2010; Tetreault, 2017). The first generation of political ecology (1970s and 1980s) was influenced by neo-Marxist, structuralist and materialist schools of thought and 'combines the concerns of ecology and a

[2] The term 'place' signifies 'meaningful segments of space—locations imbued with meaning and power…We become attached to it, we fight over it and exclude people from it – we experience it. The same cannot be said of location' (Cresswell, 2006, 16).

broadly defined political economy' with a focus on issues of power, inequality and class (Blaikie and Brookfield, 1987, 17). A second generation emerged in the 1990s and 2000s that was influenced by post-modernist, post-structuralist and post-Marxist schools of thought, and reflected a growing interest in epistemology and constructivism. The past decade or so has given way to a third generation of political ecology loosely and diversely characterised by a 'soft' constructivism, ontological realism, relational thinking, plurality and difference (Escobar, 2010; Tetreault, 2017).

Over the years, political ecology has been applied to an ever widening array of themes: agrarian dynamics, soil erosion and land degradation, resource conflict, deforestation, conservation, resource governance, development, hazards research (in particular drought, famine and disasters), climate change mitigation and adaptation, resilience and vulnerability, and, more recently, the urban and industrial (Perreault et al., 2015). In spite of this range of topics, there has been much less attention paid to mobilities – the myriad of ways in which people move, stay behind and stay connected. Indeed, a relatively small number of scholars have adopted a political ecology of mobilities approach (Chapter 2). In spite of this, political ecology and mobilities are well-matched. Taken together, they set the scene for an approach that is simultaneously political, relational, multi-disciplinary and local-level. A political ecology of mobilities approach thus establishes a more critical and analytical stance when considering the extent to which rural-urban livelihoods build adaptive capacity.

It lays the ground for a wider set of questions that this thesis addresses. How are livelihoods changing and adapting, and why? What impacts do these changes have on the fabric of everyday life? Why do rural-urban livelihoods build the adaptive capacity of some, and not others? How does the capacity to adapt interact with wider processes, such as urbanisation, globalisation, population increase, devolution, communications, commodification, and so on? How do societal and environmental pressures interact and overlap? How do events that take place elsewhere or in a different timeframe influence outcomes today and here? What is the role played by different actors? Whose version of events prevails over others and why?

These dynamics are now illustrated through the experiences of Dida, a 35-year-old man, who had moved from pastoral Moyale (northern Kenya, near the Ethiopian border) to urban Laikipia with his wife and two children five years prior to our interview.[3] Excerpts from the interview are highlighted below along with the wider implications that they reveal for this research. Three main findings emerge. Firstly, that livelihoods that span rural and urban settings are common and rely on a mix of moving, staying in place and staying connected. Secondly, that the impacts of rural-urban livelihoods are relational and extend across families and the wider community. And thirdly, that rural-urban livelihoods build some aspects of adaptive capacity, but also expose marginalised households to new and often unexpected challenges.

[3] Dida is not his real name.

Livelihoods that span rural and urban settings are common and rely on a mix of moving, staying in place and staying connected

Kenyan households are confronting a range of opportunities and challenges. For Dida, it was a combination of drought (resulting in livestock losses and depleted pasture), economic decline (in particular poor markets and a lack of opportunities) and insecurity (characterised by tribal conflict and cattle rustling). Taken together, these made the pastoral way of life upon which he and his family had always relied increasingly difficult, and encouraged him to move to Nanyuki in search of alternative opportunities. Dida's livelihood changed significantly upon moving. While livestock still represents an important part of his income and way of life (he continues to keep a sizeable herd of 30 goats, four donkeys, three cows and two camel in the town of Moyale) he now supplements this with wage employment, business and trading.

> 'Back in Moyale, I was purely a pastoralist and never engaged in any other income generating activity. After moving here, I was first employed as a security guard for two years then left because of mistreatment at work and low salary. I then embarked on business and started selling clothes for a year. The business was very tedious and brought very few profits. I then got a job at as a security guard until now.'

While some households are able to diversify their livelihoods in situ, mobility is a central component of livelihoods diversification in Laikipia. 'Mobility-infused' or 'rural-urban' diversification is not necessarily new in Kenya – this has become increasingly widespread with many respondents moving on a daily, temporary or permanent basis in order to access opportunities and resources elsewhere. These movements enable households to diversify simultaneously across a range of livelihood activities, including livestock keeping, subsistence farming, pastoralism, trading, business, wage and casual labour.

In spite of moving elsewhere, Dida remains connected to the people, place and way of life that he left behind. He intends to return to Moyale with his family in the future, and is taking steps to build up his assets and investments there. He stays in touch with his extended family through daily phone calls and return visits twice a year. These kinds of translocal connections between people dispersed across different places play an important role in rural-urban livelihoods. When people are not able to regularly move back and forth, much will depend on their ability to sustain linkages and networks with their community of origin.

> 'I keep land and livestock back in Moyale until today. I rely on my wider family to look after my livestock since I can't afford to hire a livestock herder. This is a great support to my livelihood as I am comfortable knowing that my family is taking care of my livestock since they treat them like their own. I plan to return to Moyale because that is where I have invested. I have already built a home for my family. We intend to go back once there is adequate security. I want my children to grow up there so that they can know the culture and Borana's traditions.'

There is also a sense of reciprocity to these exchanges. Both sides rely on the other. Dida sends money to his extended family – mother and two brothers – in Moyale to support their basic needs and, in return, they looked after his livestock and, when possible, send him small amounts of money. These patterns of multi-directional exchange were common among respondents, and help to challenge the assumed migrant-to-stayee, urban-to-rural direction of exchange depicted in much of the literature.

> 'Drought makes it hard for my family in Moyale to even support themselves, leave alone supporting me. They only have little to offer. I can afford to support my parents as well as my siblings. I have contributed to my brother's school fees as well as supporting my parents. I occasionally support my siblings. But the amount of support I provide to my family has reduced over time. This is because I earn very little money and the living cost is very high.'

Dida's experience echoes how few respondents conducted livelihoods in isolation from other members of their household, or indeed other households within the community. The practical logistics of juggling both rural and urban livelihoods usually require some degree of reciprocity between people or places. Upon arrival in a new location, many migrants continue to rely on remittances and support from their rural kin as they establish new livelihoods and living arrangements. Similar dynamics operate in reverse, as stayees' ability to remain in situ often depends on support and assistance from relatives who have moved elsewhere.

The impacts of rural-urban livelihoods are relational and extend across families and the wider community

The impacts of Dida's livelihood extend beyond himself to his immediate household, his extended family in Moyale, and even the wider community – both the host community in Nanyuki and his community of origin in Moyale. Through back-and-forth visits, social and financial remittances and enduring translocal connections, rural-urban livelihoods connect migrants, host and home communities in a web of influence and exchange. Migrants' multiple situatedness and connectedness to places and people of origin and destination help to further diffuse and spread new ideas and practices across rural and urban settings. This creates a circular, reciprocal and relational scenario whereby 'home' and 'host' influence and are influenced by each other through a fluid network of movement and connection.

> 'My community back in Moyale benefited from my movement because it has reduced the population and eased up pressure on resources, such as pasture. Now, I only keep very few livestock as opposed to when I kept almost a hundred cattle.'

Another way of conceptualising these patterns of exchange and change is the shifting and simultaneous presence and absence brought about by rural-urban livelihoods. While a household unit can spread itself simultaneously across multiple locations – being both here and there at the same time – individual members themselves must be physically absent in one place in order to be present somewhere else. These shifting dynamics of simultaneous

absence and presence affect wider communities in often inter-connected ways. For example, while Dida's absence from Moyale relieved pressure on land and pasture there, his presence in Nanyuki added to the pressures on jobs and housing in town. Likewise, while absence associated with out-migration can lead to the loss of labour, skills and knowledge in communities of origin, the presence of immigrants can boost local economies as new arrivals stimulate markets and generate tax receipts.

> 'The community here benefit from the revenue that I pay. My taxes are all paid in Laikipia. I also contribute to business growth as all the items used in my household are bought here. The landlord of this plot also benefits from my rent, improving his economies.'

These examples highlight the relationality of rural-urban livelihoods. People and places emerge as interconnected and in a constant state of flux as relational patterns of exchange exert pressure and influence on one another. The extent of these connections can be so profound as to enact significant social and physical changes on connected entities. Indeed, rural-urban livelihoods – and in particular the dynamics of mobility and migration, translocal and reciprocal connections, social and financial remittances, and livelihood diversification – that they entail, have brought significant changes to host and home communities. Notable among these are changing leadership structures, the growth of rural-urban hubs and centres, and changes to riparian areas (Chapter 8).

Rural-urban livelihoods build some aspects of adaptive capacity, but also expose marginalised households to new and often unexpected challenges

The changes in Dida's livelihood have brought mixed results. He earns more money, sends his children to school and can access health services and other opportunities. But his low income (US$ 90 per month) does not stretch further than his basic needs of shelter, food and education. He lives in a modest, wooden structure in one of Laikipia's slum areas. And at the end of the month, once bills and costs are deducted, there is little left over for saving or investing.

> 'Shifting from purely pastoralism to other livelihoods has benefited me. My wellbeing has greatly improved by moving here, especially financial wellbeing. I have been able to cope with drought, insecurity and poor economy. I have been able to meet my needs as well as those of my wife and children. We do not struggle so much or go to sleep hungry as we did before. We are able to pay rent, school fees and meet our basic needs.'

> 'Living in an urban area is better since I am close to services such as health facilities, government offices, banks, markets, and also close to many opportunities than rural Moyale. There are more job opportunities here. Drought no longer affects my livelihood as I am employed and salaried. It is peaceful here and there is no fear of being attacked. Last week, thirty people were killed in our village back in Moyale during clashes.'

> ‘But rent, electricity and water bills have gone up. I spend a lot on bills. By the end of the month, I have spent all my money on basic household needs.’

While moving and adapting can relieve pressures and expand opportunities, this can also expose people to new and different sets of risks, pressures and responsibilities. Similarly to Dida, other respondents described how moving from rural to urban areas improved their access to jobs, markets, transport and services. But, in the process, exposed them to increased living costs, less privacy, worse sanitation, tougher business competition, more stress and pollution.

Under these circumstances, the extent to which rural-urban livelihoods build adaptive capacity is limited and mixed. Chapter 5 defines adaptive capacity as the collection of five constituent assets or attributes existing at the household level: financial capitals, natural resources, human attributes, social relations and physical infrastructure. As Dida’s experience reveals, rural-urban livelihoods push and pull these multiple levers of adaptive capacity in different directions, thereby contributing to somewhat erratic, evolving, up-and-down outcomes for adaptive capacity as a whole.

What is more, adaptive capacity goes beyond the narrow confines of individual household assets and attributes. It is shaped and mediated by others within the community as well as the broader context in which they reside (Hoque, 2016; Smit and Pilifosova, 2003). Dida’s pastoral identity and migrant status limit his options, as he faces discrimination at work and is excluded from accessing loans that would enable him to invest in strengthening his livelihood. This alludes to the wider enabling environment that shapes adaptive capacity, and which is conceptualised in Chapter 5 along the lines of gender, ethnicity, community, governance and conflict.

> ‘Banks will not lend me money. They say that my salary is too little for loans. They say that since we are migrants from northern Kenya, they don’t know where they would look for us in case we default on repayments. Those that are settled here and have land and businesses are favoured and given loans, but the poor with no land are not. There is a lot of discrimination at work. My bosses don’t respect me or care about my needs. When I request a day off to meet urgent family needs, they don’t allow me. This is very unfair as the other employees are usually permitted. This is because I am an outsider. It affects my mental wellbeing.’

While limited resources don’t necessarily prevent people like Dida from adapting in the first place, they do determine the kinds of outcomes they can subsequently expect. Poorer, more marginalised households – who are more likely to adapt out of coercion rather than choice – may find that they are able to ‘get by’ rather than ‘get ahead’ and are ‘surviving’ rather than ‘accumulating’ by engaging in rural-urban livelihoods. What is more, while diversification enables many households to spread risk across multiple activities, it can be a risky endeavour, especially for poor households who are more likely to diversify into low-income, precarious activities that combine short-term financial gain with significant risk. Even when respondents were able to secure a job, like Dida, they often endured precarious working conditions, with poor pay and few rights.

Finally, while patterns and networks of reciprocal exchange between migrants and stayees can be mutually-beneficial and self-reinforcing, they can also be uncertain and unbalanced when it comes to adaptive capacity. Once Dida has covered his own basic costs, the remittances he is able to send are small, and have decreased over time. The obligation to support his extended family have impinged on his own capacity to adapt and strengthen his own livelihood, raising questions about the sustainability of these kinds or rural-urban arrangements in the long run.

> 'Providing support to my family in Moyale means I have not been able to save money as I would like to. If I were not providing this support, I could have saved a little money to invest in opening up a shop for my wife.'

3. Laikipia County

This thesis focuses on Laikipia County in Kenya. Laikipia is located at the foothills of Mount Kenya in the semi-arid Rift Valley. The population of 518,000 are predominantly rural and young: three quarters reside in rural areas and are under the age of 35 years (KNBS, 2020). Immigration and natural increase have contributed to significant population growth, and the main urban centre, Nanyuki town, has more than doubled from 31,577 (1999) to 38,339 (2009) to 72,813 (2019).

Once home to Laikipiak Maasai and Yaku hunter gatherers, the area has undergone significant shifts in land use and ownership over the decades. From white settler ranches during the early colonial era (1900s onwards) to smallholder farmers post-independence (1970s onwards), to conservation and eco-tourism (1980s onwards) and large-scale horticultural farming (1990s onwards) (Chapter 4). In this context, contemporary Laikipia characterises some of Kenya's most divisive political and ethnic struggles: between farmers and pastoralists, upstream and downstream water users, elite and subsistence landowners, foreign investors and national actors, and white and black Kenyans. During the peaks of drought and election years, these underlying tensions have erupted into highly charged and violent conflict, most recently in 2017 and 2021.

Laikipia exhibits many of the thematic aspects of this research project. Natural resources, and in particular land and water, are becoming increasingly scarce and have emerged as a major concern, especially for marginalised groups. In the words of an NGO informant, 'Water – and this is linked to this is the lack of pasture – is the key limiting factor in the region, which greatly affects Laikipia and downstream counties of Isiolo, Samburu and the lower parts of Meru.' In this context of increasing rainfall variability and growing water extraction, water scarcity emerges as an important issue for respondents from across locations (rural and urban), socioeconomic backgrounds and livelihood practices. At the same time, the appropriation, privatisation and compartmentalisation of land that began in the colonial era and continued during independence until the present day has significantly contributed to livelihood precarity in Laikipia. This is especially the case for less powerful groups that practice farming and/or pastoralism and rely heavily on natural resources, such as land and pasture.

Laikipia is also a compelling setting for researching mobility in its many different forms, with significant movements in, out of and through the area. Nomadic pastoralism, and the movement of people and livestock for grazing and water, has been an enduring feature of Laikipia for centuries. Displacement is another aspect of mobility in Laikipia that dates back to the colonial appropriation of Maasai lands, but which can also be seen during the post-independence reallocations of land among ethnic groups, and as a result of local conflict. Large scale, state-endorsed resettlement programmes have centred on Laikipia, resulting in significant population increase and dramatic changes in the ethnic makeup and land use of the county. Labour migration, both in and out of Laikipia, represents another form of mobility. People move within and out of the county in search of opportunities, but also towards Laikipia, often attracted to work on county's expanding horticultural industry. In this context, mobility is highly politicised in Kenya, and in particular in Laikipia, as a result of its close relationship with issues around land, unequal access and social grievances that have emerged during colonial, post-independence and more recent history. For example, over the years, the appropriation, privatisation and compartmentalisation of land has gradually blocked traditional migration routes, restricted access to grazing areas, and undermined social networks upon which pastoralists depend. Contemporary pastoralists are now largely restricted to segregated patches of rangeland adjacent to private land or conservation areas or to group ranches in the arid north of Laikipia.

Laikipia also presents an interesting case when it comes to understanding how these dynamics impact in diverging ways on different groups. A noticeable gap in the literature is the tendency to narrow the focus to particular subsets of people or places, without comparing findings and trends across different groups or areas. A wider, comparative and more holistic analysis arguably provides a better starting point for considering for whom and under what circumstances rural-urban livelihoods build adaptive capacity. Indeed, Laikipia is a mix of people and places. It has a mixed climatic zone of arid and semi-arid pastoralism and high potential farming. The county is also geographically located at the intersection of equally diverse landscapes. It is regularly described as being 'cosmopolitan' with over 20 resident communities including Maasai, Samburu, Rendile, Somali, Pokot, Kalenjin, Meru, Kikuyu, and Turkana among others. Neighboured by arid Isiolo, Samburu, Baringo and Turkana counties (whose pastoralists often enter Laikipia during drought), Laikipia is also within range of high potential agricultural centres, as well as large cities such as Nairobi. In this variable and versatile setting, Laikipians today are engaged in a range of livelihoods that span pastoralism, agro-pastoralism, crop and dairy farming, business, transport, tourism and trade. Within this melting pot of different actors and contexts, Laikipia has been described as a 'mosaic of land uses and competing interests' (Letai and Lind, 2013, 164), which constitutes a particularly vibrant and interesting unit of analysis.

Changing rural and urban livelihoods are also apparent within Laikipia as households in both rural and urban settings have come under growing pressure. While multi-locational livelihoods have existed for generations, complex and transversal livelihoods that span rural and urban settings, and which rely on a high degree of mobility, are becoming an increasingly important means of making a living for many households. A growing number of Laikipians, from a range of different socioeconomic and livelihood backgrounds, are on the move. 'These movements have become more often than before' was a common refrain echoed by respondents. Most respondents engaged in complex, back and forth, short-term

movements within Laikipia or to neighbouring counties. At the same time, people and places stay connected with each other in Laikipia through multidirectional and overlapping networks constituted by social, economic, cultural and political exchange facilitated by improved transport and communications networks.

4. Structure

Establishing the theoretical and methodological approach

The thesis begins with the theoretical and methodological approach adopted by the research. Chapter 2 outlines the theoretical framework – a political ecology of mobilities. Political ecology and mobilities are rarely considered in unison, and much of the chapter outlines the rationale for such an approach. It begins by charting the evolution of political ecology and mobilities within their separate domains. It then highlights the advantages of using this combined approach. Firstly, political ecology's hybridity and heterogeneity provides a valuable framework for understanding the complex undercurrents that characterise rural-urban livelihoods and adaptive capacity. Secondly, political ecology can help to reframe the drivers of mobilities in relation to both environment and society. Thirdly, with its emphasis on relational thinking, a political ecology analysis can help to move beyond some of the static binaries (such as rural-urban, migrant-non-migrant, origin-destination) that underpin much research. Fourthly, with its emphasis on power relations and unequal access to resources, political ecology is also a useful framework for understanding the social differentiation that occurs in processes of mobility and adaptation. Finally, by interrogating dominant narratives and providing a platform for marginal voices, political ecology can also provide a more nuanced and balanced interpretation of how mobility and translocality may contribute to adaptation.

Building on this theoretical framework, Chapter 3 considers the research methodology, methods and sites, and provides a rationale for how and why these were selected. Steered by the underlying logic of rural-urban livelihoods and political ecology of mobilities, four approaches constitute the research methods. The first is a mixed methods approach comprised of semi-structured interviews incorporating both qualitative and quantitative elements, focus group discussions, life histories and mapping. The second are the ethical considerations that arose in the design and conduct of the research, in particular confidentiality, free consent, do no harm, impartiality and independence. The third is the cross-sectional approach that guided the selection of respondents, and which took into consideration factors such as livelihoods, demographics and wealth. The fourth is the multi-sited approach adopted by the research, which included five main research locations in Laikipia County – Nanyuki, Ethi, Marura, Mukogodo and Il Polei – encompassing a range of climatic, livelihood and socioeconomic conditions across rural and urban settings.

Defining the key concepts

Having set the theoretical, methodological and contextual scene, the thesis then goes on to explore and define the core aspects of the research. Chapter 4 focuses on the concept of rural-urban livelihoods. It looks at how these have evolved over time in the literature and theory, before narrowing down through a series of maps and family trees how Laikipian

households enact rural-urban livelihoods in practice. Rural-urban livelihoods emerge as a fluid, collective and diverse concept. They encompass the multiple ways in which households make a living by drawing on a range of activities and people dispersed across rural and urban locations – continuously shifting and evolving through the ongoing interactions between people, places and activities. Having illustrated rural-urban livelihoods in theory and practice, the chapter then sets out to explain why they are occurring in the way that they do, and what makes them so relevant to contemporary society. In doing so, the chapter situates rural-urban livelihoods in terms of mobilities (the concepts of migration, mobility, immobility and translocality) and political ecology factors (livelihood precarity and diversification, rural-urban connectivity, and gendered and generational changes).

Chapter 5 turns the attention to the second key concept of this thesis: adaptive capacity. In doing so, it narrows the focus to the factors that both constitute and influence adaptive capacity in relation to rural-urban livelihoods. Adopting a multi-stressor approach, adaptive capacity is contextualised as a collection of five constituent attributes existing at the household level: financial, natural, human, social and physical. It is also shaped and mediated by other groups and contexts beyond the narrow confines of individual household capitals. This enabling environment incorporates gender, ethnicity, community, governance and conflict. The connections and interlinkages between these different components are organised within an illustrative framework of adaptive capacity, which is subsequently used in the chapters that follow as a basis or benchmark for exploring the extent to which rural-urban livelihoods build the different levers and attributes of adaptive capacity.

Analysing the relationship between rural-urban livelihoods and adaptive capacity

Thus far, both rural-urban livelihoods and adaptive capacity have emerged as a fluid, collective and diverse concepts. This complicates the task of measuring the impact of rural-urban livelihoods on adaptive capacity. To overcome this challenge, the next three chapters deal in turn with some of the more tangible aspects of rural-urban livelihoods that emerge as key findings of the analysis and which a more specific starting points from which to analyse adaptive capacity. These are livelihoods diversification, reciprocal exchange and rural-urban changes. The following kinds of questions are explored. For whom and under what circumstances do livelihoods diversification, reciprocal exchange and rural-urban changes build adaptive capacity? To what extent do they strengthen some of the levers of adaptive capacity, whilst simultaneously undermining others? How does this uneven picture balance out to inform adaptive capacity as a whole? And how and why do these dynamics shift over time and place?

Chapter 6 focuses on livelihood diversification. This builds on the multi-local conceptualisation of rural-urban livelihoods: as the array of activities, resources and opportunities that households are able to engage in by moving between rural and urban settings. The analysis considers how livelihood diversification represents an effective adaptation strategy, or a failure to adapt in the first place. The chapter argues that diversification is neither inherently benign nor malign when it comes to adaptive capacity, thereby raising a number of questions. To what extent is survival a pathway that diverges from adaptive capacity? Does diversification manage or multiply risk, and thereby influence

adaptive capacity? Why do some groups fare better than others when it comes to diversification and adaptive capacity? What are the differential, and often inter-connected impacts on migrants, their households and the wider community? How does the simultaneous presence and absence of mobility-infused diversification affect community dynamics and access to resources in both places of origin and destination? Which particular capitals and resources are, at times simultaneously, strengthened and undermined by diversification, and how do these different levers contribute to adaptive capacity as a whole?

Chapter 7 turns to the second element of rural-urban livelihoods – reciprocal exchange. This shifts the focus from livelihood activities per se to the people and places involved and the threads that connect them. It starts by asking what reciprocal patterns of exchange look like? What is exchanged? How? And between whom? Moving away from the mainstream focus on one-way financial flows, reciprocal exchange is defined as the mutual, though often lumpy and uneven, exchange of goods, ideas and favours between people and places. Having set the scene for reciprocity, the remainder of the chapter considers the extent to which reciprocal patterns of exchange build adaptive capacity. It seeks not only to rebalance academic attention to the social (as well as financial) aspects of remittances, but also to explore the intangible (as well as tangible) characteristics of exchange. Under what circumstances do they occur? Who is involved in them? How do they evolve over time? And how do they influence adaptive capacity? While reciprocity can be mutually-beneficial and self-reinforcing, it can also be a financial and emotional drain, characterised by obligation, exclusion and inequality. This up-and-down, uneven picture of social and financial exchange challenges the task of evaluating collective outcomes for adaptive capacity. While it reflects the lived realities of everyday relations, this unevenness does not, however, mean that patterns or trends that shape outcomes for adaptive capacity are entirely absent. Much depends on the nature of reciprocal arrangements – in particular, how fair, equal and mutual they are.

Chapter 8 turns the attention to a third aspect of rural-urban livelihoods: rural-urban changes. Rural-urban livelihoods are associated with a wide array of changes that emerge throughout the course of this these. These include gender and generational changes, weakening community cohesion, increasingly cash-based societies, erosion of local languages and customs, moral decline and a loss of respect for elders, among others. This chapter narrows the focus to three specific rural-urban changes: changing leadership structures, the growth of rural-urban hubs and centres, and changes to riparian areas. Not only did these changes emerge strongly during fieldwork, but they are also closely associated with rural-urban livelihoods – in particular the dynamics of mobility and migration, translocal and reciprocal connections, social and financial remittances, and livelihood diversification. Furthermore, the focus on leadership structures, riparian areas, and rural-urban hubs exemplifies a range of both the symbolic and physical, as well as the social and environmental. This resonates with the political ecology of mobilities approach adopted by this thesis, which seeks to bridge the nature-society divide.

Chapter 9 summarises by merging the two main analytical framings of this thesis – rural-urban livelihoods and political ecology of mobilities – into an over-arching political ecology of rural-urban livelihoods. By merging these two frameworks, the chapter argues that this

thesis offers alternative and deeper insights into the ways in which households move, adapt and rebuild their livelihoods. Firstly, a political ecology of rural-urban livelihoods can help to push the boundaries of adaptive capacity into the domain of sustainable livelihoods. For many people, the end goal is not the capacity to adapt, but rather the sustainable rural-urban livelihoods that this entails. Secondly, a political ecology of rural-urban livelihoods provides a platform for challenging the 'migration as adaptation' narrative by providing much-needed nuance and balance to this politically charged debate. And finally, a political ecology of rural-urban livelihoods sets the scene for reimagining some of the wider logics and prevailing assumptions inherent in contemporary livelihoods thinking.

Chapter 2 – Political Ecology of Mobilities

This thesis addresses the question of how people move and adapt in contexts of environmental change from the perspective of a political ecology of mobilities – an analytical approach that frames the myriad of ways in which people move in terms of power relations, constructivism, relational thinking, plurality and difference across the nature-society divide.

Political ecology has been applied to an ever widening array of themes: agrarian dynamics, soil erosion and land degradation, resource conflict, deforestation, conservation, resource governance, development, hazards research (in particular drought, famine and disasters), climate change mitigation and adaptation, resilience and vulnerability, and, more recently, the urban and industrial (Perreault et al., 2015). In spite of this range of topics, there has been much less attention paid to mobilities, with a relatively small number of scholars adopting a political ecology of mobilities approach.

For example, Biersack and Greenberg (2006, 19) advocate a transnational, place-based political ecology, which they argue opens up 'new ethnographic vistas' and 'inter-disciplinary collaboration'. Taylor (2011) employs a political ecology of transnational migration to examine how the practices of transnational family members shape local socio-natural landscapes. Taylor's focus is on how migration affects ecology, and in particular how emigration affects the way people farm and use natural resources in their households and community of origin. Radel et al (2018) adopt a political ecology of international labour migration in Nicaragua in order to explore the relationship between migration, agrarian livelihood diversification, and climate change adaptation. They argue that climate change and highly unequal land tenure are co-producing migration, emphasising the 'weak position of smallholders in interlocking relations of power and the relative land scarcity experienced by many' (ibid, 272). Greiner and Sakdapolrak (2015) propose a political ecology of translocal relations as a framework for understanding environmental migration. In his analysis of involuntary immobility in 1980s Mozambique, Lubkemann (2008) makes a brief reference to a 'political ecology of displacement in place' in the context of conflict and drought. Likewise, Lindley (2014) also refers in passing to a political ecology of mobility in order to better understand the relationship between severe drought, political conflict and migration in the context of Somalia.

Building on this relatively small body of literature, this thesis adopts a political ecology of mobilities. For the purposes of this research, mobilities encompass migration, mobility, immobility and translocality. These different yet related concepts are explored in more detail in Chapter 4, but are briefly defined as follows. While 'mobility' encompasses the everyday, transitory movements that people make in their daily lives, 'migration' suggests movements that are more protracted, distinct, tangible, infrequent or unfamiliar. It refers to a change in residence (Skeldon, 1997), the crossing of a socially significant frontier (Lindley, 2014a), the drawing of a line – both geographic and metaphoric. Immobility refers to those who do not migrate – either out of preference, acquiescence or coercion (Mata-Codesal, 2018). Building on definitions by Greiner (2010), translocality can be understood as the

multi-directional networks of connection, communication and exchange that exist between people dispersed across different places as a result of migration, mobility and immobility.

In the sections that follow, this chapter will set out why a political ecology of mobilities represents a viable framework for theorising rural-urban livelihoods and adaptive capacity. Firstly, it will argue that political ecology's hybridity and heterogeneity resonates with the complex undercurrents that characterise processes of migration and adaptation, as well as the messy reality of everyday life. Secondly, with its emphasis on relational thinking, a political ecology analysis can help to move beyond some of the static binaries (such as rural-urban, migrant-non-migrant, origin-destination) that underpin much migration research. Thirdly, by balancing natural and societal considerations, political ecology reinforces a multi-stressor, multi-causal approach to understanding migration and adaptation. Fourthly, with its emphasis on power relations and unequal access to resources, political ecology shines a light on the differential access and outcomes of moving and adapting. Finally, by interrogating dominant narratives and providing a platform for marginal voices, political ecology can also provide a more nuanced and balanced interpretation of the relationship between migration and adaptation – one that situates local voices within their broader structural context. Before going into more detail on these points, this chapter will begin with an overview of political ecology, and how it has evolved over time.

1. The evolution of political ecology

Political ecology has evolved over the years since it first emerged during the 1970s. Drawing significantly on Escobar (2010) and Tetreault (2017), this section explores three generations of political ecology. In its original form, during the 1970s and 1980s, the first generation of political ecology 'combines the concerns of ecology and a broadly defined political economy' (Blaikie and Brookfield, 1987, 17). This fusion of ecology and political economy arguably emerged from a desire to address their respective deficiencies: 'Ecology's lack of attention to power and political economy's undeveloped conceptualisation of nature' (Escobar, 2010, 91). Influenced by neo-Marxist, structuralist and materialist schools of thought, key concerns of this early iteration of political ecology were issues of power, inequality and class – which have remained a central analytical focus for many political ecologists today. Early political ecologists succeeded in contextualising environmental issues within political economy and critical history analyses. As summed up by Byrant (1997, 9), 'Politics and environment are everywhere thoroughly interconnected.' Particular attention was (and still is) paid to how social relations of production and the appropriation of economic surpluses make less powerful groups especially vulnerable to environmental hazards and change (Bassett and Fogelman, 2013, 46). To this day, political ecologists emphasise the links between differential power relations and access, control and management of environmental resources. However, in doing so, political ecology has been criticised for a rigid, structural and dualist approach – in particular, an unproblematic and deterministic treatment of the environment based on materialist assumptions that overlook subjective interpretation and thought.

With this in mind, Escobar and Tetreault describe how a second generation of political ecology evolved during the 1990s and 2000s. Influenced by post-modernist, post-structuralist and post-Marxist schools of thought, political ecology during this era reflected a

growing interest in epistemology and constructivism. Particular attention was paid to discourse and language, and the ways in which nature and environment are socially constructed and politically contested – as opposed to subject to an unchanging and essential 'reality'. As suggested by Peet et al. (2011, 30), 'Political ecological analysis has maintained a sensitivity to representation, both as a set of discourses and as a field of practice…our categories, priorities, and interpretations are mediated by complex systems of discourse that frame problems and focus the scope of how we imagine them.' While structure was still central, second generation political ecologists increasingly incorporated agency into the analysis, and prioritised local-level case studies. While earlier iterations of political ecology were primarily concerned with class analysis, subsequent scholarship has arguably developed a 'more comprehensive social theory' that makes space for additional and often overlapping identities centred on gender, race and culture (Gezon et al., 2005, 26).

Escobar and Tetreault subsequently describe the emergence of a third generation of political ecology in the past decade or so. This third iteration represents an attempt to move beyond some of the impasses created by constructivism. It is characterised by a 'soft' constructivism, an ontological realism, and a step back from some of the more purist epistemological interpretations that characterised second generation political ecology (Robbins, 2012). As a result, so-called 'third generation' political ecologists are more likely to argue that, while the environment is indeed socially created and notoriously difficult to grasp, it is nonetheless built on something real, material and tangible. In addition, contemporary political ecology analysis tends to prioritise relational thinking and the linkages and connections that exist between people and places. This represents a concerted attempt to move beyond traditional binaries, such as nature-society, idealism-materialism, local-global, rural-urban, traditional-modern, and so on (Biersack and Greenberg, 2006). This growing focus on complex and shifting relational networks also sets the scene for plurality and difference at all levels, and a move away from regimented and homogenised ideas of culture and identity. This has led Escobar (2010, 100) to describe a 'political ecology of difference…at all levels – economic, ecological, cultural, epistemic and ultimately ontological.'

2. A hybrid and heterogenous approach for theorising complex phenomena

At this juncture, it is worth emphasising that these theoretical evolutions reflect wider philosophical, ideological and methodological debates occurring in both the social and natural sciences. For example, political ecology's evolving concern with discourse and language reflects long-standing philosophical debates between positivists and constructivists about our capacity to perceive and comprehend our material surroundings. Likewise, the focus on structural social inequalities (and how to address them) is echoed in wider ideological debates in ecology and resilience surrounding incremental and transformational change and adaptation. 'Incremental adaptation' occurs when people adapt to change by extending existing actions and behaviours, thereby maintaining the original essence and integrity of society (Kates et al., 2012, 7156). 'Transformational adaptation' occurs when ecological, political, social, or economic conditions make previous ways of life no longer tenable, and livelihoods evolve and renew along new trajectories that

involve a radical change of the underlying political status quo (Davoudi et al., 2012; Folke, 2006).

The above description of three neat and compartmentalised 'generations' is undoubtedly an overly-simplified version of political ecology and its evolution over time. Many (if not most) contemporary political ecologists continue to be characterised by so-called first- and second-generation tendencies, indicating that not all scholarship has evolved at the same pace, or even in the same direction. Nevertheless, Escobar and Tetreault's generational framing does provide a valuable framework for understanding political ecology in its many guises. It helps to emphasise the heterogeneity, inclusivity, and, at times, incoherence of political ecology. As the above analysis implies, political ecology takes its roots or 'borrows from' broad theoretical influences and approaches, such as ecology, political economy, rural development, hazards, resilience, vulnerability, agrarian change, violence and conflict, feminism, and so on (Perreault et al., 2015). This hybrid and heterogenous approach resonates with the scholarship on migration, which has, for the most part, failed to identify or rejected altogether notions of a 'grand theory' of migration. Indeed, the compartmentalised nature of migration research has arguably contributed to reductionist approach that is limited to discrete aspects of migratory experiences rather than the migratory process as a whole (Castles, 2010; Massey, 1990).

While theoretical diversity can be interpreted as a theoretical weakness or incoherence,[4] it also reflects the complex social and environmental phenomena that influence everyday lives and livelihoods. By making space for differential causes and outcomes, and functioning as a point of convergence for multiple disciplines, political ecology can be a constructive vehicle for grasping these complexities and identifying multiple, conditional or conjunctural logics or patterns to explain them. Hybridity and heterogeneity emerge throughout this thesis. Rural-urban livelihoods, for example, are defined as the myriad of ways in which people move, stay in place, and stay connected (Chapter 4). Likewise, livelihoods are theorised as plural, diverse and inter-connected. And as constituted by an array of shifting locations, activities and individuals. In a similar vein, adaptive capacity is defined as a fluid and heterogenous collection of attributes that ebb and flow over time and are often overlapping (Chapter 5).

In this varied and shifting context, rural-urban livelihoods are found to push and pull the multiple attributes or levers of adaptive capacity in different and sometimes unpredictable directions, thereby contributing to somewhat erratic, evolving, up-and-down outcomes for adaptive capacity as a whole (Chapter 7). Consequently, outcomes for adaptive capacity are neither inherently positive nor negative, nor are they fixed and final. While such a finding may not clarify the extent to which rural-urban livelihoods build adaptive capacity, it nonetheless reflects the messy realities of everyday livelihoods and life. Although, it is important to recognise that what appears 'messy' from an analytical perspective is not necessarily felt as such by those living it. Robbins (2015, 90) argues that, 'In a world hurtled forward by the forces of contradiction, a contradictory science like political ecology remains an essential field for explanation and action.' This viewpoint is shared by Biersack and

[4] For example, Black (1998, 185) wrote that political ecology 'hardly represents a prominent or particularly coherent theoretical position.'

Greenberg (2006, 272), who suggest that, 'Political ecology's future depends upon its ability to countenance a heterogeneous and untotalised field of causation, a field that sustains more than one ecology, more than one nature regime.' In adopting political ecology as its theoretical framework, this thesis takes a similar viewpoint, and finds political ecology to be a valuable approach for navigating the complex undercurrents that characterise the relationship between rural-urban livelihoods and adaptive capacity.

And yet, there is a balance to be reached. Accommodating difference and plurality does not have to be contradiction free. But equally it should not depend upon arbitrarily picking and choosing the factors and interactions that fit, and excluding those that don't. By simultaneously making space for discourse analysis, differentiation, relational thinking, critical history, structure and agency, local perceptions and knowledge, inequality and power relations, a rejection of binaries, and so on, political ecology is at risk of doing (or being seen to do) just that. In this regard, a critical realist perspective espoused by third generation political ecologists can help to achieve some kind of analytical clarity and balance. Critical realism acknowledges the 'existence of (degrees of) empirically regular outcomes' without the need for 'law-like, universally valid relationships' (Mollinga, 2020, 399). Regularity exists in the context of 'a configuration of a particular set of structures and mechanisms, given certain conditions of possibility, and influenced by a set of contingent factors and processes' (ibid). In other words, complexity, fluidity, plurality and multi-causality exist, but they do not have to be chaotic. There can be 'method to the madness' so to speak, and a political ecology of mobilities can provide a framework for understanding this. Albeit one that is still characterised by everyday contradiction and complexity. In support of this, in the chapters that follow, the relationship between rural-urban livelihoods and adaptive capacity emerges as shaped by a number of underlying patterns that hint at a broader logic or direction.

For example, structural inequalities and underlying power relations can help to make sense of seemingly mixed and messy outcomes. Outcomes for adaptive capacity depend on socioeconomic status, and the social networks, market linkages and economic reserves that households can draw upon. Wealth and influence enable richer households to accumulate money, assert their rights, and access resources and opportunities better than the poor. What is more, advantages accrued to some groups (for example the wealthy and well-connected) often come directly at the expense of others. In other words that winners and losers are co-produced and come hand-in-hand, particularly where one group's efforts to adapt directly or indirectly undermine the livelihoods, traditions or knowledge of others.

This introduces a second, relational dynamic for articulating patterns and trends and making sense of mixed and messy outcomes. Different entities, people and places do not operate in uncontrolled or spontaneous isolation but are connected by relational webs of influence that result in simultaneous pressures and opportunities being exerted across different groups and geographies. This can shed light on why rural-urban livelihoods tend to strengthen adaptive capacity in one place or for one person, while simultaneously undermining it for an interconnected someone or somewhere else. Similar relational dynamics emerge when it comes to the patterns of exchange that exist between migrants and stayees (Chapter 7). These may look spontaneous and uneven – with one side giving more than another at a particular time – but are in fact governed by entrenched norms of

reciprocity that culminate in approximate collective balance and fairness over time. Similar trends can be seen in the relationship between rural-urban livelihoods and wider socio-environmental changes (Chapter 8). Rural-urban livelihoods and change are seemingly entangled in a non-linear mesh of exchange and influence that obscures clearly defined start- and end-points, as the existing state of affairs are themselves in a continuous state of flux. And yet, within this complex fusion, a relational approach that focuses on the feedback mechanisms that connect rural-urban livelihoods and wider change hints at underlying patterns and trends of logic, even if it doesn't fully explain them.

3. Emphasising relational thinking

This introduces a second advantage of a political ecology approach: its emphasis on relational rather than atomistic thinking. Relational approaches have grown in prominence across the social and natural sciences in recent years (Walsh et al., 2020). They conceptualise entities as being interconnected rather than in isolation, and therefore in a state of continuous flux and evolution through ongoing interactions along these connections. This relational stance challenges notions of fixity – as people, places and things are changed, challenged, modified and adapted through a web of relations with interconnected others and elsewheres. Indeed, it is this relationality that makes them dynamic 'because they change according to changing experiences, conditions, statuses, etc., and because they produce reactions which themselves, in turn, alter contexts' (Novak, 2007, 571). In a similar vein, rural-urban livelihoods emerge as inherently relational, and a relational thinking cuts across this thesis. In the fluid and contextual conceptualisation of rural-urban livelihoods (Chapter 4). In the fluid, co-constituting and interdependent relationship between adaptive capacity and adaptation (Chapter 5). In the reciprocal patterns of exchange occurring within households spread across different locations (Chapter 7). And in the complex patterns of feedback that occur between rural-urban livelihoods and wider social and environmental changes (Chapter 8).

A number of scholars have questioned the theoretical and even moral underpinning of relational approaches, particularly when it comes to questions of place and identity. Castree (2004) suggests that excessively fluid interpretations of place, and by extension identity, risk undermining the right to 'differential geographies' and indigenous claims to territory, cultural artefacts and informational resources. In a similar vein, Kibreab argues that 'interconnectedness notwithstanding', the propensity for societies to define themselves by ethnic, national or spatial origin 'has never been greater' (Kibreab, 1999, 385). Viewed from this perspective, there are important conceptual and ethical balances that need to be negotiated. The linkages between rural and urban settings should be acknowledged, but not to the extent that we forget the crucial differences that still separate them, and which determine and characterise the vulnerability and poverty of their populations (Tacoli, 2006a). Indeed, from a rights and protection perspective, association with a particular place 'remains a major repository of rights and membership' and 'an indispensable instrument to a socially and economically fulfilling life' (ibid). Viewed from these perspectives, relational and fluid interpretations of place do not always adequately take into account local sensitivities, meanings, values and needs, nor the wider politics, power relations and narratives at play in real-world place-making (Castree, 2004; Rajaram, 2003). As argued by

Rodman, 'Places are not inert containers. They are politicised, culturally relative, historically specific, local and multiple constructions' (1992, 641).

In this regard, a mobilities approach can arguably nuance and inform. Firstly, translocality (a relational process in and of itself) can help to respond to some of the afore-mentioned critiques levelled at relationality. Advocates of translocality argue that it is a 'meaning-making practice' that steers away from 'pure flexibility, deterritorialisation and disembededness' (Brickell and Datta, 2011, 189). Instead, translocality views identities as 'place-based rather than exclusively mobile, uprooted or 'travelling''' (Brickell and Datta, 2011, 3). This emphasis on migrants' embeddedness to both here and there aims to strike a better balance that recognises the influence of interconnected elsewheres as well as the relevance of local processes and politics. In doing so, translocality arguably transgresses rigid or fixed notions of place whilst simultaneously reaffirming the local. The possibility for striking such a balance is recognised by Castree who suggests that 'inward looking localisms' can be founded on 'an explicit and conscious engagement with extra-local forces' (2004 163). With this local/extra-local perspective in mind, translocal approaches are unavoidably enmeshed in questions of power: 'The power to name and claim space, knowledge of the stakes involved, awareness of changing opportunity structures, and the capacity to contest the practices of others' (Brickell and Datta, 2011, 198).

A second advantage of linking political ecology's relational thinking with a mobilities-inspired approach is that physical movements and translocal connections are important channels through which relational processes of change occur. By physically moving from one place to another, migrants link different places to become a vehicle for wider processes of relational change. Migrants introduce new ideas and practices to the communities they move to and, in turn, are influenced by the ideas, practices and people they encounter while they are there. In so doing, they effect changes on places of destination, whilst also bringing change back home upon their return(s) to places of origin (Chapter 7). With this in mind, the 'change potential of migration is often gestated in events that took place 'there', rather than 'here''' (Portes, 2010, 1557). These changes are further reinforced by ongoing translocal connections. Migrants' multiple situatedness and connectedness to places and people of origin and destination, as well as back and forth visits and remittances, help to further diffuse and spread new ideas and practices by connecting 'host' and 'home' communities in a web of influence and exchange.

A third advantage of a relationally charged political ecology of mobilities is that it can help to overcome a number of (often problematic) binaries that arose during research. For example the dichotomous treatment of rural and urban (already introduced in Chapter 1), but also the enduring distinctions between migrant-stayee and origin-destination. A translocal perspective – with its focus on 'the relational dimensions of space created by migration, exchange and multiple belonging' (Greiner, 2010, p. 134) – provides one means of transcending these binaries. By highlighting the ways in which migrants and non-migrants inter-relate, inter-depend and inter-act, a relational and translocal perspective explains why, 'Stayees' are as enmeshed in migratory processes as the migrants themselves' (McDowell and de Haan, 1997, 8). In doing so, it helps to erode the dichotomous treatment of migrants and non-migrants. As well as highlighting the connections that exist between people (migrants and non-migrants), translocality also emphasises the relationality that exists

between places – in particular places of origin and destination. Places of origin and destination are inter-connected not only by migrants' multiple situatedness to here and there, but also by the diffusion of financial and social remittances that pass back and forth between places of origin and destination. In some cases, the extent of these connections is so profound that they enact significant social and physical changes on connected 'elsewheres'.

4. Balancing nature and society

This thesis emphasises how multiple, contextualised and shifting drivers from across the nature-society divide contribute to processes of change, adaptation and migration. This diverse range of drivers emerge as both pressures and opportunities, and include land shortages, irregular rainfall, economic decline, political devolution, population increase, corruption, commodification, commercialisation, urbanisation, globalisation, improved transport and communications networks, and so on. These collectively contribute to a range of processes, including rural-urban livelihoods (Chapter 4), adaptive capacity (Chapter 5), natural resource scarcity (Chapter 5), vulnerability (Chapter 5), changing leadership structures (Chapter 8), and the growth of market centres and shopping hubs (Chapter 8), among many others.

To illustrate this, a 44-year-old Njoguini farmer described how multiple pressures interweave and enmesh with one another, creating a ripple effect that extends beyond her individual household to the wider community, and contributes to a generalised condition of vulnerability. She explained how a combination of land degradation, water shortages and pests and disease have diminished her harvest over the years, contributing to food insecurity within her own household, and driving up the wider costs of basic foods that she must subsequently purchase in the markets. What is more, as other farmers in the community experience similar challenges, her opportunities for taking up casual labour (tilling, planting and weeding) on neighbouring farms have also fallen, as farm size and cash flow are reduced, and households seek to save money by using their own labour reserves. In this context, 'It is rarely possible to disentangle the multiple changes to which people are responding and it makes little sense to try to do so' (Béné et al., 2014, 602). By situating environmental considerations within their socio-political context, political ecology takes a multi-causal and contextualised approach that recognises multi-causality from across the nature-society divide.

Building on these ideas, this thesis moves away from the environmentally-focused nature of most adaptation research to adopt instead a multi-stressor approach. Adaptive capacity is subsequently contexutalised as a collection of five constituent attributes existing at the household level: financial, natural, human, social and physical. It is also shaped and mediated by a wider enabling environment incorporates that incorporates gender, ethnicity, community, governance and conflict. A number of academics share a similar approach. For example, O'Brien and Leichenko (2000) introduce the concept of 'double exposure' as a framework for examining the simultaneous impacts of climate change and globalisation. Eriksen and Lind argue that 'Adjusting to climate stress and change does not occur in isolation from the ways that people continuously respond to a multitude of pressures, trends and 'normal' seasonal changes' (2009, 818). For the authors, these go beyond a

'double exposure' to include a host of pressures and trends that include drought, economic liberalisation, conflict, and biodiversity loss (ibid). Likewise, Adger et al. acknowledge that 'Adaptation measures are seldom undertaken in response to climate change alone,' and are 'embedded within broader sectoral initiatives' (2007, 719). Lemos et al. differentiate between 'specific capacities' (the ability to adapt to climate hazards) and 'generic capacities' (ability to adapt to more general social, economic, political and ecological stressors) (2016, 170-171). They argue that a focus on generic capacities is most relevant in less developed regions (such as Laikipia) experiencing structural deficits, including low income, education, health and political power. In a similar vein, Eakin (2005) advocates for a multi-stressor approach that recognises how, 'Globalisation, market liberalisation, and climatic risk simultaneously structure the livelihood strategies of Mexican smallholders.' Similar perspectives have been voiced by Barnett (2006), Belliveau et al. (2006), Berrang-Ford et al. (2011), Eriksen et al. (2015), McDowell and Hess (2012), and Mortimore and Adams (2001), among others.

In addition to adaptation, this thesis also applies a multi-stressor approach to migration. In this regard, a mobilities inspired political ecology can help to rebalance the array of natural and societal factors that explain why people move in contexts of environmental change. Understanding whether, and to what extent, environmental change influences migration has generated significant research, debate and (at times) controversy in migration studies. Those involved in the migration-environment debate were labelled by Suhrke (1994) as either 'maximalists', characterised by Norman Myers, or 'minimalists' epitomised by Richard Black.[5] On the one side 'maximalists' theorise a direct link between environmental change and migration. They forecast apocalyptic numbers of migrants moving directly as a result of environmental change,[6] and advocate recognising the category of 'environmental refugee' to reflect this.[7] On the other side of the debate, 'minimalists' downplay the environment-migration connection by identifying five universal families of migration drivers: economic, political, social, demographic and environmental (Black et al., 2011b). They criticise 'maximalists' not only for artificially narrowing the drivers of migration, but also for naturalising the political causes of environmental degradation, and overlooking the role of social relations and state responses (Hartmann, 2010, 235).

Findings from fieldwork support the 'mimimalist' logic. When asked to identify the main challenge affecting their household, 37 per cent of migrants highlighted water was as the primary challenge, and 50 per cent as the secondary challenge – suggesting that nearly 90 per cent of migrant respondents experienced water issues, as either a primary or secondary concern. And yet, when asked to describe the reason(s) for deciding to move, only 12 per cent of migrants highlighted water, with the majority framing their migration decision making in terms of livelihoods. Eighty-three per cent of respondents said they had moved in

[5] Few academics are pure maximalists in practice, but the 'minimalist' umbrella extends quite far to include: Adger et al. (2015), Castles (2002), Geddes et al. (2012), Kniveton et al. (2009), Kothari (2013), Martin et al. (2014), Piguet et al. (2011), Tacoli (2009), and Zetter and Morrissey (2014b), among many others.

[6] The most frequently cited figure predicts that by 2050 there could be as many as 200 million environmental refugees (Myers, 2002).

[7] El-Hinnawi (1985, 4) was one of these proponents, arguing that the term 'environmental refugee' refers to 'people who have been forced to leave their traditional habitat, temporarily or permanently, because of a marked environmental disruption (natural and/or triggered by people) that jeopardized their existence and/or seriously affected the quality of their life'

order to look for better livelihood opportunities, either because their current livelihoods had failed to provide an adequate living or because they thought they could access better assets, resources and opportunities elsewhere. This is not to say that water was not a significant factor in their decision to migrate. Rather, it tells us that movements are influenced less by standalone factors such as water than by broader livelihood dynamics that emerge from a mix of natural and social factors.

The terms of the debate have since moved on from the era of minimalists and maximalists, and there is now general acceptance of migration's multi-causality. And yet, as concerns around climate change continue to grow, some research continues to pay lip service to the multiple drivers of migration whilst still seeking to theorise movements in relation to one-dimensional climatic indicators (such as changes in rainfall or temperature), and ignoring the wider context in which these occur.[8] Indeed, an enduring critique of the mobility-environment literature is that it does not sufficiently integrate politics and inequality into the analysis. And yet, some argue that a minimalist approach has downplayed the environment too much. Environmental factors continue to remain peripheral within mainstream migration theory, and greater recognition of how the environment interacts with and impacts on migration is required (Hunter, 2005, 387). While political ecology is not routinely associated with this migration-environment debate, a 'political ecology of mobilities' can provide a corrective balance to this context. On the one hand, political ecology resonates with a 'minimalist' perspective in that it contextualises environmental processes within politics, economy and history. On the other hand, it continues to root the analysis within an environmental framing that may be missing from some of the migration scholarship.

5. Recognising unequal opportunities and differentiation

A mobilities inspired political ecology can also shine a light on the underlying structures of inequality that influence how and with what outcomes people move and adapt. Unequal access to resources, and the role that power relations and embodied forms of difference (gender, race, class, ethnicity) play, is a long-standing theme of political ecology (Perreault et al., 2015). Ribot and Peluso (2003) argue that bundles or webs of power enable actors to gain, control and maintain access to resources, but that their ability to do so shifts and changes over time and across geographical scales depending on their position and power within various social relationships at that moment and in that place. They argue that technology, capital, markets, knowledge, authority, social identities, and social relations (many of which are included in Chapter 4's framework for adaptive capacity) shape or influence access and, in doing so, interact with other mechanisms, resulting in complex social patterns of benefit distribution (Ribot and Peluso, 2003, 173). Wisner et al. (2004) suggest that unequal access to resources is determined by social, economic and political relations, such as gender, ethnicity, status and age (also included in the above-mentioned

[8] To give just a few examples: The 'Where the Rainfalls' project studied the interrelations between rainfall variability, food insecurity and human mobility (Warner and Afifi, 2014a); Gray and Wise (2016) studied migration in relation to climate data on rainfall and temperature in Kenya, Uganda, Nigeria, Burkina Faso and Senegal; Henry et al (2004a) test the impact of land degradation and rainfall variations on migration in Burkina Faso; and Kubik and Maurel (2016) explore the impact of temperature and rainfall on agricultural production and migration in Tanzania.

framework).[9] In addition, feminist political ecologists theorise how unequal resource access and control determines the gendered division of labour as well as access to natural resources within households and communities (Elmhirst, 2015). In this context, societies are differentiated by a wide range of factors, including gender, age, class, profession, race, ethnicity and ability (Marino and Ribot, 2012, 324).

Within migration studies, mobilities are embedded within similar societal rules and norms, which 'determine who migrates and hence who benefits' (Haan et al., 2002, 39, 55). Social, cultural, economic and political inequalities within households and communities determine who is able to move and who is not, depending on the differential divisions of labour, access to resources, acquisition of knowledge and skills, and participation in decision-making that these inequalities afford (Carr, 2005, 930; Kothari, 2002, 4; Nelson and Stathers, 2009, 82). For example, research conducted in Kenya (Foeken and Owuor, 2001) and Tanzania (Loiske, 1995) suggest that low-income households are less likely to adopt mobile, multi-local livelihoods than those with greater social and financial resources. While mobility may be on the rise across Sub-Saharan Africa, opportunities for moving remain out of reach for 'potential migrants' (Kothari, 2002) and 'trapped' populations (Black and Collyer, 2014) who want or need to move, but cannot due to social and economic costs.

What is more, even when people do move, the ways in which they move, and the control they have over their movements, continue to reflect these inequalities. 'Some people are more in charge of it than others; some initiate flows and movement, others don't; some are more on the receiving-end of it than others; some are effectively imprisoned by it' (Massey, 1991). In support of this, many migrant respondents described feeling trapped and resented being unable to invest in their own livelihoods as a result of the social obligation to send a sizeable proportion of their earnings as remittances to family back home. Viewed from this perspective, issues of inequality influence not just who stays and who goes, but also who ultimately benefits from these movements. In support of this, Warner and Afifi (2014a, 209) found that households with 'resilient' characteristics (such as access to land, education, social networks, formal and informal institutions) benefited from migration, whereas households who did not possess these characteristics experienced 'erosive coping strategies' with migration outcomes that slowly reduced their development base. This can create a self-fulfilling cycle whereby the upward trajectories of some groups exacerbate and reinforce the unequal power relations that contributed to differential mobile experiences in the first place, thereby contributing to widening inequality gap over the long-term. This resonates with the idea of 'maladaptation', whereby efforts to adapt undermine people's livelihoods and 'damage traditions, knowledge, social orders, identities and material cultures' (Adger et al., 2011, 20–21).[10]

So what does all of this tell us? That differential access to mobility means that not everyone will be able to access or engage in rural-urban livelihoods in the first place. And, even when

[9] Wisner et al. (2004) theorise access through their 'Access Model', which seeks to explain micro-level variations in vulnerability. They argue that individuals and households with better access to resources (such as information, cash, rights to the means of production, tools and equipment, and social networks) are less vulnerable to hazards.

[10] The concept of 'maladaptation' has also been explored in detail by Barnett and O'Neill (2010, 212), Black et al. (2011), Eriksen et al. (2015, 523), Rocheleau et al. (1995, 1039), and Shackleton et al. (2015), among others.

they do, differential outcomes mean that opportunities for strengthening adaptive capacity are likely to be constrained for poorer and more marginalised groups. These dynamics are not always reflected in the language of migration, and a political ecology approach can help to reinforce and address this. For example, the tendency within parts of the migration literature to normalise and at times romanticise mobility as an everyday and liberating practice underestimates these issues of inequality (Franquesa, 2011, 1013). A political ecology of mobilities can help to 'move beyond the ready equation of mobility with freedom by examining not only movement as connection but also as an aspect of new confinements and modes of exploitation (Glick Schiller and Salazar, 2013, p. 190; Salazar and Smart, 2011).

6. Interrogating dominant narratives from above

While unequal power dynamics influence everyday experiences of mobility, they also condition the dominant narratives that filter in from above. A clear example of this is the 'migration as adaptation' debate that has emerged in recent years, and which arguably privileges top-down approaches, perspectives and narratives over grassroots considerations (Piguet et al., 2011, 13). Another example (illustrated in Chapter 6) relates to how the rationale behind livelihood diversification – which is ostensibly framed in terms of adaptive capacity – has been co-opted by the politics and vested interest of more powerful groups. According to a local activist, politicians and conservationists 'perpetuate the myth that pastoralism is no longer sustainable' in order to annexe pastoral land for other purposes. Power operates through the production of dominant narratives that are able to influence meaning and ultimately frame the terms of the debate to the advantage of dominant groups (Kothari, 2013, 134). By interrogating dominant narratives and providing a platform for marginal voices, a political ecology of mobilities can provide a more nuanced and balanced interpretation of the extent to which rural-urban livelihoods contribute to adaptation.

Migration theory has undergone a series of evolutions that have influenced the dominant framings of mobility from above. Prominent among these are the shifts between sedentarism and nomadism. While these reified categories have been replaced conceptually with a more inclusive 'mobile–sedentary continuum' (Symanski et al., 1975), sedentarism and nomadism continue to be conceptualised as essentialised and 'ever-receding horizons' at either end of a spectrum (Maru, 2020, 210). Existing at two ends of a continuum, sedentarism interprets fixity as a normal way of living within a world made up of nation-states. It subsequently sees 'mobility through the lens of place, rootedness, spatial order, and belonging' (Cresswell, 2006, p. 53). At the other end of the spectrum, nomadism normalises mobility and, in doing so 'has little time for notions of attachment to place, and revels in notions of flow, flux, and dynamism' (ibid). Ongoing debates around sedentarism and nomadism have influenced our understandings of mobility, spatial order, place and identity and, more fundamentally, permeated in a symbolic and material sense, the world in which we live (Cresswell, 2006). Indeed, our ideological positioning along the sedentarism-nomadism spectrum influences how we interpret the migration-adaptation relationship. Put simply, sedentarists are unlikely to identify a positive relationship between moving and adapting – instead interpreting movement (particularly as it occurs in contexts of environmental change) as a failure to adapt in situ, and as a forced and, in extreme cases, unnatural rupture with one's place of origin. On the other hand, those who affiliate

ideologically with nomadism are more likely to celebrate mobility's potential for livelihood adaptations.

The relative prominence of sedentarism and nomadism has shifted over time – often driven by the wider political economy. For example, at the beginning of the twentieth century, classical migration studies typified sedentarism's focus on the nation-state, integration and assimilation – subsequently interpreting migration as a 'one-way and once-and-for-all movement from a place of origin to a destination' (Söderström et al., 2013, p. 9). During the 1970s and 1980s, however, this gradually gave way to hybrid, transnational, global and circular conceptualisations of mobility, reflecting a shift back in the direction of nomadism. This culminated in the 2000s in a 'mobility turn' or 'new mobilities paradigm', which consciously moved the analytical focus from sedentary interpretations of migration to more fluid mobilities (Hannam et al., 2006). Indeed, the sedentarism-nomadism debate highlights the need to move beyond binary opposites and engage instead with 'a more nuanced relational understanding of mobility' (Blerk, 2016, 415). A decade later, however, global economic downturns, the so-called migration crises in Europe and the US, and the ongoing coronavirus pandemic, are reasserting once again the normalisation of national borders, ethnic boundaries and immobility – even as, paradoxically, such crises reflect the networked and interconnected world in which we live (Glick Schiller and Salazar, 2013, 184). The recent pendulum swing back in the direction of nomadism and 'mobilities' has made less progress beyond academic circles, so that in practical and political terms, sedentarism prevails in mainstream narratives.

These dynamics are echoed in research on migration and the environment. The prevailing narrative around migration and adaptation remains alarmist within policy circles and much of the scholarship. Within some parts of academia, however, there is growing (though by no means widespread) support for the idea that moving represents an increasingly important aspect of contemporary livelihoods and, by extension, a compelling avenue through which to adapt to a mounting range of social and environmental pressures. For example, Findley (1994) has explored the role that circular migration can play in coping with droughts in Mali. In the context of Nepal, Rigg suggests that 'migration has become key to sustaining livelihoods' under pressure from a mix of social and environmental pressures (Rigg et al., 2016, p. 64). Tacoli goes further to argue that mobility should be 'a central element of strategies of adaptation to climate change' (2009, 513). Likewise, Martin et al (2014, 104) argue that mobility is an 'effective adaptation strategy to offset the impact of climatic stresses and shocks'.

This thesis builds on this rationale: that moving can be a compelling and logical avenue for adapting livelihoods, especially for households for whom mobility already represents a normal part of their everyday way of life. But it is also mindful of the wider undercurrents and dynamics that may be driving this gradual shift, if not in mainstream thinking, than certainly within academia. While consideration of power structures and narratives is well documented in relation to climate change,[11] critical review has been 'largely absent' when it

[11] Examples include Arnall et al. (2014), Bassett and Fogelman (2013), Bettini et al. (2017), Eriksen et al. (2015), Farbotko and Lazrus (2012), Felli and Castree (2012), Hajer and Versteeg (2005); Hartmann (2010); Hulme (2008), Marino and Ribot (2012), Peet et al. (2011), Pettenger (2007), Taylor (2015), Watts (2015) and Wrathall et al. (2014), among others.

comes to understanding 'migration and adaptation' in this context, and 'ignored entirely' by policy makers (Zetter and Morrissey, 2014b, 344). With this in mind, this chapter now turns to three main risks and limitations posed by the migration as adaptation debate.

Firstly, there is a danger of overly celebrating migration's potential for adaptation. While moving can and does play an important role in processes of adaptation, this is limited to certain groups and contexts. As argued in the previous section, opportunities and outcomes are unequal, and likely to be especially constrained for poor and marginalised groups. Talk of 'transformative mobilities', 'migration as adaptation', and other win-win scenarios that fortuitously group migration, adaptation and development together in a virtuous and natural circle overlook these inequalities and differences. A balanced approach is needed. One that transcends sedentarism while avoiding the 'equally confining metaphysics' and 'celebratory discourses of hyper-mobility and nomadism' (Smith, 2011, 188-189). A rural-urban livelihoods approach can help to achieve this as, without a balance between moving and staying, and the translocal connections that often accompany them, households could not engage in rural-urban livelihoods in the first place or maintain them in the long run.

A second critique of 'migration as adaptation' is that it is conceals a neoliberal extension for managing labour, maintaining the economic status quo, and shifting responsibility for adaptation and development away from the state and onto individuals, even though their contribution to climate change is likely to be very minimal (Bettini et al., 2017; Bettini and Gioli, 2016; Farbotko et al., 2018a; Felli and Castree, 2012; Watts, 2015). The focus of 'migration as adaptation' is on 'absorbing' and 'adapting' to changes at the individual level, rather than seeking to 'transform' in a radical and collective way the underlying social, political and economic structures that led to climate change in the first place (Arnall et al., 2014; Escobar, 1996; Kothari, 2013; McEvoy and Wilder, 2012). Its proponents are not therefore proposing a radical shift in dominant policy, which suggests that any changes are rhetoric rather than practice. The implicit emphasis is on migration that is 'controlled', 'monitored', 'managed', 'temporary' or 'circular', which reflects a continuation of migration management policy, and arguably entails the least long-term disruption or change for receiving countries (Portes, 2010).[12] In this context, there is often little or no recognition of 'migration as adaptation' for the much larger proportion of people whose livelihoods will be negatively impacted by the impacts of climate change. This is problematic as, by glossing over the right to move – and by extension the right to protection and compensation – of those who are negatively affected by climate change, the impetus for allocating responsibility and remedying damage is also weakened and sidelined (Bettini et al., 2017, 354).

A third critique is that the 'migration as adaptation' narrative is being opportunistically applied to groups of people for whom dominant groups, such as government and the private sector, have a vested interest in moving. Adaptation 'is more than just a keyword: it resembles a hegemonic discourse' (Watts, 2015, 21). For example, the Maldives government initially introduced resettlement of island communities in the 1990s in an effort to reduce costs (Kothari, 2013). Met with significant resistance, the policy was widely

[12] For example, IOM advocates '*managed* migration as a new tool for climate change adaptation policy, and one that transforms mobility into a positive exercise' (Gemenne and Blocher, 2017, 2). The UK-funded Foresight project (2011) also advocates migration when it is managed, circular or temporary.

abandoned, until recently, when it was rebranded as a 'migration as adaptation' strategy now couched in environmental rather than economic terms (ibid). This suggests again that, while 'migration as adaptation' does have legitimate and far-reaching theoretical grounds, its interpretation in some mainstream narratives is restricted to a form of mobility that is convenient, inevitable and poses the least challenges to current policies and power structures.

7. Making space for local voices, perceptions and experiences

As well as interrogating dominant narratives from above, a political ecology of mobilities makes space for other, multiple perspectives. Academic knowledge, and climate evidence in particular, are presented as 'scientific', 'objective', 'evidence-based', 'impartial', 'technocratic', 'managerial' and 'apolitical' (Arnall et al., 2014; Hulme, 2008; Kothari, 2013; Taylor, 2011). Not only does this prioritise external expertise and interests from above, but this 'natural', self-evident and non-negotiable tone of language can be difficult to challenge by less powerful and local groups.

In this context, a 'place-based', local-level analytical approach (Black, 1998, 186) such as political ecology provides a welcome platform for alternative narratives, perspectives, values and knowledge, particularly of local and marginalised groups (Farbotko and Lazrus, 2012; Kothari, 2013; Leach and Mearns, 1996). This kind of approach is subsequently reflected in the research methods (Chapter 3) of this thesis for a number of reasons. Firstly, because it builds on the expertise, knowledge and lived experiences of local groups, many of whom have been moving and adapting to environmental change for generations. A second reason for incorporating local voices and values is to help tailor policy and interventions to local needs and priorities, rather than to the assumptions and priorities of more powerful groups. In support of this, Rocheleau et al (1995, 1038–1039) argue that land degradation, low productivity and conservation interventions in Kenya have all been driven by external rather than local (or even national) concerns.[13] In each case, a narrative of 'crisis' was established, which had more to do with concerns imported from elsewhere than the reality on the ground in Kenya.

Thirdly, a local level, place-based political ecology can discern difference between groups, thereby moving beyond homogenising analysis and universal 'truths'. For example, perceptions of rainfall differed noticeably between community respondents and institutional informants. While community respondents routinely described their personal experiences of worsening conditions of drought, institutional informants tended to focus on the hydrological data which suggested that Laikipia had experienced relatively good patterns of rainfall in 2019. Asking similar questions to diverse respondents adds difference and nuance. When it comes to rainfall, reliance on the data tells only part of the wider story, as structural drivers of vulnerability, both past and present, mean that livelihoods have become increasingly susceptible to even small changes in rainfall patterns (see Chapter 5).

[13] For example, Rocheleau et al (1995) argue that concerns about the 1930s Dust Bowl in the United States translated into a concern with soil erosion and overgrazing in Kenya. During the 1940s and 1950s the concern shifted to low productivity and the need to commercialise and intensify agriculture, in large part because Europe needed grain to support the war effort. More recently, global climate change concerns are driving conservation and eco-tourism efforts in Kenya.

Kothari and Arnall (2015) identify a similar disconnect in the Maldives between elite (development professionals and policymakers) and non-elite ('ordinary people') perceptions of mobility and climate change depending on their knowledge, priorities and agendas. Recognising difference between elite and local perspectives is important, but so too are differences among local voices. For this reason, an intersectional approach (espoused by second generation political ecologists among others) interprets difference and inequality beyond one-dimensional groupings such as occupation and class to also include gender, race, ethnicity, sexuality, and so on. Fieldwork actively targeted respondents from a range of profiles, livelihoods, geographies and socioeconomic backgrounds.

While the analytical advantages of capturing local and marginalised voices is clear, a balance is nevertheless needed that situates localised, specific experiences within their broader structural context. Too much focus on the top risks marginalising local experiences and knowledge. Too much attention given to the local risks missing the wider, structural, underlying factors that are instigated from above (Little, 1992, 12). This approach coincides again with a political ecology perspective that situates and understands local dynamics within broader structural political economy. After all, it is the combination of local dynamics, institutional settings and policy context that defines access to resources and ultimately establishes the 'rules of the game' and the 'ideologies that legitimate them'(Francis, 1998, 75). In the context of Laikipia, issues of land and property tenure, inheritance practices, marriage and divorce rights, cultural and gender norms, national policy-making, globalisation, urbanisation, and so on, ultimately steer and influence local dynamics on the ground.

Recognition of these different scales of influence has been conceptualised by political ecologists as a series of 'Chinese boxes', which expand increasingly upwards from the small site-specific factors up to regional, national and international scales (Blaikie and Brookfield, 1987, 69). This is particularly relevant when it comes to water issues, which rarely conform to pre-determined parameters such as political or administrative boundaries. Laikipia, for example, depends on water flows that originate from outside county lines, which, as elaborated by a key informant, make it, 'very important to look at what is happening outside of the County. As what is happening elsewhere can have a significant impact on water availability in Laikipia.' What is more, the parameters of influence extend beyond geography to also include developments that have happened at another time. This requires a historical analysis that positions and understands contemporary society and environment in relation to its historical context. For example, the reason that Laikipian pastoralists inhabit the most arid and least productive lands in present-day Kenya isn't random. It originates from twentieth century colonial policy, which saw them displaced from their land and pushed to the marginal and least hospitable fringes of Laikipia County, and has been compounded by successive governments that have continued to marginalise Maasai and other pastoralists.

While this research is primarily concerned with the household unit and goes as far as the community level in its analysis (as opposed to regions or states), it nevertheless considers the wider context of vulnerability in which a household operates. Vulnerability occurs when a people or place is unable to cope with stress and becomes susceptible to damage or harm. Vulnerability has two sides; an external side that is the exogenous stress to which a system

is exposed to, and an internal side seen as a lack of means to cope or adapt (Chambers, 1989). It is influenced by levels of exposure (the extent to which a place or person is physically in harm's way) and sensitivity (how affected they are after being exposed) to external stress, shocks and disturbances, and the capacity to adapt to these changes (Adger, 2006; Engle, 2011; Luers, 2005). Viewed from this perspective, vulnerability and adaptive capacity are closely connected, and each can be understood in the context of the other. The lower a household's capacity to adapt to change, the greater their exposure and sensitivity, and therefore the more vulnerable they are. Conversely, households with greater adaptive capacity will be able to prepare and respond better to changes and stresses, therefore reducing their exposure and sensitivity and, by extension, vulnerability.

Similar connections can also be identified between resilience and adaptive capacity. Resilience represents the extent to which social-ecological systems can absorb shocks or stresses and continue to function through processes of self-organisation, learning and adaptability (Carpenter et al., 2001). In this sense, resilience not only absorbs change but it also provides the capacity to adapt to change (Berkes et al., 2002, 6). While the inter-connections and crossovers between vulnerability, resilience and adaptive capacity have been well-researched (Gallopín, 2006), it is also the case that vulnerability and resilience emerge from different disciplinary origins (social and natural sciences respectively) and subsequently offer differing analytical emphases. In spite of recent advances in resilience research, a vulnerability approach remains more adept at capturing social dynamics (such as agency, social justice, power, equity and opportunity) as well as historical and political economic processes, which are key aspects of this research (Béné et al., 2014; Eakin and Luers, 2006; Miller et al., 2010).

Viewed from this perspective, vulnerability arguably lends itself to a deeper and more complex appreciation of adaptive capacity in the context of multiple factors that cut across different scales. Like adaptive capacity, vulnerability is shaped by a wide set of risks that go beyond climate change alone, and include 'creeping' factors like conflict, disease and economic decline (Eriksen et al., 2008, 5). Within this plurality of interconnected factors, vulnerability reflects not just the particular characteristics of a household or community, but also the broader conditions (power relations, resource distribution, institutional arrangements, and so on) within which they exist and which operate at different scales. In this context, a vulnerability approach can expose the entanglement of everyday pressures that Laikipian households experience.

8. Concluding remarks

In sum, this chapter has argued that political ecology of mobilities represents a valid and collective framework for analysing the relationship between rural-urban livelihoods and adaptive capacity. To date, political ecology has not been widely applied to the myriad ways in which people move – a systematic review of the literature reveals only a handful of academics who have advocated such an approach, either through detailed academic enquiry or merely in passing. This is perhaps not surprising as, on first sight, political ecology and mobilities do not appear as natural partners. And yet, a deeper analysis shines a light on the possible pathways of convergence, intersection and relevance that make a political ecology of mobilities a valuable and collective theoretical framework.

The hybridity and heterogeneity of political ecology reflects and accommodates the complex undercurrents and theoretical disconnects that characterise processes of migration and adaptation. At the same time, the emphasis on relational, rather than atomistic, thinking resonates with the translocal networks that connect people and places in reciprocal webs of exchange and influence. It also helps to move the analysis beyond static binaries of rural-urban, migrant-stayee and origin-destination, which continue to restrict contemporary research. In addition, a focus on both nature and society provides a useful corrective or balance to promoting a multi-stressor approach to processes of migration and adaptation. Furthermore, political ecology of mobilities' concern with inequality and power relations can help to explain the differential outcomes of moving and adapting that constrain poorer and more marginalised groups in particular. Finally, by interrogating dominant narratives from above and providing a platform for marginal voices from below, a political ecology of mobilities can offer a more critical, balanced and contextualised analysis that incorporates local voices as well as wider structures of vulnerability.

Chapter 3 – Methodology, Methods and Sites

Fieldwork took place over eight months between May and December 2019 in five main areas of Laikipia County: Marura, Ethi, Mukogodo, Il Polei and Nanyuki (see Maps 1 and 2). During this time, I established myself in Nanyuki town as a central base from which to access the different research sites. Nanyuki was also the headquarters of my research partner – the Centre for Training and Integrated Research in ASAL Development (CETRAD) – an experienced local entity conducting research in Laikipia since the 1970s.[14] My affiliation with CETRAD brought many benefits, but most importantly it enabled me to work with their expert team of researchers to finetune my research methodology, methods and sites, and learn from the database of reports and data that they had accumulated over the decades.[15] CETRAD also connected me with Margaret (Maggie) Kariuki, the Research Assistant who worked with me for the duration of the fieldwork. Maggie was an experienced enumerator from Laikipia, familiar with both the terrain and many of the issues of the research, in particular livelihoods and natural resources.

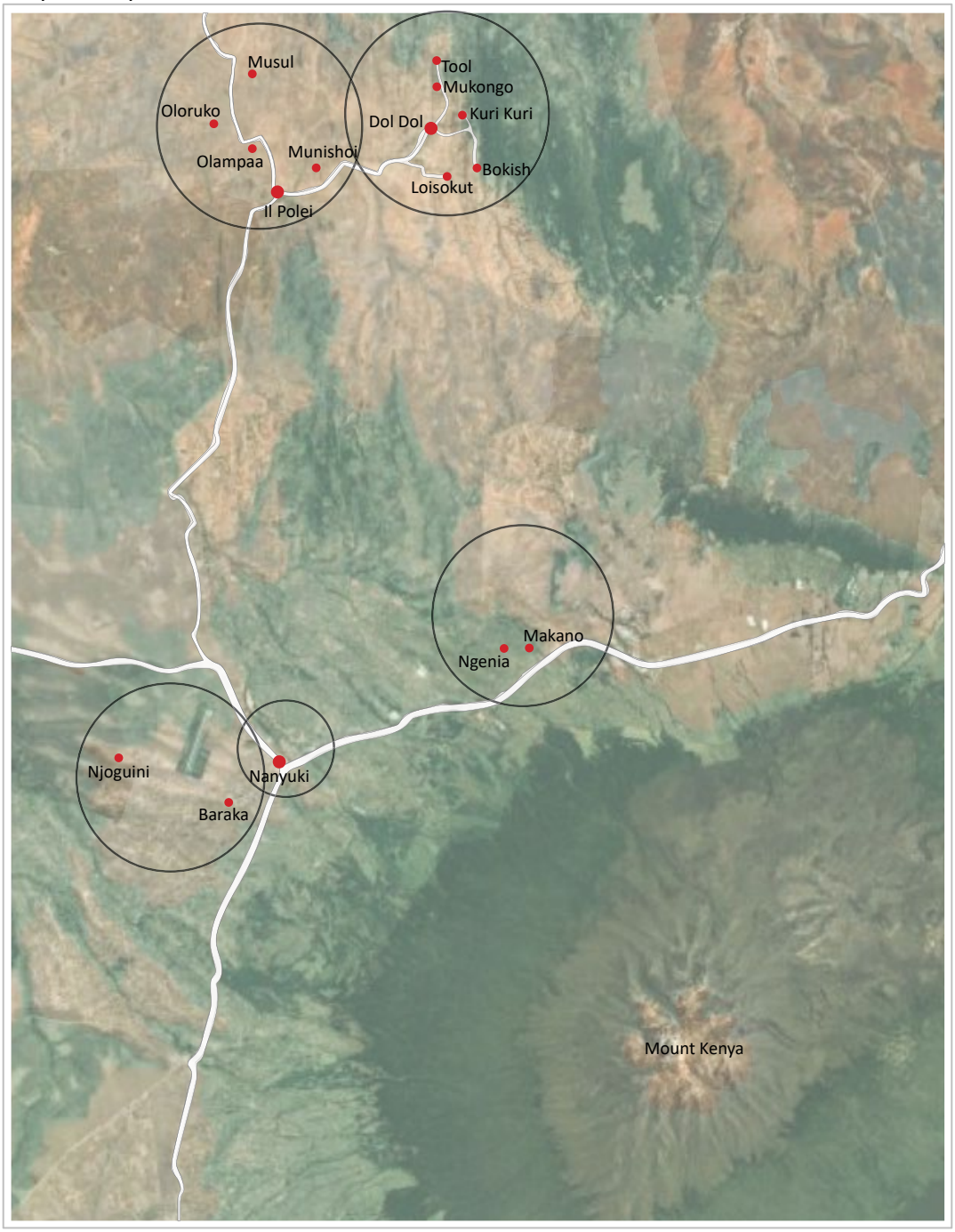
This chapter starts by introducing the methodology adopted by this research. Section 1 thus begins by outlining how the underlying logic of rural-urban livelihoods and a political ecology of mobilities steered the direction of the methods used during fieldwork. Building on this, the sections that follow introduce the four approaches that constituted the research methods. Section 2 introduces the research's mixed methods approach comprised of semi-structured interviews that incorporated both qualitative and quantitative elements, focus group discussions, life histories and mapping. Section 3 explores the ethical considerations that arose in the design and conduct of the research, in particular confidentiality, free consent, do no harm, impartiality and independence. Section 4 outlines the cross-sectional approach that guided the selection of respondents, and which took into consideration factors such as livelihoods, demographics and wealth. Finally, Section 5 details the multi-sited approach adopted by the research, which included five main research locations in Laikipia County – Nanyuki, Ethi, Marura, Mukogodo and Il Polei – encompassing a range of climatic, livelihood and socioeconomic conditions across rural and urban settings.

[14] Laikipia Research Programme, as CETRAD was formally known, was originally a joint initiative by the Centre for Development and Environment at the Institute of Geography, University of Bern (Switzerland) and the Kenyan Ministry of Land Reclamation, Regional and Water Development (MLRRWD).

[15] This contained baseline information on topography, agro-climatic zones, rainfall, water resources, soils, vegetation, dominant systems of land use, population and demographic development, water supply systems and other infrastructure, rural and urban centres and their functions, self-help groups and their characteristics, and local names (Wiesmann, 1998).

Map 1: Map of Laikipia (Source: Kenya National Bureau of Statistics)

Map 2: Map of research locations



1. Methodology and research methods

Methodology and methods are closely connected, but not the same thing, and often confused (Castles, 2012). 'Methodology is about the underlying logic of the research…Methods, by contrast, are specific techniques used to collect and analyse information or data' (Ibid, 7). When it comes to the methodology, two underlying perspectives – rural-urban livelihoods and political ecology of mobilities – steered the direction of the methods used during fieldwork in a number of ways.

The first is multi-disciplinarity. Political ecology is a hybrid and heterogenous approach for theorising complex phenomena. It incorporates a range of disciplines, including political science, ecology, geography, anthropology, development studies, economics, sociology, forestry and environmental history, among others. This multi-disciplinary methodology warrants a mixed methods research approach that has been described as a methodologically eclectic 'big tent' where researchers from a variety of philosophical orientations can meet (Teddlie and Tashakkori, 2011, 287). Like political ecology, mixed methods research rejects either-or binaries (Newman et al., 2003). Qualitative and quantitative can be complimentary, rather than mutually exclusive, approaches – as long as the methods are combined in a way that builds on their respective strengths and are grounded in theory that guides their design and implementation (DeCuir-Gunby, 2008; Greene et al., 1989). This implies going beyond the straightforward combination of qualitative and quantitative data collection methods alone to also include a deeper integration of both kinds of viewpoints and analysis (Johnson et al., 2007).

The second methodological steer relates to scale. Rural-urban livelihoods – which are characterised by migration, mobility, immobility and translocality – encompass migrants and non-migrants, and communities of origin and destination. Going beyond the 'spatially defined household', rural-urban livelihoods incorporate the geographically diverse and multi-directional interactions occurring between relatives spread across different locations (Rigg, 1998, 500). Capturing these multiple people and places reinforces the need for a multi-sited research method that goes beyond the approach of many conventional migration studies (Andersson, 2001b). As summed up by Little et al. (2001, 402), 'Too much discussion remains anchored on single site studies rather than on systematic comparisons across ethnic groups and locations'. With this in mind, research took place in 20 specific research sites across five main areas (Ethi, Marura, Mukogodo, Il Polei and Nanyuki). The selection rationale included differing climatic zones (arid, semi-arid and semi-humid), livelihood tendencies (pastoral, agro-pastoral, agricultural, business, trading, transport), and varying degrees of rural and urban characteristics (Section 4).[16]

Building on this idea of scale, political ecology embeds the micro-level experiences of different groups into wider structural factors that ultimately shape these local experiences (Castles, 2010, 8). The research sought to capture this through several research methods. The proactive inclusion of a wide range of respondents from the community-level up to the county-level provided insights into lived experience as well as the wider political economy. This helped to broaden the analysis beyond people's everyday lives and livelihoods to the array of political events and choices occurring at the national level that influence them. For example, devolution, corruption, debt accumulation, macroeconomic policy, and so on. In addition, a multi-sited research approach that incorporates longitudinal and critical history approaches not only captures diversity of experience, but also emphasises how events in another place or at another time influence contemporary conditions elsewhere.

Water tensions between upstream and downstream river users provides an illustration of what this looks like in practice. At independence, the government sought to resettle

[16] Baraka and Njoguini in Marura; Makano and Ngenia in Ethi; Majengo, Likii, Thingithu and Muthaiga in Nanyuki; Dol Dol, Bokesh, Kuri Kuri, Loisokut, Lolien, Mukongo and Tool in Mukogodo; and Il Polei settlement, Munishoi, Musul, Olampaa and Oloruko in Il Polei.

landless peasant farmers from more densely populated areas of central Kenya to Laikipia County, resulting in an increase in intensive small-scale mixed farming reliant on irrigated horticultural crops (Flury, 1988, 265). In conjunction with the rapid expansion of large horticultural farms from the 1990s onward, this influx resulted in growing river water extraction from the upstream areas of eastern Laikipia near to Mount Kenya (Lanari et al., 2018; Ngutu et al., 2018; Zaehringer et al., 2018).[17] The impacts of these earlier dynamics thus still resonate across the county today. Upstream pressure has significantly reduced water availability and, by extension, livelihood options of pastoral communities in downstream areas in the north of the county, creating ongoing tensions and strains between different groups.

A third underlying logic that influenced the research methods relates to political ecology's concern with social differentiation, power relations and inequality. The research adopted a cross-sectional approach to capture the range of different viewpoints and experiences among diverse groups of society. This cross-sectional approach extended to gender, generation, ethnicity, geography, livelihood, migration and socioeconomic status – factors that were all taken into consideration when selecting respondents to ensure adequate representation (Section 3). This resonates with another trait of political ecology: making space for local voices, perceptions and experiences. When it came to research methods, this involved mapping and contextualising findings within specific case studies, life stories, vignettes, illustrations and lived experiences. And balancing theory and practice so that findings are accessible and relevant to all, including those who live by them (Sorde Marti and Mertens, 2014). In this capacity, the research sought to respond to the criticism that, 'Scholars are forever engaged in the act of slotting human beings into discrete spatial and social units; characterising or `pigeon-holing' people' (Rigg, 1998, 499). By cataloguing the range of primary, secondary and even tertiary activities that many people pursue, the research sought to nuance livelihood labels and categories, such as pastoralist, agro-pastoralist, farmer, casual labourer, trader, businessperson, and so on.

A fourth and final steer relates to the difficulty in capturing and measuring an elusive, fluid and plural concept such as rural-urban livelihoods. At what point does a livelihood become rural-urban? Are some livelihoods more 'rural-urban' than others, and how is such a comparison determined, and by whom? There is also a translation issue. A rural-urban academic framing is unlikely to resonate with the lived experience of people going about their livelihoods in (what would seem to them as) unexceptional and everyday ways. Simply asking people about their rural-urban livelihood is unlikely therefore to yield much insight. To get around these challenges, the research questions focused instead on the broader yet connected issues of livelihood challenges and changes, migration and mobility, and translocal patterns of connection, communication and support. Furthermore, working closely and collaboratively with CETRAD, Maggie and local guides helped me to develop and translate the research questions in a way that resonated with respondents.

[17] Between 1991 and 2013, the number of horticultural farms increased from one to 35, covering a total area of 1,085 hectares (Ngutu et al., 2018, 4).

2. Mixed methods research

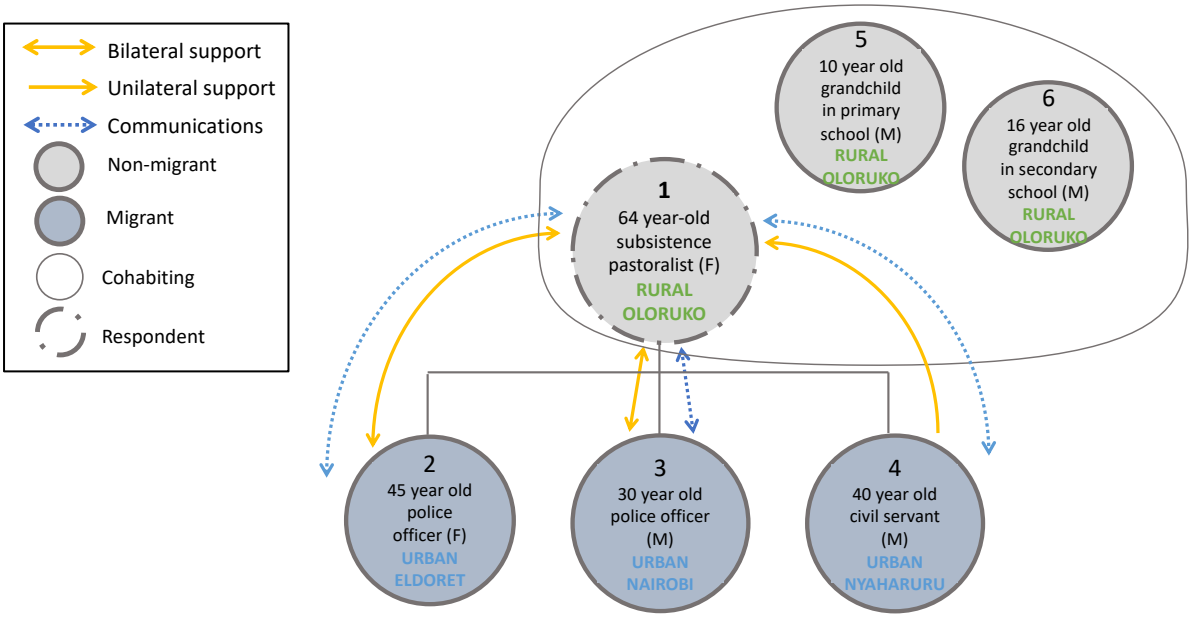
Data collection employed a mixed methods research approach comprised of semi-structured interviews that incorporated both qualitative and quantitative elements, focus group discussions, life histories and mapping (see Table 2 for a summary). Nvivo software and Excel were used to code and analyse the data. This combination of in-depth qualitative information with numerical, quantitative data can help to triangulate findings and demonstrate convergence (Greene et al., 1989). At the same time, however, combining information from different sources can also highlight divergence and dissimilarity, thereby providing greater insight into complex phenomenon (Erzeberger and Kelle, 2003; Johnson and Onwuegbuzie, 2004; Teddlie and Tashakkori, 2011). To illustrate this, this combined approach proved instrumental in understanding the scale and direction of reciprocal exchange, and challenging key assumptions underlying much of the existing literature. While the quantitative dataset collected during this research was relatively small and by no means statistically representative, when combined with a qualitative approach, it nevertheless helped to uncover trends and identify directions.

Table 2: Summary of data collection

Location	Community respondents	Key informants	Focus group discussions	Life histories
Marura	6	2	1	1
Ethi	6	4	2	2
Mukogodo	13	7	2	3
Il Polei	3	5		0
Nanyuki	21	25		3
Totals	**49**	**43**	**5**	**9**

Much of the data and information collected during interviews, group discussions and life histories was used to create the maps, diagrams, graphs and charts that populate the various chapters of this thesis. On the one hand, these illustrative techniques were used to simplify complex relationships between thought, emotion, places, objects and concepts (Newman, 2013, 228). But they also provided a deeper and more subtle exploration of social contexts and relationships (Spencer, 2010). This included a set of maps that chart reciprocal exchanges across familial networks. Migrant respondents were asked to describe how, why and how often they stayed connected with family who stayed behind, including detailed information around their methods of communication and the kinds of support they send and receive. The maps succeed in capturing in a visual and relatively straightforward way these complex patterns of multilateral and multi-directional connections and support that connect migrants and non-migrants dispersed across rural and urban settings.

Map 3 - Familial exchanges of a non-migrant pastoralist in Oloruko



2.1. Community respondents

Forty-nine in-depth and semi-structured interviews were conducted with migrants and non-migrants across rural and urban settings, lasting approximately two and a half to three hours each (see Table 3). Interview guidelines were developed with both qualitative and quantitative data analysis in mind (Annex 1). They included open-ended questions around livelihoods, adaptations and mobilities designed to better understand the following dynamics. What are the main challenges and opportunities affecting contemporary livelihoods, and how do these compare across different places? How are livelihoods changing as a result of these challenges and opportunities? And what impact are these changes having on households and the wider community? In what ways are rural and urban settings linked? How do people and places stay connected through patterns of mobility, communication, and support? And what impact do these connections have on households and wider society?

Quantitative questions were embedded within the interviews designed to collect information about the respondent and their family (age, gender, household size, language, education level), wealth (assets, earnings, expenditure, employment history, livestock, land), remittances (what is sent, how much is sent, to whom, where and with what regularity) and mobility (number of migrants within household, duration, frequency and destination of movements).

In-depth life histories with nine households selected as a sub-set from the original 49 community respondents were subsequently conducted, with each lasting approximately three hours (Table 4). The aim was to follow up with respondents who, during semi-structured interviews, provided the greatest insight, in order to further deepen and nuance findings. The advantage of a life history is that it provides a longitudinal analysis of how dynamics have changed over time, and shifts the analysis from the 'extraordinary to the

mundane' – shining a light on unexceptional and everyday relationships, interactions, encounters and decision-making (Kouritzin, 2000, 1). Life histories also provided an opportunity to engage with the wider household and, where relevant, community, in order to put these changes into context and consider wider impacts.

Table 3: Summary of community respondent interviews

Location	Sub-location/ village	Number of interviews
Marura	Baraka	3
	Njoguini	3
Ethi	Makano	2
	Ngenia	4
Mukogodo	Dol Dol town	4
	Bokish	3
	Loisokut	4
	Tool	1
Il Polei	Olampaa	2
	Oloruko	1
	Musul	1
Nanyuki	Thingithu	6
	Likii	6
	Majengo	6
	Muthaiga	3
Total		49

Table 4: Summary of life histories conducted with community respondents

Location	Number of life histories
Marura	1
Ethi	2
Mukogodo	3
Il Polei	0
Nanyuki	3
Total	**9**

2.2. Key informants

Forty-three semi-structured interviews were conducted with a wide-ranging group of key informants, encompassing differing hierarchies, locations and scales from the community-level up to the county-level (Table 5). This included community elders, local government actors, county-level government officials, NGO workers, researchers, civil society activists, members of community-based organisations and cooperatives, transport workers, businesspeople and the private sector.

In addition, five focus group discussions were conducted with local-level key informants to generate more general debate and rich discussion with community groups involved in local resource issues, such as farming cooperatives, water committees and youth groups. This helped to clarify and extend findings garnered from semi-structured interviews, and to

explore issues in greater depth, detail and context and from different perspectives by building on group dynamics (O.Nyumba et al., 2018). They were also a valuable research method when it came to observing how people interact and respond to different subjects – in particular contentious and politicised topics such as land and water (Soklaridis, 2009).

Key informant interviews typically lasted between 45 and 60 minutes, while focus groups lasted between one and a half to two hours. Both incorporated the following themes: the challenges and opportunities to livelihoods; changes in livelihoods patterns; the role that mobility plays in these changes; and the benefits and disadvantages that rural-urban livelihoods can bring to households (Annex 1). With each group comprising approximately five people, the combination of individual interviews and group discussions brought the total number of key informants to 68 (see Table 5). Interviews and focus group discussions with key informants took place in a range of settings, including houses, backyards, headquarters, offices and cafes.

Table 5: Key informants involved in either semi-structured interviews or focus group discussions

Location	Semi-structured interviews	Focus group discussions	Total number of informants
Marura	2	5	7
Ethi	4	11	15
Mukogodo	7	9	16
Il Polei	5	0	5
Nanyuki	25	0	25
Totals	**43**	**25**	**68**

3. Ethical considerations

A number of ethical considerations arose in the design and conduct of the research. Firstly, research should not harm participants in any way, whether directly or indirectly. Those on the move and in situations of natural resource scarcity are often extremely vulnerable, and due care and attention was taken to protect their safety, well-being and dignity during the research process. Secondly, participants must freely give their consent, without coercion and with a good understanding of the research purpose. And thirdly, quality research should be conducted in an impartial and independent way free from conflicts of interest, outside interference or manipulation. Adherence to these principles is especially important in the study of land and water in Laikipia, which have long been highly politicised and sensitive, characterised by strong and competing interests. The research sought to address these ethical considerations throughout the research process: from the point of planning, during data collection, in the course of writing and analysis, and up until the publication of findings.

During the planning phase, to ensure transparency, and in compliance with Kenyan regulations on research, I followed numerous (and often time-consuming) steps to properly introduce my research to the relevant authorities. Starting with the national-level government, I first approached the National Commission for Science, Technology and Innovation (NACOSTI) to apply for my permit. Conducting fieldwork without the necessary

paperwork is illegal in Kenya, and would have posed significant challenges to interviewing government officials who regularly requested to verify my paperwork. Once the permit was issued, I met with the relevant county-level government offices (County Director of Education and County Commissioner) to request they approve my research and provide me with a letter of recommendation. Once in possession of these letters, I proceeded to the sub-county level of government and met with the Location Chief in order to request they approve my research and provide me with an additional letter of recommendation. Following this, I approached the Sub-Location Chief, who was responsible for approving my research on the ground and helping me to identify local guides.

These guides were non-governmental community representatives, such as local leaders, enumerators, outreach workers and cooperative members. They were thus familiar with the community and its inhabitants, and played an integral role in helping me to identify respondents and make initial introductions, before stepping outside for the duration of the interview. As many respondents lived in remote and isolated places, it would have been challenging to reach them unaccompanied. What is more, the guides' relative status in the community provided us with a degree of security in sometimes volatile working environments. While Laikipia County is for the most part a relatively secure environment, violence and unrest does occur. Residents of densely populated slum areas of Nanyuki can be suspicious and even hostile to outsiders not properly introduced or accompanied by a recognised community entity. Indeed, in an earlier research project, Maggie had been accused of spying, and had to request the local chief to intervene. Cattle raiding and conflict between groups of pastoralists are also a common feature of Laikipia North, and police and military patrols were in evidence during fieldwork. Human-wildlife conflict is also an issue in Laikipia North. Several incidents of community members being killed by wild elephants occurred during fieldwork, and it was not uncommon to see large herds of elephants in the distance, particularly around the Mukogodo Forest area.

Guides were paid a daily stipend to compensate them guides for their time. Rural guides received KES 500 (US$ 5) per day, while urban guides KES 1,000 (US$ 10) to reflect the higher living costs. These values were agreed in accordance with recommendations by CETRAD. For the most part, we had a positive experience of working with the guides and, when our stay extended across days and even weeks, we developed good working relationships and mutual understanding. In a few instances, however, the guides presented us with challenges. For example, one guide repeatedly sought out his friends as respondents, rather than selecting more widely from the community. On another occasion a guide was drunk and abusive. In both instances, we requested a different guide from the local chief.

Once a respondent had been identified, and prior to starting the interview, Maggie and I introduced ourselves, explained (in a language of the respondent's preference) the purpose of the research, and described the structure and likely duration of the interview. We also explained that participants could pause or withdraw from the interview process at any time should they wish to. We advised respondents that we would collect some personal information during the interview, including their age and gender, as well as information about their livelihood and income, and made sure that they were comfortable with this. The privacy of participants and the information they divulged were protected throughout the

research process. We did not collect names, and transcripts were carefully coded so that data remained confidential. What is more, specific positions and organisations are not directly attributed to key respondents in this thesis to protect their anonymity. Once it was established that participants were willing to participate on these terms, we asked them to sign a consent form. Only then would the interview begin. Or, if the respondent preferred, we would return at a day and a time of their choosing.

Maggie played a key role in helping me to conduct the interviews. In some locations, particularly in rural and remote pastoral areas, respondents felt perplexed and even uneasy in the company of outsiders, and especially white foreigners. Maggie's presence – together with the initial introduction of the guide – usually helped to relieve these apprehensions. In the few cases where it was clear that my presence was a distraction, I would leave Maggie and the respondent to continue the interview without me. Language was another factor that explains Maggie's central role during fieldwork. Interviews in Marura and Ethi tended to be conducted in Swahili or Kikuyu. In Mukogodo and Il Polei, interviews were carried out in Maa. While in Nanyuki, interviews were conducted in a mix of Swahili, Kikuyu, Maa and English, depending on the preference of the person being interviewed and, in the case of migrants, what part of Laikipia or Kenya they where they were originally from. Maggie took the lead in interviews conducted in Swahili and Kikuyu – languages in which she was fluent. When interviews were conducted in English, we would lead them together. Where Maa was required, we used local guides (who spoke Maa and Swahili) to help us to translate questions. Under these circumstances, Maggie would ask the question in Swahili, the guide would translate this into Maa for the respondent who would give their response in Maa, which would be translated into Swahili, and then noted down in English by Maggie. The need to translate questions in this way (between Swahili, Maa and English) meant that interviews in Maa typically took longer than those conducted directly in English, Swahili or Kikuyu.

Interviews with community respondents were conducted in ways that posed minimal inconvenience to interviewees. For example, it was not unusual to conduct interviews in respondents' places of work or residence. This could sometimes pose challenges and create delays. We interviewed shopkeepers and restaurant owners in their establishments, which resulted in multiple interruptions as customers came and went. We also interviewed farmers in their fields and pastoralists whilst they grazed their animals, moving alongside them when necessary. In other instances, we interviewed respondents in their homes as they conducted their daily chores, washing clothes, cleaning floors, cooking food, and looking after small children – domestic responsibilities that could also create interruptions and delays. In spite of these challenges, we maintained this approach for a number of reasons. Given the focus on livelihoods, it gave us first-hand and visual insight into the ways in which people conduct their living, the challenges they face, and their everyday realities. Furthermore, given the long duration of some interviews (around three hours), it would be unrealistic and unethical to expect respondents to suspend essential daily activities for such a long break on our behalf.

Some respondents complained that they were tired of participating in research, especially when they saw no benefit in terms of tangible change or support. These concerns were particularly frequent amongst members of cooperatives or committees, who are regularly

targeted for focus group discussions. These groups often asked about the benefits of participating in the research. We were clear there would be no immediate or personal advantage, but that interviews could represent an opportunity for their voices to be heard at a higher level. In spite of several requests to do so, we maintained our policy of not paying respondents. Some Laikipian researchers and NGOs provide financial compensation to workshop and research participants, which has contributed to community expectations of financial reward. These kinds of payments present ethical dilemmas. On the one hand, they can be associated with coercion – inducing respondents to participate in research that they would not normally be comfortable doing (Largent and Lynch, 2017). On the other hand, and particularly among feminist researchers, it is precisely the non-payment of participants – of not compensating them for their time and contribution – that is seen as unethical (Head, 2009). Such payments can also help to equalise power imbalances between interviewer and interviewee (Thompson, 1996).

To navigate these concerns and to recognise the time given to us by community respondents, we offered each participant a 1kg bag of sugar (with a market value of KES 100/ US$ 1) as a gesture of good will. This gesture was limited to community respondents. Given their higher socioeconomic status and professional position, compensatory gestures of good will were less necessary for key informants. For the most part, key informants were interviewed in their place of work, however where interviews were conducted in a café, we did cover the cost of refreshments. We generally experienced no resistance to this policy of not offering incentives to key informants. On one occasion, a government employee refused to take part in an interview without payment. As the interviewee was not from a critical line ministry and given their inflexibility on the matter, we opted to abandon the interview. But this example was the exception rather than the rule and was the only case where an interview had to be cancelled.

4. Cross-sectional approach

The research adopted a cross-sectional approach to capture a range of different viewpoints and experiences. When it came to key informants, this involved purposive selection in consultation with CETRAD. Key informants were divided into two broad groups: regional and community. Regional informants stemmed from high-level positions of authority, such as official County Government, NGO representatives, experienced researchers, and influential community and business leaders. They tended to have a broader, more regional focus, as their expertise and experience related to Laikipia County as a whole, as well as neighbouring counties in the surrounding area. Community respondents included village elders, health workers, shop owners, and members of community-based organisations, such as natural resource management groups, savings groups, and cooperatives of farmers, women and youth. These respondents were selected for their close proximity to local communities and everyday issues, and their detailed knowledge of local-level events, issues and dynamics on the ground. A nearly even split between the two groups of respondents was achieved – with 20 interviews (47%) with regional informants and 23 interviews (53%) with community informants. Likewise, a cross-section of sectors and expertise was proactively targeted (see Charts 1 and 2).

Chart 1: Key informants grouped by sector

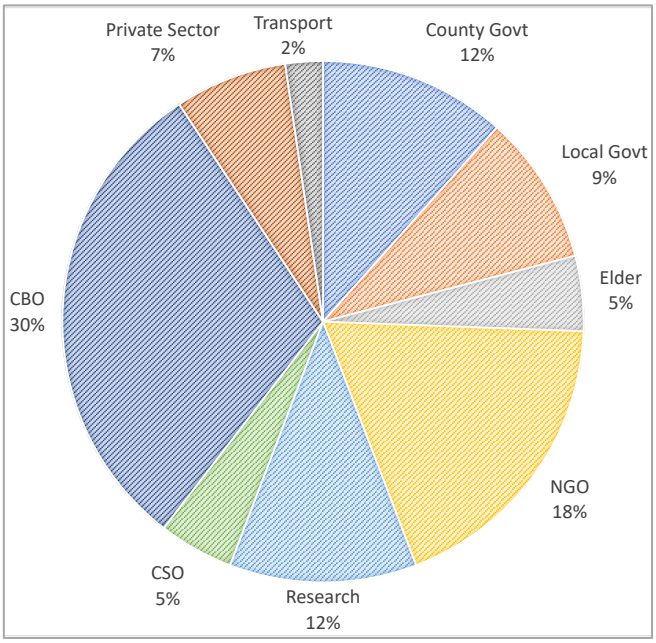
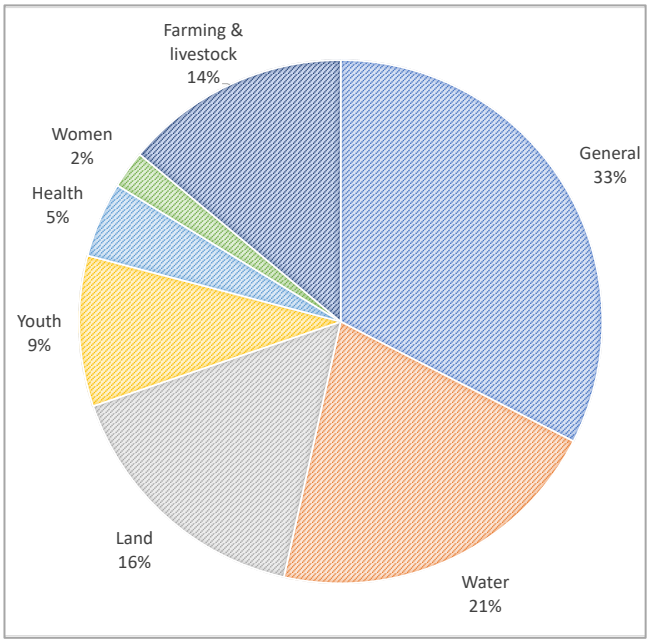


Chart 2: Key informants grouped by expertise



A different process was adopted for identifying community respondents. A specific research criterion was developed prior to fieldwork commencing, which took into consideration livelihoods, demographics and wealth (see below). Respondents that corresponded with this criterion were identified through purposive and snowballing methods with the help of local research guides from the community.

4.1. Livelihoods

Livelihoods dynamics were a key criterion in the selection of respondents. As Table 6 illustrates, this included a cross-section of migrants and non-migrants engaged in both rural-urban and non-rural-urban livelihoods from rural and urban backgrounds.

Rural-urban livelihoods are the central theme of this research. It was thus important to identify respondents engaged in rural-urban livelihoods in order to understand not only the ways in which these manifest, but also their relationship with adaptive capacity. While most respondents (39) were engaged in some form of rural-urban livelihoods, some respondents (10) exhibiting non-rural-urban livelihoods were also selected for interviews (Chart 3). These respondents engaged in either a rural or an urban livelihood, with no (or very minimal) rural-urban crossover. These non-rural-urban interviews provided an important counterpoint. They help to reveal the wide spectrum of rural-urban engagement, the barriers and challenges to adopting rural-urban livelihoods, and alternative approaches for building adaptive capacity.

Migration status was another related criterion. Rural-urban livelihoods entail a balance of moving, staying in place and staying in touch – without which households would be unable to engage in rural-urban livelihoods in the first place or maintain them in the long run

(Chapter 4). As both migrants and non-migrants thus play a key role in rural-urban livelihoods, interviewees were evenly split between both groups (Table 7 and Chart 4).

Finally, in order to compare findings across different livelihood groups and backgrounds, respondents were selected from a mix of urban and rural origins – with the rural latter encompassing predominantly pastoral and farming communities which form the two main subsistence livelihood strategies in Laikipia (Table 8 and Chart 5). This approach ensured that a cross-section of respondents working in farming, pastoralism, casual labour, private sector, public sector, business and community functions was subsequently interviewed (Chart 6). The designation of these livelihood categories is of course overly simplistic and restrictive. As this thesis will argue, livelihoods are diversified in practice, and shift and evolve in response to adversity or change. The use of these categories therefore serves a practical rather than analytical purpose, taken to ensure adequate coverage and diversity of respondents. Information about additional activities was also collected to reflect the diversified nature of many contemporary livelihoods, and respondents were asked to self-identify their livelihoods, rather than being assumed to fit any one of these categories.

Table 6: Selection criterion for community respondents

Location	Livelihood profile	Total
Marura & Ethi	Non-migrant (from a rural farming community) engaged in a rural-urban livelihood	5
	Non-migrant (from a rural farming community) engaged in a rural livelihood	3
	Migrant (from an urban community) engaged in a rural-urban livelihood	4
	Sub-total	12
Mukogodo & Il Polei	Non-migrant (from a rural pastoral community) engaged in a rural-urban livelihood	5
	Non-migrant (from a rural pastoral community) engaged in a rural livelihood	4
	Migrant (from an urban community) engaged in a rural-urban livelihood	3
	Sub-total	12
Nanyuki	Non-migrant (from an urban community) engaged in a rural-urban livelihood	6
	Non-migrant (from an urban community) engaged in an urban livelihood	3
	Migrant (from a rural farming community) engaged in a rural-urban livelihood	8
	Migrant (from a rural pastoral community) engaged in a rural-urban livelihood	8
	Sub-total	25
	Total	49

Table 7: Migration status

	Migrants	Non-migrants	Total
# of respondents	24	25	49

Table 8: Livelihood origins

	Rural pastoral community	Rural farming community	Urban community	Total
# of respondents	17	16	16	49

Charts 3, 4 and 5: Livelihoods background of respondent

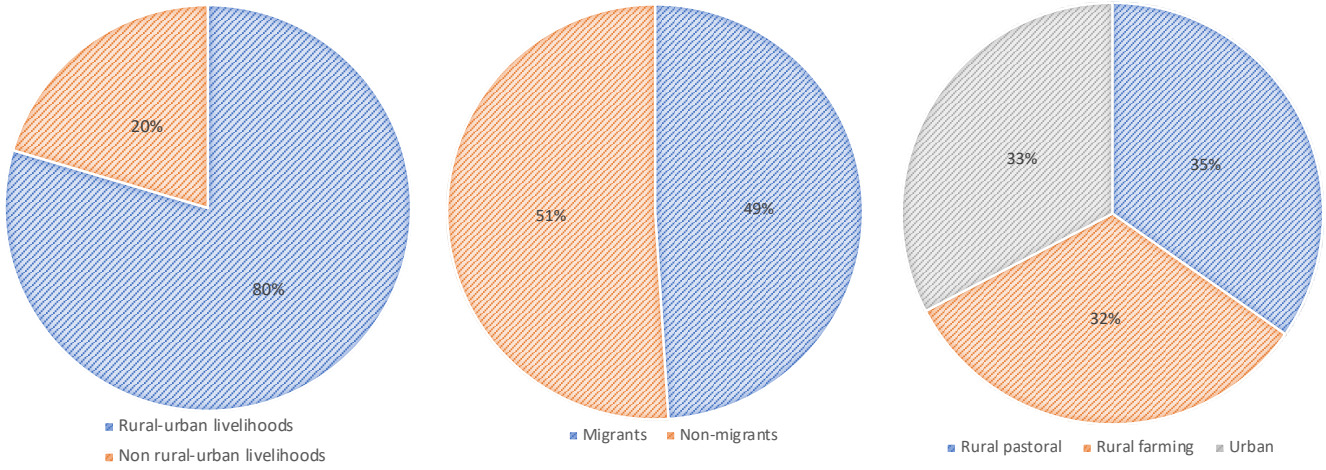
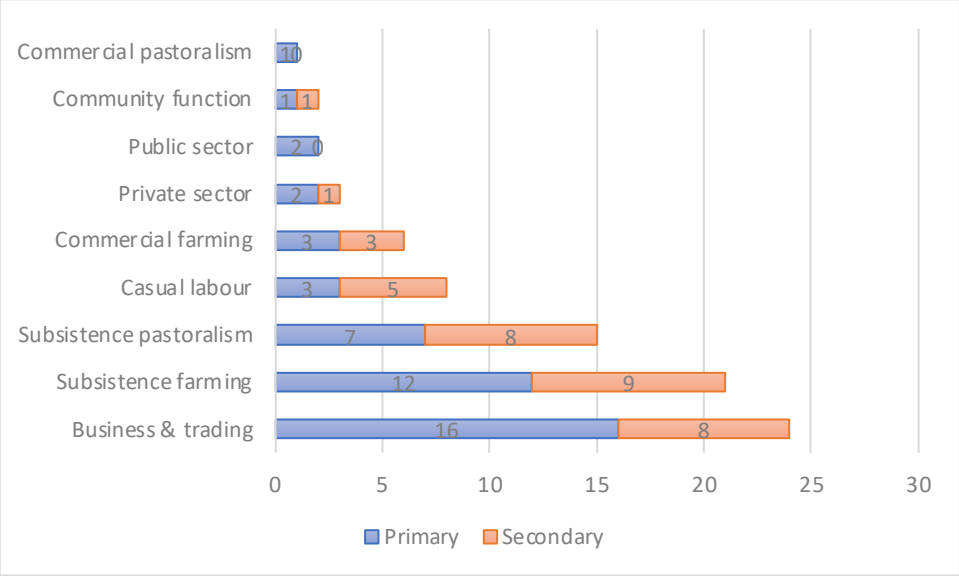


Chart 6: Primary and secondary livelihood activities



4.2. Demographics

A cross-section of age and gender was also important in order to capture the differential experiences of moving and adapting among men and women of different generations. While an equal gender split was initially envisaged, in practice, the majority of community respondents (66%) were female, and the majority of key informants (73%) were male. When

added together, 43% of all interviewees were female and 57% were male (Charts 7, 8 & 9). When it came to age, community respondents were targeted from across different age groups, with just under half between the ages of 31 and 50 years (Chart 10). The average age of community respondents was 48.8 and the median was 45 years.

Charts 7, 8 & 9: Gender breakdown: community respondents, key informants, and totals

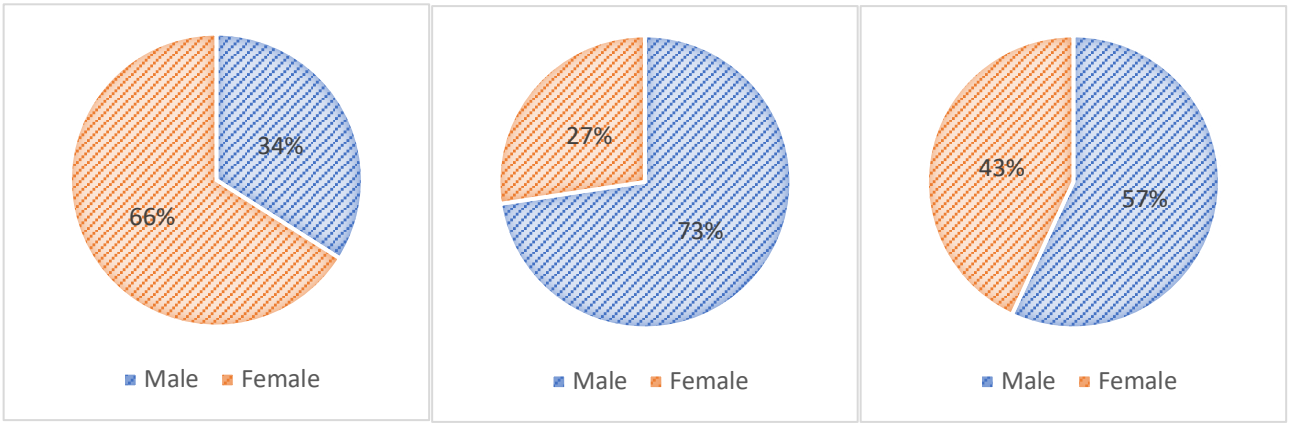
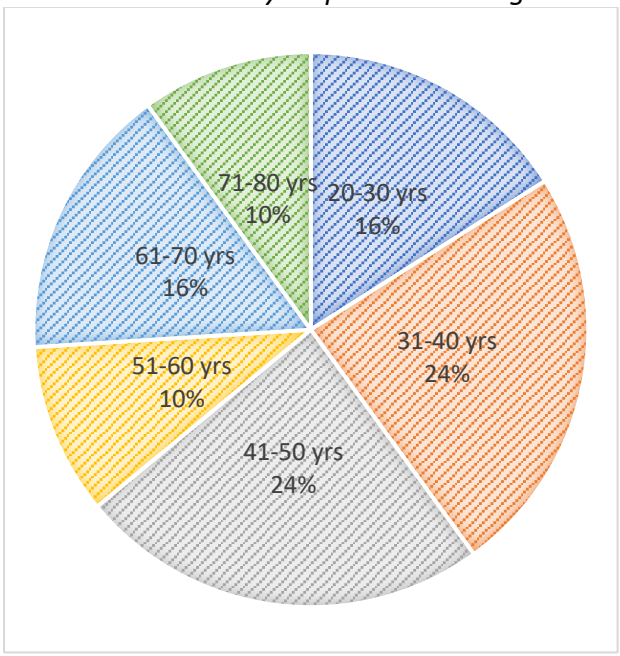


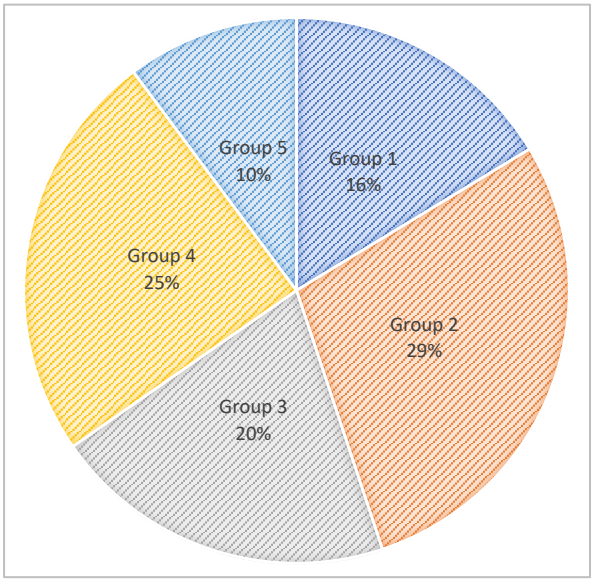
Chart 10: Community respondents categorised by age brackets



4.3. Wealth

In addition to livelihoods and demographics, the research proactively targeted community respondents from a range of wealth groups. This was important as a starting hypothesis for this research (that was subsequently confirmed by the findings) was that socioeconomic status is a key determinant in the relationship between rural-urban livelihoods and adaptive capacity (Chapter 6). Five wealth groups were established, according to the steps outlined below, which were designed with support from the researchers at CETRAD. See Chart 11 and Table 9 for the breakdown of respondents according to these wealth groups.

Chart 11 and Table 9: Respondents categorised by wealth group



Group Category	Number of respondents
Group 1	8
Group 2	14
Group 3	10
Group 4	12
Group 5	5
Total	**49**

Step 1: Detailed information about respondents' land and livestock ownership, house structure and monthly income (including agricultural sales, off-farm trading, wage employment, state/NGO contributions, livestock sales and remittances) was collected. This information was used to create a thresholds and a points system designed to allocate respondents into five wealth categories with Group 1 being the poorest and Group 5 being the wealthiest (Table 10).

Table 10: Method for calculating wealth categories

	1	2	3	4	5
Total land size	< 1 acre	1-3 acres	4-6 acres	7-9 acres	10+ acres
Livestock*	0-0.5	0.6-1.5	1.6-3	3.1-4.5	4.6+
House structure	Mud	Mud/wood	Wood	Wood/stone	Stone
Monthly income (US$)	< 50	51 - 150	151 - 300	301-450	450 +

Step 2: While land, house structure and monthly income were relatively easy to compare across households, the value of livestock ownership – which involves a range of different animals – was more complex. To overcome this challenge, an approximate value was attributed to each animal (based on public market prices) and a weighted points system attributed to different livestock according to its relative value (see Table 9). The value of a particular livestock (e.g. a camel at KES 12,000) was divided by the total value of livestock (KES 300,500) to give the relative index value of that particular livestock (e.g. 0.04) versus the other types of livestock. These relative values were then added together to give a livestock score for each respondent (shown to the right-hand side of Table 10).

Table 10: Method for calculating livestock wealth

Livestock (mature)	Market value (KES)	Relative index value
Dairy cow	120,000	0.399
Bull, ox	60,000	0.2
Heifer	60,000	0.2

Example of livestock ownership	Example score
10	3.99
0	-
0	-

Goat	12,000	0.04		3	0.12
Sheep	12,000	0.04		0	-
Horse/donkey	12,000	0.04		0	-
Camel	12,000	0.04		4	0.16
Pig	8,000	0.027		4	0.11
Chicken	1,000	0.003		0	-
Rabbit	1,000	0.003		30	0.10
Hives	2,500	0.008		0	-
Total	300,500	1			**4.48**

Step 3: Once points had been attributed to the different categories (land size, livestock, house structure and monthly income), different weights were allocated to these assets and incomes depending on the location of the interview (Table 11). While this weighting system was built on estimations rather than specific data, it nonetheless serves a rough guide for balancing categories For example, in pastoral areas like Dol Dol and Il Polei – where land tends to be communally owned and few households practice agricultural production – a greater weight was attributed to livestock assets relative to land. In urban Nanyuki, the largest weight was attributed to monthly income, given the increased opportunities for trading, business and employment relative to rural areas. Taking these different weightings into consideration, a final scoring system was established. An example of how this might look for a respondent from a farming community is outlined below in Table 12.

Table 11: Weighting system for the three research locations

	Rural farming (Marura & Ethi)	Rural pastoral (Mukogodo & Il Polei)	Urban (Nanyuki)
Land	30%	0%	15%
Livestock	30%	50%	15%
House	10%	10%	20%
Income	30%	40%	50%
Totals	100%	100%	100%

Table 12 - Example of a final scoring based on a rural farming respondent weighting

	Weighting	Category 1		Category 2		Category 3		Category 4		Category 5	
		Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
Land size (acres)	0.3	< 1	0.3	1-3	0.6	4-6	0.9	7-9	1.2	10+	1.5
Livestock	0.3	0-0.5	0.3	0.6-1.5	0.6	1.6-3	0.9	3.1-4.5	1.2	4.6+	1.5
House	0.1	Mud	0.1	Mud/ wood	0.2	Wood	0.3	Wood/ stone	0.4	Stone	0.5
Income (US$)	0.3	< 50	0.3	51 - 150	0.6	151 - 300	0.9	301- 450	1.2	450 +	1.5

Step 4: Based on the relative value of the respondents' land, livestock, house and income, a final score was calculated for each respondent. This was used to allocate the respondent to a particular wealth group, as outlined below in Table 13, and in the example of a respondent in Table 14.

Table 13: Wealth groups according to final score

Wealth groups	Group 1	Group 2	Group 3	Group 4	Group 5
Total score	1-1.8	1.9-2.6	2.7-3.3	3.4-4.1	4.2-5
	Poorest	◄——————————————►			Wealthiest

Table 14: Example of how a Group 1, Group 3 and Group 5 wealth group are calculated

		Respondent from a rural farming area			**Respondent from a rural pastoral area**			**Respondent from an urban area**		
		Value	Score	Weighted score	Value	Score	Weighted score	Value	Score	Weighted score
Land size		0.5	1	0.3	0	1	0	4	3	0.5
Livestock	*# of dairy cows*	*0.40*			*1.60*			*0.40*		
	# of bulls, ox	*0.40*			*0.20*					
	# of heifers				*0.00*			*0.40*		
	# of goats	*0.12*			*0.48*			*0.40*		
	# of sheep	*0.12*			*0.52*			*0.40*		
	# of horses/donkeys									
	# of camel									
	# of pigs									
	# of chicken	*0.02*			*0.01*			*0.68*		
	# of rabbit									
	# of hives									
	Livestock total	1.05	2.00	0.6	2.80	4.00	2.00	2.27	4	0.6
House structure		Wood/ stone	4	0.4	Stone	5	0.50	Stone	5	1
Monthly income	Maize sales	3								
	Beans sales									
	Potato sales	12								
	Wheat sales									
	Horticultural sales							167		
	Off-farm trading sales									
	Wage employment									
	State/NGO contributions									
	Livestock sales	30			67			72		
	Remittances				35			68		
	Monthly income total	45	1	0.3	102	2	0.80	307	5	2.5
Total weighted score				1.6			3.3			4.6
Wealth group allocation				**Group 1**			**Group 3**			**Group 5**

5. Multi-sited research

The research adopted a multi-sited approach that included five main research locations: Nanyuki, Ethi, Marura, Mukogodo and Il Polei (Map 2). These sites encompassed a range of climatic, livelihood and socioeconomic conditions across rural and urban settings, which was important for the cross-sectional approach adopted by the research. They also reflected places of origin and destination, in order to capture sites that are relevant to both migrants and non-migrants, and those engaged in rural-urban livelihoods. The process for selecting these sites was made following a review of available literature on Laikipia, a series of scoping visits to possible research sites, and discussions with Maggie, the wider CETRAD team, and local informants.

Decisions around the timing of fieldwork in these five locations were influenced by the rains. Rainfall in Laikipia concentrates in three main phases: the 'long rains' (March – May), the relatively light 'continental rains' (July – August) and the 'short rains' (October – November).[18] Conducting interviews during these timeframes brought additional challenges. Not only did the loud noise of heavy rain on zinc rooves make it difficult to conduct interviews, but it became harder to locate respondents sheltering elsewhere whilst waiting for the rains to stop. What is more, non-tarmacked roads that characterise much of the poor road network in Laikipia, but especially the north, became water-logged, muddy and riven with gullies. When the riverbeds (lagas) that cross these roads became full, it was necessary to wait (sometimes for days) for the water levels to retreat enough for it to be safe to cross by vehicle. Travel by 4x4 vehicle was essential and, when accessing areas beyond the outskirts of Dol Dol town, motorbikes that followed narrow and hilly paths were the only option for reaching pastoral settlements. To minimise delays during the rains, we prioritised fieldwork in remote and difficult to reach places during the dry seasons. During the rainy season, we focussed our efforts as far as possible on interviews in more accessible urban areas.

Table 15: Research timeline

Research Activities	May	June	July	Aug	Sept	Oct	Nov	Dec
Planning and logistics								
Interviews in Marura and Ethi								
Interviews in Mukogodo and Il Polei								
Interviews in Nanyuki								
Wrap up								

5.1. Nanyuki

Nanyuki was an obvious choice for an urban research site. It is a main destination for rural to urban migration in Laikipia, and the site of several local research centres, governmental departments and NGOs. Another reason for focussing on Nanyuki, rather than Nairobi (Kenya's capital city) was to narrow the focus of the research to secondary towns. The rationale for this served several purposes. Firstly, rural-urban dynamics are most strongly articulated in smaller towns which tend to be better connected to their rural hinterlands than larger, more distant capitals (Steel et al., 2019). A second reason for choosing to focus fieldwork on secondary towns is that they have been overlooked and under-studied in favour of capital cities (Agergaard et al., 2019; Lazaro et al., 2019; Steel et al., 2019). Finally, the scope and relevance of secondary towns is growing. The devolution of power and responsibilities from national government to elected county governments in 2013 has helped to shift resources, services and influence to the county level. What is more, secondary towns like Nanyuki are arguably at 'the forefront of combined social and

[18] The long and continental rains dominate in the western section of the Laikipia plateau, the central section of the plateau receives the long rains, and the southern section (and the northeastern slope of Mt Kenya) gets its rainfall from both the long and short rains (Berger, 1989).

environmental change' – again making them a particularly relevant and interesting unit of analysis for the topic of this thesis (Wisner et al., 2015, 191).

Interviews in Nanyuki were conducted in four main sites: Majengo, Likii, Thingithu and Muthaiga – each comprising different characteristics or attributes that were relevant to the research. Majengo is one of the oldest slum areas in Nanyuki, and is populated by a mix of long-term Nanyuki residents and migrants. Muthaiga, in contrast, is a more recently populated area that tends to be inhabited by households with a higher socioeconomic background. Both Likii and Thingithu are comprised of several sub-areas or urban villages, which provided an opportunity to target respondents from a range of different socioeconomic backgrounds. Likii, for example, comprises Likii A (a large slum area where people started settling from around the 1970s), Likii B (a newly created urban village with better planning and structures) and so-called Lunatic Lane (an upper income area inhabited by wealthy Kenyans and expatriates).

5.2. Ethi and Marura

The research sites in these two areas of south-eastern Laikipia were narrowed down to Baraka and Njoguini (in Marura) and Makano and Ngenia (in Ethi). Ethi and Marura share many similarities. While both are primarily rural farming and agro-pastoral communities, they are nonetheless dotted with a growing number of small settlements that become lively centres during busy market days. Both Marura and Ethi have subsequently become more densely populated, especially in comparison to the north, with around 82 persons per square kilometre, compared to 13 in Laikipia North (Government of Kenya, 2013, 20). Furthermore, as both locations are well-connected to Nanyuki, their residents enjoyed relatively easy access to urban services, markets and opportunities. Marura neighbours Nanyuki town, and Ethi is an hour's drive away.

Climate was the main way in which these two areas differed. On the edges of Mount Kenya, the residents of Ethi enjoy a wetter climate and more fertile soil. Livelihoods in Makano and Ngenia primarily involve subsistence agriculture (maize, potatoes and beans) and small-scale horticultural farming. Residents also described a number of challenges to farming – pests and disease, exploitative brokers and expensive pesticides – that have persuaded many to diversify into livestock, in particular cows, goats and chickens for milk and egg production as well as small-scale trading and business and casual work. Large-scale horticultural farms are relatively common in semi-humid Ethi, opening up casual wage employment opportunities for local residents. Out-migration of young men to Nanyuki and further afield was also common in Makano and Ngenia, with many women left behind to head up their households.

At a greater distance from Mount Kenya, Marura's semi-humid climate means that, while livelihoods that revolve around agricultural production were still in evidence, these were more challenging with lower productivity and less scope for water-reliant horticultural farming due to a lack of irrigation water. Livestock farming was thus very common, as was the production of hay. Pests and diseases have, however, encouraged growing numbers of residents to take up trading and small business ventures, often in neighbouring Nanyuki. Many buy and sell vegetables, clothes and household products, engage in casual work or

establish motorbike taxis. Those with the financial resources to do so lease fertile land elsewhere where more productive and profitable river irrigation farming is possible.

5.3. Mukogodo and Il Polei

Moving northwards through the county, rainfall decreases and savannah covers the central plateau and northern areas (Berger, 1989, 38). Mukogodo and Il Polei are the driest areas of the county. Generations of political marginalisation and economic under-investment have also contributed to the low socioeconomic status of these areas. Subsistence and commercial pastoralism and the trading of livestock products dominates, with much more limited opportunities for agricultural production given low water availability. Given the growing pressures on pastoral livelihoods, many in Mukogodo and Il Polei also engage in bead and basket work, brick and charcoal making, and collecting firewood. Sand harvesting is also common among young men who are paid to dig and load sand used for construction onto trucks. Conservation activities in the tourist lodges and game parks that gained prominence from the 1980s are also in evidence.

The area is inhabited by five mains groups described by Cronk (2002). These include the Mukogodo: descendants of Yaaku-speaking hunter-gatherers who are concentrated in the north-eastern corner. The lng'wesi, who live in the south-eastern portion, and have historical and cultural ties to the Meru, the predominantly agricultural group northeast of Mount Kenya. The Digirri, who live in the central portion, and have some connections to the Kalenjin- speaking Okiek hunter-gatherers. The Mumonyot, who reside between Mukogodo and Digirri and descend from the Laikipiak. And the LeUaso, who live in the far western portion along the Uaso Ng'iro River and are descendants of hunter-gatherers and beekeepers associated with Laikipiak.

Table 16: Research sites in Mukogodo

Location	Description
Dol Dol	A small frontier trading centre with a population of 2,000 people. Key challenges identified by respondents included water shortages, poor roads, inadequate health and education services, corruption and a lack of employment opportunities, among many others.
Bokesh	A hilly, rocky and sparsely populated terrain, and one of the most remote communities, located inside the boundary of the Mukogodo Forest.
Kuri Kuri	A group ranch located at the edge of the forest. Socioeconomic levels are very low, as indicated by the high prevalence of manyattas (pastoral dwellings made of mud, cow dung and wood).
Loisokut	A more densely populated group ranch that enjoys moderately better quality housing and water supply and is reportedly the preferred area for civil servants and business people working in Dol Dol town. It is also located in close proximity the regional hospital and police station.
Lolien	A group ranch characterised by dry and arid landscape and limited vegetation.

Location	Description
Mukongo	Located inside the boundary of Mukogodo forest and on the border with Isiolo County, this community is particularly vulnerable to cattle raiders.
Tool	A dry and arid group ranch with poor quality roads and little water that is relatively close to Dol Dol town.

Table 17: Research sites in Il Polei

Location	Description
Il Polei	A dusty settlement situated along the main road to Dol Dol. The main stretch comprises a dozen or so small shops and kiosks, with scattered residential housing located behind. These dwellings tended to be larger than those seen in Mukogodo and more likely to be built with manufactured (and more expensive) construction materials and techniques.
Munishoi	Bordering the Munishoi Conservancy, the landscape is arid and dusty with very little pasture and widespread evidence of invasive plant species. Wild animals, especially elephants, were visible during visits.
Musul	This small and sparsely populated settlement serves as a stopping place for the lorries that use this route to carry people and livestock from Isiolo to markets in Nanyuki and beyond. The road is very poor and rocky and crosses a number of riverbeds.
Olampaa	Invasive species, pests and diseases are undermining livestock in this area, encouraging many to take up chicken farming. Out-migration of young men to Nanyuki and further afield in search of better opportunities was also common.
Oloruko	Water is particularly scarce, and invasive plant species, human-wildlife conflict and cattle raiding were cited as key concerns by local residents.

Chapter 4 – Rural-urban Livelihoods in Theory and Practice

Rural-urban livelihoods encompass the activities, resources and networks that mobile and translocal households can access simultaneously across rural and urban settings through a combination of moving, staying put and staying connected. This interpretation builds on the Sustainable Livelihoods Approach (SLA), whereby a livelihood captures not just what people do to make a living, but also the resources they need to build a satisfactory living, the risk factors involved, and the institutional and policy context that determine the sustainability of people's livelihoods (Carney, 1998; Chambers, 1987; Ellis, 2003; Scoones, 1998).[19] A livelihood is therefore more than the financial means of making a living. It can be a way of life – a lifeway that is informed by wider social interactions, cultural norms, power relations, and environmental practices.

Viewed from this perspective, livelihoods should be understood not just at the level of individual or household decision-making, but also in the context of wider, structural processes and issues. In other words, in terms of both structure and agency. In this regard, this chapter conceptualises rural-urban livelihoods in relation to local-level practices of migration, mobility, immobility and translocality occurring among households, as well as wider structural factors that stretch beyond the realm of individual households. Factors such as unreliable rainfall and growing upstream water use, the appropriation, privatisation and compartmentalisation of land, economic decline in an increasingly cash-based society, political devolution, improved transport and communications and gendered and generational changes. While rural-urban livelihoods are not necessarily new or uncommon in Kenya, they have grown in scope and importance in recent years in the context of these different layers of factors.

This chapter starts by visualising the two main framings – activity- and people-oriented – through which rural-urban livelihoods emerged during fieldwork by looking at two case studies: a pastoral family in pastoral Olampaa and an elderly widow in agricultural Baraka. Building on this, Section 2 argues that migration, mobility, immobility and translocality (collectively defined as mobilities) are central to rural-urban livelihoods, and that, without a balance between moving, staying put and staying connected, households would be unable to engage in rural-urban livelihoods in the first place or maintain them in the long run. Finally, Section 3 adopts a political ecology and critical history perspective to consider the wider factors from which rural-urban livelihoods emerge – in particular, growing livelihood precarity[20] and diversification, rural-urban connectivity and gender and generational changes.

[19] According to the SLA framework, a livelihood is comprised by a particular 'context' together with a combination of 'assets' (natural, physical, human, economic, social, etc) that give rise to certain livelihood 'strategies' or 'activities' (often pursued in combination), which in turn result in particular livelihoods 'outcomes'. At the same time, a range of 'institutional and organisational' structures and processes mediate the ability to carry out such livelihood strategies and achieve (or not) such outcomes. (Scoones, 1998, 8).

[20] The term precarity was initially used to reflect labour conditions under capitalism, globalisation and neo-liberalism. However, the definition has subsequently expanded to include more generalised forms of livelihood exposure.

1. Visualising rural-urban livelihoods

Rural-urban livelihoods encompass the activities, resources and networks that mobile and translocal households can simultaneously access across rural and urban settings through a combination of moving, staying put and staying connected. During fieldwork, rural-urban livelihoods regularly emerged along two framings.

1.1. Activity-oriented framing

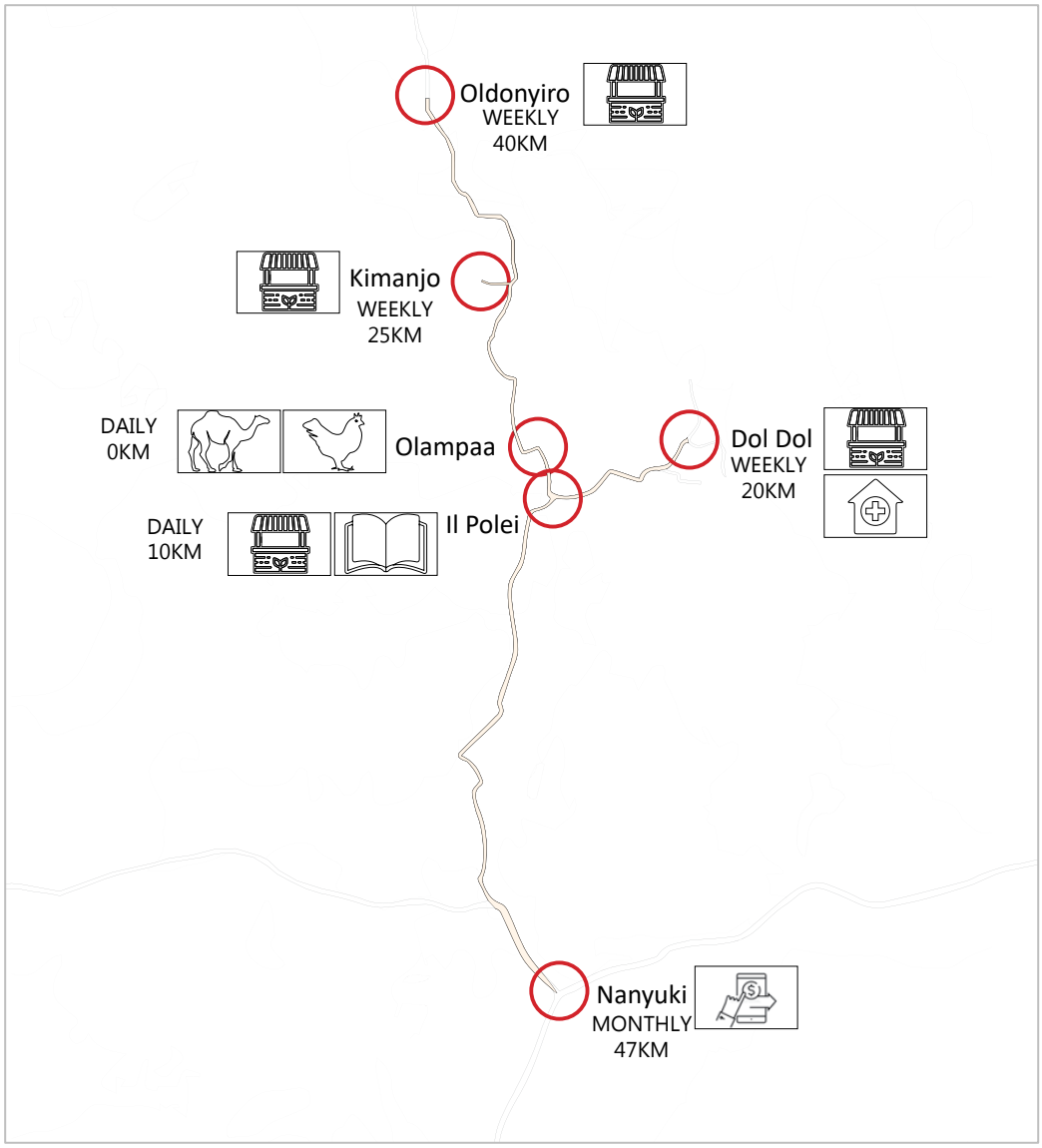
The first framing is activity-oriented, with an emphasis on livelihood diversification, migration and mobility. Viewed from this perspective, rural-urban livelihoods encompass the array of activities, resources and opportunities that households are able to engage in by moving between rural and urban settings. This is a 'rural-urban' twist on the concept of multi-local livelihoods, which is itself a 'spatially extensive form of livelihood diversification' (Ellis, 2000; Elmhirst, 2012, 146). Migration and mobility have become an important mechanism for accessing the multiple and geographically dispersed resources upon which contemporary diversified livelihoods rely (Chapter 6). Most government services, large markets, financial institutions, formal employment opportunities, quality hospitals and good schools are located in towns rather than rural areas. Likewise, resources such as farming land, pasture, sufficient water for irrigation and livestock, and affordable casual labour for herding and farming, are typically found in rural settings. By moving between rural and urban areas, rural-urban households are thus able to diversify their livelihoods across different combinations of activities, including livestock herding, commercial pastoralism, small-scale subsistence or commercial farming, trading and business ventures, casual labour or wage employment.

An activity-oriented framing was illustrated by a pastoral household in Olampaa (Laikipia North) whose various members moved on a regular basis between seven locations, loosely defined as rural settlements (Olampaa and Oldonyiro), semi-rural trading centres (Il Polei and Kimanjo) and urban small towns (Dol Dol, Nanyuki and Bomet) (see Figure 1). Moving between these rural and urban locations enabled the household to access a range of resources across different locations – pasture, water, markets, schools, health care, banks and employment opportunities. In doing so, the household was able to collectively expand their livelihood from subsistence pastoralism to diversify across a a range of (often new) livelihood activities, including chicken farming, trading, wage employment, and collecting remittances.

This kind of rural-urban livelihood depends on the ability and willingness of household members to move, even across short distances. It also hinges on a shared sense of responsibility, and a willingness to come together around a collective livelihood, or at the least, collective elements of a wider livelihood. In the Olampaa case study, the male head of household travels between Olampaa, Nanyuki, Kimanjo and Dol Dol to access livestock medicines, pesticides and banks. His wife commutes to Dol Dol, Kimanjo and Oldonyiro markets to trade her beadwork and livestock goods. Their daughter has moved permanently to Bomet to work as a policewoman, but she stays in contact with her parents, sending them significant monthly remittances.

Taken in isolation, the income derived from each of these activities would not be enough to sustain the family. Taken together, they add up to a viable livelihood for the household as a whole. When asked what impact these livelihood changes had had on his family's well-being, the male head of household replied, 'We have been able to raise school fees for our children. We have also achieved a balanced diet and food security. We can now afford to buy distilled water for drinking. My household has also been able to access better medical services. We have been able to support all our children and now we are building a better permanent house'. This emphasises the multi-local, plural and collective nature of rural-urban livelihoods – often involving an array of different locations, activities and individuals. A singular focus on either a primary livelihood activity, singular residence (rural or urban) or a specific breadwinner risks overlooking the array of secondary, tertiary and additional activities, places and people that often contribute to contemporary rural-urban livelihoods.

Figure 1: Rural-urban livelihood of a pastoral household from Olampaa, Laikipia North (refer to p.122 for an explanation of the symbols)



1.2. People oriented framing

The second framing of rural-urban livelihoods transfers the focus from activities per se to the people involved and the threads that connect them. This shifts the emphasis away from livelihood diversification, migration and mobility. Instead, the focus is on translocal connections, social support, remittances and reciprocity. Within this framing, rural-urban livelihoods encompass the array of connected individuals dispersed across rural and urban settings who stay in touch with and support one another to sustain a collective livelihood. A people-oriented rural-urban livelihood was summed up by a Nanyuki informant:

> 'Not everyone can operate in one area and get what you want. People used to live together in the household, but resources don't allow people to stay together anymore, and employment opportunities are further away. Now, in every household, there is someone living in Nanyuki, another working in a farm, another married somewhere else. It is very hard to go to a home in Laikipia, and find everyone living there at once. Household members swap in and out, and if you make repeat visits to the same household, you will see that different people are present and absent.' (NGO informant interviewed in Nanyuki).

A people-oriented framing of rural-urban livelihoods is illustrated by a 68-year-old widow interviewed in the rural village of Baraka. She stays connected with her children located in rural Ichuga and Baraka, as well as urban Nanyuki and Nairobi (see Figure 2). With an annual income of only US$ 240 (derived from the sale of livestock products) and reliant on growing her own food on a small quarter acre plot, the support (both material and symbolic) that she shares with connected, yet often distant, household members represents a critical livelihood strategy not just for her financial security, but also for her social and emotional wellbeing. When asked what impact this arrangement has on her living, she replied, 'My wellbeing has improved. I am able to get food for my household consumption. I don't struggle a lot with my life. My living standards have improved. I am able to pay my electricity bills and water through this support. I am now happy because I have peace of mind. My children have given me peace and reduced stress.'

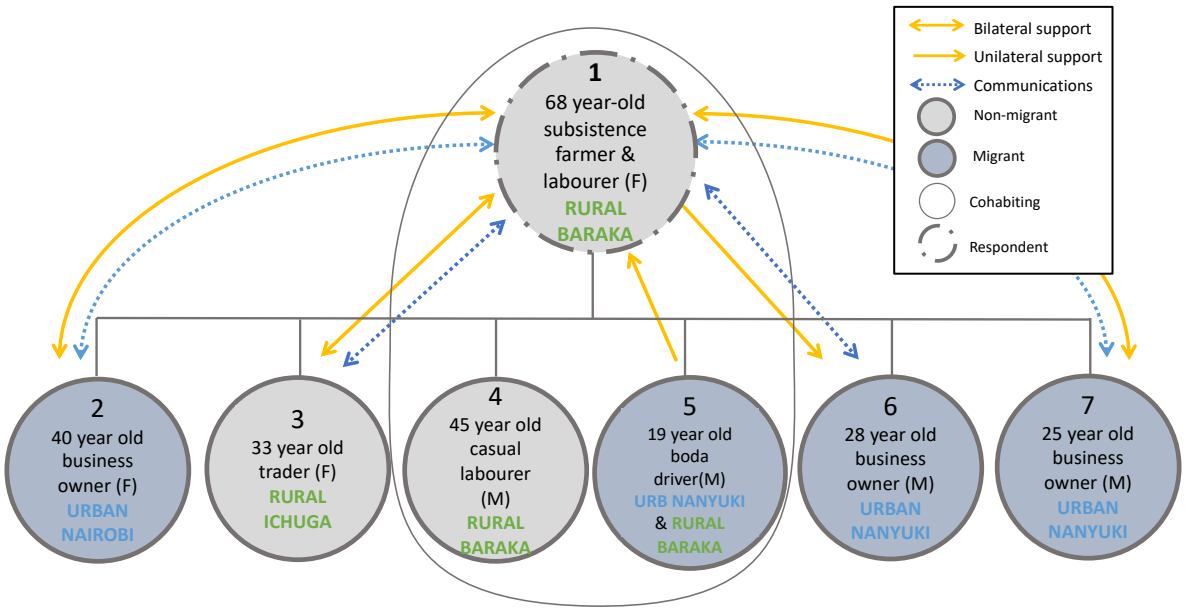
Some individuals may be able to commute between rural and urban locations and subsequently juggle multiple activities without the need to involve others in their livelihoods. In most cases, however, people lack the financial resources to be in two or more places on the same day, or it may be geographically or logistically impossible for them to do so. In these scenarios, rural-urban livelihoods often depend on reciprocated social arrangements between different family members in return for a share of income earned, a place to stay, access to information and opportunities, or support with childcare or education costs, for example.

These kinds of arrangements are often described as 'multi-sited households', whereby family members are dispersed across places of origin and destination in order to maximise income and diversify risks (Stark and Lucas, 1988). However, while this reflects the geographical distribution of connected relatives, it does not fully capture the idea that such familial arrangements (and the connections and support they entail) strengthen and, in

some cases, constitute entirely the livelihoods of some people. Similarly to the 68-year-old widow, few respondents conducted livelihoods in isolation from other members of their household, or, in some cases, other households within the community. Furthermore, for respondents who rely almost entirely on the activities of others – such as the elderly, vulnerable, or those who have lost jobs or critical assets, such as livestock – a livelihood may be less about particular activities than the connections they are able to sustain with others.

Rural-urban livelihoods and the translocal connections they entail take on an added significance when they occur between migrants and non-migrants across rural and urban settings. There can be stronger incentives for reciprocal connections and support within households where some members move than among households where no one does. This is because moving is not an isolated action, but involves shared resources and reciprocal ties, connections and dependencies. The 68-year-old widow from Baraka relied heavily on the financial and social remittances shared by her migrant children, including money, clothes, pesticides, medicines – items that were not readily available in her rural home, and which they were able to purchase more cheaply in town. But, in return, many migrants rely on financial support from non-migrant relatives as they initially establish themselves in a new setting. This reliance extends over time, as those who move continue to rely on relatives who stay behind to watch over their farm, livestock, property and children in their absence. Dependencies therefore extend both ways, and people-oriented rural-urban livelihoods – with their focus on translocal connections, social support, remittances and reciprocity – are a mechanism for sustaining these bi-directional patterns of connection and support over time and place.

Figure 2: Rural-urban livelihood of a rural household in Baraka



2. A complex mix of moving, staying put and staying connected

A balance between moving and staying, and the translocal connections that often accompany them is central to both activity- and people-oriented framings of rural-urban livelihoods. This balance was key to the livelihood strategies of the widow in Baraka and the pastoral household in Olampaa. Without some combination of migration, mobility, immobility and translocality, both would have struggled to engage in rural-urban livelihoods in the first place or maintain them in the long run.

2.1. Migration and mobility

The ability and willingness to move between rural and urban settings is central to rural-urban livelihoods. Migration and mobility are key characteristics of activity-oriented rural-urban livelihoods, whereby household members move between rural and urban areas to access geographically dispersed resources and opportunities in order to build a diversified livelihood. Not only do such movements establish rural-urban livelihoods in the first place, but they are also key to sustaining them in the long run. As livelihood diversification becomes increasingly entrenched and prolonged, moving becomes an everyday and normalised part of contemporary living. Indeed, a growing number of Laikipians, from a range of different socioeconomic and livelihood backgrounds, are on the move. 'These movements have become more often than before' was a common refrain echoed by respondents.

'Mobility' encompasses the everyday, transitory movements that people make in their daily lives – such as commuters to the nearest market or town, or drivers who ferry passengers to their destination. Beyond a physical or tangible movement, mobility also 'exists as much in conception and experience, in discourse and imagination' (Maru, 2020, 212). 'Migration', on the other hand, suggests something more protracted, distinct, tangible, infrequent or unfamiliar – encompassing those who move on a more permanent basis, for instance to establish a new home or livelihood in a distant elsewhere, although not necessarily across a national border. It refers to a change in residence (Skeldon, 1997), the crossing of a socially significant frontier (Lindley, 2014a), the drawing of a line – both geographic and metaphoric.

While it is possible to differentiate between the two, clear distinctions between migration and mobility are nevertheless muddied. This reflects the 'patchwork of moments, of differential duration, of going and returning' that encompasses contemporary mobilities (Peth and Sakdapolrak, 2020, 548). Indeed, in an increasingly interconnected world, where travel and communications are cheaper and easier, the gap between mobility and migration continues to narrow. While unambiguous examples of migration or mobility do emerge, many movements consequently fall into a grey area of 'mobilities'.

This ambiguity is reminiscent of the kinds of movements witnessed during fieldwork. Most respondents engaged in complex, back and forth movements within Laikipia or to neighbouring counties. Only two respondents described having relatives who had moved abroad, to Dubai and South Africa. Diverging patterns of migration and mobility emerged, however, from the different research locations: Ethi, Marura, Nanyuki, Dol Dol and Il Polei. Of the 25 locations that respondents in Nanyuki, Ethi and Marura described moving to, 16

per cent are within a 10 km radius, 40 per cent within 20 km, and 84 per cent within 100 km (see Figure 3). In contrast, when asked to describe the movements of people from within their communities, pastoral respondents from Il Polei and Dol Dol identified significantly more locations at much greater distances than respondents in Ethi, Marura and Nanyuki (see Figure 4 and Table 1 below). While some Il Polei and Dol Dol residents moved with their animals in search of pasture, many others moved for work, business and education. Taken together, this represents a mix of short- and medium- distance movements that do not fit into a neat box of either migration or mobility.

This mix of localised movements comprising varying distances and durations also occurs within households, as illustrated by the pastoral household from Laikipia North (Figure 1), whose rural-urban livelihood emerged as a combination of migration and mobility. While the 31-year-old daughter had migrated 50 kilometres away to live and work as a policewoman in Nanyuki. Her mother and father move on a temporary basis to Kimanjo (25 kilometres), Dol Dol (20 kilometres), Oldonyiro (40 kilometres), Nanyuki (50 kilometres) and Il Polei (10 kilometres), but remain based in rural Olampaa. 'We move to access these resources according to need and then come back' they explained.

Practices of migration and mobility also emerged as bi-directional during fieldwork. Many respondents described moving in both directions between rural and urban settings. For example, those seeking employment or business opportunities in the hospitality, communications or technology sectors tended to move towards urban markets. While many other respondents described movements in the direction of rural areas to work on horticultural farms, conservation and tourism projects, or as brokers who trade produce with farmers and herders. Likewise, among respondents who highlighted health and education as a reason for moving, some moved to towns in order to access superior schooling or health care. While others moved in the opposite direction to rural areas where schools are cheaper and environmental and sanitation conditions better.

In sum, overlapping elements of migration and mobility are central to rural-urban livelihoods. For many Laikipian households, these practices of rural-urban migration and mobility emerged as short- and medium- distance, back-and-forth, bi-directional and part of the hum drum of daily life. The 'everyday' normality of these patterns of migration and mobility makes them easy to miss, under the radar and under-studied. And yet, as households come under growing pressures (Section 3.2), these everyday and unassuming mobile practices play an increasingly critical role in sustaining contemporary livelihoods.

Figure 3: Radius of respondents who move – radius of 10, 20, 30, 40 and 50 and 100 kilometres.

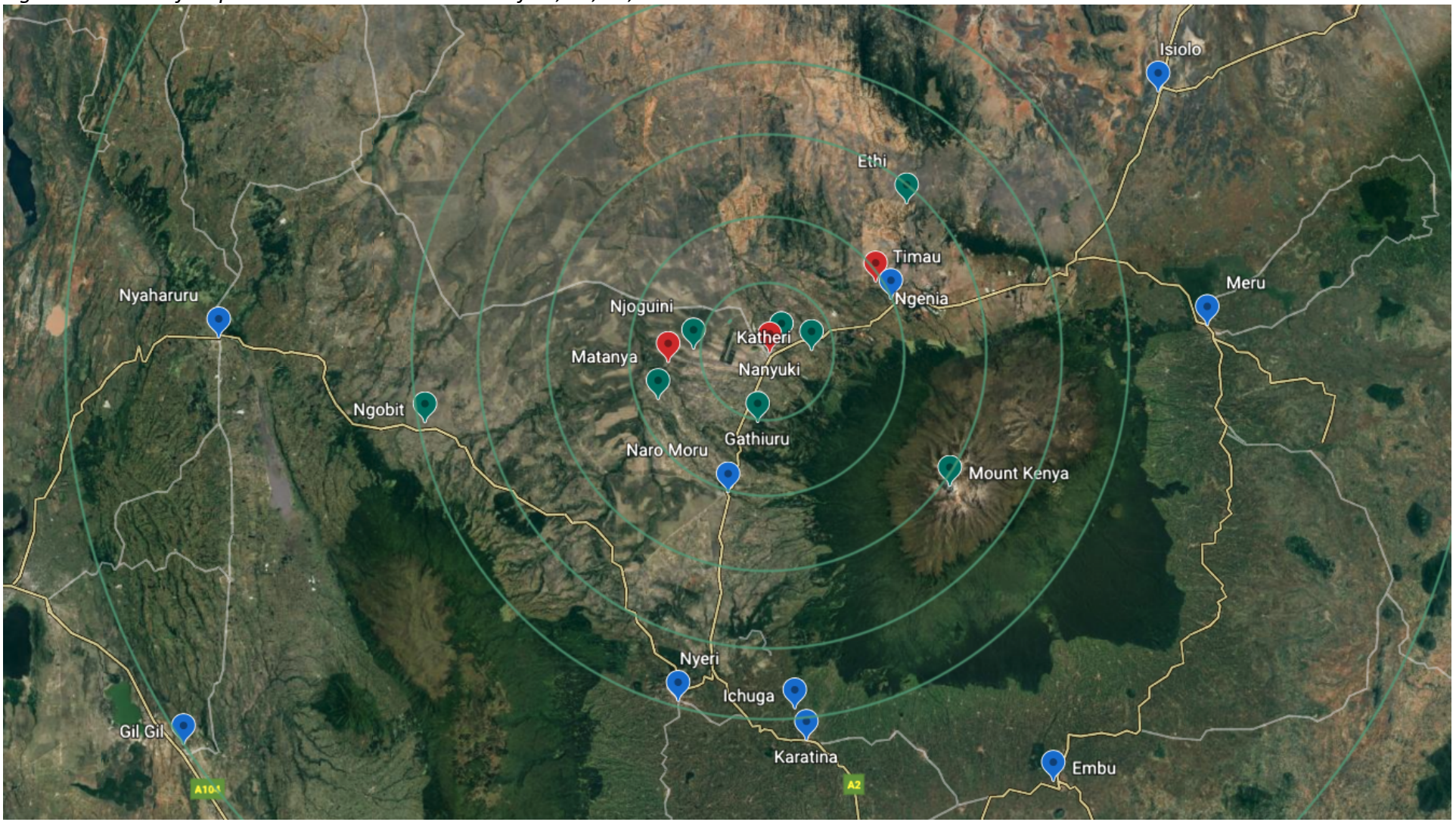


Figure 4: Sankey chart depicting origins and destinations of respondents who move

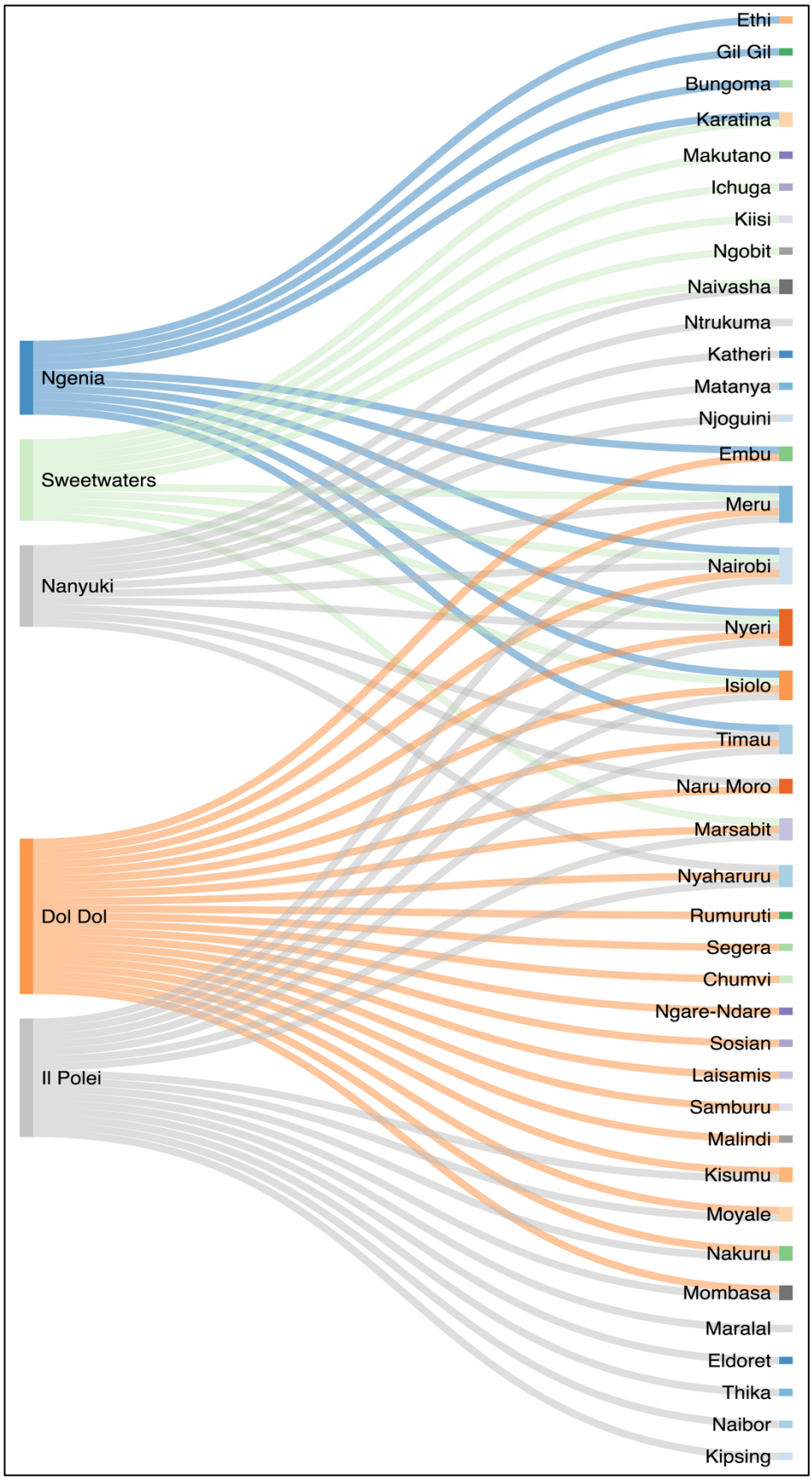


Table 1: Number and average distance (km) of destinations

	Ethi	Marura	Nanyuki	Dol Dol	Il Polei
Ethi	18				
Gil Gil	180				
Bungoma	450				
Karatina	90	70			
Makutano		115			
Ichuga		75			
Kiisi		365			
Ngobit		70			
Naivasha		205	215		
Nkrutuma			5		
Katheri			9		
Matanya			20		
Njoguini			15		
Embu	140			175	
Meru	60	85	75	130	120
Nairobi	210	195	190	250	235
Nyeri	80	65	60	120	105
Isiolo	65	90		135	125
Timau	7		22	75	65
Nanyuki	20	9		60	45
Naro Moru			20	80	
Marsabit		345		395	380
Nyaharuru			120	135	120
Rumuruti				120	
Segera				50	
Chumvi				85	
Ngare-Ndare				110	
Sosian				90	
Laismais				300	
Samburu				170	
Malindi				815	
Kisumu				380	370
Moyale				640	630
Nakuru				200	185
Mombasa				735	725
Maralal					215
Eldoret					335
Thika					200
Naibor					30
Kipsing					200
Number of locations	11	12	11	22	17
Average distance (km)	120	141	68	239	240

2.2. Immobility

Immobility refers to those who do not migrate – either out of preference, acquiescence or coercion (Mata-Codesal, 2018). And yet, such a simple definition overlooks that 'there are

as many different ways of staying put as there are of migrating' (ibid, 1). Indeed, this group is variously referred to as 'non-migrants', 'stayees', the 'left-behind', the 'immobile', 'potential migrants', 'trapped populations', the 'involuntary immobile' and the 'voluntary immobile' (Black and Collyer, 2014; Farbotko et al., 2018; Kothari, 2002; Lubkemann, 2008). Each label carries underlying connotations and implied relationships to migration and mobility (Jónsson, 2011). Each is also laced with value judgements and assumptions about what is 'normal' and best. 'In a global perspective, migration is considered an anomaly and immobility is perceived as by far the norm' (Jónsson, 2008, 9).

These definitional complexities are compounded by the overlapping relationship between migration, mobility and immobility that challenges clearcut divisions between moving and staying. Firstly, 'immobility is never absolute' – nearly everyone is mobile to some degree, moving between home and school, work and markets in their everyday lives (Schewel, 2020, 329). Secondly, mobility and immobility are relational (Adey, 2006). They are 'complementary, interconnected and interdependent', constituting 'two sides of the same coin' rather than two ends of a spectrum (Maru, 2020, 219). This is because the ability to move – 'the initiation, development and maintenance of migratory projects' (Mata-Codesal, 2018, 2) – is often dependent on immobility, and vice versa.

Likewise, it is this combination of migration, mobility and immobility that enables households to engage in rural-urban livelihoods in the first place, and sustain them in the long run. For example, a 45-year-old respondent was able to move to Dol Dol town to start up a business selling beadwork and clothes because the rest of his household stayed behind to look after the family livestock. Their immobility was important to the makeup and sustainability of this rural-urban household. Not only did it keep costs down – it was cheaper in terms of rent and living costs for most of the household to stay in place. But, by remaining in place and taking on herding responsibilities, his wife and five children were able to sustain pastoralism as a livelihood activity and simultaneously free up their father's move to town to pursue additional livelihood activities.

This case illustrates how, while migrants may initiate rural-urban livelihoods, stayees are 'as enmeshed in migratory processes as the migrants themselves' (McDowell and de Haan, 1997, 8). In many cases, it is stayees' sedentarism (which ensures the maintenance of assets, land, property and production in places of origin) that frees up the responsibilities and resources needed for other members of the household or community to move elsewhere. After the initial move, migrants' dependency on stayees continues in the long run. Upon arrival in a new location, many migrants rely on remittances and support from their rural kin as they establish their livelihoods and living arrangements in a new place. Once settled, the growing challenges of making a living in cities mean that urban migrants remain reliant on transfers of food and other goods sent by relatives in rural areas. In the words of a community informant in rural Njoguini, 'Most people left behind support those who have moved as opposed to the reverse'. Staying is not therefore a passive act, but one that reflects agency, an enduring connection to place, and the right to remain in a changing environment (McMichael et al., 2021; Schewel, 2020).

The relational bonds between moving and staying work both ways – just as staying enables some to move, moving enables others to stay. The ability to remain in situ often depends on

financial remittances from mobile relatives who have moved elsewhere. This was the experience of an elderly smallholder in Ngenia, three of whose four children had moved in search of better employment opportunities elsewhere. He explained how the remittances they send him have improved his well-being, and he no longer has to look for work and can, 'Now rest and enjoy my old-age life'. In another case, a Dol Dol resident was able to stay in town because his sons agreed to move to Makurian to look after his sizeable herd of cattle, goat, sheep and camel. He explained how he could no longer afford to pay daily herders, and a combination of old age, poor roads and expensive transport prevented him from making regular visits himself. It was his sons' mobility, together with his own immobility that enabled them to pursue a collective rural-urban livelihood – combining rural pastoralism with urban business trading food, milk and detergent.

In practical and material terms, therefore, moving and staying emerge as related and co-constituting entities within rural-urban livelihoods. Going beyond the experiences of individual households, similar dynamics can be applied to the wider environment. Socio-ecological surroundings have shifted significantly in recent decades (Chapter 8). Respondents regularly described noticeable changes in the ethnic composition of communities, as well as in norms, practices, language, dress and eating habits. Visible alterations in the physical and ecological landscape have also occurred. New house structures, vehicles and shopping centres have sprouted up. Other respondents described changes in rainfall patterns, replacement of indigenous trees with exotic variations, and the visible melting of the Mount Kenya glacier that towers over much of Laikipia. Many rivers have dried and their banks transformed by irrigation farming, while the appearance of farms has been altered by new crops, infrastructure and technologies.

In this context, it becomes possible to move, in a symbolic and passive sense, without physically moving oneself. As the world we know shifts and changes around us, those who stay can find themselves in an unfamiliar and changed environment, paradoxically, by staying in place. Our surroundings are moving even if we are not. Similar ideas of moving without moving are reflected in Lubkemann's notion of being 'displaced in place' (2016, 2008, 2008). Contrary to the general framing of displacement as a form of migration, Lubkemann argues that Mozambican communities (especially women) became displaced without moving because of the disruption of a culture of routine labour migration and mobility-based strategies for coping with ecological stresses (Lubkemann, 2008, 455).The relational merging of mobility and immobility thus emerges in a wider symbolic and metaphoric sense, and not just in relation to individual households and specific rural-urban livelihoods.

2.3. Translocality

Translocality can be understood as the multi-directional networks of connection, communication and exchange that exist between people dispersed across different places as a result of migration, mobility and immobility. These translocal networks are sustained by a combination of 'connectedness to others' and 'groundedness to places' – ideas that are explored in more detail below. Translocal patterns of communication and exchange also entail a change component (Chapter 8) – they leave lasting impressions, influence changes, and can even transform inter-connected people and places. These interpretations of

translocality build upon Greiner's definition of translocality as, 'Sets of multidirectional and overlapping networks, constituted by migration, in which the exchange of resources, practices and ideas links and at the same time transforms particular places' (2010, 137). Viewed from this perspective, translocality provides a framework for understanding 'mobility, peoples' embeddedness while being mobile, and how mobile and immobile actors (re-)produce connectedness and thereby reshape places' (Porst and Sakdapolrak, 2017, 112).[21]

Translocality builds on transnationalism – the process through which migrants build multi-stranded and cross-border networks that link societies of origin and settlement through sustained contacts and travel across national borders (Ahmed, 2003; Glick Schiller et al., 1995; Kutsche, 1995). While translocality and transnationality thus share a focus on networks and connections, they diverge in other ways. Firstly, transnationalism is contingent on crossing a national border while translocality can be applied to varying scales, including internal mobility – which makes it more relevant to rural-urban livelihoods that tend to involve short- and medium-distance movements. Secondly, while transnationalism reflects a general disembeddedness or uprootedness, translocality 'insists on viewing such processes and identities as place-based rather than exclusively mobile, uprooted or 'travelling'', thereby reaffirming the local (Brickell and Datta, 2011, 3). In this way, translocality focuses simultaneously on mobility and locality; drawing our attention to multiple forms of mobility and at the same time recognising the significance of immobility and local moorings (Oakes and Schein, 2006; Peth and Sakdapolrak, 2020). This resonates with above findings about the overlapping relationality of migration, mobility and immobility.

The socioeconomic connections that translocal migrants are able to sustain with communities of origin, combined with their enduring ''groundedness' during movement' (Brickell and Datta, 2011, 4), explain why households are able to engage in rural-urban livelihoods in the first place and sustain them in the long run. Firstly, many migrants depend on translocal connections – and the social, emotional and financial support that they entail – to establish themselves in a new place. Over time, these translocal connections create bonds as well as obligations between migrant and non-migrant household members, making it more likely that they continue to stay in touch and support one another over time through choice or obligation, and across rural and urban spaces. Secondly, translocal migrants' simultaneous situatedness or emplacement to multiple locales, both here and there reinforces the idea that people are able to stay connected and grounded, even when moving to a different place. This contradictory balance also explains why people are able to sustain rural-urban livelihoods. It frees them sufficiently from the confines of their place of origin so that they can move elsewhere to make a living. But not so much that they do not feel drawn and connected to the people and place they move away from. This suggests that, rather than passive backgrounds, places play an active role in the dynamics and production of mobilities and movement (Brickell and Datta, 2011, p. 8; Cresswell, 2010, 7).

[21] While this research focuses on an interpretation of translocality that is anchored to human mobility, others have taken the concept further to include the circulation of money, ideas, symbols and knowledge more generally.

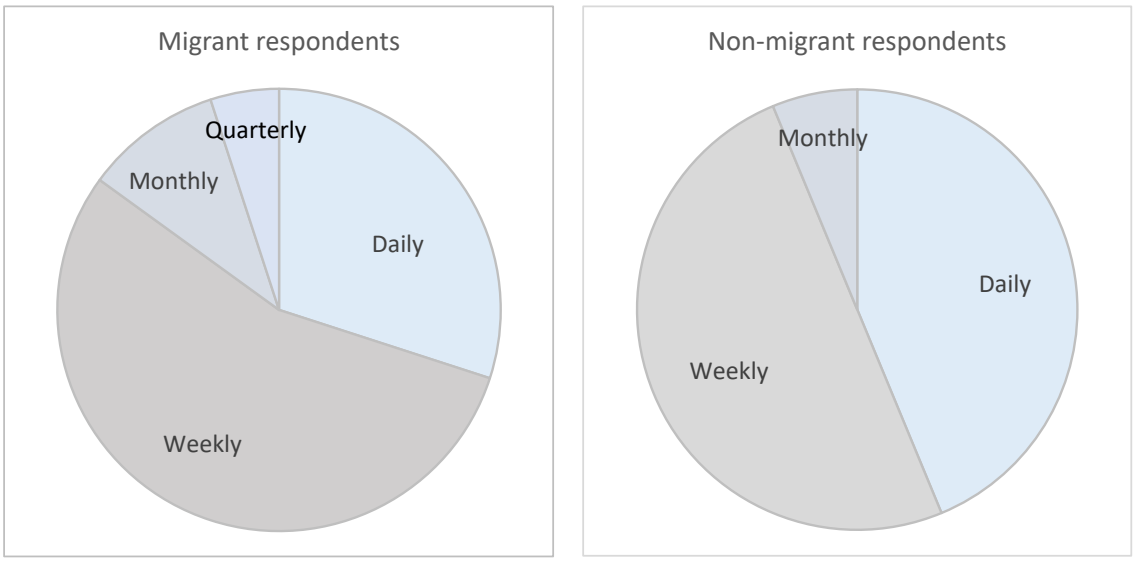
2.3.1. Connectedness to others

Rural-urban households stay connected with each other through multidirectional and overlapping networks of communication and exchange. These were prevalent among respondents from across the research sites, and highlight the increasing connectedness of daily life (Rockenbauch and Sakdapolrak, 2017). During fieldwork, connections between those who stay and those who move emerged as common, numerous and regular. Eighty-three per cent of migrant respondents reported staying in touch with relatives who stayed behind, while all non-migrant respondents remained in contact with a relative who had moved elsewhere. As well as being the norm, these connections were also numerous, with respondents maintaining connections with multiple family members (in some cases up to 12 relatives), primarily through phone communications, but also through visits (see Table 1). There is also a regularity to these connections. Communications typically occurred on a weekly basis, but many also stayed in touch daily, often via phone (Table 2 and Chart 1).

Table 2: Number, means and frequency of connections/communications among migrant and non-migrant respondents

	Number of connections		Means of communication		Frequency of communication			
	Average	Range	Phone	Visits	Daily	Weekly	Monthly	Quarterly
Migrant respondents	5	1-12	100%	85%	30%	55%	10%	5%
Non-migrant respondents	3	1-5	100%	100%	44%	50%	6%	0%

Chart 1: Regularity of communications among migrant and non-migrant respondents



Translocal connections entail multi-directional patterns of social, economic, cultural and political exchange. These are discussed in more detail in Chapter 7, but broadly include the transfer of money, food, clothes or farming inputs; investments in home-town associations

and local development; participation in local ceremonies and events, and; political lobbying on behalf of community interests. During fieldwork, migrants and non-migrants also stay connected through the sharing of ideas, knowledge and opportunities, including about education bursaries, employment opportunities, improved farming techniques, vaccination programmes, veterinary services, and community news and events. These kinds of translocal connections and the social and economic support they provide play an integral role in sustaining rural-urban livelihoods. In the case of the 68-year-old respondent (Figure 2), these patterns of connection, communication and exchange enabled geographically distant household members to stay in touch and support one another over time and across distances – without which, rural-urban livelihoods that rely on the pooled resources of different family members would likely break down over time.

While the above examples reflect translocal connectedness between people, similar dynamics are also reflected between different places. For example, the economic interdependence between urban enterprise and rural consumers on the one hand and rural producers and urban markets on the other (Satterthwaite and Tacoli, 2003). Towns influence rural development through the provision of agricultural goods, inputs and services and cash flow (Baker, 1995). In turn, rural locations provide the food, labour, tax receipts and demand for urban goods and services that are required to expand the social and economic functions of towns (ibid). These examples may provide an overly-simplified notion of the more complex patterns of exchange that occur between rural and urban sectors in practice. Nevertheless, as summed up by Baker and Pedersen, they highlight how, just as with translocally connected households, 'the fortunes of the rural and urban spheres are inextricably linked' (1992, 11). The translocal connections that link them blur dichotomous geographical conceptions, such as space and place, rural and urban, core and periphery.

2.3.2. Groundedness to places

Translocality is built on 'groundedness to places' as well as 'connectedness to others'. A sense of translocal groundedness to multiple places of origin and destination emerged during interviews, though perhaps not as significantly as connectedness between people. For example, an elderly male migrant with land and livestock in Bomet and Nyamira counties (in eastern Kenya), and a hardware business in Nanyuki town (where he now resides), explained that he saw all three places as being his home. While there are therefore examples of groundedness to places, a more nuanced and contextualised picture generally emerged from fieldwork. In particular, groundedness shouldn't be taken as a given – a natural and inevitable occurrence – but rather as something that requires concerted effort, socioeconomic resources, and which is underpinned by unequal power relations.

In support of this, migrants' feelings of groundedness to multiple places were mixed and unevenly split between places of origin and destination. While the afore-mentioned elderly male migrant exhibited a strong sense of attachment to both origin and destination, for most respondents, the balance weighed heaviest towards the latter, especially once migrants had settled at their destination. 'I have adapted to this place's life and challenges. I wouldn't wish to go back to the village, since I have moved on', explained a female migrant in Nanyuki. In support of this stance, 62 per cent of migrants said they would stay where they were, and not return to their place of origin – a tendency that was strongest among

women, with 92 per cent of female respondents preferring not to return. This is not to say that most respondents did not continue to feel attached or grounded to their place of origin as well as destination – on the contrary, many maintained relatives, property, farms and livestock there, with which they felt a strong sense of attachment. Rather, that feelings of groundedness are not evenly split, and tend to be oriented towards places of destination, especially amongst women and migrants who have settled successfully. Writing about Ecuadorian migrants in Italy, Boccagni (2010, 8) goes further, suggesting that efforts to stay connected and grounded are 'hardly enough to restore something similar to physical co-presence' and that, while migrants still identify with their place of origin, 'their transnational practices were sporadic, and their interest in the current events there was poor and anecdotal at most'.

A second finding is that groundedness to multiple places often emerges out of pragmatism – a socioeconomic calculus – in addition to a nostalgic and idealised attachment to place. In contrast, academic scholarship tends to focus on the latter, often exhibiting an overly optimistic and, at times, romanticised notion of translocality.[22] This alludes to what Verne (2012, 4) describes as the division between abstract translocal theory and 'detailed, textured and often rather messy' empirical evidence. To some extent, this academic tendency is justified as some migrants' groundedness was framed by an idealised connection to 'home' and an ancestral 'homeland'. 'I want to return because it is home', explained a respondent.' This was echoed by a migrant with young children who wanted 'to raise [them] in their original land. Culture is very important and I would like my children to go through age-sets and be taught how things are done in our culture'. However, in most cases, sense of attachment to multiple places was also determined by a strong sense of pragmatism. Decisions about whether to move, stay or return were often framed in terms of opportunities and risk, including access to health and education services, roads and infrastructure, living costs, business and employment opportunities, and security. For example, when asked whether she had plans to return, a rural-urban migrant replied, 'No. I intend to invest here in town… because I want my children to have a good urban life since the best school is located here. There are more opportunities to have here in town as opposed to the rural areas.'

This conceptual re-balancing towards both pragmatism and idealism also highlights the structural inequalities inherent in translocality, which are not always apparent in the theory. The ability to stay connected and grounded to multiple places requires certain capitals and resources that are not available to all groups. This may explain why female migrants (whose claims over family land and property are weaker than men) felt less attachment to places of origin, and were less likely to choose to return there in the future. What is more, time and cost constraints make it difficult for many low-income migrants to make regular return visits, suggesting that the ability to stay grounded in multiple places is in part reliant on the availability of socioeconomic resources. While 85 per cent of migrants reported making return visits, these were often made seasonally (47 per cent of visits) or even annually (19 per cent). For some, a reluctance to return regularly may reflect a lack of groundedness. For

[22] To give an example, under the sub-heading 'Translocal utopias and local accomplishment', Ma (2016, p. 133) argues that 'Translocality refers to the dynamic between localised lifeworlds in faraway sites'.

others, however, it is a reflection of transport costs and lost income in absence that prohibits many migrants from moving back and forth.

3. Contextualising the growth of contemporary rural-urban livelihoods

A key criticism of livelihoods approaches, such as the Sustainable Livelihoods Approach (SLA), is that they sidestep wider political economy and structural issues in favour of local-level analysis when it comes to evaluating livelihoods (Carr, 2015). Scoones (himself one of the original SLA architects) recognises that, 'Big shifts in the state of global markets and politics…were dumped in a box labelled 'contexts'' (2009, 181). In underplaying these wider social, economic and political processes in favour of local dynamics, livelihoods analyses have been accused of being ahistoric – prioritising the current context and overlooking critical questions about events and actions in the past (Hoque, 2016, 26). Questions such as why particular groups are marginalised in the first place (Staples, 2007, 14). This downplaying of politics and power relations has also contributed to a tendency to treat the household as a homogenous and unproblematic unit, thereby overlooking tensions and conflicts that occur within households, especially when it comes to decision-making (Kniveton et al., 2008).

Mindful of these criticisms, this chapter draws from political ecology and critical history approaches to proactively broaden the analysis of rural-urban livelihoods beyond individual household strategies of moving, staying put and staying connected. This section of the chapter now turns to the wider dynamics, structures and interactions between rural and urban settings, and specifically to the different groups, interests and economies that cut across them. We start with an analysis of rural-urban livelihoods from the past to the present. Having set the scene, this section then explores three main drivers of rural-urban livelihoods that emerged as particularly prominent during fieldwork: livelihood precarity[23] and diversification, rural-urban connectivity, and gender and generational changes.

3.1. Rural-urban livelihoods in the past and present

Rural-urban livelihoods are not new or uncommon in Laikipia; they are undertaken by a range of different households, and have been for many years. Livelihoods in Kenya have, for generations, been spread across rural and urban settings. Rural to urban migration gained momentum during the early twentieth century as the colonial government sought to meet labour demands by encouraging workers to move to cities or nearby commercial farms. As migration was only endorsed on a temporary basis, and migrants were not allowed to settle in cities or move with their families, they maintained strong links with rural 'homes' to which they would eventually return (Oucho, 1996, 10).

Following independence, rural-urban gaps in wages, employment opportunities and social services ensured that rural to urban migration continued, and growing numbers of migrants moved with their family and stayed for longer periods of time. Large numbers of rural to

[23] The term precarity was initially used to reflect labour conditions under capitalism, globalisation and neo-liberalism. However, the definition has subsequently expanded to include more generalised forms of livelihood exposure.

urban migrants chose to settle, and Kenya's urban populations grew at a rapid rate (Potts, 1997a, 461). While some second and third-generation urban dwellers were unwilling to return to rural areas that no longer felt like their ancestral homes and whose language they no longer speak (Bryceson, 2006). For others, however, rural-urban linkages have persisted and intensified over time, even among second or third generation households (Falkingham et al. 2012, 328). As argued by Bigsten (1996, 2), 'Circular migration remains a central part of the way of life of smallholders in East Africa.' Jamal and Weeks (1988, 288) have described these households as the 'trader-cum-wage earner-cum-shamba class.'[24]

Building on this, a review of the academic literature from the past two decades suggests that rural-urban livelihoods have remained relatively common in contemporary Kenya (as well as much of Sub-Saharan Africa). In support of this, Agesa (2004) documents how up to a third of Kenyan urban households (in particular those with low skills and income) split their members between rural and urban settings in order to save costs.[25] Research by de Laat (2005) suggests that this trend may be as high as 43 per cent. According to Mberu et al. 2013), more than 80 % of urban residents report maintaining strong connections with their rural kin. As the quality of education has declined and the costs of schooling have risen, Potts (1997a, 464) argues that many urban parents are also choosing to return children to cheaper rural schools, while they stay and work in towns. Likewise, research by Owuor (2004, 6) suggests that an unknown number of urban parents are fostering their children in rural areas in order to save costs, which again splits households across rural and urban settings.

Going further, a number of academics argue that existing and ongoing rural-urban livelihoods have grown in scope and importance in recent decades. Potts (1997, 449; 1995, 250) argues that existing multi-local livelihoods are becoming stronger and more critical than before, taking on a 'new and vital significance.' Similarly, Owuor (2004, 3) finds that 'rural-urban linkages are increasingly becoming an important element of the livelihood (or survival) strategies of the urban (poor) households' in the Kenyan town of Nakuru. Likewise, Rasmich (2016) suggests that over the last decade (or longer) Kenyan smallholder farmers have increasingly relied on multiple livelihoods across rural and urban locations. In support of this, Tacoli (2002, i) contends that, 'Rural-urban interactions and linkages play an increasingly important role in local economies and in the livelihoods of large numbers of people,' pointing to an 'increase in mobility (especially among younger generations) accompanied by strong social and economic links with home areas.' In a similar vein, Bah et al. (2003) consider how livelihoods in Mali, Nigeria and Tanzania increasingly rely on both rural and urban resources, and on exchanges between urban and rural areas.

But what explains this growth in scope and importance of rural-urban livelihoods over time? While many factors contribute to rural-urban livelihoods, this chapter now focuses on three principle drivers – the first being livelihood precarity and diversification.

[24] Shamba is a Swahili word that translates into field or farm in English.
[25] Wage earners typically remain in urban areas and family dependents return to rural areas, where they do not normally have to pay rent and can grow their own food, thereby reducing basic living costs.

3.2. Livelihood precarity and diversification

Livelihoods across Laikipia, and much of Kenya, are under mounting pressure from a range of stressors that span the nature-society divide. This has contributed to a rapid expansion of livelihood diversification as households choose or, in many cases, are forced to seek alternative combinations of income in an attempt to spread risk and make ends meet (Chapter 6). A respondent in Munishoi described how most households' primary livelihood has shifted in recent years from pastoralism to other activities, either as a result of combining activities or by changing livelihoods completely. A similar pattern emerged in Njoguini, where an informant described how, 'People are shifting from purely peasant farming, and adding activities such as casual work and boda boda transportation as well as setting up businesses'. When livelihood diversification intersects with migration and mobility, rural-urban livelihoods emerge in line with the activity-oriented framing illustrated by the mobile and diversified livelihood of the pastoral household in Olampaa (Figure 1).

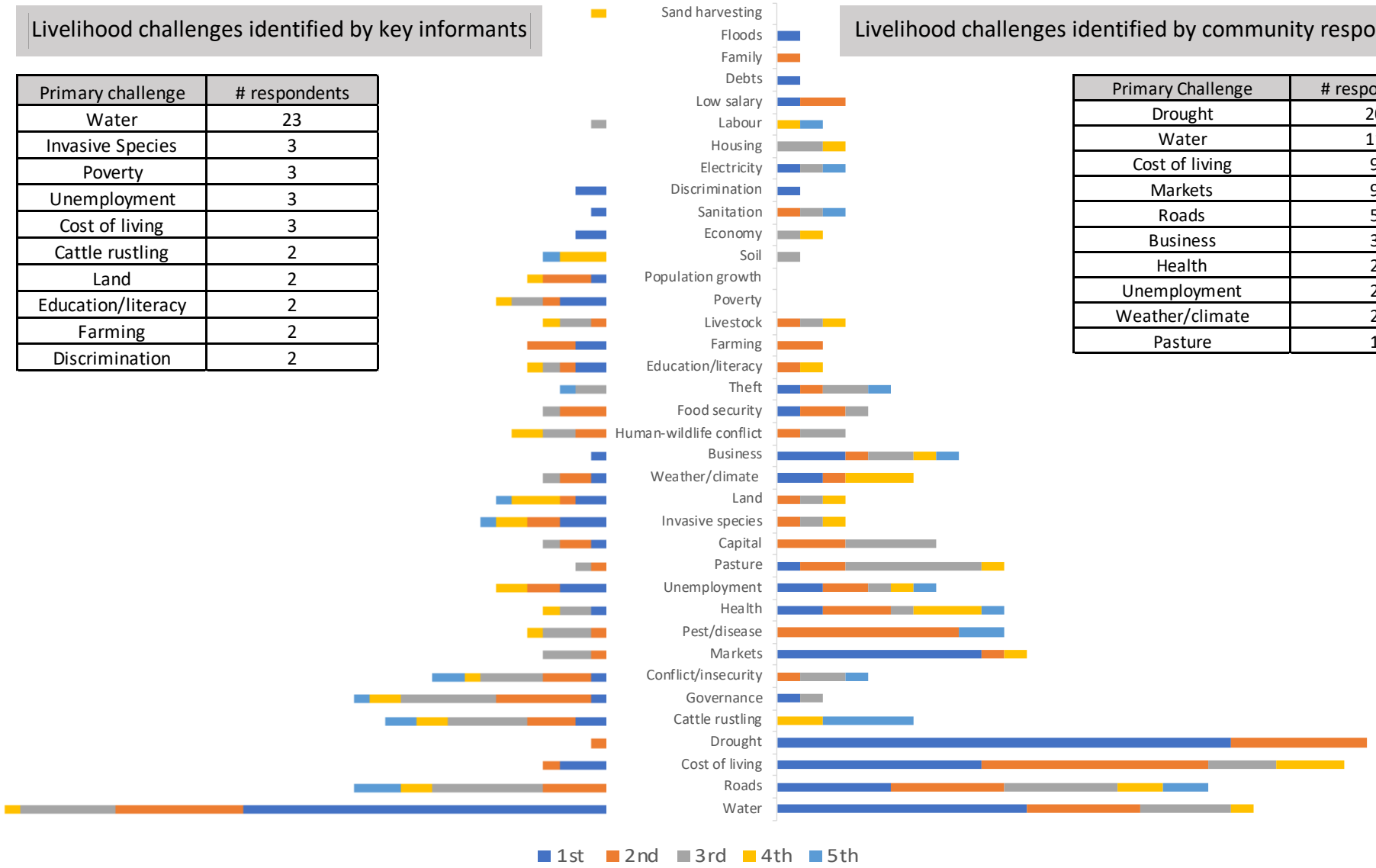
Most respondents from all livelihood backgrounds in both rural and urban locations described how they and others in their community are diversifying their livelihoods, sometimes in situ, but often across both rural and urban locations. Parallel trends have been found in research by Ameso et al. (2018), Eriksen and Lind (2009), Letai and Lind (2013) and Oba (2013), among others. According to Haggblade et al. (2010, 4) non-farm activities now make up 37 per cent of rural incomes in Africa. Other studies estimate that between 60 and 80 per cent or rural incomes in Ethiopia, Nigeria, Tanzania and South Africa are derived from non-farming activities (Bryceson, 2002, 730). Livelihoods are renowned for expanding, contracting and adapting to wider social, political and economic events (Scoones et al., 2013; Spear et al., 1993). Nevertheless, there are indications that, as livelihoods come under growing pressure from multiple sides, these practices are undergoing more fundamental changes.

To better understand what is driving livelihood precarity and diversification, community respondents were asked during interviews to rate the challenges they faced in making a living from one to five. Key informants were similarly asked to identify up to five livelihood challenges affecting Laikipian households. A wide array of thirty-seven challenges and issues emerged, which are illustrated in Figure 5. In the sub-sections that follow, these multiple issues are grouped across three main clusters: 1) Unreliable rainfall and growing upstream water use; 2) The appropriation, privatisation and compartmentalisation of land, and; 3) Economic decline in an increasingly cash-based society.

Figure 5: Livelihood challenges that community respondents and key informants identified – differentiated according to first, second, third, fourth and fifth priority. Tables convey the top 10 challenges identified as a first priority by both groups of respondents.

Livelihood challenges identified by key informants

Primary challenge	# respondents
Water	23
Invasive Species	3
Poverty	3
Unemployment	3
Cost of living	3
Cattle rustling	2
Land	2
Education/literacy	2
Farming	2
Discrimination	2



Livelihood challenges identified by community respondents

Primary Challenge	# respondents
Drought	20
Water	11
Cost of living	9
Markets	9
Roads	5
Business	3
Health	2
Unemployment	2
Weather/climate	2
Pasture	1

3.2.1. Unreliable rainfall and growing upstream water use

River water levels are a key indicator of water availability, and these have fallen significantly across Laikipia County: by 20 per cent in the Naro Moru river, nearly 60 in the Burguret river, 68 per cent in the Teleswani, and over 80 per cent in the Timau river (Lanari, 2014, 106). A number of factors contribute to low river flows, most notably variable and unreliable rainfall patterns and growing water extraction from upstream users. These two aspects are now discussed and explored in turn.

Rainfall and drought are socially constructed and highly subjective events (Downing et al., 1989; Håkansson, 2019; Little, 2013; Sen, 1990; Taylor et al., 2009; Unks et al., 2019). Perceptions matter, therefore, and these differed noticeably among respondents. Perceptions of rainfall differ according to what is considered 'normal' rainfall, so that what is perceived as normal in arid northern Laikipia is seen as abnormally low by residents of humid Mount Kenya areas (Blench and Marriage, 1999, 9).[26] Patterns of rainfall and humidity vary considerably across Laikipia due to its steep rainfall gradient.[27] While communities living near to Mount Kenya enjoy relatively higher and more predictable rainfall, a semi-arid climate characterises the north. Perceptions of rainfall also differed noticeably between community respondents and institutional informants. Drought is not uncommon in Laikipia, and community respondents routinely described their personal experiences of worsening conditions of drought.[28] 'Drought has become very severe', explained a Njoguini respondent adding that, 'The dry months in a year are more than the wet months.' In contrast, institutional informants tended to look to the hydrological data, and suggest that Laikipia has benefited from relatively good patterns of rainfall. According to a water monitor, 'People talk about climate change, but if you look at the amount of rainfall compared to 30 years ago, it is more or less the same.'

This suggests that it is the changes in the timing, intensity and duration of rainfall, rather than the total amount each year, that influences livelihood precarity. It also suggests that levels of pre-existing vulnerability are influencing rainfall's impact on livelihoods. Indeed, respondents' widespread tendency to refer to serious drought (even though average rainfall levels have not fallen significantly) suggests that household livelihoods have become increasingly vulnerable to even small changes in rainfall patterns. A similar scenario is identified by Watts (1983, 252), who found that Hausa peasants were becoming 'increasingly vulnerable to even small variations in rainfall' and 'relatively slight oscillations in harvest quality' due to the wider, structural vulnerabilities brought about by the transformation of social relations of productions under colonial rule. Likewise, Carter and Barrett (2006) argue that the severity of the shock may be less important than the ability of households to avoid falling beneath critical asset-holding levels. Viewed from this perspective, hydrological data tells only part of the wider story.

[26] Rainfall drops from around 800 mm per annum near the mountain watersheds in the south-west and south-east to just 300 mm in the north (Graham et al., 2009).
[27] The wettest areas of Laikipia are Mount Kenya, the Nyandarua Range and the hill zone on the edge of the Rift Valley. Rainfall decreases moving northwards, especially north of Ewaso Ng'iro and Ewaso Narok, which are the driest areas in Laikipia (Berger, 1989).
[28] Huho and Kosonei (2014) identify 22 droughts between 1975 and 2012, and an increase in their frequency and intensity over time.

A secondary factor that influences water availability is human extraction of water. As suggested by an NGO informant, 'Climate change is responsible for five per cent of this – human activities are responsible for 95 per cent'. Indeed, privatisation, immigration, population growth and private sector expansion have also influenced water use in Laikipia (Aeschbacher et al., 2005; Gichuki, 2002; Lanari, 2014; Lanari et al., 2018; Notter et al., 2007; Wiesmann et al., 2000). Immigration and natural increase have increased Laikipia's population from 60,000 (1960) to 300,000 (1999) and up to 480,000 people (2017) – representing a significant rise in the number of domestic water users (Government of Kenya, 2013, 17).[29] Interviews in Nanyuki reveal that urban demand for water has increased from 8,000 to 12,000 cubic metres per day in the last decade, and that there is often not enough water to meet residents' demands, especially during the dry months.[30] Rapid urbanisation has led to the growth of Nanyuki's slums and informal settlements, in which lower income urban respondents describe contaminated water supplies and poor sanitation facilities. In addition to the rise in domestic water users, the influx, from the 1960s onwards, of intensive small-scale mixed farmers reliant on irrigated horticultural crops has also increased water demand for farming. Furthermore, the rapid expansion of large horticultural farms has put further pressure on water and land resources (Lanari et al., 2018; Ngutu et al., 2018; Zaehringer et al., 2018).[31]

In this context of increasing rainfall variability and growing water extraction, water-related issues emerged as by far the most significant challenge to livelihoods amongst respondents from across locations (rural and urban), socioeconomic backgrounds and livelihood practices, as well as key informants (see Table 3 and Figures 6-8). Drought and water combined were a primary challenge for 43 per cent of all respondents, and a secondary challenge (rated either second, third, fourth or fifth priority) for a further 11 per cent. Forty-eight per cent of key informants identified water as the most significant challenge to people's livelihoods, and a further 31 per cent rated it as a secondary challenge. Similar findings have been found by other studies, which have identified water shortages as a major concern for Laikipian residents (Bond, 2014; Ogalleh et al., 2012; Ulrich et al., 2012).[32]

Notably, the combined challenges of drought/water were more likely to be cited as a challenge among non-migrants (84 per cent) than migrants (see Figures 7-8). During interviews, migrant respondents were asked to identify the main challenges they faced in making a living both in their place of origin and place of destination. Drought and water were more likely to pose a challenge in places of origin (35 per cent) than destination (8 per cent). This could suggest that migrants took water issues into account when making decisions about where to move, and subsequently chose destinations where water was less of an issue. It could also suggest that upon arriving in a new location, migrants are less likely

[29] Population growth occurred at a faster rate in Laikipia (4.7%) than for the country as a whole (3.3%) (Kiteme et al., 2008).
[30] During dry months, the municipal water company (NAWASCO) is only able to extract 7,000 cubic metres per day.
[31] Between 1991 and 2013, the number of horticultural farms increased from one to 35, covering a total area of 1,085 hectares (Ngutu et al., 2018, 4).
[32] Ulrich et al. (2012, 248) found that over half of respondents cited water as their primary limitation. Bond (2014, 121) found that the majority of Laikipia respondents perceived water as a scarce resource.

to take up livelihoods dependent on water (such as farming and pastoralism), and more likely to engage in activities such as business, trading, employment and transport, for which water is less essential. In support of this hypothesis, migrants identified the cost of living, markets, sanitation, discrimination, electricity and roads as the main challenges to making a living in places of destination – challenges that are more closely associated with livelihoods linked to business, trading, employment and transport.

Table 3: % of respondents who identified drought/ water as a primary & secondary challenge

Type of respondent	Primary challenge (1)	Secondary challenge (2-5)
All respondents	43%	11%
Migrants referring to place of origin	35%	24%
Migrant referring to place of destination	8%	6%
Non-migrant respondents	84%	8%

Figure 6: % who identified drought/ water as a primary & secondary challenge

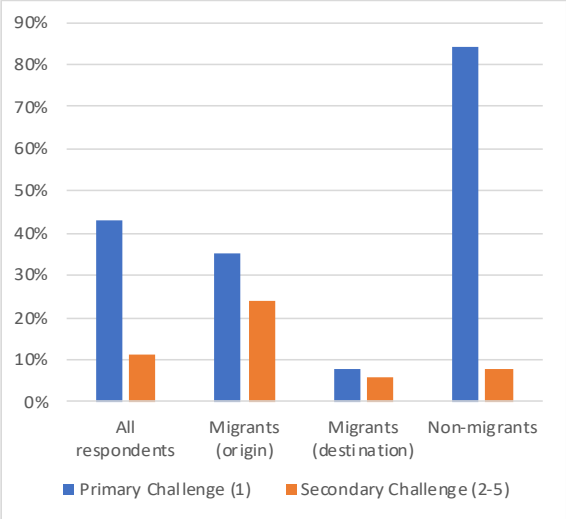


Figure 7: Primary and secondary challenges in places of origin identified by migrants

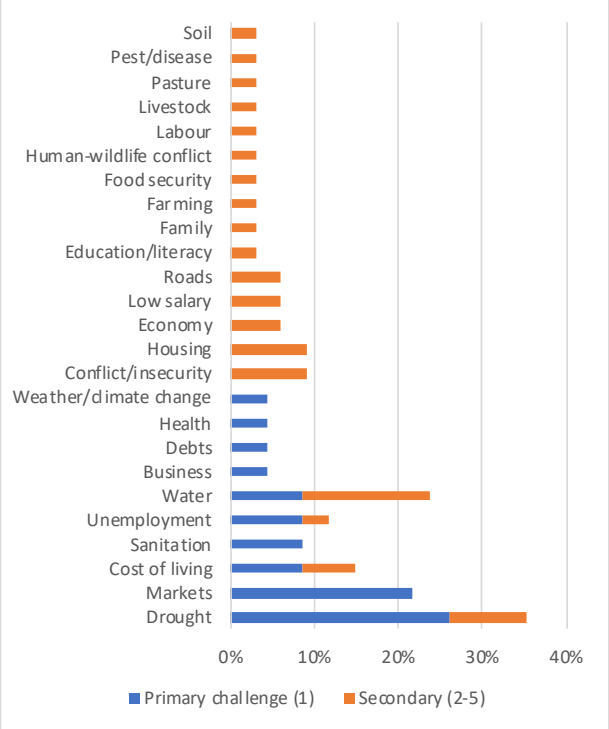
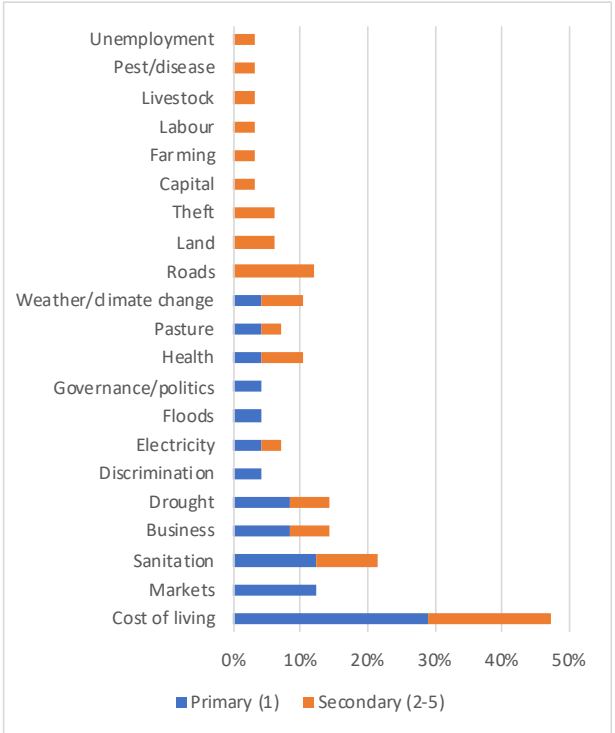


Figure 8: Primary and secondary challenges in places of destination identified by migrants



3.2.2. The appropriation, privatisation and compartmentalisation of land

Most Laikipian households continue to make a living through some degree of farming and/or pastoralism – livelihood activities that depend on access to viable land, as well as water. While land challenges were flagged by respondents, they are noticeably absent from among the top ten primary concerns (Figure 5). During interviews, land was more regularly cited by key informants than community respondents. Although, even then, land is attributed much less importance than water. While land may not therefore be *the* issue at the forefront of respondents' minds, it is nonetheless an important concern in Laikipia that warrants prioritisation for a number of reasons.

Firstly, land emerged during interviews as an underlying issue that is closely connected with a host of other associated challenges. While 'land' per se was not regularly cited as the major challenge during interviews, land-related issues arose in other guises, such as soil, pasture, farming, livestock, deforestation and invasive species, among others – challenges that were regularly cited. Respondents in Laikipia North, for example, regularly expressed concern about invasive thorny plant species (Opuntia Stricta and Sansevieria) that have colonised large swathes of land, resulting in pasture shortages and illness and death among livestock that eat them. Other respondents highlighted problems with soil infertility, which they associated with over-farming and over-grazing, a lack of crop rotation and the prevalence of chemical pesticides and fertilisers. According to a government respondent interviewed in Nanyuki, 'The soil is totally degraded, especially in Laikipia North, due to over-grazing and over-stocking as the population grows. These dynamics have really degraded the eco-system and bare soil is prone to soil erosion'.

A second reason for including land in this analysis is its historical weight and importance for contemporary livelihoods. The appropriation, privatisation and compartmentalisation of land in Laikipia began during the colonial era and has continued during independence until the present day. During the early 1900s, colonial settlers displaced Maasai pastoralists that had long dominated Laikipia and large swathes of the Rift Valley, along with smaller numbers of Yaaku (hunter gatherers) and farming communities (Hughes, 2006, 5). The Maasai were moved to the most arid and marginal fringes of Laikipia, and land use shifted from nomadic pastoralism to commercial ranching.

At independence, the government sought to resettle landless peasant farmers from more densely populated areas of central Kenya by dividing up and selling off the large colonial ranches. This changed land use again from large-scale commercial ranching to intensive small-scale mixed farming reliant on irrigated crops (Flury, 1988, 265). It also resulted in the privatisation and subsequent compartmentalisation of land, as smallholders fenced their farms. This trend continued so that by the 1990s, smallholder farmers constituted 75 per cent of Laikipia's population, significantly increasing the number of land and water users in the county (Wiesmann, 1998, 94).

In addition to increasing pressure on natural resources, these changing demographics significantly altered the ethnic balance of the county, as nearly 90 per cent of the new arrivals were Kikuyu (Ngutu et al., 2018, 5). This has been exacerbated by the way in which successive governments have used land redistribution to galvanise authority within their

party and ethnic support base (Boone, 2012). As a result, land distribution in Laikipia remains highly unequal, and approximately 40 per cent of land is controlled by fewer than 43 individuals (Letai, 2011). As a result, ethnicity, politics and access to resources have become closely interlinked in contemporary Laikipia.

Conservation and eco-tourism initiatives have added to land pressures in Laikipia and were highly contentious during interviews. In the late 1980s, the collapse of the Kenya Meat Commission and a reduction in animal exports made commercial cattle-only ranches increasingly less viable. In this context, conservation and eco-tourism emerged as alternative business models attracting significant political and economic backing (Fox, 2018, 483; Unks et al., 2019, 127). As a result, large swathes of land that were traditionally used for seasonal farming or pasture became fenced off for conservation under the guise of a dominant narrative of environmental degradation (Bond, 2014, 124). Respondents described conservation as a 'blind spot' unbeholden to the regulatory scrutiny of other sectors, such as farming or industry. In this context, an NGO respondent described how, 'Local residents have become disenfranchised by conservation activities – on paper they are the owners, but really they have no say about how resources are used, and little access.'

Over the years, this appropriation, privatisation and compartmentalisation of land has gradually blocked traditional migration routes, restricted access to grazing areas, and undermined social networks upon which pastoralists depend. Contemporary pastoralists are now largely restricted to segregated patches of rangeland adjacent to private land or conservation areas or to group ranches in the arid north of Laikipia. In addition, steady population growth has resulted in dwindling landholdings among each new generation, which are no longer large enough to sustain subsistence agriculture under inadequate agro-ecological conditions (Ulrich et al., 2012, 243; Wiesmann, 1998, 94).[33] Ninety per cent of the land is deemed too dry and thus unfit for cultivation and less than two per cent of land is deemed highly viable for agriculture (Butynski and Jong, 2014).

In this context, land emerges as an ongoing, slow-onset, creeping issue. Accustomed to dealing with land over years and generations, respondents tended to be less outspoken on this topic. And land issues emerged more prominently during general dialogue about wider livelihood pressures than as a standalone concern to be flagged and categorised.

3.2.3. Economic decline in an increasingly cash-based society

In addition to land and water issues, interviews also revealed a general sense of economic decline that is putting added pressure on livelihoods. Economic decline across Kenya can be linked to the Structural Adjustment Programmes (SAPs) of the 1980s and 1990s, which African countries were required to implement in return for aid and investments. In the spirit of economic liberalisation, SAPs ushered in drastic cuts to public expenditure on social services, resulting in high user fees for health and education, and the retrenchment of public sector jobs (one of the few formal wage employment opportunities available).

[33] These average between one hectare (Zaehringer et al., 2018, 4) and two hectares (Government of Kenya, 2013, 25).

Prompted by SAPS, the government privatised state-owned corporations and dismantled subsides and marketing boards that supported key economic sectors, such as farming. As a result, agricultural inputs and consumer goods have risen faster than agricultural produce prices, and it has become increasingly difficult for small farmers to compete on domestic and international markets (Bah et al., 2003, 13). Respondents routinely complained that, 'The cost of agriculture has gone up' and they can no longer afford to purchase seeds, fertilisers and pesticides, or feeds and veterinary services for their animals. Some respondents could consequently afford to farm only a small portion of their land or, in other cases, were obliged to lease or sell their land altogether to wealthier households with the resources necessary to make farming productive. SAPs have thus transferred profound and enduring inequalities to many aspects of economic, political and social life – enabling wealthy and well connected households to accumulate wealth through market-based opportunities, whilst leaving the majority to live with inflated living costs, reduced formal employment opportunities, and weakened public services (Little, 2014).

Yet, economic decline cannot be attributed to SAPs alone. Faced with urban population growth and the need to stimulate job creation, the Kenyan government allowed the minimum wage to slip below urban family subsistence costs (Amis, 2006, 170). At the same time, the government has amassed significant debts that have pushed up inflation and increased taxation. Current public debt stands at over 60 per cent of GDP, surpassing the recommended threshold of 50 per cent. This is exacerbated by years of state mismanagement and corruption that have further weakened the Kenyan economy.[34] The links between government loans and corruption were routinely raised by respondents, including an urbanite from the Majengo slum area: 'These loans are causing more harm to the country than development. This is because a large amount of this money is stolen by government officials. We don't see the value of these loans. They are only benefiting a few people.'

For many, therefore, this economic squeeze is four-pronged; (i) stagnating incomes coupled with (ii) an increase in living costs, in a context of (iii) limited social protection, support or welfare, and (iv) an increasingly cash-based society. This difficult economic climate is a key driver of both activity- and people-oriented framings of rural-urban livelihoods. Not only does economic decline encourage many households (or leaving them with little choice but) to diversify livelihoods across different activities and locations in order to make ends meet. But it also heightens the importance of intra-household dependencies and community support networks across rural and urban settings. As illustrated by the widow in Baraka (Figure 2), in the context of limited social protection and safety nets, members of a household or community must often look to and rely on one another in times of economic duress (Chapter 7).

During interviews, community respondents highlighted a range of challenges associated with economic decline, such as the high cost of living, weak markets, poor business environment, limited access to capital, rising unemployment, low salaries, and a slow economy (see Table 4). Key informants also regularly raised issues of governance – in

[34] Kenya is ranked 137 out of 180 countries on the global corruption perceptions index (Transparency International, 2019).

particular, accusations of widespread state corruption and concerns around growing national debt, which have simultaneously limited economic growth and increased taxes.

Table 4: Challenges associated with economic decline

Issues associated with economic decline	% respondents who identified this as a challenge
Cost of living	35%
Markets	15%
Business	11%
Access to capital	10%
Unemployment	10%
Low salary	4%
Economy	3%

These economic pressures were particularly pressing in urban areas. Urban food insecurity was a key challenge, with many respondents complaining about high food costs. One rural-urban migrant explained how, 'Back in Nyandarua, there was plenty of food. Here is a different case as food insecurity is a major problem. The living cost is very expensive and food is very expensive to buy.' Similar findings were found in the capital Nairobi during the 1990s, when 64 per cent of respondents in Nairobi described having to supplement urban incomes by growing food or keeping livestock in backyards, roadside verges or vacant land (Lee-Smith and Memon, 1994, 73).[35] In more recent years, and in the wake of the war in Ukraine, the COVID-19 pandemic and the failure of successive rains, food prices in Kenya have risen even more significantly (Njeru, 2022). In addition to food, urban respondents routinely described prohibitively expensive rents, transport, school fees, water and electricity. These had an impact on business as well as domestic budgets. During fieldwork, urban businesses faced expensive rents, permits, licenses, inspections and utility bills, which further undermine their livelihoods. For example, one small business owner explained that the costs of doing business have gone up while the income she derives from her horticultural business has remained constant, putting her livelihood under enormous economic strain.

This squeezing of urban livelihoods has contributed to so-called 'urbanisation without growth' so that, while poverty in rural areas is still more pronounced, the gap is steadily closing (Owuor, 2004).[36] In her article entitled 'Shall We Go Home?', Potts (1995) describes a similar picture, suggesting that as the gap between real rural and urban incomes narrows, rates of urban growth are slowing and some migrants are engaging in reverse migration from urban to rural areas. Finding it increasingly difficult to live on their earnings, a number of respondents had opted to relocate to rural locations, where costs are lower and it is easier to be self-sufficient (for example, by growing one's own food and living on one's own land). A respondent in his twenties explained that the difficulties of making a profit combined with expensive living costs in town had urged him to return to his rural home,

[35] Similar findings have been found by Egziabher (1994), Foeken (2006) and Lee-Smith et al. (1987). Research in Tanzania revealed that farming is the main occupation for over half of urban residents in the southern town of Lindi (Lerise et al., 2001).

[36] Although data collected by De Brauw and Mueller (2012, 36) shows that urban wages in Kenya still exceed rural wages in both the formal and informal sectors, and rates of poverty are higher in rural settings.

suggesting that it is not just retirees who move back to rural areas, but younger generations too.

While some moved to rural areas, the majority of urban respondents preferred to remain in towns by supplementing their urban incomes with rural activities – thereby shifting towards a rural-urban livelihood. A Nanyuki informant explained that, 'The high cost of living is causing people to rely on more than one livelihood so that they can be able to cope with the expensive life and meet basic needs for their households.' Likewise, a respondent interviewed in Dol Dol town explained how, 'We are deviating from purely one livelihood because of the rising living cost in the country. It is a struggle doing one activity. We are forced to try different things and see what helps us.' Urban respondents described conducting a range of activities that cut across rural and urban settings, including trading, business, casual labour, wage employment, kitchen gardens, zero-grazing, sale of livestock products, and leasing land for farming. With this in mind, increased monetarisation and commodification of local economies has been described as 'Probably the most important features of the rural-urban transition (Krüger, 1998, 124).'

3.3. Rural-urban connectivity

Rural-urban livelihoods emerge from opportunities, as well as challenges. While the previous sections focused on the livelihood challenges that have coerced people into rural and urban livelihoods, the analysis now turns to some of the opportunities that have encouraged and enabled the growth in contemporary rural-urban livelihoods. One such opportunity is stronger rural-urban connectivity brought about by political devolution and improved transport and communications that have set in motion a growing trend in interconnected, diversified and mobile livelihoods.

3.3.1. Political devolution

In 2013, power and resources were devolved to the county level.[37] This political devolution has exacerbated existing challenges, in particular by transferring inequality, corruption and conflict from the centre to the periphery (Chapter 5). But it has also created new opportunities, such as significantly reducing the distance and cost of accessing government offices and social services. Rather than travelling to distant Nairobi, Laikipians can now lodge grievances, register assets, request documentation and access better quality schools and health services at the county level. 'Devolution has helped us a lot, as services have been brought closer to the people,' explained a respondent. At the same time, as devolved county headquarters developed, new employment opportunities emerged within government offices, as well as the businesses, industries and markets that developed around them. This in turn brought labour markets and employment opportunities closer to rural communities. 'Nanyuki is very important when it comes to development, explained an NGO informant, 'Everyone is now moving to Nanyuki as there are a lot of opportunities. There is a lot of growth.'

[37] The 2010 Kenya Constitution ushered in a decentralised system of government wherein two of the three arms of government (Legislature and the Executive) were devolved to the 47 newly created counties in 2013.

Decentralisation has thus brought government services, markets, opportunities and resources a step closer to communities. While they are now within reach, they are not, however, on the doorstep. Entrenched and uneven distribution between rural and urban settings means that some form of migration and mobility is still required. Rural respondents often described making regular trips to Nanyuki and Dol Dol towns in order to access services, purchase supplies and carry out chores. 'I never used to move to town unless I needed to buy stuff on a monthly basis,' explained a respondent in Laikipia North, 'but now I move daily to access resources when I need them. My children also move to go to school in Dol Dol. We always come back to the household once we have what we need.'

This balance brought about by devolution – of services and resources being within but not quite in reach – explains the uptake of rural-urban livelihoods in a number of ways. Firstly, and in the words of an NGO informant, 'Devolution has really had an impact on migration in the county'. By bringing services and resources a step closer, devolution has normalised rural-urban migration and mobility within counties and, by extension, rendered livelihoods that span rural and urban settings increasingly viable. Secondly, by decentralising resources and opportunities from capital cities to nearby secondary towns, devolution enables rural households to diversify their livelihoods into urban activities while still keeping one foot in their rural home. Not only does this reinforce their groundedness to place, but it also reduces the need to engage in risky and expensive relocations to urban settings. This explains why so many rural households are now engaging in lower cost, lower risk rural-urban livelihoods that involve day trips or weekly moves to nearby county towns, rather than more permanent and costly relocations to distant capitals.

3.3.2. Transport and communications

In addition to devolution and decentralisation, improved communications and transport have also strengthened rural-urban connections and the propensity for households to engage in rural-urban livelihoods along both activity- and people-oriented framings. The expansion of road networks and the proliferation of 'boda boda' motorbikes and matatus minibus taxis have made it easier than ever to engage in mobile and diversified livelihoods across rural and urban settings. The liberalisation of the motorcycle import market in Kenya in 2010 facilitated a dramatic increase in their numbers on the roads from 16,300 in 2007 to 191,000 in 2017 (Abdi, 2019; Ramisch, 2019). In addition, recent decades have seen large-scale road and infrastructure projects funded by the China Belt and Road Initiative and Kenya Vision 2030, which have improved connections between rural and urban areas.[38]

As explained by a Nanyuki informant, 'With improvements in roads, transport and telecommunications, the Nanyuki radius seems smaller – or at least more accessible. It is not such a big deal to go to town – people can return the same evening, or at weekends.' Improved telecommunications and mobile internet have also brought opportunities closer. As summed up by a respondent, 'With the spread of technology and communication, more people are now moving elsewhere than before. This is because people are able to look for jobs online and directions online. They are also able to know about new opportunities

[38] Kenya Vision 2030 (the country's national development plan) prioritises roads, railways and pipelines to improve connections and expand development.

elsewhere.' This encourages mobile and diversified livelihoods, as households can see how others manage their livelihoods, and subsequently diversify into new activities, often in conjunction with mobility. 'Through the transfer of technology. Through listening to the radio, watching TV and attending workshops and seminars. People in this community have been enlightened about the many ways to make a living.' It also allows households to manage livelihood activities across multiple locations – respondents frequently relied on mobile communications to check on livestock elsewhere, manage casual labourers during harvest times, and monitor prices in other markets.

Improved transport and telecommunications have also facilitated people-oriented framings of rural-urban livelihoods. They make it easier for dispersed households to stay in touch across rural and urban settings through regular telephone communications and (more occasional) back-and-forth visits (Table 1). The proliferation of mobile phones and improved network coverage since the 2000s enables migrant and non-migrant household members to stay in touch with each other, without having to make expensive return visits (Ramisch, 2016). People-oriented rural-urban livelihoods are about bi-directional exchange of social and financial remittances as much as communication (Chapter 7). In this regard, better access to cheaper telecommunications has enabled households from all socioeconomic backgrounds to disseminate information and opportunities with relatives and friends. Furthermore, the rapid boom in mobile money services like M-Pesa across Kenya facilitates people-oriented rural-urban livelihoods by enabling the quick and relatively cheap transfer of remittances and other payments between people dispersed across rural and locations.

3.4. Gendered and generational change

Another factor that explains the increase in rural-urban livelihoods relates to gender and generational changes that have seen young people and women engage in more mobile and diversified livelihoods than ever before. Until recently, migration was predominantly undertaken by men, however the proportion of women migrants is growing fast (Tacoli, 2006, 6). Generation is another factor, as young Africans (who are better educated, travelled and connected than their parents) are also more likely than before to engage in multi-activity and multi-locality livelihoods (Potts, 1997b).

While most Laikipian women continue to assume responsibility for household chores (childcare, food preparation, water collection, subsistence farming, supervising small livestock), fieldwork reveals that growing livelihood precarity has left increasing numbers of women with little choice but to earn a living alongside male relatives (Chapter 6). While some female respondents were able to earn an income in situ – for example by opening a shop from within the confines of their residential compound – others cast their gaze to income-earning opportunities elsewhere, often in the nearest town. Research has found that women find better work opportunities in urban labour markets than rural locations (Potts, 1997b). This suggests that increases in women in rural areas needing to work are likely to be accompanied by an increase in rural-urban mobility and livelihoods, as income earning opportunities are less likely to be found in situ. This was the case of a female respondent in Mukongo who described commuting on a daily basis to Dol Dol town to run a small restaurant, whilst also herding the family livestock upon returning to her rural home. A similar scenario emerges among young people, many of whom have come to see

exclusively rural livelihoods that depend on farming and/or pastoralism as undesirable and unsustainable.

While livelihood precarity has made the growth of rural-urban livelihoods among women and young people a financial necessity, improved gender equality has simultaneously contributed to making rural-urban livelihoods socially acceptable. According to an NGO respondent interviewed in Nanyuki, 'Respect for women has increased. Gender equality, equal employment and equal access to roles and responsibilities in terms of leadership has improved. The community has accepted that we now all need to do things equally'. In parallel, as explained by a community informant from pastoral Laikipia North, the delineation of roles between young and old according to different age-sets has become increasingly blurred: 'All the age-groups are involved in making a living unlike before when the elderly never used to work but were taken care of by the young.' As younger people become better educated than their elders, they are engaging in other income-generating activities 'aside from moranism and providing security,' explained another community informant who went on to add that, 'These livelihoods changes are very significant and increase day by day.'

The uptake of rural-urban livelihoods also reflects changing norms and preferences associated with gendered and generational changes. For example, many youth have come to see rural livelihoods that depend on farming and/or pastoralism as undesirable and unsustainable. In a context of diminishing land parcels, high costs and poor returns, 'agriculture is not promising to youths', explained a group of teenage interviewees. Within pastoral communities, many youths in Laikipia and elsewhere are switching to business or moving to cities for work, with some dropping out of pastoralism altogether (Ameso et al., 2018; Eriksen and Lind, 2009; Letai and Lind, 2013; Oba, 2013). While this aversion to more rural-based livelihoods may reflect the stark reality of economic decline, limited water and land, it also reflects their age or life stage, rather than a permanent process of cultural change (Berckmoes and White, 2014; Rigg, 2006a). Indeed, older respondents who had moved to town in their youth described moving (or planning to move) back to rural areas in order to bring up children or retire in their old age. This enduring attachment to rural areas also relates to custom: without access to ancestral land, many men cannot marry, transition to adulthood, or be buried (Ramisch, 2014, 18). This again helps to explain the growth of rural-urban livelihoods, as young people look to capitalise on opportunities in urban settings, without losing touch with the rural areas they come from, and without losing access to resources that they may want or need in the future.

Civil society organisations (CSOs) have also played a key role in proactively promoting diversified livelihood activities among women and young people.[39] Women and young people in the study areas are most likely to join community-based savings groups, and subsequently diversify their livelihoods either in situ or elsewhere. This tendency was highlighted by a respondent from Kuri Kuri: 'Women are organising themselves into groups

[39] According to their website, World Vision is implementing a multi-million-dollar project with the express aim of 'Increas[ing] the resilience of marginalised households to climate-change-related shocks through diversified livelihoods and improved natural resource management' (World Vision, 2018). Likewise, the Northern Rangelands Trust (NRT) aims to 'Provide their constituents with access to jobs, better services for community development and more business opportunities' (NRT, 2020).

where they pull resources together. This has empowered them as they were traditionally housewives. This has been very significant. Women are now actively working.' This was echoed by a respondent from Kuri Kuri, 'These [livelihood] changes are very significant in this area. This is because of community sensitisation and education by NGOs who work in this area'. Another respondent explained that self-help groups have encouraged young people to move out of farming as the financial support they provide helps them to purchase motorbikes, and work in the transport sector, or as traders in towns. And yet, there are also concerns that NGOs are training communities to diversify along the same activities. Chicken farming, beadwork and motorbike taxis have proliferated in Laikipia North – raising questions about the sustainability of rural-urban livelihoods built on these kinds of activities. When households diversify along similar pathways, competition increases, and income-generating opportunities diminish. This was recognised by a respondent who suggested that, 'There are a lot of businesses here specialising in the sale of similar items. This has resulted in a lot of competition due to sharing customers. Sometimes we are forced to sell things cheap so that they don't expire. This results in loss or very small profits. This is common here in Dol Dol town.'

4. Concluding remarks

In sum, rural-urban livelihoods encompass the activities, resources and networks that mobile and translocal households can simultaneously access across rural and urban settings through a combination of moving, staying put and staying connected. These emerge along two main framings. The first is activity-oriented – a rural-urban twist on the concept of 'multi-local livelihoods', with an emphasis on livelihood diversification, migration and mobility. The second is people-oriented – an expansion on 'multi-sited households', but with an explicit focus on translocal connections, social support, remittances and reciprocity.

Both of these framings imply a collective, cumulative and plural quality to livelihoods. Few respondents conducted livelihoods in isolation from others, or relied on a single livelihood activity. For the vast majority of respondents, multiple people and activities collectively constitute a way of living. Whether through the accumulation of different activities that households collectively add up to a viable livelihood for the household as a whole – as in the case of the pastoral household in Olampaa (Figure 1). Or through the combined efforts of dispersed yet connected people who rely on a shared pool of resources – as in the case of the widow in Baraka (Figure 2). In this scenario, the elderly, vulnerable, or those who have lost jobs or critical assets may come to rely almost entirely on the activities of others, so that a livelihood may be less about particular activities than the connections they are able to sustain with others. In this context, translocal connections between those who stay and those who move were common, numerous and regular, and emerged out of a sense of duty and dependency and out of pragmatism and socioeconomic calculus, in addition to a nostalgic and idealised attachment to place.

This collective, cumulative and plural quality is also illustrated by their dependence on a complex mix or balance between migration, mobility, immobility and translocality that constitutes rural-urban livelihoods. This balance is central to both activity- and people-oriented framings of rural-urban livelihoods, as without some combination of moving,

staying put and staying connected, households would struggle to engage in rural-urban livelihoods in the first place, or maintain them in the long run.

Evidence suggests that rural-urban livelihoods are increasing in scope and frequency among households from a range of backgrounds. The reasons for this are diverse, and embedded in past and present practices and events. They include livelihood precarity brought about by pressures on natural resources, such as land and water, as well as general economic decline. Greater rural-urban connectivity resulting from the devolution of power, resources, ideas and infrastructure is another contributing factor. As are gender and generational changes that have made it both socially acceptable and financially necessary for young people and women engage in more mobile and diversified livelihoods than ever before.

Viewed from this perspective, rural-urban livelihoods emerge out of both challenge and opportunity, as well as structure and agency. While some households make a proactive choice to engage in rural-urban livelihoods, others do so out of necessity. In this context, outcomes of rural-urban livelihoods are likely to be mixed. This raises questions about the sustainability of rural-urban livelihoods and the extent to which they build the adaptive capacity of households in the long run. Building on this starting point, the chapters that follow will examine the extent to, and the circumstances under which, rural-urban livelihoods build households' capacity to adapt to challenges and opportunities.

Chapter 5 - Adaptive Capacity in Theory and Practice

Adaptive capacity is a fluid and heterogenous concept associated over the years with the ability to modify, change, adjust, respond, anticipate, prepare, act, moderate, take advantage, avoid and recover, among other actions. This heterogeneity is summed up by Smit and Pilifosova, who suggest that, 'Adaptive capacity includes the capacity to prepare for, avoid or moderate, and to recover from exposure effects. Adaptive capacity may reflect resilience, stability, robustness, flexibility' (2003, 22). In this context, adaptive capacity goes further than 'merely coping', which implies short-term survival or consumption (often through sacrifices to assets or stocks, nutrition and general wellbeing) at the expense of longer-term and more sustainable change. It is with this in mind that Folke et al. (2002, 18) define adaptive capacity as the set of possible actions that enable a system to adapt to change without a decline in crucial functions and without losing options for the future.

Not only are there multiple ways in which adaptive capacity emerges, but there are also a multitude of aspects of people's lives that can be potentially adapted. These can include: specific livelihood activities and living arrangements; household divisions of responsibility along gendered and generational lines; patterns of migration and mobility; social interactions and relations with members of the household or wider community; and outlooks and beliefs, as well as future plans, expectations and aspirations, among others.

While adaptive capacity is concerned with potential actions, adaptation is the manifestation or realisation of adaptive potential or capacity. Adaptive capacity and adaptation thus exist in relation to one another – they co-constitute and change each other through bi-directional feedbacks, trade-offs and compromises. They thus emerge as fluid, relational and ongoing processes rather than as linear, static or final objectives. While the capacity to adapt initially determines whether people are able to adapt in concrete terms, the ensuing adaptations and the outcomes they entail (including exposure to new challenges and opportunities) in turn influence adaptive capacity going forwards. Adapting to one particular stress or challenge can thus increase exposure and sensitivity to another (Belliveau et al., 2006). For example, Laikipian households who move from rural to urban areas describe benefiting from improved access to jobs, markets, transport and services. But, in the process, they also exposed themselves to increased living costs (rents, food and utilities), less privacy, poor sanitation, tougher business competition, more pollution, and a higher risk of theft and insecurity.

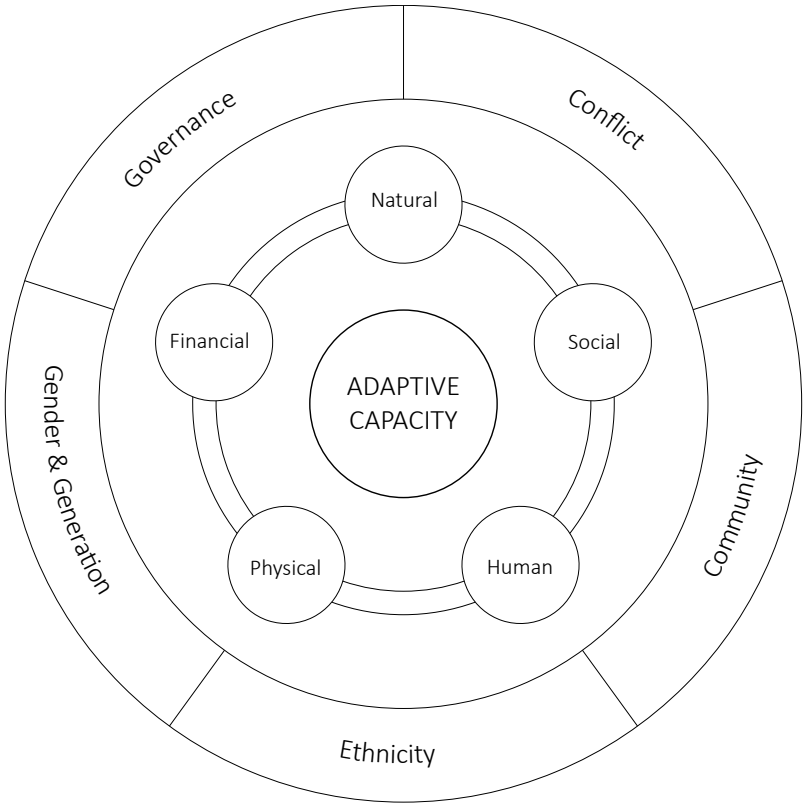
While the two concepts are inter-related, this thesis focuses on adaptive capacity, rather than adaptation, for a number of reasons. Adaptive capacity is a latent concept in that it is forward-looking, predictive and deals with potentiality rather than a current state of being (Engle, 2011; Rigg et al., 2016). Whereas adaptation limits the focus to those who have already adapted, the latency inherent in adaptive capacity also expands the analysis to those who are unable (or unwilling) to do so. Analysis centred on adaptive capacity thus makes space for groups that have fewer options and less capacity to adapt than others (Adger et al., 2007). By understanding the circumstances under which adaptations do or don't occur, a focus on adaptive capacity better incorporates the politics of access and inequality than adaptation per se. What is more, a focus on adaptive capacity or potential

rather than adaptive action alludes to the mixed outcomes inherent in processes of adaptation. With its predictive and forward-looking focus, adaptive capacity also better recognises change, flux and fluidity over time.

This chapter aims to establish a framework (see Chart 1) for understanding and, as far as possible, quantifying adaptive capacity. Such a framework is important in answering the wider research question of this thesis: To what extent do rural-urban livelihoods build adaptive capacity? A framework for adaptive capacity will thus provide a starting point for the chapters that follow to analyse the relationship between rural-urban livelihoods and adaptive capacity. But establishing a framework for an unpredictable concept like adaptive capacity is not straightforward. How to measure potential before it has been converted into action? How to capture a fluid, relational and shifting process? One approach advocated by Brooks (2003, 11) is to firstly understand how adaptive capacity is constituted, and to secondly ascertain the circumstances under what it translates into adaptation. Building on this, this chapter is divided into two halves. The first explores the multiple aspects that constitute adaptive capacity. The second considers the wider enabling environment that influence for whom and under what circumstances adaptive capacity translates into adaptation. In so doing, it builds on the definition provided by Nelson et al. that, 'Adaptive capacity is the set of resources, and the ability to employ those resources, that are prerequisites to adaptation' (2007, 402).

Finally, this chapter moves away from the environmentally-centred logic adopted by most adaptation research to explore instead a multi-causal approach that includes social, economic, political and demographic factors, among others. 'Adaptation measures are seldom undertaken in response to climate change alone' (Adger et al., 2007, 719). Building on this, O'Brien and Leichenko's (2000) highlight the 'double exposure' of climate change and globalisation. Eriksen and Lind (2009) go further to include a host of pressures and trends that include drought, economic liberalisation, conflict, and biodiversity loss. Lemos et al. differentiate between 'specific capacities' (the ability to adapt to climate hazards) and 'generic capacities' (ability to adapt to more general social, economic, political and ecological stressors) (2016, 170-171). They argue that a focus on generic capacities is most relevant in less developed regions (such as Laikipia) experiencing structural deficits, including low income, education, health and political power. In a similar vein, Eakin (2005) advocates for a multi-stressor approach that recognises how, 'Globalisation, market liberalisation, and climatic risk simultaneously structure the livelihood strategies of Mexican smallholders.' Similar perspectives have been voiced by Barnett (2006), Belliveau et al. (2006), Berrang-Ford et al. (2011), Eriksen et al. (2015), McDowell and Hess (2012), and Mortimore and Adams (2001), among others.

Chart 1: Framework for adaptive capacity



1. Collection of multiple assets and attributes

Adaptive capacity is comprised of multiple parts, rather than a standalone quality. Building on the sustainable livelihoods approach, these parts are defined as a collection of five constituent assets or attributes existing at the household level: financial capitals, natural resources, human attributes, social relations and physical infrastructure.[40] These ebb and flow over time and are often overlapping. For example, natural resources (such as land, water and pasture) can be converted into financial capital when sold or leased out, and access to financial capital often depends on the social relations and human attributes needed to access and convert these into financial gain.

While it is now widely accepted that adaptive capacity is comprised of different elements, there is much less consensus about what these elements might be. The IPCC defines adaptive capacity in terms of a collection of economic resources, technology, information and skills, infrastructure, institutions and equity (Barry Smit et al., 2001). Likewise, Mortreux and Barnett (2017) highlight six factors that characterise community-level adaptive capacity: risk attitudes, personal experience, trust in and expectations of authorities, place attachment, competing concerns, and household composition and dynamics. Macro studies that seek to understand adaptive capacity within larger institutions or national entities also

[40] According to the SLA framework, a livelihood is comprised by a particular 'context' together with a combination of 'assets' (natural, physical, human, economic, social, etc) that give rise to certain livelihood 'strategies' or 'activities' (often pursued in combination), which in turn result in particular livelihoods 'outcomes' (Scoones, 1998, 8).

rely on a collection of constituent elements; typically aggregated or secondary forms of data, such as Gross National Income, literacy and mortality rates (Mortreux and Barnett, 2017, 2). In light of this lack of consensus, this chapter attempts to provide additional analysis and insight to the wider literature through a focus on adaptive capacity at the household and community level.

1.1. Financial capitals

Financial capitals – savings, economic assets, loans and equipment – are widely recognised as a significant determinant of adaptive capacity. 'The rich are able to adapt better than others' was a common refrain among respondents in Laikipia who were frustrated that their limited financial resources hindered their own capacity to adapt. Wealth affords status and power and, by extension, access to production and exchange, opportunities and knowledge (Ribot and Peluso, 2003). Wealth and assets enabled Laikipian respondents to adapt existing livelihood activities by investing in improved technology, equipment or inputs, as well as paying for labourers, training and schooling to increase productivity or employability. For example, wealthy urbanites looking to diversify their livelihoods into horticultural farming are increasingly leasing productive farmland near to rivers from impoverished rural farmers. In contrast, poor households face 'an uphill battle to overcome entry barriers and steep investment requirements' (Barrett et al., 2001, 316).

What is more, in an increasingly cash-based economy, the relative importance of financial capitals vis-a vis other kinds of assets and attributes has arguably increased. A Nanyuki researcher explained how, 'Life is harder than it was. Everything is now commercialised – everything is for sale. You need to use money everywhere. People used to do things for free, but now they have to be paid to do them'. Under pressure to generate ready cash, growing numbers of households are turning to activities that provide faster economic returns. A Mukongo respondent complained that it takes up to nine months for livestock to mature to the point of sale, during which time there is 'no immediate money', and that 'this is the reason people are shifting to other activities that generate income easily such as shop-keeping or the hotel industry.' A similar scenario emerged among crop farmers, one of whom described how, 'People are shifting to business because there is reliable monthly/ daily income as opposed to crop farming.' For rural respondents, business activities thus represented an opportunity to earn much-needed, ready cash. These have arguably 'snowballed' from occasional to year-round activities as local economies increasingly revolve around cash (Bryceson, 1999, 36).

Economic status thus influences the range of different livelihood activities that a household can undertake and, by extension, their capacity to adapt. And yet, this does not explain why poor households interviewed during fieldwork were also able to adapt. While livelihood diversification was widespread among respondents from all wealth categories 1-5 (see Chapter 3 for explanation of methodology), it was most prevalent amongst both the poorest and the richest respondents (see Chart 2 below). While a relationship between financial capitals and adaptive capacity exists, it is complex. Similar findings emerge from research in Kenya and Tanzania: While Maasai pastoralists from across the wealth spectrum are diversifying livelihoods in response to land tenure changes, this diversification is stronger among the poorest who – struggling to recover their losses after losing their livestock during

drought – have few options but to shift instead to other livelihood activities (Homewood, K et al., 2006).

Chart 2: Average number of livelihood activities according to socioeconomic status

Viewed from this perspective, poor households adapt because they have little choice but to do so. Financial capitals are therefore less likely to determine households' initial capacity to adapt, than the range of options and opportunities available to them. For poor households, options for adapting are often limited to activities (such as home-brewed alcohol, charcoal burning, sand harvesting, sex work) that require low initial capitals and provide quick returns. While diversifying in these ways may provide financial respite, it also exposes households to considerable risks, which can undermine their adaptive capacity overall and in the long run. Financial capitals influence not just options, therefore, but also outcomes. Given the circular nature of adaptive capacity and adaptation, poor outcomes limit subsequent options for adaptive capacity. So that, in the long run, adaptations taken in the context of low financial capitals can undermine and erode capacities to adapt in the future. As summed up by a community informant in Nanyuki, 'The rich…benefit the most, as the poor become even poorer.' These ideas are explored in more detail in Chapter 6.

1.2. Natural resources

Studies suggests that adaptive capacity increases with ownership and access to natural resources, such as land, water and pasture – particularly for livelihoods that depend on crops and livestock (see, for example, Chepkoech et al., 2020; Deressa et al., 2009; Roncoli et al., 2010). Similar findings emerged from fieldwork. Respondents with access to sufficient irrigation water, for example, were able to adapt their livelihoods from seasonal, subsistence farming to year-round cash crops. In contrast, an elderly crop farmer described being unable to expand into livestock farming and milk production, as he did not have enough land or pasture for keeping cattle. What is more, land is a lucrative asset that can be sold off and invested into livelihood activities or used as collateral to secure loans or investments with which to adapt and diversify livelihoods. 'When I bought this land it cost

me KES 55,000, but now it is valued at 1.7 million', explained a 71-year old male interviewed in agricultural Baraka.

Access to natural resources thus facilitates options and, by extension, the capacity to adapt. However, echoing the findings around financial capitals, limited natural resources can also give rise to livelihood adaptations that occur out of coercion rather than choice. This explains why livelihood changes are occurring against a backdrop of economic decline, unreliable rainfall and land scarcity (Chapter 4). This tendency to adapt in the context of limited natural resources was particularly common amongst young interviewees. In a context of diminishing land parcels, high costs and poor returns, 'agriculture is not promising to youths', explained a group of teenage interviewees. Likewise, within pastoral communities, many Laikipian youths are switching to business or moving to cities for work, with some dropping out of pastoralism altogether (Ameso et al., 2018; Eriksen and Lind, 2009; Letai and Lind, 2013; Oba, 2013).

In many instances, these livelihood changes symbolise a lack of options and, ultimately, the erosion of adaptive capacity in the long run. And yet, for those who have come to see rural livelihoods that revolve around farming or pastoralism as undesirable – especially amongst youth who no longer want to conduct their livelihoods in the same way as their parents – this shrinking access to natural resources arguably frees them to adapt along new pathways. In moving to town, however, young people are not necessarily abandoning rural livelihoods altogether. Leaders of a youth group explained how their roster system enables members to rotate between working or studying in town and returning to the village when it is their turn to farm. Group members also described moving to town temporarily to work and raise the capital needed to set up future rural ventures, such as agri-business and greenhouse farming. These examples call for a more nuanced reading of the relationship between natural resources and adaptive capacity. One that takes into account generational differences, temporal dimensions and changing preferences that go beyond static snapshots.

A nuanced reading would also get beyond quantitative assumptions that more is automatically 'better' when it comes to adaptive capacity. Issues of quality, security, location and proximity also influence the extent to which natural resources build adaptive capacity – as illustrated by the case of water. While the increase in the number of boreholes in Laikipia North has improved supply, the water is often too salty or polluted to drink, meaning that many households must divert scarce resources (which could be invested in adapting) to purchasing water. Likewise, while urban respondents benefited from better access to piped water, they also explained how water-borne diseases (diarrhoea, E.coli, typhoid, H.pylori and amoebae) found in polluted water result in poor health, additional spending on hospital bills, an inability to work and a loss of income. 'This results in a lot of money being used for treatment that could otherwise be used to buy food or household investments,' explained a community leader interviewed in Nanyuki.

Similar considerations emerged in relation to land. It is not just access to land, but also the security of land tenure that influences adaptive capacity. For example, leaseholders admitted to only being willing to invest a limited amount of time and money into farmland that they do not own themselves. Location and proximity of natural resources are also a

factor. Respondents with distant plots of land saw their returns diminished by the costs of hiring labourers, paying for transport, and loss and theft of produce in their absence. Likewise, within pastoralist communities, membership of group ranches has improved access to land for some respondents. However, others complained that these have been undermined by absenteeism, an influx of livestock owned by influential outsiders (often politicians), and a failure to share resources in a sustainable way. In all of these examples, a range of overlapping factors come together to ultimately influence the ways in which access to natural resources contributes to adaptive capacity. The relationship between natural resources and adaptive capacity thus emerges as complex, contested and changeable.

1.3. Human attributes

Human attributes are the skills and knowledge needed to adapt. Without the right knowledge and information, households struggle to leverage or convert their assets and resources to their advantage, and thereby build their adaptive capacity. 'Those with better community sensitisation, knowledge and training are able to adapt better than those without knowledge of diversification', explained an Ngenia resident. As summed up by Smit and Pilifosova, 'Successful adaptation also requires a recognition of the necessity to adapt, knowledge about available options, the capacity to assess them and the ability to implement the most suitable ones, all of which rely on the wide availability of information and skills' (2003, 23). The skills associated with human attributes influence households' confidence, interest, flexibility, willingness and self-sacrifice, all of which have a bearing on their capacity to adapt (Adger et al., 2009; Marshall et al., 2012; Truelove et al., 2015).

In addition to knowledge and skills, human attributes incorporates physical, emotional and mental health, which are also closely correlated with adaptive capacity. The inclusion of social, personal, symbolic and psychosocial aspects – which are largely overlooked in favour of a dominant economic calculus – contributes to a more 'fine-grained understanding' of adaptive capacity (Adger et al., 2011; Waters and Adger, 2017, 43). They reflect the subjective and socially constructed limits to adaptation – in particular the goals, values, risks and social choices that interact with the constraints of the physical world to determine whether people are willing and able to adapt in the first place (Adger et al., 2009). Indeed, difficult emotional experiences shape adaptive capacity and, as summed up by a respondent, explain why, 'Some people are able to adapt to challenges while others go into depression.'

For many reasons, therefore, human attributes have a strong bearing on adaptive capacity – as the differential experiences of young and old generations now illustrates. During interviews, respondents were asked to specify what level of schooling they had attained (see Table 1). Young respondents tended to have noticeably more years of schooling, as well as better literacy and language skills than older respondents (see Charts 3 and 4 below). In this context, older respondents explained how low schooling and literacy made it difficult for them to diversify livelihoods and compete for better paid jobs. For example, a 76-year-old widow from Ngenia explained how, 'I don't have resources to change my livelihoods such as finances to put a stock for business. My education level is lower since I only went to adult school which I never completed. This reduces the chances for me to get a better job in government or the private sector'. Poor Swahili and English language skills were also an

obstacle to adaptive capacity, especially amongst older generations. 'I never went to school', explained a 64-year-old Il respondent from Olourko (Il Polei), 'And so I find it difficult communicating and interacting with people from other communities. I only speak Maasai.' Limited language skills hindered older respondents' ability to interact with officials in government, banks, police, and hospitals. This, in turn, limited their access to the kinds of opportunities and securities that build adaptive capacity, as they struggled to apply for loans and bursaries, report crimes or injustices, sign up for welfare, or register land titles, births and marriages.

In addition to having lower education levels, older respondents were also more likely to have health concerns or have become widowed – both of which act as obstacles to adaptive capacity. Young people are described as energetic risk-takers, willing to adapt and try out new livelihood activities elsewhere. In contrast, 'The elderly don't have the strength to engage in other income-generating activities.' Poor health undermines adaptive capacity, either because respondents were obliged to divert significant financial resources to the costs of treatment, or because their ability to work and pursue a productive livelihood had become weakened. Another respondent explained how life became very hard when his wife died – he became depressed, gave up his job as a driver and scaled back his livelihood to subsistence farming, admitting that, 'It has been very hard for me to cope with life. Loneliness is too much as I now live alone in this house.' In this regard, the ability to adapt may be strengthened or constrained by perceptions of capacity, marginalisation and empowerment (Waters and Adger, 2017, 47).

Table 1: What is the highest level of education that you have attained?

Code	Level of schooling
0	No schooling
1	Started primary school, but did not complete
2	Completed primary school
3	Started secondary school, but did not complete
4	Completed secondary school
5	Undergraduate - diploma
6	Undergraduate - degree
7	Post-graduate
8	Above

Chart 3 – Scatter graph depicting schooling level and ages of respondents

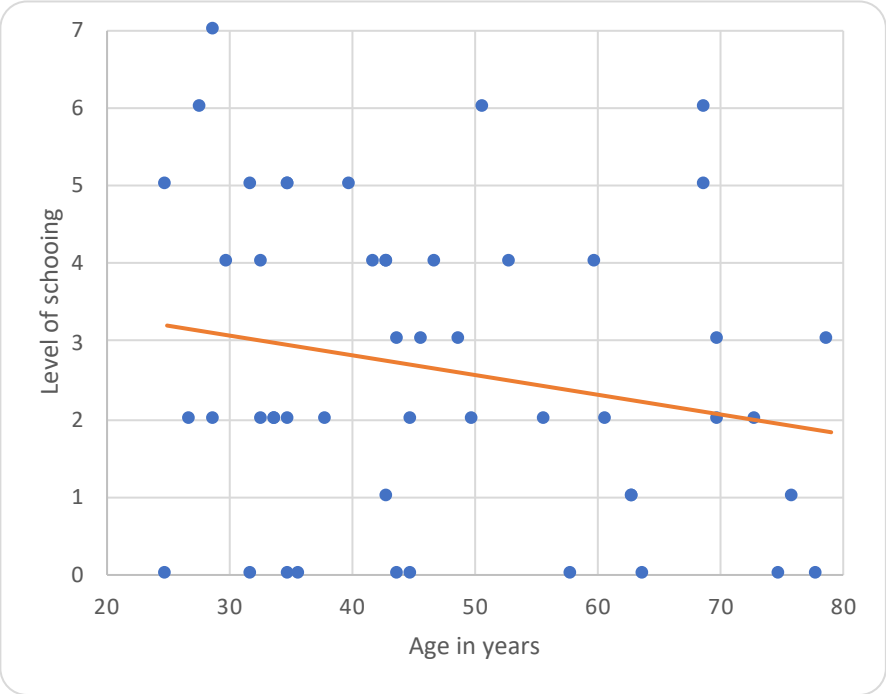
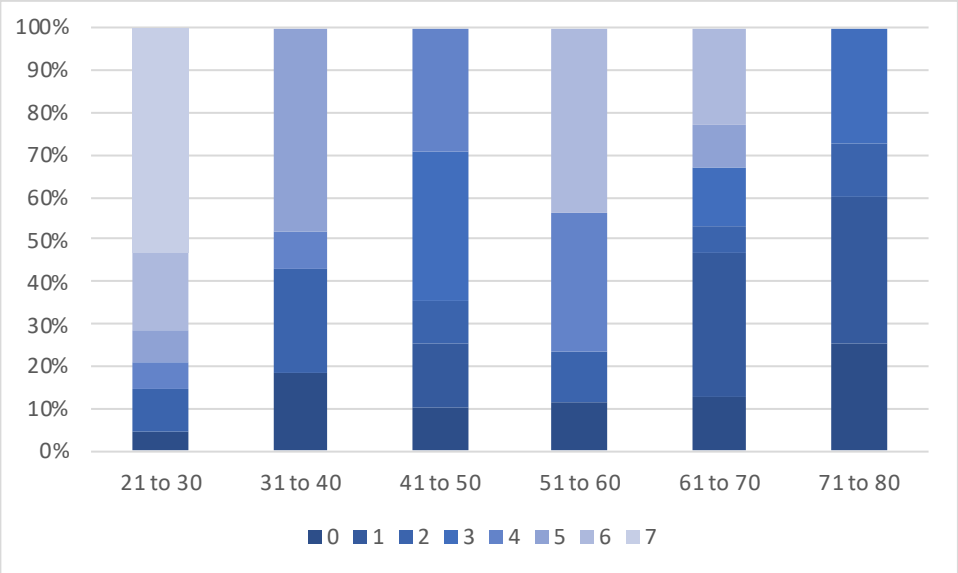


Chart 4: Schooling levels according to age brackets



1.4. Social relations

Emphasising the 'social' requires looking beyond individual dynamics and focusing instead on the socio-spatial relations that exist between people and places. This echoes elements of actor network theory espoused by Michel Callon, Bruno Latour, John Law, and Arie Rip, and the idea that 'the social is nothing other than patterned networks' (Law, 1992, 280). In the context of a subsistence-based society like Laikipia, social relations – the networks, interactions and bonds that exist between different members of a household or community often spread across different locations – constitute an important component of adaptive capacity. Indeed, in the absence of reliable state-sponsored social welfare programmes,

aspects of trust, reciprocity and exchange are the basis upon which many households obtain loans when banks refuse, receive emotional support in times of stress, find out about jobs and business opportunities, and fill labour gaps through family and community reserves.

These advantages of social relations for adaptive capacity were apparent during interviews. When asked why it was important for her to stay in touch with members of her household elsewhere, a 34-year-old female business owner and pastoralist in Laikipia North replied, 'For social and economic reasons'. She explained how she relied on translocal social networks not only to keep abreast of her family's well-being, but also to find out what contributions she needs to make to the family business. A 42-year-old business owner and subsistence farmer interviewed in agricultural Ngenia gave a similar response. Maintaining social relations was important as it enabled her to share information about business development and labour opportunities with her siblings. Viewed from these perspectives, translocal social relations build adaptive capacity by enabling collective access to resources, knowledge and assistance (Adger, 2003; McDowell and Hess, 2012; Rockenbauch and Sakdapolrak, 2017).

While a positive relationship between social relations and adaptive capacity thus exists, it is nonetheless complicated by two main factors: inequalities and changing pressures over time. Firstly, social networks are often unequal, resulting in uneven and undesirable outcomes of adaptive capacity for some (see Chapter 7). This calls for a critical analysis of social relations that recognises that networks are not always an inherent social good (Pelling and High, 2005). For example, a 35-year-old migrant who had moved from Moyale to Nanyuki in 2014 described maintaining strong social relations with his parents and six siblings who had stayed behind in Moyale. In addition to calls and visits, he also sent financial remittances to his mother and two of his brothers. He complained that the financial pressures of supporting family members in this way had curtailed his own adaptive capacity. Unable to save enough money to invest in a shop for his wife, he had been prevented from adapting his own livelihood in the ways he had wanted. Likewise, another respondent admitted, 'Maybe I could have bought more land or established a bigger business if I did not provide so much support to my household and wider family'.

In these scenarios, the burden of social networks can prevent those who are trapped in unequal relations from building and investing in their own livelihoods, while simultaneously enabling the adaptive capacity of connected others. This complicates the relationship between social relations and adaptive capacity, and raises questions about the sustainability of these social arrangements in the long run. Indeed, Newman and Dale (2005) argue that a 'dynamic balance' is required for adaptive capacity. They differentiate between 'bonding' ties (relations between closed, tightly connected networks, such as family, friends or neighbours) and 'bridging' ties (relations that connect one network to another). When a balance between the two is achieved, bridging ties can help to relieve bonding ties' insular and isolating effects,[41] while bonding ties build the group resilience required for absorbing the benefits of bridging ties.

[41] For example, limiting access to outside the network and imposing excessive claims on those inside.

A second aspect that complicates the relationship between social relations and adaptive capacity is that the relative importance of social relations for adaptive capacity shifts over time in relation to wider events and changes. This is illustrated by the experience of pastoral communities in Laikipia, and elsewhere in Kenya. In the past, strong social networks among pastoralists were usually sufficient to ensure access to pasture and water during drought. While social relations are still important, their role has been eroded by wealth and status. In a context of water scarcity, land privatisation and a cash-based society, access is increasingly dependent on financial transfers and the power to negotiate with private ranches. As explained by an informant, pastoralists wanting to move their livestock towards pasture must now pay a pre-negotiated fee of 120 shillings (US$ 1.10) per cow to landowners.

This suggests that the relative weight and significance of social relations ebbs and flows over time in relation to wider events. What is more, when these events take over, such as during conflict, social arrangements can unravel altogether. For example, an NGO informant described how Laikipian pastoralists had improved social relations with a number of ranches to enable access to land and pasture during especially dry months and avert widespread livestock losses. 'This system has been working well for a number of years', he explained. Following the 2017 violent land invasions, however, social relations between Laikipian pastoralists and landowners broke down for a time. In spite of the evidence that the violence was mainly instigated by politicians and those from outside of the county, landowners were sceptical about the non-involvement of Laikipian pastoralists, and became reluctant to admit their livestock onto their land, even in return for payments. While social relations have since improved, it seems plausible that future pressures and stresses will continue to exert influence. Static snapshots of the relationship between social relations and adaptive capacity are thus misleading in an evolving context (Rockenbauch and Sakdapolrak, 2017). In support of this, Latour (2005) defines 'social' in terms of connections, associations, re-associations and re-assemblings, thereby rejecting altogether the idea that 'social' can ever designate a 'stabilised', 'specific' or 'material' state of affairs.

1.5. Physical infrastructure

Physical infrastructure can be defined as the infrastructural support and technological solutions necessary to adapt – in particular the 'transport', 'regulated' (water and electricity) and 'social' (schools and hospitals) apparatus (Torrance, 2009, 81). These kinds of physical dimensions shape the delivery of public services – such as defence, law enforcement, power generation, water, sanitation, transport, health care, social security, skills development, knowledge and innovation – that contribute in significant ways to households' capacity to adapt. Transport infrastructure, for example, narrows distance and improves physical access to resources and opportunities, such as markets and jobs, that are located elsewhere. Likewise, electricity enables communities to light their homes, charge phones, cold store produce and invest in modern technologies required for adapting into new livelihoods. Access to reliable schools and hospitals shapes access to knowledge and information and strengthens physical and mental health required for adaptive capacity.

Infrastructural improvements, particularly in communications and transport, have played a key role in facilitating the uptake of rural-urban livelihoods (Chapter 4). In spite of this, these improvements have not been experienced evenly throughout Laikipia County. The

unequal allocation of political and financial resources over generations has led to a stark north-south divide in access to physical infrastructure (see Table 2). 'Our government does not give us priority. We feel as if we are in another country, not Kenya', lamented a community informant from the North. Laikipia North residents in Dol Dol and Il Polei continue to depend on all-weather roads that have not been upgraded for decades and become unpassable during the rains. There are no bridges to cross the rivers that traverse the Dol Dol-Nanyuki road, which makes road transport particularly difficult during rainy seasons. As explained by a Kuri Kuri informant, many northern Laikipians 'only travel to meet urgent needs'.

Table 2: Inequalities in access to physical infrastructure, Laikipia East and Laikipia North

Percentage of the population with:	Laikipia East	Laikipia North
Access to mobile phone service (KNBS, 2017)	65%	33%
Access to pit latrines (Government of Kenya, 2018)	97%	42%
Under 5 immunisation coverage (Government of Kenya, 2018)	78%	48%
Primary level education (KNBS, 2013)	54%	43%
Secondary level education (KNBS, 2013)	32%	10%
Access to improved water source (KNBS, 2013)	65%	31%

Government offices, and health and education services are also under-resourced, under-funded and under-staffed. 'When we go to the hospital in Dol Dol, we don't get modern medicines,' complained a respondent in Laikipia North. According to another, 'The whole of Laikipia North has about three police stations unlike other sub-counties in Laikipia. At the time of fieldwork, there were also no physical banks in Dol Dol town, meaning that residents had to travel to Nanyuki to make payments that could not be transferred using M-Pesa. Mobile phone coverage is also weaker in the north due to a shortage of boosters. Surveys indicate that only 33 per cent of residents in Laikipia North have access to mobile phone service, compared to 53 per cent in Laikipa West and 65 per cent in Laikipia East (KNBS, 2017).

While the north-south divide is stark significant disparities also emerge within these different groups, and which are overlooked by north-south, pastoralist-farmer divide. Taken together, these findings point to a more nuanced reading of the relationship between physical capitals and adaptive capacity. For example, northern communities like Loisokut, which are located near to roads, in reach of mobile coverage and in sight of public services are better off than more remote and disconnected communities, such as Bokish and Musul. Moving south, geographically remote farming communities and low-income slum dwellers also struggle. A 49-year-old respondent who had relocated from Nanyuki town to rural Ngenia explained that, 'Financial resources are still located far from this village. There is a dispensary here but it is not well equipped. We have electricity, water and good phone network, but transport is difficult and roads are poor. The markets are also located in towns. We don't have markets here.' Likewise, nearly all respondents complained of high transport costs, suggesting regular and affordable journeys that might facilitate adaptive capacity remain out of reach of low income Laikipians, wherever their location.

2. Wider structural factors also play a role

Adaptive capacity goes beyond the narrow confines of individual household assets and attributes. It is shaped and mediated by others within the community as well as the broader context in which they reside (Hoque, 2016; Smit and Pilifosova, 2003). In the context of Laikipia, this enabling environment incorporates gender and generation, ethnicity, community, governance and conflict. These broader, structural factors are explored in detail below, and can help to contextualise the counter-intuitive finding that, in many instances, respondents with more assets or resources don't necessarily adapt to a greater extent than those with fewer resources at their disposal.

Indeed, Maasai pastoralists in Laikipia North reside in the most ecologically challenging fringes of the county with limited access to health, education, transport, income opportunities and other infrastructure. Viewed from this perspective, their access to the many of the assets and attributes that comprise adaptive capacity is relatively low. However, in spite of their marginalisation, Maasai pastoralists are still adapting, often more so than other groups. Other studies have reached similar conclusions. For example, in Endau, Kenya, contrary to expectations, important trading decisions upon which local livelihoods rely are influenced less by the interests of well-connected and affluent traders than by ethnic identity and conflict discourse (Eriksen and Lind, 2009). Similarly, in Burkina Faso, the superior adaptive capacity (in terms of wealth, natural resources and social standing) of the Fulbe was undermined by ingrained cultural values that prevented them from adapting as well as the traditionally disadvantaged Rimaaibe ethnic group (Nielsen and Reenberg, 2010). Likewise, poorer and more marginalised Dalit fishermen are adapting better than the Pattinaver, who – in spite of their higher standard of living and social status – have become locked in an overly specialised fishery due to complex histories, traditions and values (Coulthard, 2008). In all of these examples, superior access to assets and resources doesn't necessarily equate to a higher capacity to adapt.

2.1. Gender and generation

Wider gendered and generational dynamics influence opportunities and outcomes of adaptive capacity in often roundabout and concealed ways. To illustrate this point, the analysis builds on findings from Chapter 4 that greater equality is enabling women and youth to adapt via rural-urban, mobile and diversified livelihoods to a greater extent than ever before. While this may be the case, as this section now argues, certain limits, trade-offs and compromises persist that limit the avenues through which men, women, young and old are ultimately able to adapt. Power relations are shifting in Laikipia, though not as extensively as might first appear.

Growing numbers of Laikipians from across the gendered and generational divide are taking up rural-urban livelihoods. While access to rural-urban livelihoods has thus widened, the makeup of livelihood activities that are available to men, women, young and old continue to be differentiated by gendered and generational considerations. Young men tended to diversify through work in the transport sector (as motorbike taxis or drivers), as security guards and watchmen, in sand harvesting along the Dol Dol-Nanyuki corridor, and as livestock brokers and butchers. In contrast, women undertake rural-urban livelihoods that

involve ‘female’ activities, such as beadwork, charcoal burning, shop-keeping, housekeeping, trading clothes and domestic goods in markets. Similar dynamics also curtail patterns of mobility. Married women, for example, were more likely to engage in daily commuting than longer-distance migration because they must return home each day look after the family and home. Men and, to a lesser extent, women without children, were more likely to move further and for longer periods of time as they are not expected to fulfil domestic responsibilities to the same extent. In other words, women are increasingly able to adapt, but only as long as this does not threaten to destabilise their ability to perform traditional roles and responsibilities.

These examples highlight the intersectionality of gendered and generational pressures. The scope of adaptive capacity is determined not just by the roles and responsibilities that are allocated to men and women, but also by what is expected of them at different stages of their lives. For example, Laikipian women of child-bearing age with young children to care for demonstrated less capacity to adapt along more radical or ambitious pathways due to limited disposable income, less time and a lower appetite for risk. Likewise, in South East Asia, ‘young’ nuclear households with children were worse placed to exploit opportunities in the non-farm sector than ‘mature’ households with adult children (Rigg, 2006, 73). This suggests that, over time, the adaptive capacity of parental generations can increase as offspring grow up. A female described how, when her children left home and became independent, she was able to save more money and, ‘strategically focus on other activities, such as livestock farming and urban crop farming.’ Nevertheless, even as children mature, new responsibilities can emerge (such as taking care of ageing parents) that subsequently squeeze adaptive capacity in different ways. An Ngenia respondent was forced to sell all her livestock to pay her mother’s hospital bills, and the stress of subsequently caring for her at home meant that she had developed health problems of her own – so much so that she gave up livestock farming altogether. These examples reinforce the idea that adaptive capacity is a fluid concept that ebbs and flows over time depending on the combined impacts of gender and generation on people’s circumstances and responsibilities.

These wider gendered and generational dynamics also set the tone for the burden of responsibility for adapting. Gendered stereotyping casts women as inherently more serious, hard-working, adaptable, versatile and self-sacrificing than men. As expressed by a male informant, ‘Women are better able to adapt than men. This is because most men are involved in alcoholism and waste a lot of money in leisure than investment.’ While such perceptions unfairly emanate from popular stereotypes, they also reflect the unequal reality that many women still shoulder ultimate responsibility for children, and so have little choice but to make ends meet by working harder to adapt. In such scenarios, women often carry the double burden of earning an income whilst also managing household chores. ‘I feel pressed to the corner providing for my entire family with no help from anyone’, admitted one female respondent. These competing concerns and commitments can undermine adaptive capacity in the long run. Several respondents recognised that women’s ability to engage in productive income-generating activities is limited by the significant time and energy they spend on daily activities such as collecting water for the household, accompanying children to distant schools, and looking for pasture for livestock.

2.2. Ethnicity

Ethnicity interacts with adaptive capacity in complex ways in Laikipia, by interlinking with geography and occupational identity - the identity that is created as a result as working in a particular occupation. This three-way influence is illustrated by the case of Maasai pastoralists residing in Laikipia North, who face ingrained and significant discrimination and specific challenges as a result of their ethnicity, occupation and location. [42] This has limited their access to many of the assets and attributes that contribute to adaptive capacity, in particular natural, physical, human and financial.

Pushed out to the most arid and marginal areas of Laikipia during the colonial era, many Maasai pastoralists remain today in the most ecologically challenging fringes of the county. Patterns of rainfall and humidity vary considerably across Laikipia due to its steep rainfall gradient.[43] While communities living near to Mount Kenya enjoy relatively higher and more predictable rainfall, a semi-arid to arid climate characterises the north.[44] This explains why respondents in Ethi and Marura described no rains for several seasons in a row, while Il Polei and Dol Dol residents communicated having 'two years without any rain at all.' As well as being more ecologically challenging, the north of Laikipia also exhibits worse physical infrastructure in terms of roads, transport, communications, schools, health care, and banks (as already explored in Section 3.5). Poor physical infrastructure impacts on human attributes. And, faced with a shortage of schools and teachers, respondents born in the pastoral areas of Laikipia North had received significantly less years of schooling than respondents born in farming, agricultural and urban areas to the south of the county (see Table 3). On average, pastoral respondents had completed primary school, but not started secondary school. Although, when calculated as mode (the value that appears most often within a data set), most pastoral respondents had received no schooling at all.

Table 3: Modal and average levels of schooling according to place of birth (refer to Table 1 for coded explanation of schooling levels)

	Mode	Average
Respondents from pastoral areas	0	2
Respondents from farming/agricultural areas	4	3
Respondents from urban areas	4	3

In addition, minority groups, such as Maasai pastoralists and Yaku hunter gatherers (who also reside in Laikipia North) routinely complained about discrimination in accessing jobs,

[42] It should be noted that this thesis focuses on the Maasai that were moved to the Dorobo Reserve in the Mudgogodo division within Laikipia during the colonial era, rather than the Maasai who were displaced further away to the Maasai reserve in Kajiado and Narok Counties, where they remain today (Cronk, 2002).
[43] Rainfall drops from around 800 mm per annum near the mountain watersheds in the south-west and south-east to just 300 mm in the north (Graham et al., 2009).
[44] Rainfall in Laikipia concentrates in three main phases: the 'long rains' (March – May), the 'continental rains' (July – August) and the 'short rains' (October – November). The long and continental rains dominate in the western section of the Laikipia plateau, the central section of the plateau receives the long rains, and the southern section (and the northeastern slope of Mt Kenya) gets its rainfall from both the long and short rains (Berger, 1989). Consequently, the wettest areas of Laikipia are Mount Kenya, the Nyandarua Range and the hill zone on the edge of the Rift Valley. Rainfall decreases moving northwards, especially north of Ewaso Ng'iro and Ewaso Narok, which are the driest areas in Laikipia (Berger, 1989).

opportunities and services as a result of their ethnicity. This subsequently limited their access to the financial capitals that contribute to adaptive capacity. During interviews, pastoralists were routinely and negatively associated with theft, conflict, insecurity, environmental degradation and illiteracy. Consequently, a respondent explained how hostile and suspicious registry officials prevented his sons from obtaining national IDs by unfairly demanding they be repeatedly vetted through a timely and expensive process. Without official documentation, his sons faced difficulties in moving freely, securing bank loans, accessing jobs in the formal sector, and registering for social services – all of which undermine access to the assets and attributes that contribute to adaptive capacity.

Pastoral communities have long been marginalised within Kenya, as their minority status means they cannot muster the votes needed for political representation at the national or county level, and are regularly side-lined by more populous and politically dominant groups linked to the agricultural sector. This has been exacerbated by devolution which, by strengthening the politics of identity and ethnic identification, has reinforced dominant ethnic groups' access to resources and opportunities, at the expense of minority groups (D'Arcy, 2018). As explained by a Nanyuki informant, 'Tribal favouritism means that your chance of being employed within the county system is very difficult. If you don't speak the language of the dominant group or belong to the right politically affiliated party, you are considered third or fourth in line for a job.' In this context, pastoralists are routinely ring-fenced into low-pay, low-status occupations, such as night watchmen, day labourers and sand harvesters. Lacking in protection, those working in these kinds of jobs can be sacked at any time and must often work under poor conditions for long hours.

And yet, in spite of their marginalised status and limited access to the kinds of assets, opportunities and attributes that build adaptive capacity, many pastoral Maasai from Laikipia North demonstrated a strong propensity to adapt – in many cases more so than other ethnic, geographic or occupational groups. This is not to say that all northerners adapted – many did not. Or that southern communities did not also adapt their lives and livelihoods, as many did. Indeed, a Nanyuki academic acknowledged that, 'In a more direct way you see the pastoralists coming out strongly, but the farmers are also coming prepared'. Rather, the point being made is that adaptive capacity cannot be explained by a simplistic calculation of financial capitals, natural resources, human attributes, social relations or physical infrastructure alone. These contribute to adaptive capacity, but they do not tell the whole story.

So why have Maasai pastoralists in northern Laikipia succeeded in adapting in spite of limited opportunities, resources and asserts? One interpretation is that they have a long history of dealing with scarcity and discrimination, and have subsequently, over time, found ways to adapt. Prior experience of environmental scarcity can help communities to understand otherwise abstract risks in more concrete and familiar terms, making them more likely to seek out ways to adapt (Demski et al., 2017). Whereas Maasai pastoralists have resided in Laikipia for generations, Kikuyu farmers arrived more recently during the post-independence resettlements, and have arguably had less time to find ways to adapt. 'It takes generations to adapt and many of the farmers only settled properly in the 1980s. They haven't had long enough to adapt', explained a water specialist interviewed in Nanyuki. This suggests that the length of time which a household has been exposed to challenge or

opportunity can shape and mediate adaptive capacity – adaptive capacity may be lower at the onset, but that as households become increasingly accustomed to their circumstances, their ability to adapt may increase with time.

A second interpretation is that, in light of the array of challenges and discriminations they face, pastoral Maasai in Laikipia North have no choice but to find ways to adapt. This is the idea that communities with fewer assets, and therefore less to lose and limited options, may be more inclined to take risks and adapt. A migrant in Nanyuki explained how he was left with no option but to adapt his livelihood when he lost his livestock to drought and his family fell into poverty. Similarly, a pastoral respondent in Olampaa (Il Polei) explained that 'Everyone in this neighbourhood and the wider community are changing livelihoods. This is because we have suffered a lot from loss of livestock to drought, cattle rustlings as well as invasive species. This has driven the people to abandon their traditional livelihood and start other means of making a living.' This viewpoint was shared by a Nanyuki activist, himself a pastoralist: 'Having livestock was the best means of making ends meet. But in the current climate, this is no longer an option and we must expand and adapt to current changes. There is no way to raise livestock in the old ways, so have to change.' Writing more broadly across Africa, Fratkin (2013, 205) argues that livelihood adaptations have 'increased steadily with declines in the sustainability of pastoral livelihoods.... Living at the margins has meant seeking out alternatives.' In these scenarios, low assets and opportunities don't necessarily prevent people from adapting in the first place. But, when adaptive capacity emerges out of coercion and a lack of options, this does raise questions about the kinds of outcomes that marginalised groups experience by adapting. This is explored in detail in the following chapters.

2.3. Community

Community is defined as, 'A group of people with diverse characteristics who are linked by social ties, share common perspectives, and engage in joint action in geographical locations or settings' (MacQueen et al., 2001, 1929). Although in a context of improved communications and transport, this definition of communities as grounded in a particular location or setting becomes more fluid (Allman, 2015; Turner and Dolch, 1996).

Ideas of community shape and mediate adaptive capacity in a number of ways. Firstly, community shapes adaptive capacity through attachment to place or way of life (Grothmann and Patt, 2005; Grothmann and Reusswig, 2006; Mortreux and Barnett, 2017). In this scenario, while households with a strong and vested attachment may be more inclined to adapt, they are also more likely do so by making incremental preparations and changes that do not require a significant change to their accustomed way of life. They are much less likely to embark on a transformational change to livelihood, location or identity, such as adapting by migrating away from their community (Adger et al., 2013; Marshall et al., 2012; Mishra et al., 2010). During fieldwork, attachment to place, community and way of life was a key factor for why some respondents avoided mobile or diversified livelihoods altogether. When asked why they chose not to move elsewhere, one respondent replied: 'This is because all my needs are fulfilled here. I do not see the need to move to another area…This is how I was brought up.' Likewise, another respondent replied, 'This is because this is where we can call home.' While these respondents appear to harbour little or no

regret in staying put, their attachment to place does nonetheless limit the geographic scope of their capacity to adapt.

A second way in which community shapes adaptive capacity is through collective action. 'The ability of societies to adapt is determined, in part, by the ability to act collectively' (Adger 2003, 387) – an idea echoed by a respondent who explained that, 'It is difficult to flourish as an individual'. Community-based savings groups (also known as saccos) and resource management associations (such as farming and water groups) can strengthen social solidarity, networking and access to new training, technology and ideas, which give members the resources and confidence needed for innovative and calculated risk-taking needed for diversifying livelihoods (Griffiths, 2019). By providing members with loans, market information, training and support, these community-based organisations brought their members closer to the resources and opportunities they needed to adapt livelihoods across rural and urban settings.

Similar findings emerge from research conducted by Wangari et al. (1996) on Kenyan women's involvement in 'mwethya' – community rural collective groups comprising 20 to 40 members, usually from a neighbouring cluster of farms within a village. Among women whose husbands who had migrated to Nairobi, group membership strengthened adaptive capacity by creating a pool of supplementary labour needed to sustain subsistence farming in their husband's absence. The community groups also built adaptive capacity by preserving the natural resource base, in particular dealing with soil erosion and water retention in their fields by working as a group to construct bench terraces, cut-off drains and check dams. Mwethya community groups thus have positive impacts on the resource base, landscape and economy. In the face of decline, such networks and associations provided households with increased access to productive and exchange resources, thus representing an important strategy for survival and accumulation.

And yet, collective action also has a complicated relationship with adaptive capacity. The collective strength of 'community' is often criticised for generalising, disguising and concealing not only the power relations that lead to division and conflict, but also important differences along the lines of gender, class, ethnicity and age groups (Agrawal and Gibson, 1996; Cannon, 2014). This complex relationship between collective action and adaptive capacity is reflected in the example of local water management. In an era of participatory conservation since the 1990s, natural resource management has been increasingly devolved from centralised government to local communities. This echoes a wider shift in mainstream discourse – from seeing local communities as responsible for environmental degradation to being at the forefront of protection efforts. In the case of Laikipia, collective action functioned as a powerful means of redressing inequalities in access to resources, and empowering communities to challenge more powerful groups whose unfair practices undermine their adaptive capacity. For example, the social and political pressure that a local community water group succeeded in exerting over a commercial flower farm deterred the owners from extracting water directly from the river – thereby improving supply for the wider community. As acknowledged by a respondent from the farm, the community would come to the farm, shout and create conflict. In doing so, they attracted the attention of the local government, and the reputational and political risk of extracting from the river became too high to continue doing so.

While collective action can successfully curtail the unsustainable practices of external groups, it can also sustain and even strengthen internal practices of unsustainable water use and management. As summed up by an NGO informant: 'Politicians have played a role. But so too have households – they are not blameless and are responsible for poor water management practices.' Under the 2002 Water Act, many communities established 'community water projects' (CWPs) which enable them to pipe water directly from river intakes. This improves access to water for their members, while also strengthening community cohesion, reducing water costs and improving livelihoods (Speranza et al., 2018). However, for downstream river users, CWPs epitomised unfair and unsustainable water use that contributes to the erosion of their own livelihoods and adaptive capacity.[45] In many cases, the pipes that connect communities to rivers are gravity-powered and, without taps or water storage arrangements, continue to flow even when the water is not being used.

At the same time, CWPs exhibited unequal and undemocratic structures that often privileged local elites, and enabled corruption and poor management of internal finances. A CWP member complained that as it is the Executive (Chairman, Treasurer and Secretary) who set the agenda and control who benefits, 'there has been a lot of corruption and nepotism', particularly when local politicians exploit CWPs as a platform for soliciting votes during elections. When powerful actors (at all levels) override local interests and constrain spaces for decision-making, the space for democratic ideals opened up by participatory conservation becomes constrained (Bixler et al., 2015; Cooke and Kothari, 2001). Viewed from these perspectives, and in the context of power relations and inequalities, community should not be seen as an inherently positive force for adaptive capacity. It can both promote and undermine opportunities, sometimes simultaneously.

2.4. Governance

The previous section introduced examples of private sector and community-level governance. This is now expanded upon through a focus on government (central and local levels) and NGOs. This multi-actor approach highlights the 'diverse and overlapping spheres of authority' that extend beyond government per se (Newell et al., 2012, 369). In the mainstream, governance is described as an ongoing process in which the interests of multiple actors are accommodated through formal and informal arrangements that enable cooperative action to manage common affairs (CGG, 1995, 2–3).[46] And yet, more political and unequal structures of governance emerge in Laikipia than this definition suggests, particularly when it comes to the management of natural resources. Indeed, the inclusion of multiple non-state actors does not make governance any less political. As this section will now demonstrate, NGOs, civil society and state actors alike all use their power and influence to control natural resources, such as land and water, for political gain.

[45] A study by the Mount Kenya Ewaso Water Partnership (MKEWP) suggests that 70 per cent of water is abstracted in the first ten kilometres of the Ewaso river flow from Mount Kenya.

[46] Informal institutions or arrangements encompass the everyday rules, norms and practices that shape social interactions and activities. Formal institutions are the physical manifestation of this informal framework – such as schools, universities, banks, companies, trade unions, NGOs, political parties, governments, police and companies.

Strong and effective governance can promote adaptive capacity, especially when implemented as part of a planned policy to improve adaptation. But when decision-making is driven by political interest, opportunities for building adaptive capacity can be lost. This was the case in the site selection of a water infrastructure project in Laikipia. The water system was originally intended for a location selected by the county water service provider as being both conducive and convenient for extracting water. However, following powerful political lobbying, the project was relocated to a new location that was much less suitable for water extraction, but which had a higher density of voters sympathetic to the ruling Laikipia establishment, and more likely to reward them with votes at the next election.

Local environmental politics are thus embedded within broader political economy processes at the national and even international levels (Newell, 2008). Political devolution has accentuated these dynamics. In addition to bringing resources and opportunities closer (Chapter 4), political devolution has also transferred inequality, corruption and conflict from the centre to the periphery. Indeed, political decentralisation has turned agro-pastoral regions such as Laikipia (previously of little governmental interest) into arenas of contest between political actors looking to control lucrative resources, often by exploiting ethnic tensions over land and water (Carrier and Kochore, 2014; Fox, 2018; Metcalfe et al., 2011).[47] Livestock was a key example of this. 'You may not realise it', explained an informant, 'as they use local herders to manage their livestock, but political leaders are very involved in livestock.' Interviews revealed how this gives political elites a vested interest in disenfranchising local herders, for several reasons. Firstly, disenfranchisement frees up marginalised pastoralists to work for them as casual herders. Secondly, it also reduces competition for pasture and water for their own herds. Thirdly, when disenfranchised pastoralists decide to sell their livestock, government elites purchase them at a discounted rate. And fourthly, the disenfranchisement of pastoralists frees up land and resources for more lucrative conservation activities.

'The government does not care about us,' was a common refrain voiced by respondents who felt that authorities are not acting in their interests or prioritising their needs. Trust in authorities has a complex impact on adaptive capacity. A lack of trust reduces adaptive capacity as households are less likely to adhere to government advice on planned adaptation measures. Paradoxically, however, reduced adaptive capacity is also associated with trust in the authorities – faith in governments' capacity to protect discourages households from making their own adaptive arrangements (Mortreux and Barnett, 2017, p. 5).

Concerns around governance and its impact on adaptive capacity extend to NGOs who have increasingly moved from the relative sidelines of lobbying rule-makers to a more central position of making and implementing the rules of governance themselves (Dingwerth and Pattberg, 2009). While the trainings offered by NGOs and CSOs can strengthen the human attributes associated with adaptive capacity, these groups are also seen as acting in their

[47] Pastoralism is an important source of revenue for local government in Laikipia. County sales taxes on cattle, goats and sheep have increased by around 100%. With the dispensation of the county government the cost of vaccines has also increased by a similar proportion, while the responsibility of livestock health management has been relegated to individual Maasai pastoralists.

own interests. According to an informant, who himself worked in the NGO sector, 'NGOs thrive on scarcity… They don't want an intervention that totally wipes out the issues that they are dealing with – and so they will lie about it. They take advantage of the locals.' NGOs are also accused of working in the interests of powerful elites that support them politically and financially and, in some cases, sit on their boards.[48] A local activist suggested that conservation NGOs and others proactively perpetuate the myth that pastoralism is no longer sustainable. 'This is being used as a means of taking away the land from pastoralists. The only reason that pastoralism is not sustainable at the moment is because land that was used for grazing has been annexed and fenced off, not because of practices that they have been using for decades.' This raises concerns that the rationale behind livelihood diversification – which is ostensibly framed in terms of adaptive capacity – has been co-opted by politics and vested interest in a context of weak governance.

2.5. Conflict

'Adaptive capacity depends on the ability of a society to act collectively, and to resolve conflicts between its members' (Brooks and Adger, 2007, 168). In extreme scenarios, conflict takes the form of armed violence and militarised confrontation. In the context of Laikipia, conflict takes on a broader, underlying and everyday dimension that encompasses 'criminality, banditry, theft, gendered violence, disputes, and tensions' (Eriksen and Lind, 2009, 818). This builds on analysis by Goodhand (2001, 7) that conflict is not necessarily a deviation from the norm, but is rather 'embedded in society and cannot be separated from ongoing political and social processes'. From this structural and all-pervasive starting point, conflict undermines adaptive capacity by intersecting with a wide array of everyday assets, opportunities and resources that cut across the financial, natural, human, social and physical spheres. Conflict is thus 'part and parcel' of the wider processes of change that influence adaptive capacity (Eriksen and Lind, 2009, 817).

Conflict in Laikipia is deeply rooted in the politics of natural resources. It emerges in a highly unequal and charged context in which an array of factors, many of which stretch back generations, come together. These include unreliable rainfall, land grievances, inter-ethnic tensions, race relations, rising vulnerability, growing unemployment, corruption and competition. While conflict is to some extent ever-present in Laikipia, it blows up when water, land and pasture pressures intersect with local politics. As summed up by a respondent, 'There are bad politics in the country that results in low flow of income, unemployment, collapse of businesses and conflicts that disrupt peoples' livelihoods.'

For instance, ongoing tensions over land have reached crisis points most notably in 2017, but also more recently in 2021. In 2017, drought-affected pastoralists moved tens of thousands of cattle onto private land following encouragement from local politicians seeking to win over their votes and support (Al Jazeera, 2017; Leithead, 2017). In the ensuing conflict, 25 people were killed, dozens injured and many more displaced from their

[48] Some of the large NGOs operating in Laikipia are accused of close government connections: they receive funding from county governments and members of their boards have run for political election. 'NRT member conservancies cover 10 counties in Kenya and all 10 county governments are now actively supporting these conservancies - with six providing financial support' (NRT, 2020). NRT's CEO ran as Samburu East MP in 2017 (Fundi, 2017).

land. During dry seasons, pastoralists from northern Laikipia and surrounding counties routinely move their livestock south towards the wetter areas of Mount Kenya in search of water and pasture. However, 2017 stood out not only as an election year, but also for the severe drought that exacerbated long-standing tensions over access to water and land. Indeed, a Nanyuki informant explained that communities never normally resort to such a level of violence unless encouraged to do so by politicians.

While conflict memorably flared across the county in 2017 and 2021, it is a routine challenge for residents in the north. Located at the intersection of Samburu, Isiolo and Laikipia counties, Laikipia North is vulnerable to violent cross-border conflicts grounded in water, pasture, land and politics. As explained by an informant, political leaders from neighbouring counties have a vested interest in keeping the border area insecure and porous so that their pastoralist constituents can enter Laikipia with livestock to access pasture during dry seasons. 'These people are heavily armed' explained respondents in Bokish who, lacking guns of their own and with limited police assistance, felt increasingly vulnerable to attack. Cattle rustling to replenish depleted stock has occurred for generations and is rooted in cultural practice, but has increased in severity, violence and frequency in recent years due to a combination of prolonged droughts, livestock commercialisation, proliferation of small firearms, erosion of livelihoods and growing unemployment (Buchanan-Smith and Lind, 2005; Opiyo et al., 2012).

The regular nature of these raids and the subsequent loss of livestock depletes financial capitals, erodes social relations and exhausts the emotional resolve to adapt. An Oloruko respondent explained how cattle rustling is a 'very big blow to our community' that has made his people 'poorer day by day.' Another respondent explained how the loss of all her livestock has taken her 'many steps back' as 'finding the capital to buy other livestock will take a lot of time. Those are resources wasted. This over time continues, thus widening the poverty gap for my household.' On top of this, respondents also lost livestock to wild animals (wild dogs, lions, leopards, monkeys and hyenas), further depleting their asset base and undermining their capacity to adapt and diversify. One respondent had lost six goats in the month preceding the interview; the equivalent loss of US$ 300 overnight. Others explained how they had had to abandon efforts to expand their livelihoods into crop farming as their plants are eaten by roaming animals.

3. Concluding remarks

This chapter has sought to develop a framework for adaptive capacity that will provide a foundation from which the chapters that follow can better analyse the relationship between rural-urban livelihoods and adaptive capacity (see Chart 1). This framework seeks to get beyond the 'one-size-fits-all assets-based theory that assumes that adaptation action is commensurate with the possession of capitals' to instead take a closer look at 'how adaptation is actually practiced across diverse contexts and scales' (Mortreux and Barnett, 2017, 1). Whilst being specific to Laikipia's context and history, this framework is designed to be sufficiently flexible and multi-faceted to allow for differences between groups as well as changes over time.

According to this framework, adaptive capacity among Laikipian households is shaped by a collection of multiple assets and attributes that are influenced and moderated by a set of wider structural factors. These assets, attributes and factors include financial capitals, natural resources, human attributes, social relations, physical infrastructure, gender and generation, ethnicity, community, governance and conflict. Not only are these overlapping, but their relative importance ebbs and flows over time, reinforcing the idea that static snapshots of adaptive capacity are misleading in an evolving context. What is more, the relationship between these various aspects and adaptive capacity remains complex, contested and changeable. Improved access to financial, natural, human, social and physical resources, for example, doesn't automatically build adaptive capacity when the wider enabling environment is not conducive to this. Such resources can simultaneously open up and close down opportunities for adaptive capacity depending on the wider circumstances.

Access to resources and opportunities thus shapes rather than determines adaptive capacity. More is not necessarily 'better'. With this in mind, this framework does not allow for adaptive capacity to be measured or calculated. It is not simply the sum of its parts. Capacity to adapt ultimately materialises along different pathways, influenced by the individual agency (goals, risks, values and preferences) of those involved as well as wider structural circumstances (including both constraints and opportunities) in which they find themselves. This dual influence of structure and agency can help to explain the counter-intuitive finding that, in many instances, respondents with more assets or resources don't necessarily adapt to a greater extent than those with fewer resources at their disposal.

Issues of choice and coercion have emerged throughout this chapter. Maasai pastoralists, women, young people, the poor, and those lacking in access to land, water and pasture often have little choice but to adapt in order to make ends meet. While access to resources and opportunities doesn't always determine households' initial capacity to adapt, it does influence the range of options and opportunities available to them, and subsequent outcomes. Given the circular nature of adaptive capacity and adaptation, adaptations taken under duress can erode adaptive capacity in the long run. Households that adapt under these terms may find that they are able to 'get by' rather than 'get ahead', and are 'surviving' rather than 'accumulating'. These kinds of mixed outcomes are now explored in more detail in Chapter 6.

Chapter 6 – Livelihoods Diversification and Adaptive Capacity

Thus far, rural-urban livelihoods have been discussed as a fluid, collective and diverse concept. They encompass the multiple ways in which households make a living by drawing on a range of activities and people dispersed across various rural and urban locations. A Adaptive capacity is also fluid and plural. It is shaped by a collection of multiple assets and attributes (financial, natural, human, social and physical) that are influenced and moderated by a set of wider structural factors (including gender and generation, ethnicity, community, governance and conflict). In light of the fluidity of both rural-urban livelihoods and adaptive capacity, the relationship between the two concepts can become muddied, unclear and ambiguous. And it becomes hard to ascertain the extent to which rural-urban livelihoods build household adaptive capacity.

To overcome this challenge, the next three chapters deal in turn with some of the more tangible aspects of rural-urban livelihoods – diversification, reciprocity and change – as more specific starting points from which to analyse adaptive capacity. Specifically, diversification, reciprocity and change will be analysed in terms of their impacts on the different elements or levers of the adaptive capacity framework developed in the preceding chapter. The following kinds of questions are explored. For whom and under what circumstances do diversification, reciprocity and change build adaptive capacity? To what extent do they strengthen some of the levers of adaptive capacity, whilst simultaneously undermining others? How does this uneven picture balance out to inform adaptive capacity as a whole? And how and why do these dynamics shift over time and place?

This chapter thus focuses on one particular aspect of rural-urban livelihoods; livelihoods diversification and the extent to which this builds adaptive capacity. In doing so, it expands on an activity-oriented framing of rural-urban livelihoods (see Chapter 4) that is about diversification, migration and mobility. (The second, people-oriented framing of rural-urban livelihoods is the focus of the next chapter). Viewed from an activity-oriented framing, rural-urban livelihoods encompass the array of activities, resources and opportunities that households are able to engage in by moving between rural and urban settings. This is a 'rural-urban' twist on the concept of multi-local livelihoods, which is itself a 'spatially extensive form of livelihood diversification' (Ellis, 2000; Elmhirst, 2012, 146). In this context, a key question that this chapter will seek to address is whether and to what extent strategies of diversification that are inherent in rural-urban livelihoods represent an effective adaptation strategy, or a failure to adapt in the first place.

This chapter starts by illustrating diversification in Laikipia. It explores the politics and mobility of livelihoods diversification. While mobility-infused diversification has become widespread, it nonetheless remains differentiated according to livelihood group, geographic location, gender and age. Socioeconomic status also plays a role, and households' experience of diversification typically falls along a spectrum of survival and accumulation – albeit differentiated by compromise, change and context. This sets the scene for exploring the relationship between diversification and adaptive capacity through the following questions. Does diversification manage or multiply risk? Why do some groups fare better than others? What are the differential, and often inter-connected impacts on migrants, their households and the wider community? Which particular aspects of the adaptive capacity

framework are strengthened and undermined by diversification? And what does this mean for adaptive capacity as a whole?

1. The politics of diversification

Livelihoods diversification is often controversially associated with an existential crisis in pastoralism and farming. As livelihoods in the rural south increasingly revolve around non-farm activities, a 'profound transition from one way of making a living to another' is occurring among households who 'have no commitment to farming whatsoever' (Rigg, 2006a, 181). In Laikipia, concerns around diversification were often rooted in wider politics and corruption. According to a local activist, politicians and conservationists 'perpetuate the myth that pastoralism is no longer sustainable' in order to annexe pastoral land for other purposes. These concerns build on wider resistance to long-standing attempts by governments, development agencies, religious missions and conservation groups to sedentarise nomadic or semi-sedentary pastoralists in order to strengthen national governance, development and identity (Fratkin et al., 2004).

Yet, a circular logic emerges whereby diversification is not just blamed for accelerating processes of de-agrarianisation, but also offered as a solution for unsustainable livelihoods. Diversification is simultaneously conceptualised as a failure to adapt in the first place, as well as an effective adaptation going forwards. It is a key element of sustainable livelihoods. SLA advocates, such as Ellis, argue that, 'It is the maintenance and continuous adaptation of a highly diverse portfolio of activities that is the distinguishing feature of rural survival strategies' (2000, 4). In a similar vein, Ayantunde et al. write that, 'From a sustainability perspective, the more diverse the livelihood options pastoral communities can pursue the better' (2011, 39). Likewise, Tacoli suggests that, 'Multi-activity at the household or individual level helps decrease vulnerability to shocks and stresses and stabilise incomes (2002, i).

These positive academic perspectives were shared by most interviewees, who described a broadly favourable relationship between diversification and adaptive capacity. According to a participant in a farmers' group interviewed in Marura, 'People diversifying livelihoods are able to cope with life since they are able to cater for the household needs as opposed to those stuck in traditional activities.' Likewise, a male community leader in Laikipia North explained how, 'Those that change are able to adapt to the challenges faced here in the village and benefit a lot. I have only seen growth among those people. I have not seen anyone losing from changing their livelihood'. Taken together, these academic and local-level perspectives point to a positive relationship between diversification and adaptive capacity.

What is more, diversification doesn't have to entail a profound transition away from farming or pastoralism. In many ways, diversification is about the continuation of previous livelihood strategies alongside new ones. An NGO representative described how 'livestock remains the main source of income' for most diversified pastoralists. Pastoralism is more than a production system – it is a way of life that incorporates norms, values and indigenous knowledge (Ayantunde et al., 2011). This suggests that diversification doesn't necessarily detract from the wider importance that pastoralism holds for those who practice it –

'Contradict[ing] the assumption that pastoralism ends when families stop practising mobile herd management' (Oba, 2013, 36). Furthermore, pastoralism has, in many ways, always been characterised by adaptation, fluidity and innovation. It incorporates different combinations of livelihoods activities and market engagement over time and place – suggesting that idealised framings of 'traditional' or 'pure pastoralism' are built on popular discourse more than reality (Catley et al., 2013).

Uncertainties remain, however, with some arguing that the medium and long-term impacts of livelihood diversification are not well understood (Loison, 2015, 1126). Others suggest that research does not sufficiently weigh the benefits of risk-spreading against the depth of expertise and networks associated with livelihood specialisation (Radel et al., 2018). Indeed, it is argued that diversifying across multiple activities can dampen productivity by taking energies and resources away from a core livelihood activity (Francis, 2000, 183). In a similar vein, Djurfeldt maintains that diversification limits Zimbabwean households' ability to concentrate resources in one place, thereby accelerating resource exhaustion (Djurfeldt, 2012). While most respondents saw diversification as positively associated with adaptive capacity, similar concerns were echoed by an NGO activist interviewed in Nanyuki, 'Livelihood changes are not helping that much. Most people are engaging in things that they don't really understand. Youth engaging in casual work (construction, sand harvesting) are not using their income that well. They used to use income from livestock in a better way'.

In this mixed and unequal context, this chapter argues that diversification is neither inherently benign nor malign when it comes to adaptive capacity. Much depends on the circumstances under which households engage in diversification in the first place, as well as their socioeconomic status, and the social networks, market linkages and economic reserves they can draw upon whilst diversifying. Indeed, while most respondents focused on the positives, many recognised the potential for unequal and fluctuating outcomes. 'Most are able to cater for their needs. Other people, the minority, do not benefit,' explained a male local government informant from Marura. According to a member of a group of farmers in Ngenia, 'Some people do well, while others don't do well'. 'There are positives and negatives, but it is more in the positive', explained an NGO respondent in Nanyuki.

A similarly mixed picture perspective emerges from academia. Ramisch (2016) relates diversification ambiguously with both vulnerability and resilience, pointing out that it represents a successful adaptation for some, or a systematic failure to cope for others. Likewise, Eriksen et al. (2005) differentiate between, on the one hand, individuals spreading themselves thin by autonomously diversifying across multiple activities and, on the other hand, households collectively diversifying, with each member specialising in a different activity. This latter interpretation resonates with the notion of collective rural-urban livelihoods that rely on household members adopting a somewhat coordinated rather than individualistic approach to diversification. It suggests that under such reciprocal and collective scenarios, diversification can help to build adaptive capacity.

2. Mobility and diversification

Livelihood diversification is routinely defined as, 'The process by which *rural* families construct a diverse portfolio of activities and social support capabilities in order to survive

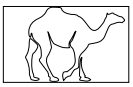
and to improve their standards of living' (emphasis added) (Ellis, 1998). This definition underlies a rural bias in diversification studies with several implications when it comes to research. Firstly, most research prioritises farmers and pastoralists (who are typically studied in parallel rather than in comparison (Dai et al., 2020)) and overlooks urban households altogether. Responding to this gap in the literature, this chapter explores livelihood diversification among farming, pastoral, rural and urban settings, analysing similarities and differences across these groups.

A second implication of this rural bias is that much of the literature considers as separate concepts in situ/'multi-activity' diversification (incorporating a range of different livelihoods activities in one place) and ex situ/'multi-locality diversification (involving diversified livelihoods that span a range of locations). Scoones (1998), for example, distinguishes between three discrete diversification strategies: (in situ) agricultural intensification or extensification; (in situ) livelihood diversification, and (ex situ) migration. This tendency to separate in situ from ex situ, whilst also assuming a rural starting point, arguably builds on what Rigg describes as the 'abiding sense that' livelihood diversification activities are 'still regarded as add-ons to the main business of farming' (2006, 181). In other words, as long as agriculture or pastoralism continue to be seen as the household's core livelihood activity, the emphasis will remain on in situ (sedentary) diversification as the norm and ex situ (mobile) diversification as the exception.

And yet, in the case of Laikipia, this prevailing logic often appears simplistic and out-dated. It remains the case that farming and pastoralism constitute an important (and often central) part of many livelihoods, and that many households continue to diversify their livelihoods in situ. Nevertheless, fieldwork points to an increasing fusion of diversification with mobility – even within households whose core activity remains farming or pastoralism. This was the case for a 25-year-old subsistence farmer who had moved to Nanyuki in 2017 to look for work and get married. She subsequently found administrative work at a nearby flower farm, and leases farmland close to Nanyuki to grow beans and potatoes, which she sells for additional income. While she maintains a core reliance on agriculture, she nonetheless relies on moving between rural and urban locations to do so. A similar balance emerged in other examples, where the income derived from 'ex situ' casual work, business and trading enabled households to purchase agricultural seeds, fertilisers, pesticides and tools, and thereby continue farming as a core activity.

These examples suggest that mobility should be considered as part of the agricultural system rather than as a separate or distinct diversification strategy (Radel et al., 2018, 265). Attempts to distinguish between in situ and ex situ, or rural and urban patterns of diversification thus embody a false separation and a sedentarist bias that no longer represents the contemporary diversification strategies of growing numbers of households. With this in mind, mobility is conceptualised as a central, rather than peripheral, element of livelihood diversification in Laikipia, and remains a key focus of this chapter. Diversification is therefore referred to as being both 'mobility-infused' and 'rural-urban' in nature throughout the chapter. To illustrate this, respondents were asked a series of questions during interviews that related to mobility and diversification: 1) Whether their livelihood depended on activities or resources located elsewhere. 2) Whether they or someone else in their household moved to access these. 3) And how regularly they moved. This data is

charted in a series of mobility maps below that highlight the different activities or resources pursued in each location (see symbols in the legend below), as well as the distances travelled, and the regularity of movement.

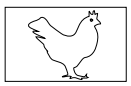

Pastoralism

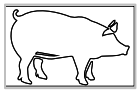

Markets

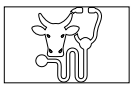

Business


Remittances


Community health worker


Chicken farming

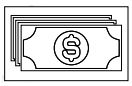

Pig farming

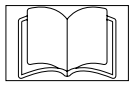

Veterinary services

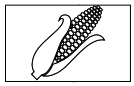

Savings groups

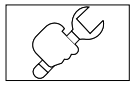

Health services


Civil service

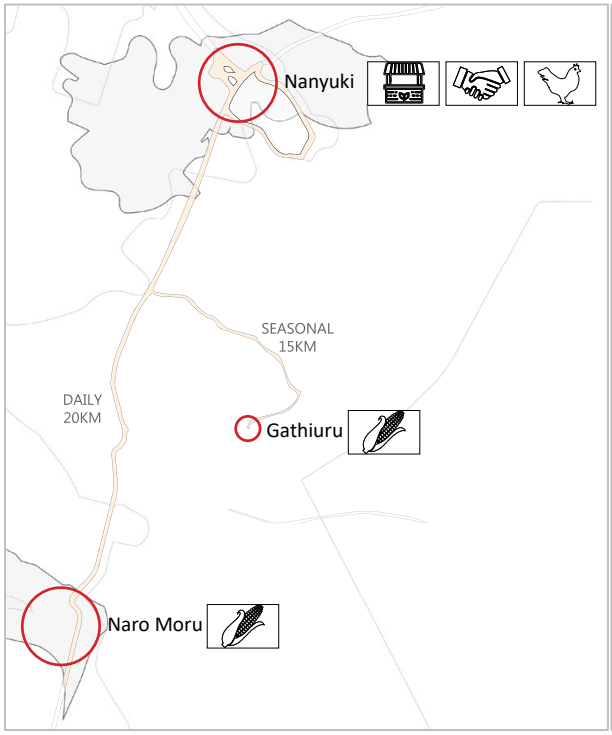

Banking


Schooling

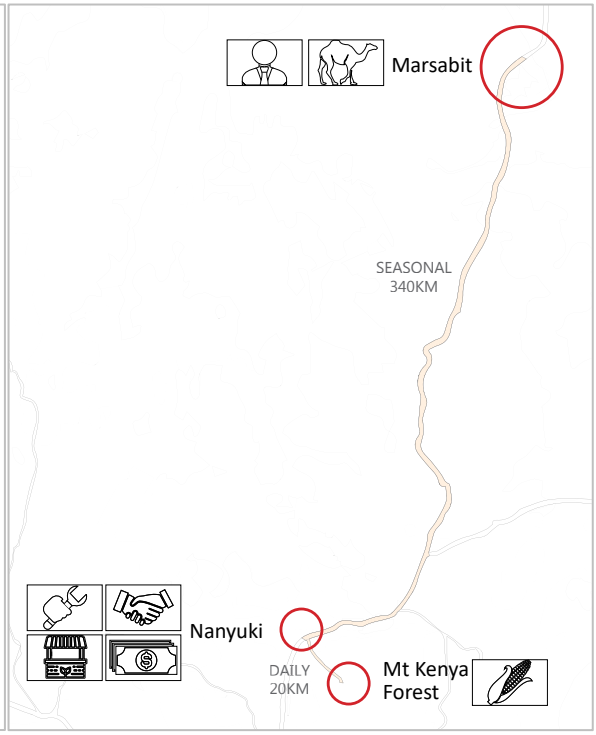

Agriculture


Manual labour

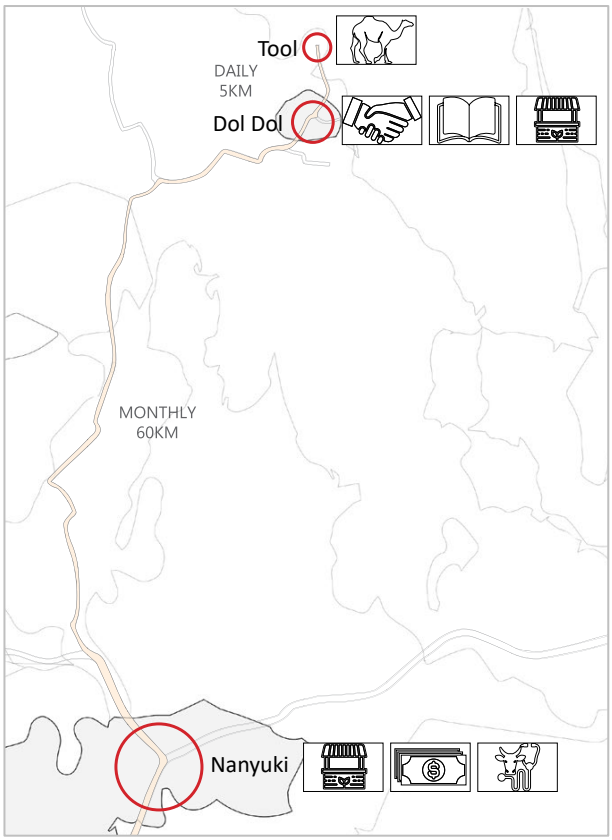
Map 1: 43-year-old woman living in Nanyuki



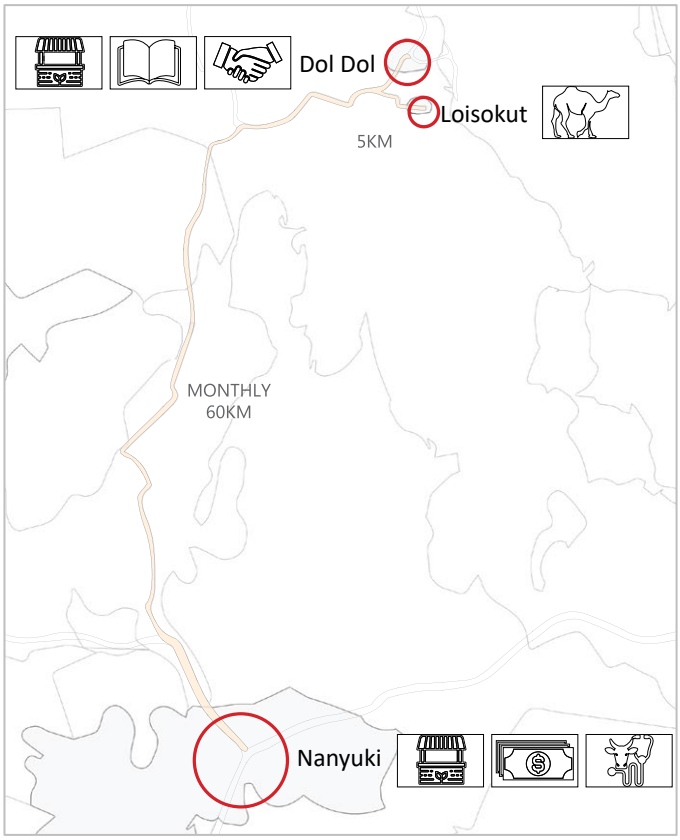
Map 2: 29-year-old man living in Nanyuki



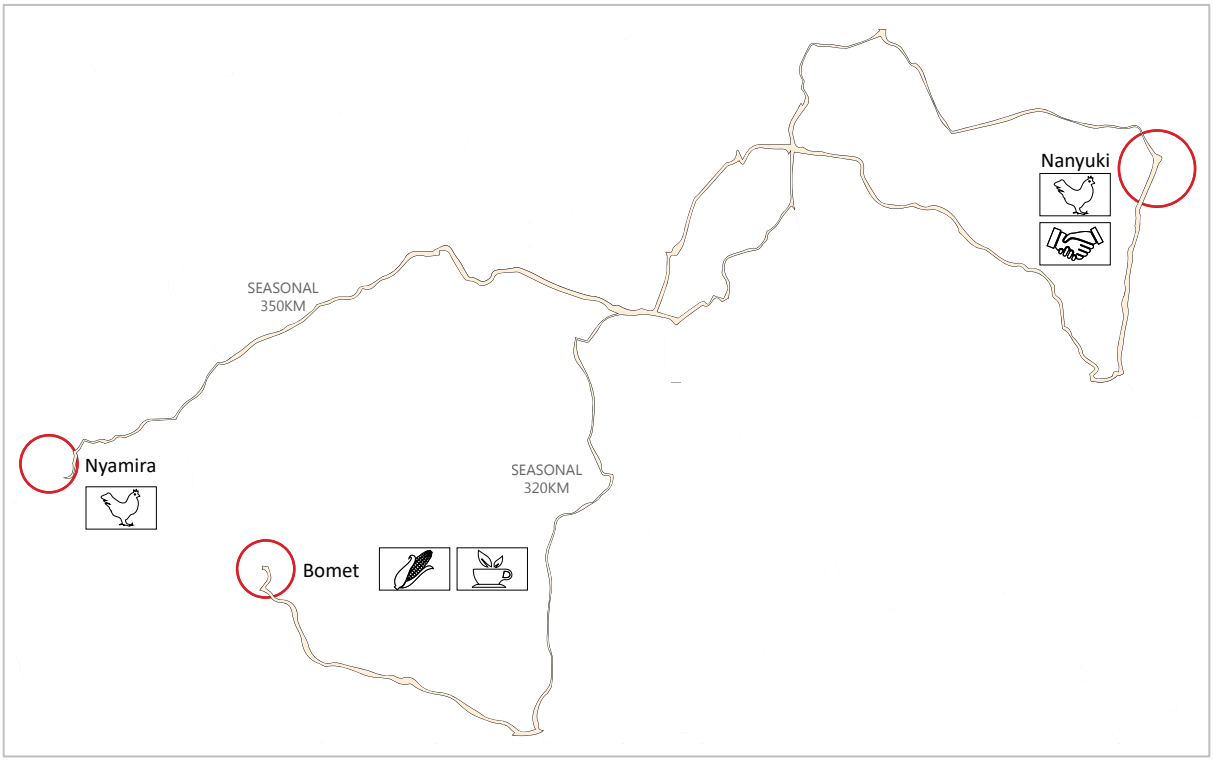
Map 3: 34-year-old woman living in Tool



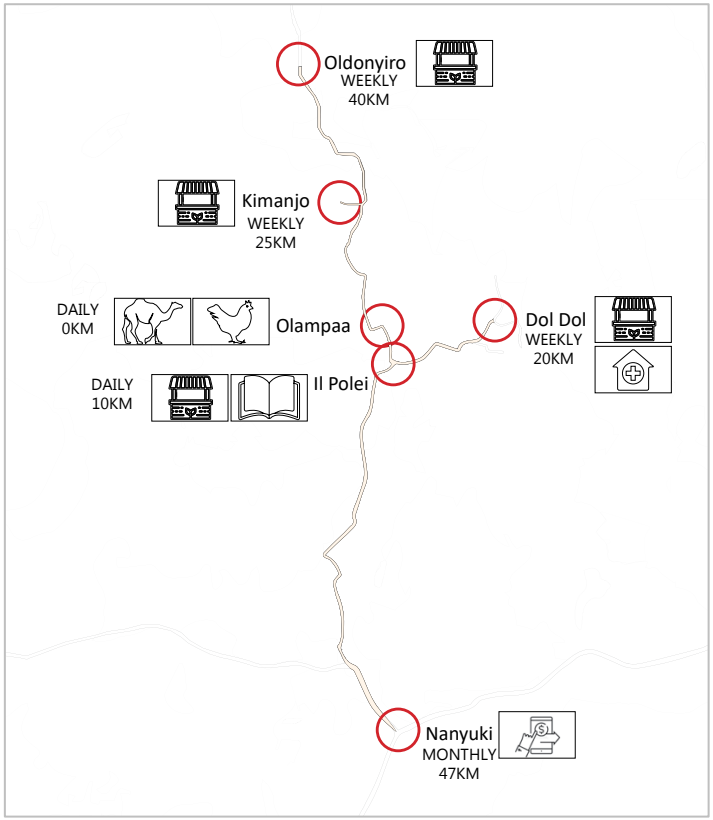
Map 4: 45-year-old widow living in Loisokut



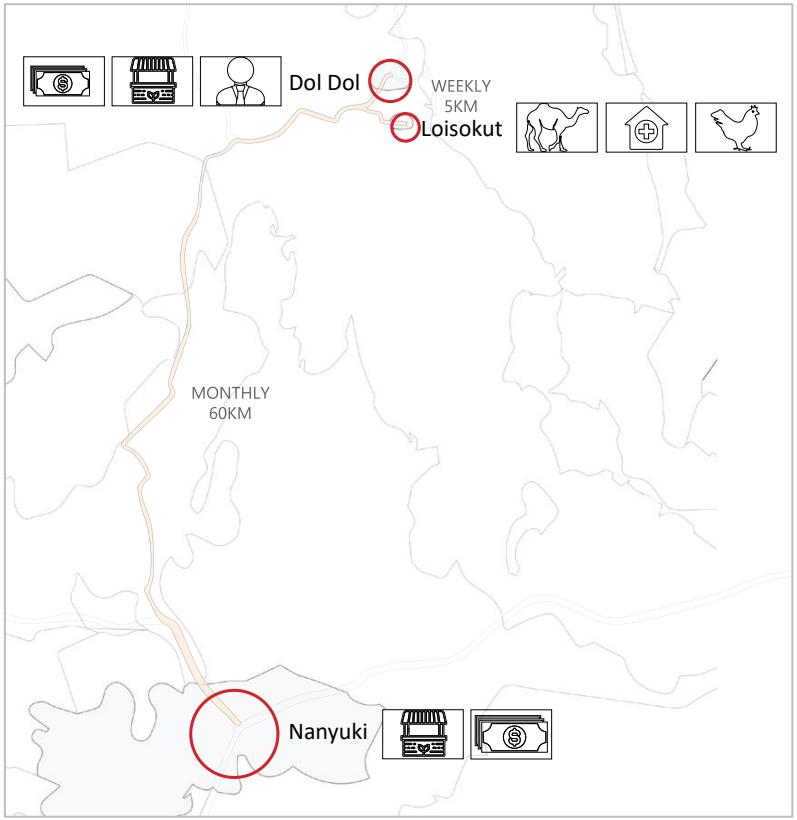
Map 5: 69-year-old man living in Nanyuki



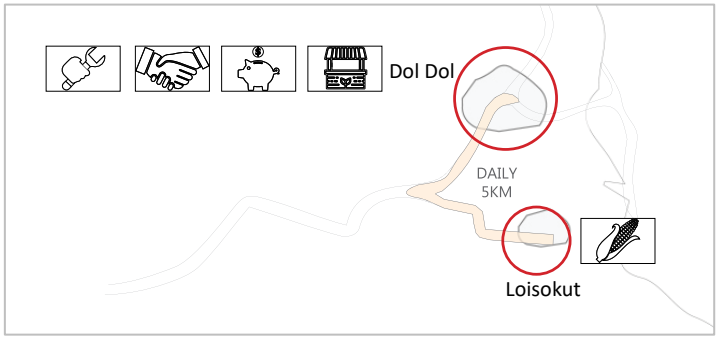
Map 6: 58-year-old man living in Olampaa



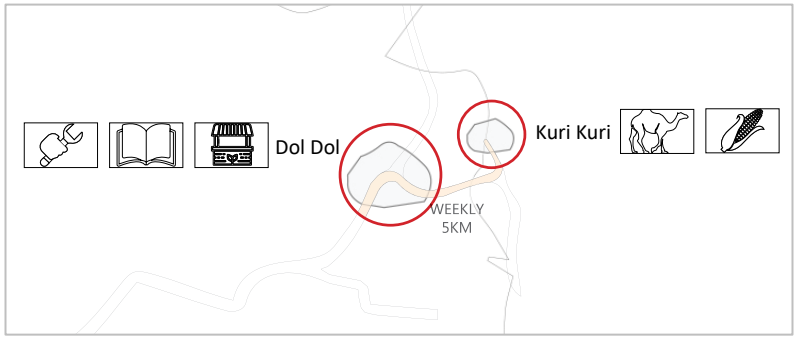
Map 7: 43-year-old woman living in Loisokut



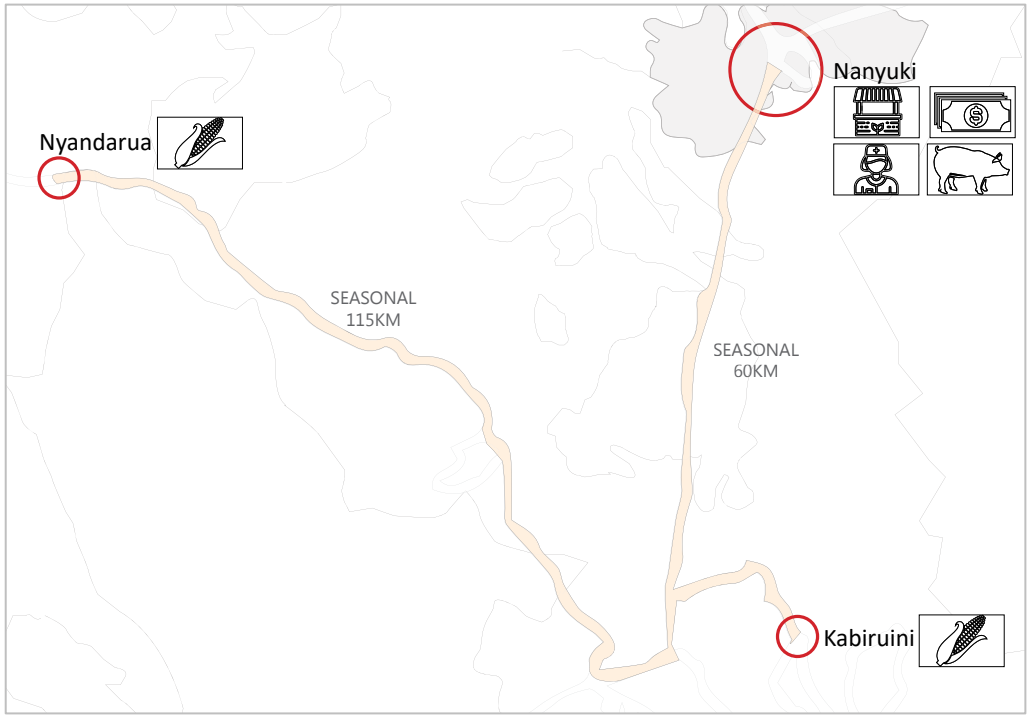
Map 8: 34-year-old woman living in Loisokut



Map 9: 45-year-old man living in Dol Dol



Map 10: 61-year-old widow living in Nanyuki



There are several reasons that explain this coming together of diversification and mobility in Laikipia. Improved transport across much of Kenya makes ex situ diversification easier and cheaper. 'People are moving and can travel in a way that they couldn't before. Some people are engaging in new activities where they are, and others are moving', explained an NGO informant in Nanyuki. While improved transport opens up the choice of moving, the uneven distribution of resources and opportunities across rural and urban locations means that many households must move in order to diversify. Urban households looking to diversify into farming or livestock herding require some level of mobility to access land, water and pasture. Likewise, many of the activities into which rural households are diversifying (for instance trading, casual work, transport sector, business and employment) require some degree of mobility in the direction of customers, services, markets, resources and investments.

This was the case of a female respondent in pastoral Tool (see Map 1), who explained how her household had recently diversified from pastoralism to business. In addition to keeping livestock, she commutes daily to Dol Dol town to run a small restaurant, from which the household derives most of its income. It was necessary for her to combine diversification and mobility in this way because, in her own words, '[Dol Dol] is the place to get more customers as opposed to here in the rural area.' Households like this one, who diversify their livelihoods by moving on a daily basis, were able to keep one foot in their rural home and another in a nearby town, and vice versa. This expands access in both locations to the range of financial, natural, social, physical and human assets that contribute to adaptive capacity. Indeed, the above-mentioned respondent from Tool was able to balance proximity to land and pasture for her livestock, with better access to markets and financial opportunities in town – a balancing act that had improved her overall capacity to adapt and wellbeing.

This balance was often harder to achieve for households for whom daily commuting was not possible – either due to geographical distance or prohibitive costs. Respondents in this category typically had to settle on a temporary or permanent basis elsewhere, losing (to varying extents) the strength of their foothold back home. Under these scenarios, most respondents described the simultaneous expansion and decline of the various levers (financial, social, natural, physical and human) that shape adaptive capacity. This was the case for a 63-year-old woman who had moved from urban Nanyuki to rural Njoguini in 2013 in order to diversify her livelihood. While this move had improved her access to fertile land, enabling her to farm, keep livestock and build her own house, it had simultaneously restricted her access to clean water and sanitation services. Another respondent, a 49-year-old woman, described a similar situation – while her access to land, water and labour had improved by moving from Nanyuki to Ngenia, she now struggled to access the banking services, healthcare, mobile phone network and markets located in her hometown.

Under these circumstances, the extent to which rural-urban diversification builds adaptive capacity is mixed – simultaneously strengthening and undermining households' access to the different elements that shape adaptive capacity. When people are not able to regularly move back and forth, much will depend on their ability to build connections with their hosts and sustain translocal networks with their community of origin. These and other dynamics are explored in more detail in Section 6.

3. Diversification is widespread yet differentiated by livelihood group, location, gender and age

Mobility-infused diversification is increasingly widespread in Laikipia. Until the turn of the twentieth century, livelihood diversification was viewed as a short-lived and occasional strategy, often negatively associated with survival and struggle, and standing in opposition to the accepted wisdom of 'sectors, specialisation and transition' (Ellis, 1998, 2). Today, however, livelihood diversification is recognised as 'the norm' across much of Sub-Saharan Africa, and beyond (Barrett et al., 2001, 315). During fieldwork, seventy-six per cent of respondents described having multiple livelihood activities, often across different locations, and, as the below interview excerpt from a male local government representative reveals, many households now derive their livelihoods simultaneously across a wide range of different activities. This raises questions about the labels and categories used to refer to different groups based on their livelihood activities – such as pastoralist, agro-pastoralist, farmer, wage employee, casual labourer, trader and business person. By ring-fencing people to particular groups or activities, these categories overlook the plurality of collective activities that constitute the everyday livelihoods of many households.

> 'People are shifting from livestock farming to alternative livestock to businesses such as illicit brew, charcoal burning, shop and vegetable sales. Other people are engaging in transport business and transportation. Other people take loans to set up businesses such as butchery while others do sand-harvesting business. Others are employed in private conservancy and private ranches. Others look for employment in private sectors or government sectors'. (Community key informant interviewed in Kuri Kuri)

3.1. Livelihood group

While diversification has become a widespread and everyday way of making a living for many Laikipian households, several patterns nonetheless emerge that complicate this picture. Firstly, some livelihood groups are more likely to diversify than others (Table 1). Amongst respondents, it is businesspeople, traders and casual workers who diversify most regularly, typically across farming and then pastoralism. This is followed by pastoralists who typically diversify into business, casual labour and farming. In contrast, less than half of smallholder farmers have diversified their livelihoods, with those that do tending towards casual work and business or trading. While the absolute numbers (n) used as the basis for making wider generalisations may be relatively small, these findings are nonetheless supported by an academic in Nanyuki who described pastoralists as diversifying and adapting their livelihoods more effectively than farming communities, adding that, 'We assume that pastoralist communities are poorer than agriculturalists, but this is not always the case – and pastoralists can respond more quickly to development processes'.

But what explains these trends? Why were respondents in business, trade and casual work most likely to diversify? There are several possible explanations. Firstly, these groups are more likely to earn daily, ready cash and possess entrepreneurial and market experience. In an increasingly cash-based economy, these attributes equip them, to a greater extent than other groups, with the willingness, confidence and ability to invest in and diversify across multiple activities. At the same time, business, trade and casual work tend to be risky and seasonal, subject to high costs, competition and low returns in the case of business and trading, and precarious and short-term working conditions in the case of casual work. In these scenarios, many households could not survive on these core activities alone and are subsequently forced to diversify in larger numbers in order to make ends meet.

The reasons for why pastoralists diversify have been explored in Chapter 5 in relation to their higher propensity to adapt. A long history of dealing with acute scarcity and discrimination has given them more time, experience and practice in finding ways to adapt. At the same time, pastoral livelihoods located at the geographic and ecological margins of Laikipia are highly precarious. In this challenging context, pastoral respondents often had little choice (less than farmers, for example) but to diversify their livelihoods to survive. That being said, diversification represents only one of the various ways in which pastoralists manage risks and adapt – for example, mobility, herd accumulation, animal diversification, social exchange (Little, 2009). This perhaps explains why pastoralists tended to diversify less than business, trade and casual workers.

Table 1: Respondents diversifying their livelihoods by activity

Respondents categorised according to the primary livelihood activity that they identify	Respondents who diversify		Respondents who diversify into the following activities					
			Formal employment	Casual work	Business/ trading	Pastoralism	Agriculture	Community function
Category	n	%	%	%	%	%	%	%
Civil service/ private sector (n=5)	5	100	X		20	20	40	20
Casual labourers (n=4)	4	100		X	25		75	
Businesspersons/ traders (n=17)	16	94		6	X	41	47	
Pastoralists (n=8)	5	64		13	38	X	13	
Smallholder farmers (n=15)	7	47		20	20		X	

3.2. Geographic location

Location also influences patterns of livelihood diversification. All respondents interviewed in rural Dol Dol described diversifying their livelihoods, followed by 85 per cent of urban Nanyuki respondents, and 75 per cent of rural Il Polei respondents. The least likely to diversify were those from rural Ethi and Marura, with only half of respondents in both of those locations describing having multiple livelihood activities (Table 2). Drawing on the previous analysis of pastoralists and farmers, these diverging trends are perhaps not surprising considering that Dol Dol and Il Polei are predominantly characterised as pastoral economies, and Ethi and Marura are, for the most part, agricultural.

Table 2: Diversification by location

Location	Respondents who diversify their livelihood	
	n	%
Dol Dol (n=11)	11	100
Nanyuki (n=20)	17	85
Il Polei (n=4)	3	75
Ethi (n=6)	3	50
Marura (n=6)	3	50

The figures also suggest that livelihood diversification is especially common among urban respondents. Urban residents tend to enjoy better access than their rural counterparts to the resources and opportunities that facilitate diversification. These include banks and savings groups for loans to invest in new ventures, markets for purchasing inputs and selling products, and public infrastructure and services. Parallels can also be drawn here with the high rates of diversification among businesspersons, traders and casual workers – a large proportion of whom reside in urban locations, where opportunities for business and employment are more prevalent.

3.3. Gender and age

Gender also influences patterns of livelihood diversification, although not as significantly as one might expect, with respondents from both groups (80 per cent of men and 72 per cent of women) diversifying their livelihoods. These relatively high rates of diversification are consistent with earlier findings that it has become both socially acceptable and financially necessary for women to adopt mobile and diversified livelihoods (Chapter 4).

Age also plays a role, with all respondents aged 20 to 30 years diversifying their livelihoods (Table 3). Diversification among youth can be explained by shrinking access to land, better levels of education and greater appetite for risk and adventure. As explored in Chapter 4, as respondents mature and their familial responsibilities increase, their propensity to engage in risky activities associated with diversification decreases.

Table 3: Diversification by age

Age Group (years)	Respondents who diversify their livelihoods	
	n	%
20-30 (n=6)	6	100
31-40 (n=12)	9	75
41-50 (n=12)	11	92
51-60 (n=5)	2	40
61-70 (n=8)	5	63
71-80 (n=4)	2	50

While diversification was unsurprisingly most common among young people, a significant proportion of older respondents – even those in their seventies – also diversify their livelihoods, though not always in the same ways as the youth. Diversification amongst older groups is more unexpected but can be associated with the challenges of making a living (in particular high costs, drought and unreliable markets) which make it increasingly difficult for both young and old to survive on one activity alone – see interview excerpt below. At the same time, the growing propensity of young generations to move and diversify elsewhere leaves their parents and grandparents with little choice but to diversify themselves in order to make ends meet. Furthermore, while the monthly US$ 20 social security fund for pensioners has helped to sustain elderly respondents, some complained that unreliable and delayed payments left them with little choice but to diversify their livelihoods.

> ‘We are deviating from purely one livelihood because of the rising living cost in the country. There is a lot of struggle coming from doing one activity. We are then forced to try different things and see what helps us first. This is because pastoralism is not as reliable as before. Climate change and drought have changed it all. Business, in addition, is not reliable and so has to be combined with another livelihood.’ (70-year-old male respondent interviewed in Dol Dol).

4. Survival and accumulation

In addition to livelihood group, geographic area, gender and age, another factor that determines diversification is socioeconomic status. It is widely acknowledged both within the literature and among respondents that access to and outcomes of diversification are significantly influenced by wealth and influence. As summed up by a community informant in Nanyuki, ‘The rich are the ones mostly involved in changing their livelihoods. They benefit

the most, as the poor become even poorer.' In order to assess the accuracy of these claims, detailed data was collected on respondents' income and assets (including land and livestock ownership, house structure, agricultural sales, off-farm trading, wage employment, state/NGO contributions, livestock sales and remittances) – see Chapter 3 for more details. Thresholds and a points system were established to weight this data and allocate respondents into five wealth categories with Group 1 being the poorest and Group 5 the wealthiest. These categories are used throughout this section to determine the extent to which diversification can really be characterised in terms of survival of the poor and accumulation of the rich.

4.1. Diverging pathways to survival and accumulation

Two divergent pathways emerge in relation to diversification. Starting with survival, many scholars (for example, Bryceson, 1999a; Deshingkar and Farrington, 2009; Jistrom et al., 2018; Rigg, 1998; Smucker and Wisner, 2008; Tacoli, 2002) conceptualise low-income groups facing economic and environmental distress as being forced to diversify. 'One has to diversify income in order to survive', explained a community informant in Ngenia. As well as being forced to diversify, these groups are typically confined by entry barriers into precarious and unprofitable activities characterised by low skills and start-up capital. In Laikipia, these include informal trading, bead and basket work, brick and charcoal making, subsistence agriculture, sand harvesting or collecting firewood, among others. In this context, diversification undertaken in response to stress can reproduce poverty and erode adaptive capacity. As argued by Kristensen and Birch-Thomsen (2013, 2), 'The poor are much less likely to be able to escape from their vulnerable conditions and are simply transferring their insecure existence from one area to the other.'

The second pathway to accumulation is typically undertaken by wealthier groups. Unlike those who diversify to survive, those who accumulate are more likely to diversify out of choice. They are also more likely to enjoy higher return on their investments as they expand into more profitable sectors, such as formal business, commercial farming and large-scale trading, which require higher skills and capital investment. In this context, the two pathways of diversification diverge in three main ways: in terms of motivations (choice or coercion), demographics (low income or high-income groups) and outcomes (survival and accumulation).

These diverging pathways of survival and accumulation accurately illustrate the lived experiences of many respondents. For example, the diversification strategy of a 44-year-old female respondent interviewed in Njoguini echoes the pathway to survival. She described how her household supplemented subsistence farming with chicken rearing, and casual work in nearby Nanyuki town. Of low socioeconomic status (wealth group 2), these livelihood changes have enabled her to 'cope with effects of drought'. And yet, they have not significantly improved her overall situation. She now earns less than she did ten years ago when practising only crop farming and described herself as being 'lonelier and more stressed than before.' At the same time, when her husband lost his permanent job and became reliant instead on seasonal, low-paid casual labour in Nanyuki town, the household circumstances deteriorated even further. Limited finances mean that she often goes hungry and has become increasingly reliant on remittances from her two daughters who moved to

neighbouring Nyeri County, as well as the financial support of a family friend. Unable to secure a loan due to her lack of capital and assets, she finds herself confined to low-income activities and trapped in a cycle of structural poverty. In this case, rural-urban diversification has diminished the financial capitals and human attributes that build adaptive capacity. She earns less money, and is barely able to survive, let alone invest in alternative livelihood activities. She also described being emotionally and physically drained from the uncertainty of living hand to mouth, and the stress of finding no way out of her current predicament.

A very different picture emerges from an interview with a 25-year-old, university educated, highly skilled and relatively affluent (wealth group 4) woman whose strategy of diversification corresponds with pathways to accumulation. She had recently moved from rural Naro Moru to urban Nanyuki in order to diversify her livelihood, adding, 'It is very easy to make money here in town because there are very many opportunities as opposed to rural areas.' Starting from a position of relative wealth and influence, she was able to quickly secure a good job, gain financial independence and accumulate capital and assets. Describing herself as, 'financially sustainable', she had purchased several properties, and was planning to use her savings to buy a small plot of land and set up her own business. In this regard, rural-urban diversification has clearly increased the financial capitals that contribute to adaptive capacity, enabling her to expand her livelihood portfolio across a number of profitable activities. In turn, financial accumulation has strengthened her access to the other elements of adaptive capacity, such as land (natural resources), business acumen and self-confidence (human attributes). She has also strengthened her social network by supporting her wider family with remittances, investing in a community savings group, and mentoring several girls from her community; all of these activities enable her to maintain strong linkages back home. 'My family value and respect me now that I am settled and self-reliant, and I support them financially', she added.

Similar dynamics are occurring within pastoral communities. Pastoral livelihoods are renowned for expanding, contracting and adapting to wider events (Scoones et al., 2013; Spear et al., 1993). Nevertheless, as livelihoods come under growing pressure, pastoral practices are undergoing more fundamental changes. 'There hasn't been a complete or full change, but pastoralism is reducing every year', explained a pastoralist and local activist in Nanyuki. Land and resource expropriation has had a 'pincer effect' on pastoralists' mobility, restricting them to only seven per cent of the Laikipia plateau and pushing their livelihoods to 'the limit' (Letai and Lind, 2013, 109-110). This has resulted in rapid differentiation between, on the one hand, elite pastoralists with the social and financial resources to commercialise and thrive in these challenging circumstances and, on the other hand, increasingly impoverished pastoralists who lack the resources to navigate and adapt to the changing context (Scoones et al., 2013, 19). What is more, these outcomes of survival and accumulation are often co-produced: elites' ability to accumulate and diversify relies on marginalised herders who, having lost their own livestock, are prepared to herd on their behalf. At the same time, the reason that these herders find themselves in a position to take up casual herding is because they were unable to compete with these same elites in the first place. Furthermore, such arrangements can further increase their relative subordination and marginalisation within pastoral communities that attach importance to livestock ownership. Thus, winners and losers emerge from a cyclical relationship, whereby the upward trajectories of some depend on the marginalisation of others.

In this context, a community activist interviewed in Nanyuki described two kinds of pastoralists who are moving to town, and who broadly encapsulate pathways of survival and accumulation. The first group are those who have already lost all, or most, of their livestock. In this context, they have little choice but to move permanently to town in search of work, often as poorly paid night watchmen. They cannot afford to bring their families with them, and return home only occasionally, sometimes as little as once a year. After paying for basic expenses (rent and food), the rest of their salary is remitted back home. Life is a struggle for survival and there are few, if any opportunities, to save or accumulate and, by extension, build their capacity to adapt. The second group accumulate. They move with their family to find work and educate their children. They keep livestock back home, paying local shepherds to herd their animals in their absence. According to the respondent, they derive a good income from this arrangement – even after remitting a significant proportion of their income to family who remain in Laikipia North – with broadly positive impacts on their livelihoods and general wellbeing. Writing about African pastoralists in 1995, Salih paints a similar picture of these two diverging groups. Whereas wealthier pastoralists who move to towns tend to thrive, those who are impoverished struggle to find work, live in squatter camps on the outskirts of towns, and essentially join 'the mass of the urban poor' (Salih, 1996, 184).

In sum, the logic of these diverging pathways has significant ramifications for adaptive capacity. Firstly, it suggests that diversification has varying outcomes when it comes to households' capacity to adapt. This supports the broadly mixed feelings about diversification among academics and respondents (Section 1). While pathways of survival have limited scope for strengthening the different levers of adaptive capacity, these same levers are likely to be strengthened by pathways of accumulation. While households that survive are defined as merely 'getting by', those that accumulate are seen to be 'getting ahead' (Dale and Onyx, 2005). Secondly, given that these diverging pathways are typically determined by socioeconomic status, this survival-accumulation logic suggests that diversification favours the rich, and is ultimately more likely to build the adaptive capacity of wealthier households (who tend to diversify more successfully through accumulation) than poorer households (who tend, at best, to merely survive).

4.2. Pathways of survival and accumulation are not fixed, and outcomes vary according to structure and agency

In spite of the trends depicted above, pathways of survival and accumulation are not inherently fixed. Indeed, the automatic association of, on the one hand, poor households with coercion and negative outcomes and, on the other hand, rich households with choice and positive outcomes is likely to be overly simplistic (Deshingkar and Start, 2003; Hussein and Nelson, 1998). Rigg (1998) expands the analysis from two to three strategies: 'For the rural rich it seems to be a strategy of further accumulation; for the rural poor, a strategy of survival; and for middle-income households it is a strategy of consolidation' (1998, 503). Building on this, survival and accumulation are perhaps more accurately perceived as two ends of a spectrum, with varying degrees of nuance in the middle. For example, while most wealthy respondents described moving and diversifying in terms of accumulation, this was not always the case. A respondent in wealth group 4, for instance, described being 'forced'

to move from Marsabit to Nanyuki in order to diversify his livelihood after his livestock perished during severe drought. He still keeps a small number of cattle in Marsabit that are cared for by his siblings, but now mainly practices small-scale commercial potato farming at Mount Kenya forest and a small business in town. Likewise, a wealth group 5 respondent felt he had little choice but to diversify into business because, 'Drought was finishing up my livestock'.

A key reason for these fluctuations is that diversification emerges from both structure and agency with varying ratios (Dick and Duchêne-Lacroix, 2016). Indeed, structural conditions (which can change quickly and in unpredictable ways), played a key role in the unexpected demise of the afore-mentioned 44-year-old female farmer interviewed in Njoguini. For the period that her husband was permanently employed, the household enjoyed a pathway to accumulation – saving, investing and supporting their children with remittances. However, when the national economic downturn bankrupted her husband's employer, he lost his job, and their trajectory shifted abruptly from accumulation to survival, leaving them reliant on the handouts of family and friends. In addition to structure, human agency also plays a role in disrupting what may seem like established pathways of survival and accumulation. Indeed, the knowledge, experience and capital that builds up over time may enable households to 'move up the ladder' from survival to accumulation (Deshingkar and Farrington, 2009, 19). This was the case of a 40-year-old woman who started from humble beginnings as a subsistence farmer in Ethi, growing potatoes and kale. In 2003, she moved to Nanyuki, and diversified her livelihood into a small grocery business, continuing to commute daily to manage her farm. Over time, she saved enough collateral for a loan to start farming profitable green beans, the sales of which enabled her to quickly repay her loan and purchase several plots of land. In spite of her humble beginnings, the knowledge, experience and capital gained through diversification have enabled her to switch pathways from survival to accumulation and climb to the highest wealth group (5).

In sum, academic divisions between survival and accumulation may be reductionist and deterministic in practice. Lived experiences will always be messy (from an analytical perspective) and diverse along a spectrum of experiences, and opportunities for switching between different pathways emerge from the combined effects of structure and agency. Nevertheless, these deviations were the exception rather the rule, and the survival-accumulation principle (rigid as it may be) does shine a light on some basic trends in the relationship between diversification and adaptive capacity. Diversification is most likely to build adaptive capacity when it is motivated by choice and performed by households with the social networks, market linkages and economic reserves needed for more profitable and secure livelihood activities. When diversification is adopted as a last resort and motivated by a lack of other options, adaptive capacity is more likely to suffer, especially for households whose socioeconomic status limits them to unprofitable and precarious activities. Under these circumstances, households become trapped in a cycle of structural poverty that erodes their capacity to adapt. The extent to which diversification builds adaptive capacity is therefore mixed and uneven, neither inherently benign of malign, but dependent on the socioeconomic circumstances of those involved.

4.3. Even pathways of survival can build adaptive capacity in modest and incremental ways

Survival may not be a 'decisive step forward' (Bryceson, 1999, 174), but nor is it necessarily a step backwards for poor households who, in many cases, have been in a state of survival for years. This is summed up by Tappe and Nguyen (2019, 4) who, in reference to Southeast Asia, write that, 'Precarity in this region has long been perceived as a political reality to be engaged with rather than a loss of (imagined) security to grieve about.' In this context, even when outcomes of diversification are poor, conditions have not necessarily deteriorated from where they were, so that households are treading water rather than slipping backwards.

What is more, even minor returns can be significant for poor households. Members of a farming group in Njoguini explained how while diversification didn't necessarily allow them to save and accumulate, it did enable them to afford basic costs and needs, such as school fees, food and clothes, and consequently adapt and improve their living standards. Likewise, Fratkin (2013) suggests that in spite of the struggles impoverished pastoralist face in moving and diversifying in town, many 'prefer the security of settled life to the vagaries and hardships of nomadic pastoralism' (205). He goes on to argue that limited income opportunities are typically compensated by improved security, health care, education and physical security, all of which 'increase the chances of long-term survival and sustainability' (Ibid.).

In these scenarios, diversification can act as an important buffer or safety net, giving impoverished households breathing space and much-needed daily cash with which to navigate everyday challenges. 'I have been able to survive even in the worst economic times. This is because I do not depend on only one type of livelihood,' explained a community respondent in Dol Dol town. Safety nets may not build adaptive capacity to the same extent or speed as accumulation, but that does not that mean that pathways of survival do not contribute to adaptive capacity at all. They can help to insulate households from the kinds of negative coping strategies (such as selling assets and taking children out of school) that erode adaptive capacity altogether. What is more, most poor households described using the modest returns from diversification to improve household nutrition, education and housing – thereby strengthening, albeit in subtle and incremental ways, the human (health and education) and physical (shelter) elements of adaptive capacity.

In this context, short-term coping strategies during periods of stress can play a key role in triggering longer-term adaptive capacity (Mosberg & Eriksen 2015). Rigidly imposing an academic relationship between survival-accumulation and adaptive capacity misses the nuance of lived realities on the ground. While they can (and often do) erode the levers of adaptive capacity, pathways of survival do not always do this, just as trajectories of accumulation to do not always build these same levers.

5. Managing or multiplying the risks?

Many researchers and respondents alike see risk as a 'fundamental motive for livelihood diversification' (Ellis, 2000, 60). Agrawal and Perrin, for example, argue that 'Diversification reduces risks across assets owned by households or collectives' (2009, 6). Likewise, Loison

defines risk management as, 'An ex-ante deliberate strategy where a household anticipates failures in their income streams and thereby maintain a range of income activities to safeguard against it' (2015, 1130). In particular, advocates of SLA (already explored in Chapter 4) and New Economics of Labour Migration (NELM) theorise a close relationship between livelihood diversification and risk management. Developed by Stark and Bloom (1985), NELM views migration, and especially remittances, as a household risk spreading strategy, putting households (rather than individuals) at the centre of migration decision-making. Similarly positive interpretations of risk and diversification were voiced by respondents. During a focus group discussion, participants suggested that households that diversify their livelihoods have 'better food security because they have different sources of income. When one [source of income] fails the other one succeeds'. Similarly, a Nanyuki informant suggested that households benefit from diversifying their livelihoods as they can choose activities associated with 'less risk and losses.'

In support of this logic, diversification enabled most respondents to manage the multiple risks facing contemporary livelihoods, albeit to differing extents. This was the case of a 78-year-old man interviewed in Dol Dol town. Faced with the near-constant risks of drought and economic downturn, his household diversified across multiple activities. In addition to trading food and milk, the family kept numerous cows, goats, sheep and camels in nearby rural Makurian. Diversifying in this rural-urban way allowed him to navigate risk, as 'If the business is not doing well, the livestock does well and the reverse is true'. This has given him better financial security, and also strengthened the human attributes that contribute to adaptive capacity: his household gained better access to food and healthcare, and all 14 of children were able to attend school. Taking a collective, household approach to risk management has also strengthened his social networks, as he relies on his sons to herd the family livestock, while they in turn depend on him for money and food, as well as vaccinations for the animals.

Nevertheless, the interconnections and dependencies between rural and urban settings means that diversification can expose households to new risks. For example, the loss of employment opportunities in towns can exacerbate drought vulnerability of rural households that depend on urban remittances (Eriksen et al., 2008, 18). Likewise, crop failure or livestock loss that occur in a rural setting can undermine the food security of urban residents who rely on these transfers to supplement their incomes. An urban respondent who made her living from buying and selling fruit and vegetables in Nanyuki explained that drought-induced crop losses in rural areas have had a significant impact on her urban livelihood. Not only does it cost her more money to buy produce, but her customers (whose livelihoods have also been impacted by drought) have less money than usual to spend at the market. What is more, water rationing in town makes it more expensive for her to purchase water for washing her produce to look presentable for potential clients. Viewed from this perspective, attempts to simplify the relationship between risk and diversification, and assume that diversification inherently lowers exposure to risk overlooks differential experiences (Little et al., 2001, 404). While diversification helped many respondents to manage risks, it multiplied the risks for others.

5.1. The poorer the household, the higher the risks?

Illicit activities in Laikipia (home-brewed alcohol, charcoal burning, sand harvesting, sex work and theft) illustrate the complex relationship between diversification and risk, and the relevance of socioeconomic status in determining the allocation of risks. Low-income households with limited alternatives are the most likely to diversify into illicit activities, which require low initial capitals and provide quick returns. While diversifying into illicit activities may provide financial respite, it also exposes households to considerable risks, which undermine their overall adaptive capacity. Those involved in illicit activities risk imprisonment and fines if caught by the authorities, depleting savings, assets and other financial capitals that contribute to adaptive capacity. Charcoal burning also carries a high risk of respiratory disease, thereby undermining the human (health) aspects of adaptive capacity. Likewise, sex work puts women at risk of sexually transmitted infections and violence from clients. Sex workers also face social stigma and discrimination, as do those caught stealing, which erodes the social relations and community ties that often strengthen households' capacity to adapt.

While diversification into illicit activities directly exposes poor households to the most significant risks, these also extend indirectly to the wider community, suggesting that all groups – whether rich or poor – ultimately experience some degree of risk. Wealthier households with more valuable assets are more likely to be the target of illicit theft, which depletes financial assets and savings, and undermines social cohesion. Unregulated and highly potent home-brewed alcohol is associated with alcoholism and domestic violence across the research sites, which weakens community ties and health indicators. As explained by a female resident of Loisokut, 'Illicit brew…has resulted in a lot of drunkenness in the area. One cup costs just twenty shillings, and has the capacity to make someone very drunk'. Sand harvesting contributes to river-bed erosion in Il Polei and Dol Dol, and charcoal burning with deforestation, soil erosion and fires in forest areas like Mukogodo and Mount Kenya. These undermine the natural resource base that builds adaptive capacity for the community as a whole.

In sum, illicit activities highlight the contradictory and unpredictable nature of diversification and risk (Mosberg and Eriksen, 2015). They provide short-term financial relief for impoverished households struggling to get by. But they can simultaneously expose households – especially the poorest, but also the wider community – to significant risks, undermining adaptive capacity for all in the long-run. This re-emphasises the point made in Chapter 5 that adapting often involves trading one set of risks for another – as by minimising one kind of risk, people often expose themselves to other, potentially new kinds of risks.

5.2. Expanding into new activities involves risk across all sectors

The risks of diversification are not confined to illicit activities, however, and diversifying into new activities entails significant risks across all the different economic sectors. For example, agricultural and livestock farming entails a 'High risk, low return environment' (Tacoli, 2002, 6), characterised by climatic variability, price fluctuations and weak markets . A 78-year-old pastoralist attempted to diversify into crop farming but was forced to abandon it when

animals destroyed his fields. Workers on commercial farms described suffering from the detrimental health impacts of pesticides. The combined effects of drought and cattle raiding also make livestock farming risky, with several respondents losing all or most of their cattle to theft or death.

The risks of diversifying into employment or casual work are also high. 'It's a two-way traffic', explained an NGO informant differentiating between those who find work, and those who don't: 'They have a very frustrating time. Some young people get wasted in the towns – they just roam around'. Chances of survival, let alone accumulation, are slim for migrants unable to find work in towns, especially for those without urban social networks to fall back on. Networks play an important role, and those with rural-urban connections who are able to simultaneously maintain a foothold back home (either due to geographic proximity or regular communications) have better recourse to financial support and find it easier to return to previous livelihoods when things don't work out. Even when respondents were able to secure a job, they often endured precarious working conditions, with poor pay and few rights. In the words of a respondent, while urban areas still present more opportunities than rural places, these have become increasingly constricted by economic recession and climate change.

Business is often portrayed as an easy and accessible way of diversifying livelihoods. And yet high costs and unreliable markets made business a risky endeavour for many – although, on balance, most respondents saw the opportunities as outweighing the risks. For example, a 56-year-old widow interviewed in Marura described being forced to close her shop after only a few years. High rents, licenses and transport costs made her business unprofitable, and she incurred significant losses, ultimately declaring bankruptcy. A 50-year-old woman who ran a small grocery business described a similar scenario. Due to the fluctuating price of her stock and the low spending power of her customers, she found it 'hard to make ends meet' and was often forced to peddle home-made detergents and curtains on the streets to supplement her meagre profits. She also described having invested all her savings into previous business ventures, only for them to subsequently collapse.

Households whose attempts to diversify end in failure lose their savings and assets, as well as their confidence and self-worth. This depletion of financial capitals and human attributes significantly erodes their capacity to adapt again in the future, or even resume previous livelihoods activities. This is especially the case for respondents who sold natural assets, such as land or livestock, in order to diversify in the first place. In these scenarios, their adaptive capacity is lower than what it was prior to diversification, and it can take households many years to rebuild lost resources, assets and attributes. What is more, the impacts of unsuccessful diversification extend to the wider family, putting additional pressure on relatives who are called upon for support. 'Relatives left behind are forced to help them by sending food and money. Sometimes parents sell livestock to be able to send money when businesses fail', explained a community informant interviewed in Ngenia. This puts additional strain on wider financial capitals and social networks and, by extension the adaptive capacity of the household more generally. In sum, while diversification enables many households to spread risk across multiple activities, it is nonetheless a risky endeavour in itself which exposes poor households and to a lesser extent the wider community to harm, thereby eroding adaptive capacity in the long run.

6. Manging absence and presence

> ‘People used to live altogether in the household, but resources don’t allow people to stay together anymore, and employment opportunities are further away. Now, in every household, there is someone living in Nanyuki, another working in a farm, another married somewhere else. It is very hard to go to a home in Laikipia, and find everyone living there at once. Household members swap in and out, and if you make repeat visits to the same household, you will see that different people are present and absent’. (NGO informant interviewed in Nanyuki)

As suggested by the above quote, mobility-infused diversification entails a shifting and simultaneous presence and absence, as some household members move to access resources and opportunities elsewhere, while others stay behind to maintain existing assets and activities. While a household unit can spread itself simultaneously across multiple locations – being both here and there at the same time – individual members themselves must be physically absent in one place in order to be present somewhere else. How do these shifting dynamics of simultaneous absence and presence affect household and community dynamics? By trying to be in multiple places at once, are they neither fully here nor there? How does this balancing act influence their emotional wellbeing, and social and legal status? While those who move may be physically absent from their communities of origin, they are present in host communities. What impact do these simultaneous absences and presences have on the wider community in both places of origin and destination, in terms of pressures on resources and access to new opportunities?

6.1. Household and community cohesion

Physical absence is part and parcel of diversified and mobile rural-urban livelihoods. And it takes its toll emotionally on those who stay and those who remain, with consequences for the human and emotional aspects of adaptive capacity. Relatives, especially the elderly, who stay behind described feeling isolated and alone as villages emptied of younger generations who move elsewhere. Other elderly respondents complained that absent younger generations are no longer willing to look after them, obliging them to continue working, and eroding the social support networks they would traditionally rely on to adapt in their old age. What is more, the absence of young men in Laikipia North has made stayees more vulnerable to raids and violence, thereby adding another layer of stress and isolation. ‘The bandits are armed and we don’t have youth who are strong and energetic to protect and defend us’, explained a community informant in Mukongo. While grief and loneliness were thus common, many stayees nevertheless recognised the economic gains of remittances, suggesting that feelings of personal loss are mixed with financial relief. While a 76-year-old widow lamented living alone, she also felt, ‘Grateful for the help they [her relatives who had moved to the city] are providing to me whether small or big. I feel that my children care for me and love me. They haven’t forgotten about me and they are mindful of my welfare’.

For migrants, living in a strange and new environment away from family can also be a lonely and frightening experience. Respondents described how discrimination and being treated as an outsider affected their mental wellbeing, thereby eroding the human and social aspects of adaptive capacity. Others relayed the daily struggles and stresses of living in crowded slum areas, hustling for casual work, the continual threat of eviction, and theft and scuffles with neighbours. In these ways, being split across multiple locations can de-stabilise migrants' 'sense of belonging, social relations, moral orientations, and subjectivities' (Tappe and Nguyen, 2019). Some migrants described feeling stressed and exhausted by the emotional pressures of being stretched simultaneously across multiple locations. They remain psychologically part of the household back home, but physically are not there at all, which can be a difficult balance to juggle and live with (Rigg, 2006b, 80). Others were frustrated at the obstacles that being both here and there presented to pursuing their own dreams and ambitions, and the sacrifices this entailed for their own personal capacity to adapt.

These pressures and frustrations reverberated within households, at times reaching a tipping point. Some respondents linked spousal absence to a deterioration of marital relationships. 'There has been an increase in the rate of divorce cases in Kenya', explained a Nanyuki market union leader, 'because men move elsewhere to seek greener pasture which has an impact on the household relationship.' Ramisch (2016) also highlights the costs of separation among multi-local Kenyan spouses, describing a migrant husband as 'never at ease, frustrated by the poverty of the home he rarely visits and she [his wife] by his lack of understanding' (2016, 980). As well as between spouses, absence has also widened the gap between household generations. As family members pursue different priorities and pathways, and as parents and children spend less time together, respondents complained of a breakdown in household respect and discipline. 'Business life is a busy life', explained a 30-year-old migrant who juggles a small restaurant business with crop farming, and lamented that she has lost touch with her children and wider family as she struggles to make ends meet. The erosion of household relations weakens the social networks that contribute to adaptive capacity. This in turn undermines access to financial safety nets, as it becomes easier to justify the ringfencing of remittances to a close-knit circle of relatives. 'Receiving support from your uncle, for example, doesn't happen so much nowadays', explained a Nanyuki NGO worker.

However, in spite of the pressures of absence, fieldwork suggests that that household cohesion (within the nuclear, if not the extended, family) remains, for the most part, resilient – with positive repercussions for the social networks that contribute to adaptive capacity. As suggested by Rigg (2006b, 79), 'The household remains a stage where cooperation and conflict, corporatism and individualism, mutuality and inequality, and consensus and discordance, co-exist. In a sense, and paradoxically, the household is defined by dissonance.' This was the experience of a 56-year-old widow interviewed in Baraka, who saw 'No major social change in my household due to these movements. We are still intact – relationship, respect, the cohesion of my family is just as before'. This is perhaps not surprising given that the ability of a household to collectively diversify its livelihoods depends in large part on its members' ability to sustain connections with one another across geographies. This mutual dependence acts as a glue that, for better or worse, keeps the household together in the face of prolonged absence.

In contrast, this sense of cohesion did not extend to the wider community to the same extent, with multiple respondents expressing concern about the demise of community relations as a result of sustained absence. 'The relation with my family is intact but the community cohesion has widened due to changes in livelihoods. It is very rare to come together as a community', explained a farmer interviewed in Ngenia. The regular absence of many within the community discourages impromptu home visits, with respondents describing having to 'book in' with each other in advance, thus weakening social interactions and bonds at the community level. Frequent absence also undermines participation in communal functions, including pooled labour, weddings, funerals and community fundraising, thereby diminishing social ties and obligations. Community was defined in the preceding chapter as a key factor shaping adaptive capacity. This gradual erosion of communal interactions and functions undermines the potential for collective action – another important lever of adaptive capacity. Indeed, in this disjointed context, fieldwork revealed a general shift from solidarity to individualism, exacerbated by the pressures of making a living in an increasingly cash-based economy. Individualism structurally undermines the social networks that contribute to adaptive capacity, as members of the community no longer have the time or inclination to support each other – whether socially, emotionally, financially or physically – as they once did, signalling the loss of an important safety net during times of difficulty, and the gradual erosion of this lever of adaptive capacity.

6.2. Migrants' social and legal standing

In addition to influencing community cohesion and emotional wellbeing, the simultaneous absence and presence of being split across multiple locations has implications for migrants' own social and legal standing, with wider repercussions for adaptive capacity. Indeed, social and legal standing enable high status households to influence socio-political dynamics, both at home and away, to their personal advantage. Those with elevated status sit close to the levers of local decision-making, which empowers them with inside knowledge with which to plan and adapt their own strategies in advance of any change, gaining first mover advantage, and avoiding being caught off guard. Status gives households legal protection over natural and physical assets, and compensation when these are lost or stolen. Those who enjoy high social and legal status can also rely on extended social networks during times of hardship, though they may also find that they themselves are expected to support others in their struggles. These advantages all contribute to the different levers of adaptive capacity.

Absence influences social and legal standing in diverging ways, often according to socioeconomic status and the diverging pathways to survival and accumulation. On the one hand, absence prevents migrants from participating in local functions. This diminishes their standing within their community of origin and, in the words of a respondent, makes it harder for migrants to win the support of the community should they need it upon their return. On the other hand, remitting improves migrants' social status and respect, cementing their position in the community in spite of their absence. In these scenarios, 'Remitting can be a source of familial and cultural reaffirmation' (Lindley, 2009, 1327), thereby reinforcing the social networks that build adaptive capacity. The perception that

urban migrants are better connected to resources, services and opportunities also elevates their status within the community of origin. A 40-year-old female migrant explained how her social status had improved by moving to Nanyuki: 'They consult me a lot while making a decision because I'm close to many opportunities and knowledge'. These diverging outcomes underline the importance of socioeconomic status. Migrants with the means to remit money, knowledge and information are a valuable resource to their home community, and therefore in a stronger position to retain, and even strengthen, their social standing back home – albeit with the heavier burden of socioeconomic obligations. In contrast, under-resourced and -networked migrants are perceived as less valuable back home, making it harder for them to wield or even maintain social influence in their absence. This erosion of their social networks by extension undermines their capacity to adapt upon return.

But what about their legal status in places of destination? Migrants who cross international borders, especially those who do so informally, face a range of legal and political challenges, such as limited rights and recourse to legal support, precarious and abusive working conditions, and the threat of detention and deportation. While internal migrants (the vast majority of respondents in this research) maintain their legal status as citizens, there is nonetheless a social aspect to rights that can become destabilised by moving elsewhere. In support of this, Zoomers et al. (2011, 496) argue that, 'Entitlement to local resources and services… are often dependent on being a recognised member of the community. If more people divide their lives among more localities, more will fail to qualify… or may even be side-lined everywhere'. To illustrate this point, fieldwork revealed that banks were less likely to give loans to migrants not only due to the logistical challenges of verifying deeds of property located elsewhere, but also due to suspicion and discrimination of their 'outsider' status. This arguably undermines their access to financial capitals and assets that build adaptive capacity. That said, in many cases, these same respondents had struggled to access loans and other government services prior to moving, suggesting again that rights and status are co-determined by wealth and influence, and not just mobility.

Indeed, while poor and marginalised migrants struggled to assert their social rights both at home and elsewhere, newcomers with wealth and influence were often welcomed and quickly assimilated into their host communities. For example, an urban-rural migrant described enjoying significantly greater influence and status after moving from Nanyuki town to pastoral Loisokut. 'Moving here has improved my status… and given me a voice', she explained, describing being elected to leadership positions on numerous community committees, and finding work as a community health worker and as a secretary for the local member of parliament. These trends were often resented by local residents, including a 56-year-old livestock farmer who complained that, 'Newcomers with money are given leadership positions at the expense of the local indigenous people to lead this community, which is very wrong. In these scenarios, the influx of wealthy and influential migrants undermines the social status of the resident community, squeezing them out of positions of influence, and undermining the adaptive capacity of members of the wider community. Once again, wealth and status (in conjunction with mobility) play an important role with regards to social standing, with poorer groups – whether migrants or residents – likely to be increasingly marginalised through diversification.

6.3. Access to local resources and opportunities for communities of origin and destination

A mixed picture emerged from fieldwork regarding the impact of rural-urban diversification on local resources and opportunities, with repercussions for the adaptive capacity of both communities of origin and destination. Among communities of origin, absence associated with rural-urban diversification erodes adaptive capacity when accompanied by the loss of labour, skills and knowledge. This was especially relevant for subsistence farming and pastoral communities who tended to rely on familial workforce. While wealthier households filled this gap by hiring additional labour, many poorer and marginalised households were forced to reduce farm and livestock size to more manageable (though less profitable) scales. In addition to financial implications, these transitions further eroded human attributes associated with adaptive capacity. Those left behind – typically women, children and the elderly – were obliged to take on the additional work, thereby limiting their own scope for diversifying and, in some cases, increasing the likelihood of children dropping out of school.

Then again, in communities where resources are already over-stretched, the absence of part of the population reduced localised pressures on land, pasture and water. This improves access to natural resources associated with adaptive capacity, making existing livelihoods more sustainable. Those who move away from pastoral communities often reduce their livestock there, which, according to a Musul community informant, 'Gives those left behind an opportunity to conduct pastoralism under less pressure. The reduction in population is what we need to conduct effective pastoralism'. At the same time, absent community members rely on community residents to manage their assets – including land and livestock – on their behalf. This creates new casual work and income opportunities (for instance in herding, farming, construction and domestic work) which contributes to the local job market and, by extension, to the financial levers of adaptive capacity. For example, a 43-year-old migrant who had moved from rural Gatheri to Nanyuki town described hiring manual labourers to build her new house, local farmers to grow maize, and a local caretaker to watch over her rural assets in her absence. In this context, some respondents, such as a community informant in Kuri Kuri, talked positively of the ripple effects of mobility-infused diversification on the community: 'I am contented with the decision of members to move as they bring more benefits to this community'.

The impacts of simultaneous absence and presence on local resources and opportunities are felt not only by communities of origin, but also by host communities at destinations – often in interconnected ways. In this regard, mobility-infused diversification can influence adaptive capacity simultaneously in multiple locations – strengthening adaptive capacity in one place, while at the same time undermining it elsewhere. For example, while the absence of migrants at home can relieve pressure on natural resources there, their presence elsewhere can increase pressure on these same resources within the host community. According to national census data, Nanyuki's population has more than doubled from 31,577 (1999) to 38,339 (2009) to 72,813 (2019). While population increase is associated with both natural increase and in-migration, a number of Nanyuki respondents complained that the arrival of new migrants has increased competition for jobs and driven up the cost of buying and renting land. 'This is making life very difficult for the ordinary person', explained an NGO informant. Other respondents negatively associated in-migration with pressures on water and waste disposal facilities, as well as an increase in crime and insecurity.

Although this was counter-balanced by the job creation and social services associated with the increase in migrant businesses. For example, a migrant respondent described establishing a much-needed pharmacy in a neglected area of Nanyuki and selling her medicines at affordable prices, thereby improving health services for local residents. Other migrants described joining local savings groups, cooperatives and religious groups, and thereby contributing to local finances and adaptive capacity in host communities. Local government also benefits from increased tax receipts. The County Government saw a threefold increase in fiscal revenues during the 2019/2020 financial year compared with 2016/2017, which can be attributed, in part at least, to an influx in the number of tax payers (County Government of Laikipia, 2021). Population increase can also be advantageous to local authorities during census checks, at times resulting in higher transfer of state financing to the county level.

In this context, when it comes to accessing resources and opportunities, rural-urban diversification creates very real opportunities and obstacles across various locations. When it comes to natural resources, for example, out-migration can drain knowledge, resources and labour whilst simultaneously freeing up resources and creating opportunities for others. And yet, perceptions around the relative advantages and disadvantages of mobility-infused diversification on local resources and opportunities are highly subjective. They are felt and vocalised differently by different groups depending on their proximity to the resources accrued, and their ability to take advantage of them. Wealthier groups see rural-urban diversification more favourably as they are able to build their adaptive capacity more effectively than poorer groups. For example, local businesspeople and landlords described profiting from the influx of new customers associated with in-migration, while casual workers struggled with heightened competition for work opportunities. To illustrate this, the manager of a local flower farm that benefits from the influx of migrant workers acknowledged that while immigration stretches resources, on balance, it brings more positives than negatives by bringing new people into the area.

7. Concluding Remarks

To conclude, this chapter has explored the relationship between rural-urban diversification and the different levers of adaptive capacity, in order to ascertain the extent to which rural-urban livelihoods build adaptive capacity more generally. Three main findings emerge from the analysis.

Firstly, mobility is a central component of livelihoods diversification in Laikipia. ‘Mobility-infused’ or ‘rural-urban’ diversification have become widespread due to improved transport and the uneven distribution of resources and opportunities, which simultaneously facilitate and necessitate mobile approaches to diversification. When it comes to understanding how mobile patterns of diversification influence adaptive capacity, much depends on the kinds of mobility being employed. Daily commuters were often able to retain one foot in their rural home and another in a nearby town (or vice versa). This everyday mobility enabled households to expand access to resources and opportunities located elsewhere, while simultaneously securing important assets at home – thereby equipping them with the broadest array of resources that contribute to adaptive capacity. This balance was often

harder to achieve for households for whom daily commuting was not possible, and who subsequently settled on a temporary or permanent basis elsewhere. Many such migrants described the simultaneous expansion and decline of the various levers that shape adaptive capacity – in gaining access to new opportunities elsewhere, their grasp on resources, social status and legal standing back home became weakened. Those who fared better were able to sustain translocal networks with their community of origin, often because of superior wealth and influence.

This introduces a second key finding: socioeconomic status is a key determinant in the relationship between rural-urban diversification and adaptive capacity. Far-reaching and structural inequalities determine outcomes. Wealth and influence enable richer households to accumulate money, assert their rights, and access resources and opportunities better than the poor – all of which contribute to improved outcomes for adaptive capacity for those with higher socioeconomic status. In this context, diversification favours those with the resources and influence needed to accumulate, rather than just survive. Poor households, in contrast, are more likely to diversify into low-income, precarious activities that combine short-term financial gain with significant risk. When diversification goes wrong, they also feel the impacts more acutely, and it can take them many years to rebuild lost resources, assets and attributes. Even under these conditions, however, diversification can still act as an important buffer or safety net, giving impoverished households breathing space and much-needed daily cash with which to navigate everyday challenges, and strengthening, albeit in subtle and incremental ways, adaptive capacity in the long-term. What is more, the relationship between diversification, adaptive capacity and socioeconomic status is complicated by structure and agency, so that opportunities (albeit limited) did emerge for switching between the different pathways to survival and accumulation. Livelihoods are complex and fluid, their connections need unravelling, and they should be understood in dynamic and historical contexts (Scoones, 1998, 11). It is perhaps not surprising therefore that the extent to which diversification builds adaptive capacity is mixed and uneven, neither inherently benign nor malign, but highly contextualised and subjective.

A third key finding is that while outcomes of diversification are messy, they are nonetheless structured by underlying patterns that hint at a broader logic. Socioeconomic status is one such pattern. A second, less discernible pattern is relational – the interconnections that exist between people, places and activities, and which result in simultaneous pressures and opportunities being exerted across different groups and geographies. Throughout this chapter, rural-urban diversification often strengthens adaptive capacity in one place or for one person, while simultaneously undermining it for an interconnected someone or somewhere else. This simultaneous expansion and erosion of adaptive capacity between interconnected people or places resonates with maladaptation – the idea that adaptations taken by one group (but also by a system or sector) can adversely undermine the livelihoods, culture or knowledge of others (Adger et al., 2011, 20; Barnett and O'Neill, 2010, 212). Mobile patterns of diversification thus open up opportunities for adaptive capacity for some people and in some places at the same time as closing them down for interconnected others and elsewheres. The relationship between diversification and adaptive capacity is characterised by compromise, trade-off and exchange. And a singular focus on a particular place or person misses the wider implications for interconnected

entities, painting a one-sided picture that glosses over or misses altogether the other sides to the story, and in doing so risks overstating either the positives or the negatives.

In sum, rural-urban diversification does not inherently build adaptive capacity, but nor does it undermine it. Rather, it is subjective and contextualised, and its impacts vary across people and places depending on the kinds of mobility they are able to undertake, the wealth and influence they are able to exert, and the ways in which they are connected with others.

Chapter 7 – Reciprocal exchange and adaptive capacity

Chapter 6 analysed rural-urban livelihoods in terms of diversification, and the extent to which this builds adaptive capacity. This chapter now considers the relationship between adaptive capacity and a second aspect of rural-urban livelihoods: reciprocal exchange. The reciprocal exchange of money, goods and other forms of support is a core element of rural-urban livelihoods – needed to initiate rural-urban livelihoods in the first place, as well as sustain them in the long run. Upon moving, many migrants rely on the ongoing support and assistance from connected relatives to establish themselves in a new setting. Once initiated, the practical logistics of juggling mobile and diversified livelihoods often requires ongoing reciprocity between migrants and stayees. Migrants rely on stayees to watch over assets, land, property, production and even children in places of origin. This frees up migrants' responsibilities and resources needed for sustaining rural-urban livelihoods in the long run. Stayees, in return, rely on the money, food, advice, information about opportunities, and proximity to services that a migrant relative can provide. Rural-urban livelihoods are thus best conceptualised as a joint, collective and reciprocated effort, as opposed to an individual endeavour.

This chapter asks for whom and under what circumstances these kinds of reciprocal rural-urban exchanges build the different levers of adaptive capacity. It builds on the people-oriented framing of rural-urban livelihoods (elaborated in Chapter 4) that centres on translocal connections, social support, remittances and reciprocity. Viewed from this perspective, rural-urban livelihoods encompass the array of connected individuals dispersed across rural and urban settings who stay in touch with and support one another to sustain a collective livelihood. This transfers the focus from the livelihood diversification, migration and mobility framing of Chapter 6 to the people involved and the threads that connect them. By adopting a relational and translocal perspective that takes into account the multiple sides of reciprocity, this chapter recognises that reciprocal exchange can build adaptive capacity for some while simultaneously undermining it for others – thereby resulting in more complex and nuanced outcomes for adaptive capacity as a whole that are characterised by trade-off and compromise.

The chapter begins by illustrating reciprocal exchange in theory and in practice. Moving away from the mainstream focus on one-way financial flows, Section 1 highlights the reciprocal, multi-directional, and multiple categories of exchange occurring between people and places. The remainder of the chapter subsequently considers the extent to which reciprocal patterns of exchange build adaptive capacity – in particular, the financial, social, human, natural and physical attributes, as well as the wider enabling environment of gender and generation, ethnicity, community, conflict and governance. Section 2 explores the mix of advantages and disadvantages that emerge from social and financial remittances. This up-and-down, uneven picture of social and financial exchange does not, however, mean that patterns or trends that shape the outcomes for adaptive capacity are entirely absent. With this in mind, Sections 3 and 4 explore the circumstances under which reciprocity builds and erodes adaptive capacity – paying particular attention to the role of power relations, inequalities of access and socioeconomic status.

Throughout these sections, the chapter builds on Sahlins' (1974) spectrum of reciprocity. 'Generalised' reciprocity exists at the positive pole, and represents the gift that is given freely, generously and in solidarity without an open stipulation of return, and even then only if possible and necessary. At the other 'unsociable' extreme of the spectrum lies 'negative' reciprocity, characterised as an attempt to get something for nothing, and to maximise gain at the expense of others. Viewing reciprocity along a spectrum recognises the array of possible motivations and outcomes. This helps to move beyond the optimistic tendency to conceptualise reciprocity in terms of trust, solidarity, friendship, mutual gain and moral economy.

1. Reciprocal exchange in theory and practice

The academic literature has tended to focus on one-way financial flows, typically from urban to rural settings, and from migrants to stayees. This tendency is rooted in several biases and assumptions. It reflects rural-urban binaries and hierarchies (Chapter 1), as well as the practical realities of data collection – it is easier to track formal monetary remittances than, for example, complex social, ideational and symbolic support mechanisms. This academic tendency also reflects how social aspects are given secondary importance to economics (Fine and Lapavitsas, 2004). And how, when social dynamics *are* included, the impetus for doing so is to add 'social sophistication' to the main business of economics (Ibid, 32). Finally, this one-way approach also reflects how, when it comes to remittances, 'the overwhelming focus of the literature' has been on recipients, with the impacts on senders generally overlooked or ignored altogether (Lindley, 2009, 1330).

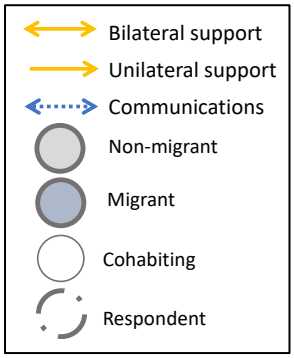
Taken together, these academic tendencies have contributed to a neglect of other directions (internal, reverse, reciprocal) and forms (social, cultural, political, ecological) of exchange. This section contributes to filling this gap in the literature. Moving away from the usual focus on one-way flows, it highlights the reciprocal and multi-directional nature of exchange by depicting (through maps of familial exchange) the webs of interconnected household members that send support in multiple directions and to multiple people. Getting beyond the singular focus on financial flows, this section also highlights the multiple categories of support that characterise reciprocal exchange. These include financial remittances, food, clothes and livestock, but also immaterial and social transfers, such as the reciprocal exchange of ideas, knowledge and opportunities. Finally, this section seeks to move the terms of the debate beyond households per se by contextualising inter-familial reciprocity within the wider patterns of exchange occurring between rural and urban places.

1.1. Reciprocal and multi-directional exchanges

During interviews, a series of questions were asked relating to exchange and reciprocity. Migrant respondents were asked to describe how, why and how often they stayed connected with family who stayed behind, including detailed information around their methods of communication and the kinds of support they send and receive. This data is illustrated in a series of maps that chart reciprocal exchanges across familial networks. As per the legend on the right-hand side, these connections typically involved a mix of bilateral and unilateral support and communications between migrants and non-migrants located across rural and urban settings. Circles are drawn around co-habiting household members,

and additional information about place of residence (location names and whether these are rural or urban) are also included in the maps to emphasise both the rural-urban and translocal nature of these connections.

It should also be noted that these maps focus on a particular household member (the individual respondent), and the connections he or she maintains across their household. Consequently, these maps do not illustrate the many additional layers of connections that exist between other members of the same household. While it would have been insightful to repeat the same exercise with different household members to capture a more comprehensive picture of the various and overlapping connections across the household as a whole, the fragmented nature of these households – with members dispersed across multiple locations – challenged attempts to do so.

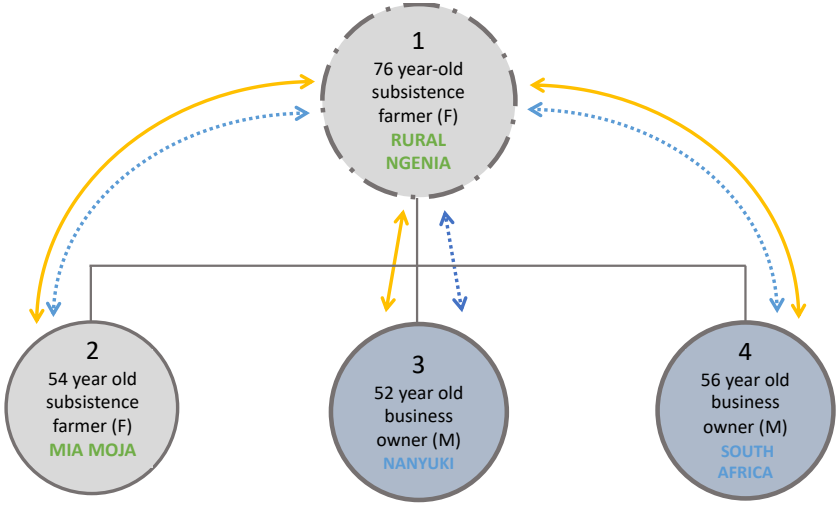


These maps attest to the reciprocal and multi-directional nature of the exchanges that exist between many migrants and non-migrants located in rural and urban settings. Instances of reciprocal exchange were prevalent across research sites, including small and medium-sized towns, as well as agricultural, agro-pastoral and pastoral zones. Sixty-seven per cent of migrant respondents and 100 per cent of non-migrant respondents described being involved in reciprocal exchanges of support – whereby they both send and receive support with members of their household (see Table 1). Of the 33 per cent of migrants not involved in reciprocal exchange, 14 per cent neither sent nor received support. Only 19 per cent described sending something and getting nothing in return. No migrant respondents reported receiving support from relatives who stayed behind without sending something back in return. Overall, these figures emphasise the reciprocal nature of the majority of exchanges.

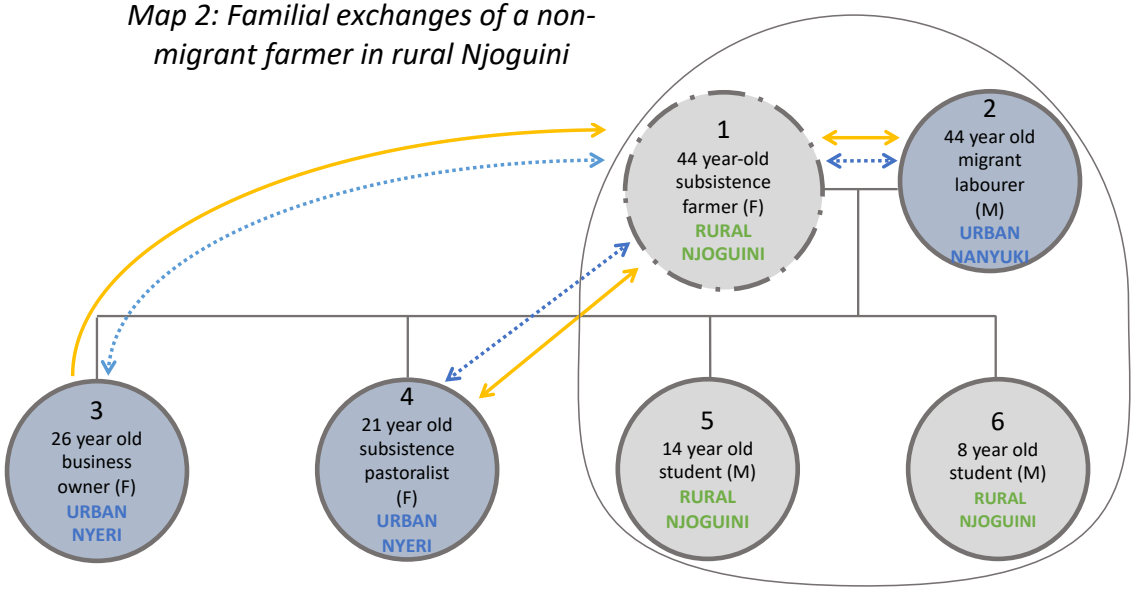
Table 1: Directions of exchange

	Migrant respondents		Non-migrant respondents	
	n	%	n	%
Reciprocal exchange: support between migrants and non-migrants	14	67	16	100
Non-reciprocal exchange: unilateral support from migrant to non-migrant	4	19	0	0
Non-reciprocal exchange: unilateral support from non-migrant to migrant	0	0	0	0
No exchange in either direction	3	14	0	0

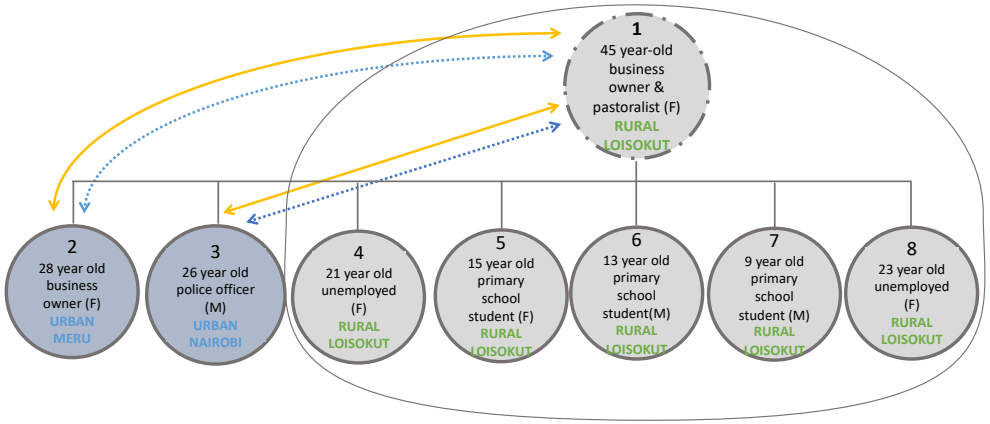
Map 1: Familial exchanges of a non-migrant farmer in rural Ngenia



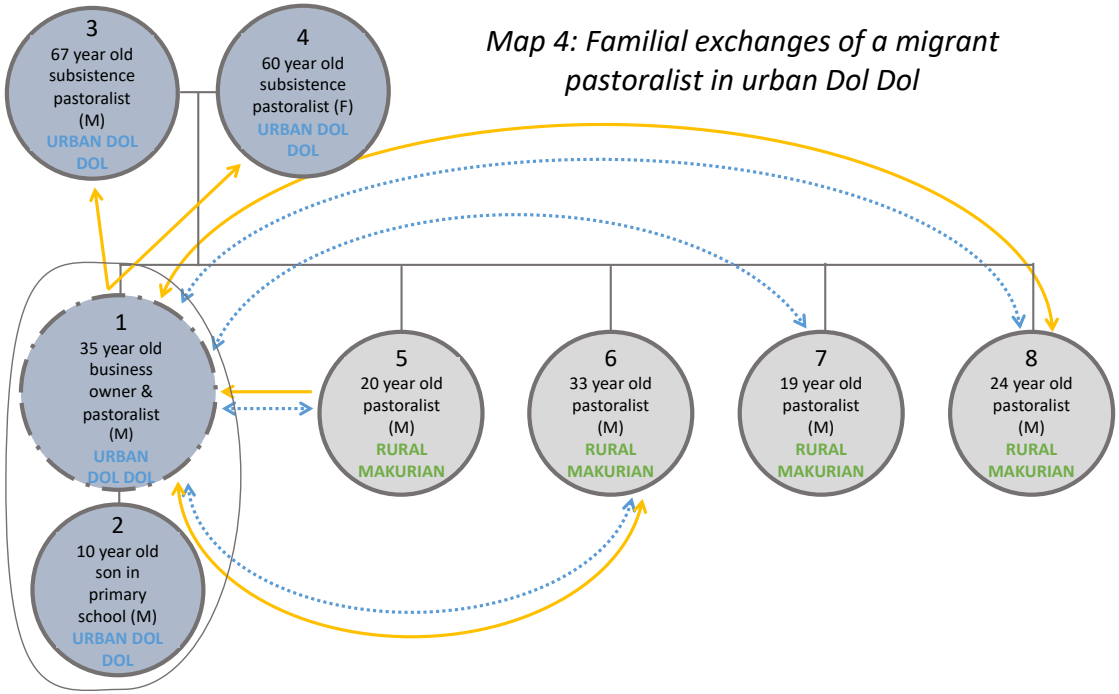
Map 2: Familial exchanges of a non-migrant farmer in rural Njoguini



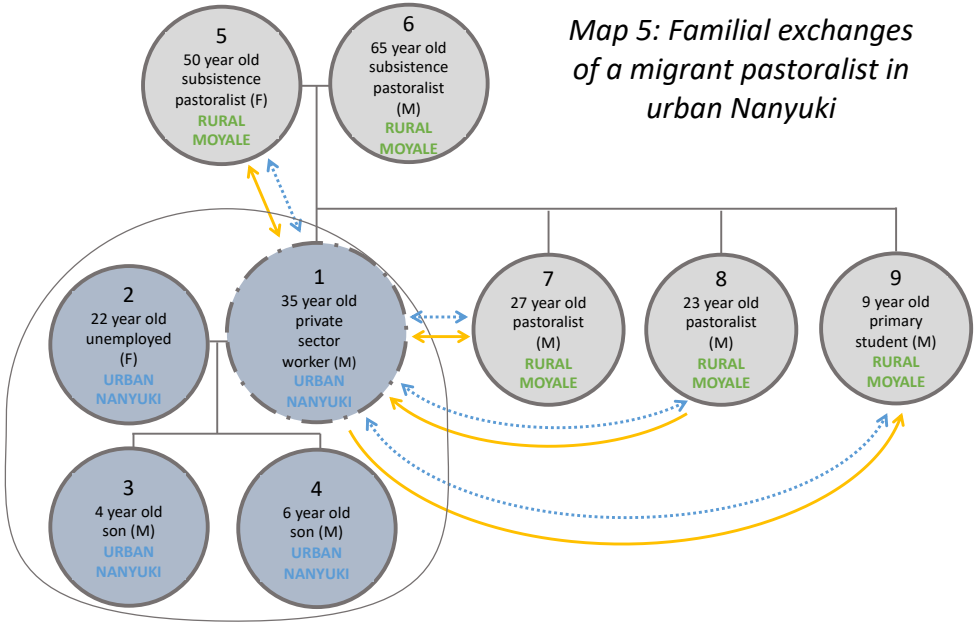
Map 3: Familial exchanges of a non-migrant pastoralist in rural Loisokut



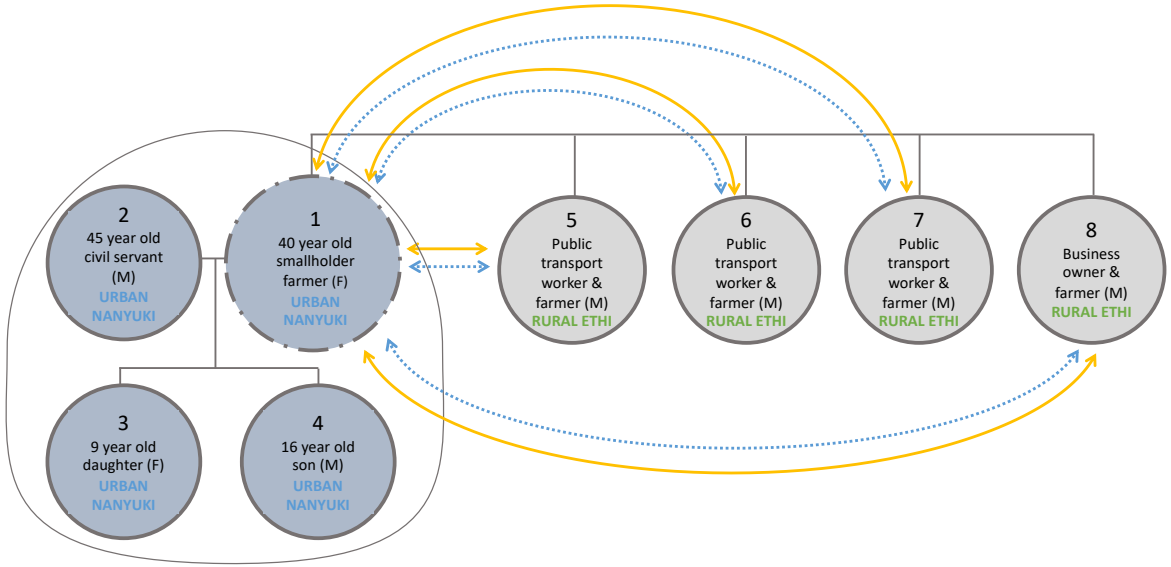
Map 4: Familial exchanges of a migrant pastoralist in urban Dol Dol



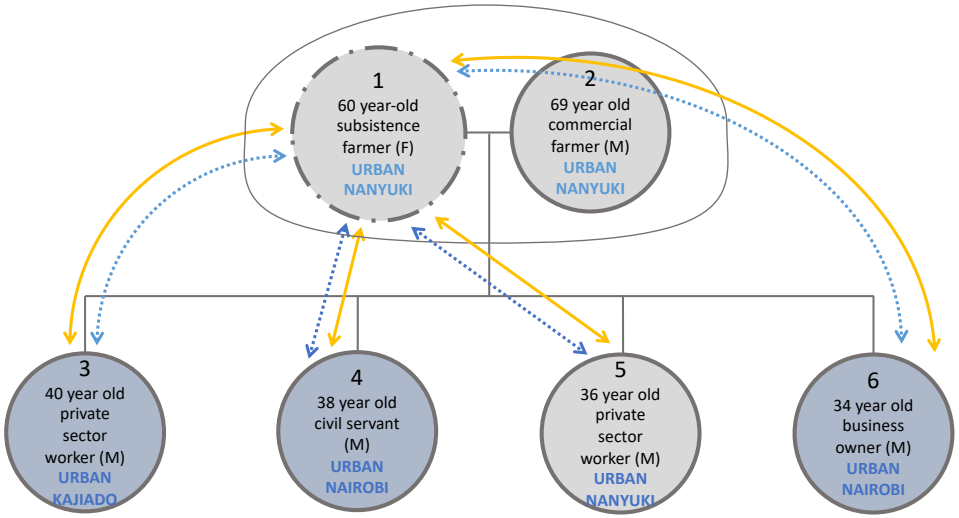
Map 5: Familial exchanges of a migrant pastoralist in urban Nanyuki



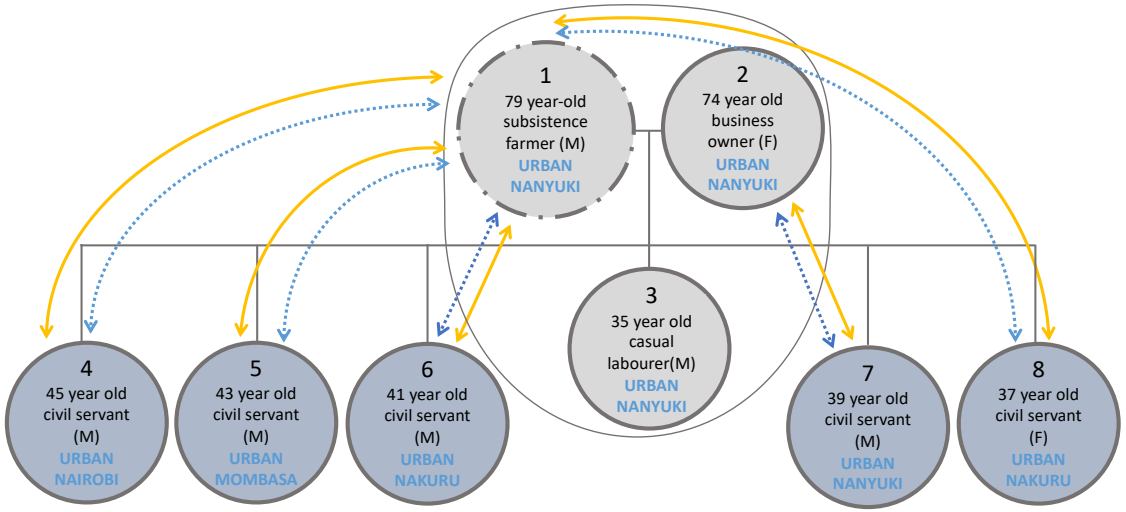
Map 6: Familial exchanges of a migrant farmer in urban Nanyuki



Map 7: Familial exchanges of a non-migrant urbanite in urban Nanyuki



Map 8: Familial exchanges of a non-migrant urbanite in urban Nanyuki



In addition to reciprocity, these maps of familial exchange also attest to the multiplicity of connections and exchange (see Table 2). Migrant respondents described supporting multiple relatives – on average three, although actual numbers ranged from one to eight. These same migrants also described receiving support from multiple relatives – on average two, but varying from one to four. A similar picture emerges among non-migrant respondents, who reported supporting on average two migrants, ranging from one to five. At the same time, they described receiving support from on average two migrants, varying from one to five. Mechanisms of exchange thus extend beyond bilateral relations of a minority of family members to encompass a web of multiple and interconnected members.

Table 2: Multiplicity of connections and exchange

	Give support to # people		Receive support from # people	
	Average	Range	Average	Range
Migrant respondents	3	1-8	2	1-4
Non-migrant respondents	2	1-5	2	1-5

That said, reciprocity tends to be restricted to immediate households and extended family, with far fewer instances of reciprocal exchange within community structures. To highlight this point, 40 per cent of respondents reported sharing support to the wider community, and only six per cent received support from outside of the family unit. This corresponds with the finding in Chapter 6 that, in a context of mobility-induced absence and the challenges of making a living – community cohesion and solidarity are increasingly being replaced with a growing sense of individualism. This has narrowed the boundaries of support mechanisms from the community to the family unit. What is more, in this challenging context of economic decline, environmental deterioration and weakening governance, reciprocity (within the family unit at least) has become more important and widespread than ever.

This was especially noticeable in urban areas. As urban livelihoods come under growing economic pressure, the reciprocal nature of exchanges has become more important and widespread than ever – with ripples effects on traditional patterns of exchange between rural/urban and migrants/stayees. The growing challenges of making a living in cities mean that urban migrants are sending less money and goods to rural areas (Bah et al., 2003, 20), and are instead becoming increasingly reliant on transfers of food and other goods sent by relatives in rural areas (Potts, 1997a, 466). Research in nearby Nakuru town, Kenya, suggests that the sending of financial and food support from rural to urban areas has become an increasingly important survival strategy for poor urban households (Owuor, 2004). A similar story emerges from Laikipia: 38 per cent of urban respondents described receiving food from rural kin, while 63 per cent used the money that they received to purchase food and other items for daily consumption. Likewise, research conducted in Namibia found that food transfers from rural to urban areas are critical for poor urban households to survive (Frayne, 2005, 70). Similarly, Djurfeldt (2012, 151) argues that 'food remittances' that bypass formal markets are underestimated in formal surveys, and represent an, 'Important component of multi-spatial livelihoods for the foreseeable future'. These findings suggest an alternative to the migrant-stayee, rural-urban balance commonly depicted in much of the literature. They emphasise that, in practice, the reciprocal exchange of money, goods and support flows in multiple directions, emanating from both rural and urban settings, as well as migrants and stayees.

1.2. Multiple categories of exchange

In addition to focusing on one-way flows, much of the literature also converges around financial flows, in particular financial remittances from abroad. While the scale of international remittances makes this tendency understandable, this has nonetheless contributed to a neglect of other forms of exchange, beyond the financial.[49] A wide range of different exchanges emerged during fieldwork, including: the transfer of money, food, livestock and other material goods; the provision of less tangible support, such as shelter, labour and childcare; the sharing of new ideas, practices and opportunities; investments in community fundraising initiatives and home-town associations; political lobbying on behalf of local interests; and social participation in local ceremonies and events. In these ways, reciprocal exchange embodies a mix of financial, political, social, ideational, cultural, environmental and emotional meanings. These different forms of exchange are now examined in more detail.

When it comes to financial remittances, migrants reported sending an average of $550 per year to relatives, with actual values ranging from $50 to $1,400 (see Table 3). On top of this, migrant respondents valued the in-kind material support (such as food, clothes, inputs, livestock) they send at nearly $500 per year on average, with individual estimations of these contributions ranging from $40 to $1,450. In return, many migrants also received financial remittances, averaging $420 a year, in addition to in-kind contributions estimated at just under $1,000. These findings underline the significant monetary value of both financial and in-kind transfers, which represent a substantial proportion of average $1,750 annual income.[50] What is more, while migrants tend to send more financial remittances back home than vice versa, the average value of transfers sent by migrants and non-migrants is not dissimilar. This underlines the reciprocity of such exchanges, and casts doubt again on the common assumption that remittances inherently travel from urban to rural, and from migrant to stayee. What is more, when the monetary value of in-kind transfers is taken into consideration, the total average value sent by non-migrants exceeds that sent by migrants. This again challenges common assumptions about the nature and direction of support and assistance.

Table 3: Monetary value of financial transfers and in-kind transfers

Direction of transfer	Average annual value of financial remittances	Average annual value of in-kind transfers	Total average annual value
Sent from migrants to non-migrants	$566	$483	$1,049
Sent from non-migrants to migrants	$427	$995	$1,422
Total average annual value	$993	$1,478	$2,471

[49] Iinternational remittances into Kenya peaked at 2.9 billion in 2020 (World Bank, 2021), not far behind total ODA of $ 3.2 billion in 2019 (World Bank, 2020).

[50] Gross national income (GNI) per capita was US$1,750 in Kenya in 2019, according to World Bank data.

Not all forms of exchange can be attributed a specific value, however, and these figures overlook a range of other non-monetary forms of support and assistance, such as the reciprocal exchange of ideas, knowledge and opportunities. Respondents described sharing information about a range of topics, including education bursaries and scholarships, employment opportunities, improved farming and livestock practices, alternative building techniques, vaccination programmes, veterinary services, online resources, banking procedures, and community news and events. By recognising that 'Remittances are not "just money"', Lindley (2009, 1311) suggests that we can move beyond 'economically functionalist approaches' to develop a deeper and relational understanding of the remittance process. These non-monetary transfers can be classified as what Levitt (1998) refers to as social remittances – the ideas, behaviours, identities and social capital that flow between migrants and non-migrants (Levitt and Lamba-Nieves, 2010). They can be further differentiated as 'intangible social remittances' (information, reflections on norms and values, different viewpoints, ways of doing, and generally new ideas) and 'tangible social remittances' (new skills and personal knowledge) (Peth and Sakdapolrak, 2020a).

Much like financial and in-kind transfers, social exchanges emerge as circular and reciprocal, travelling between places of origin and destination along three general directions of influence and exchange. Similar ideas of circularity and relationality are also identified by Levitt and Lamba-Nieves (2010). Firstly, upon moving to a new place, migrants transmit social and cultural practices that influence the communities with which they interact. They bring new ideas, skills and practices that are emulated and absorbed by some members of the host community. For example, an NGO respondent in Dol Dol town explained how the influx of Kikuyu and Meru migrants into the area has brought new cultures and ways of doing business. Secondly, as well as influencing others, migrants are themselves exposed to new ways of thinking and doing by the communities they interact with. As explained by a community informant in pastoral Bokish, 'When people move, they are hosted by a new community with different ideologies, character and knowledge. Those that move are thus able to learn new skills and new strategies of personal development.' In these ways, social and cultural values travel both ways, with migrants and hosts both influencing each other. What is more, the new practices that migrants pick up from their hosts are subsequently transmitted back to their place of origin, through visits, phone calls or messages to relatives – representing a third direction of exchange (explored in detail in Chapter 8). This creates a circular, reciprocal and relational scenario whereby 'home' and 'host' influence and are influenced by each other through a fluid network of movement and translocal connections.

1.3. Reciprocal exchanges among people and places

In addition to being reciprocal, multi-directional and multiple, household patterns of can also be understood in relation to the wider exchanges occurring between rural and urban places. Just as migrants and non-migrants depend on one another, so too do rural and urban places, so that, 'The fortunes of the rural and urban spheres are inextricably linked' (Baker and Pedersen, 1992, 11). An economic interdependence exists between urban enterprise and rural consumers on the one hand, and rural producers and urban markets on the other (Satterthwaite and Tacoli, 2003). Tacoli (2006) conceptualises these linkages as 'spatial' and 'sectoral'. Spatial linkages refer to the physical movement of people, goods, money, information and social transactions between rural and urban places. Sectoral

linkages – also referred to as 'structural' linkages (Agergaard et al., 2018) – capture the dependencies, exchanges and interactions existing between economic sectors.

For example, in order to survive and prosper urban centres depend on rural hinterlands as a source of natural resources and products (land, livestock, agricultural production) and as sites for expansion. This dependency is reciprocated, as the surrounding rural areas in turn rely on urban markets, goods and services in order to thrive. Similar dynamics can be seen in pastoral-farming interactions in Laikipia, with both economic sectors relying on and interacting with the other. As described by an academic interviewed in Nanyuki, pastoralist communities in Laikipia North purchase food from farmers and pay them to access their pasture during times of drought. In return, farmers depend on pastoralists for their supply of meat, milk, skins and other livestock products. According to the informant, these reciprocal patterns of exchange and dependence have helped to lessen tensions between the two groups.

Examples of place-based reciprocity extend beyond spatial or sectoral exchange per se, to also encompass reciprocal impacts or outcomes. Rural and urban places arguably leave their mark on one another, in much the same way as social remittances and exposure to new social practices enact social and cultural changes on households. A clear example of this is the ecological footprint that Nanyuki town exerts on surrounding areas of rural Laikipia, in particular environmental pollution, waste disposal, deforestation, commercial farming, sand harvesting and water consumption. While we tend to think of urban areas as geographically discrete places, the land and resources they require to sustain their populations with food, water, materials and energy lies far beyond their physical borders (Rees, 2006).

Just as towns like Nanyuki leave their mark on rural hinterlands, rural dynamics also impact on connected urban spheres in reciprocated ways. For example, drought and associated crop failure in rural Laikipia influence food security in Nanyuki town, as food stocks diminish and prices increase. At the same time, during dry periods, large numbers of pastoralists migrate with their livestock south towards Nanyuki town to access nearby pasture at Mount Kenya and Nyeri, sell their animals at urban markets, or bring them to be slaughtered at the major urban abattoirs. According to a flower farm worker in Nanyuki, the pastoralists' presence is 'very obvious during the dry season as you see them walking along the road'. This physical presence has several impacts on the urban community. It boosts economic opportunities for local businesses engaged in livestock marketing, while also creating a generalised sense of unease and uncertainty among local residents who worry about insecurity and damage to their crops by livestock. In these ways, rural 'elsewheres' impose their own ecological and socioeconomic footprint on connected urban places, as changes in rural rainfall patterns reciprocate a series of secondary impacts on nearby urban centres.

2. Remittances: a mixed and uneven picture for adaptive capacity

Patterns of reciprocal exchange contribute to a range of different outcomes. They are thus characterised by a complex mix of shifting advantages and disadvantages when it comes to building adaptive capacity. Reciprocal exchanges simultaneously push and pull the multiple levers of adaptive capacity in different directions. They can also result in differing experiences for those who send and those who receive. In doing so, they concurrently build

and undermine adaptive capacity, thereby contributing to somewhat erratic, evolving, up-and-down outcomes for adaptive capacity as a whole. In this uneven context, the result is neither inherently positive nor negative, nor is it fixed and final.

While such a finding may not clarify (from an analytical perspective) the extent to which reciprocal exchange builds adaptive capacity, it nonetheless reflects the everyday and lived realities of rural-urban households engaged in networks of reciprocal exchange. To illustrate this argument with concrete examples, this section of the chapter shines a light on two main channels of reciprocal exchange: social and financial remittances. In doing so, it seeks not only to rebalance academic attention to the social (as well as financial) aspects of remittances, but also to explore the intangible (as well as tangible) characteristics of exchange. Returning to the framework of adaptive capacity developed in Chapter 5, the analysis considers the ways in which social and financial remittances influence the financial, social, human, natural and physical attributes at the household level, as well as the wider enabling environment encompassing gender and generation, ethnicity, community, conflict and governance.

2.1. Social remittances

In many respects, a generally positive relationship emerges between social remittances and adaptive capacity. Respondents routinely described sharing information about education bursaries and scholarships, employment opportunities, improved farming and livestock practices, alternative building techniques, vaccination programmes, veterinary services, online resources, banking procedures, and community news and events. The majority of respondents saw the circulation of such ideas and practices as positively associated with two significant levers of building adaptive capacity: the strengthening of human skills and attributes, and access to additional financial capitals. For example, a 36-year-old female migrant explained how exposure to new livelihoods and knowledge through interactions with others has 'enlightened' her, 'as knowledge is power'. Another 30-year-old female migrant in Nanyuki described how such interactions have enabled her to 'grow economically and socially'. A similar picture emerges from the following excerpts.

> 'Pastoralists have been influenced a lot by the communities they interact with. This had brought new knowledge and cultural practices. For example, learning how to do business, alternative means of livelihood like farming, kitchen gardens, keeping of poultry etc. This has been a positive influence'. (Community activist interviewed in Nanyuki).

> 'People have been able to grow their knowledge, skills, and experience from changing where they work. Interaction with other communities elsewhere is key to personal growth and development. New ideas learned from elsewhere have enabled those that move to benefit a lot. There has been an emulation of outside culture whereby people now take their children to better schools, have better clothing, better housing and saving culture through investment in major projects such as land and property buying, which never used to be the norm of this community.' (Pastoralist informant interviewed in Oloruko).

These excerpts suggest that respondents with limited schooling, or who came from socially marginalised groups or physically remote places – in particular women, minority groups and pastoralists from Laikipia North – were most likely to see the circulation of ideas and practices as a significant opportunity for strengthening their capacity to adapt. For example, a 35-year-old woman interviewed in pastoral Loisokut who had never attended school explained how she relies on learning from others: 'This has helped me to fit into the community, expand my thinking capacity, conduct my business efficiently, and manage my finances in a sustainable manner.' A similar experience was described by another women, also interviewed in pastoral Loisokut, who explained, 'I have been able to gain more knowledge as opposed to the average Maasai woman through moving and interacting with people from different backgrounds'. In this sense, ideational exchange can help build an enabling environment for adaptive capacity by alleviating some (though by no means all) of the restrictive and marginalising impacts of gender, generation and ethnicity (identified as key determinants of adaptive capacity).

In spite of this generally positive relationship between social remittances and adaptive capacity, a number of challenges also emerged. When new ideas and practices are gained, old ones are often lost. In western Kenya, for example, local agroecological knowledge and skills passed down through generations are being forgotten, casting doubt on communities' capacity to adapt to future agroecological changes (Ramisch, 2016). In a similar vein, numerous respondents pointed to a loss of traditional customs and practices - in particular, the decline of local languages among younger generations – which they attributed to mobility, urbanisation and the associated circulation of ideas. There has been a noticeable reduction in Kikuyu and Maasai speakers, as multi-ethnic communities increasingly resort to Swahili to communicate with each other. 'Language and greetings have gradually changed due to the influx and outflux of community members', explained an NGO informant in Dol Dol. On the one hand, this linguistic shift can arguably strengthen adaptive capacity. The ability to speak Swahili puts traditionally marginalised groups, such as the Maasai, in a stronger position to compete for jobs, and lobby more effectively for access to services and opportunities. It also breaks down the social barriers between different groups, reducing tensions and the potential for conflict between different ethnic groups. On the other hand, the loss of traditional languages undermines social cohesion within these groups. In the words of a civil society informant in Nanyuki, 'By speaking common languages, you can communicate with everyone. But you will never be in the same position as someone who has maintained their tradition. It is like you are less proud of your tribe if you don't speak the language'.

Other respondents linked the circulation of new ideas and practices with the social and moral deterioration of young people, in particular an increase in drug and alcohol consumption. Levitt and Lamba-Nieves (2010) have also linked social remittances to an increase in social breakdown, consumerism and sexual promiscuity. In the words of a youth group leader interviewed in Kuri Kuri, 'Those that move learn bad behaviours from elsewhere, such as drug-abuse, and introduce them to this community'. Many respondents blamed drugs and alcohol for eroding community values and respect, particularly towards the elderly. The youth demean the elderly by 'talking rudely and using abusive language, and telling them they are illiterate and know nothing', explained a local Mukongo leader. This breakdown of local values and respect, coupled with a growing generational divide,

undermines the social networks needed for adaptive capacity. It also reduces opportunities for collective community action, another factor in the wider enabling environment for adaptive capacity. Others associated drug and alcohol abuse with a growing propensity for 'laziness' amongst men, who increasingly leave women to work and feed the family alone. By diverting time and money away from more productive investments, alcohol and drug abuse undermine adaptive capacity by reducing potential earnings and reinforce unfair gendered divisions of labour.

As well as identifying the potential advantages and disadvantages of social remittances for adaptive capacity, others question the extent to which social remittances have any significant impact at all on those who receive them. Following this logic, the impact of social remittances on adaptive capacity – whether positive or negative – may ultimately be limited. Social remittances can be resisted, and much depends on the agency of migrants and non-migrants, as well as the conditions in places of origin and destination. 'Social remitting is not a straightforward process, as ideas, practices, norms and values can be themselves subject to change and local adaptation' (Grabowska and Garapich, 2016, 2159). In their study of Thai migrant workers, Peth and Sakdapolrak (2020a) found that the places of origin and destination differed so significantly that the simple transfer of social remittances was rarely possible. They argue that, 'The more diverse the translocal setting, the more barriers hamper the transfer of social remittances' (ibid, 555). These findings do not necessarily reflect the situation in Laikipia, where respondents were, for the most part, vocal about the circular transfer of ideas, knowledge and practices. What is more, with most movements occurring within the borders of Laikipia County, the socio-cultural differences between places or origin and destination tended to be less significant. Nonetheless, these findings do re-emphasise the notion that the transfer of social remittances is neither guaranteed nor uniform, and that some groups will be more receptive to social remittances than others, resulting in diverging impacts on adaptive capacity. Indeed, as explored above, respondents with limited schooling, or who came from socially marginalised groups or physically remote places tended to be more open to social remittances than others.

2.2. Financial remittances

The receipt of financial remittances is often associated with enhancing the different levers of adaptive capacity. By expanding financial capitals, remittances enabled recipients to broaden their educational horizons, invest in new livelihood opportunities, afford better health care, access more plentiful land, water and pasture, and improve their living conditions. For example, a Maasai interviewed in Dol Dol described how cash transfers enabled him to improve his food security, access medicine and hire additional labourers. A 28-year-old male recipient was able to 'sustain [himself] during financial gaps' and 'save more during crises' as a result of the seasonal cash and food transfers received from his sister and parents. Likewise, a 34-year-old pastoralist in Tool described how regular cash transfers from her migrant husband enabled her to buy food, meet household needs and purchase stock for her business. Similarly positive findings are illustrated in the literature. Remittances enable recipients to open bank accounts, enhance savings, and access financial products, sometimes for the first time (Misati et al., 2019). They help farmers to overcome high initial investment costs and adapt their livelihoods into new agricultural technologies such as improved seeds (Tshikala et al., 2019) or diversify into non-farm activities (Tshikala

and Fonsah, 2018). Remittances have also enabled Samburu agro-pastoralists to overcome local capital constraints and invest in drought tolerant livestock, thereby adapting their livelihoods to climate change (Ng'ang'a et al., 2016).

In spite of this generally positive picture, others argue that remittances in Kenya are too low and irregular to make significant improvements to low-income livelihoods (Kiriti & Tisdell, 2001). This finding isn't necessarily supported by fieldwork, which generally attributed a high monetary value to remittances and in-kind transfers. While a handful of respondents described receiving 'negligible' remittances that had little impact on their lives, most spoke favourably about the support they received, and the positive bearing this had on their livelihood and general wellbeing. What is more, fieldwork revealed a significant spread in the amount that migrants and non-migrants send (from $40 to $1,450 per year) and receive ($50 to $3,000). While remittances at the lower end are unlikely to render significant improvements to livelihoods, values at the higher end are substantial. That said, interviews also pointed to a declining trend in remittances over the years, with most respondents identifying a decrease in the support they receive and provide over time (see Table 4). Similar trends have been documented across Sub-Saharan Africa, which some attribute to increased employment insecurity and the cost of urban living (Tacoli, 2002). This downward trend could suggest that the impact of remittances on adaptive capacity is likely to diminish over time.

Table 4: Changes in patterns of support over time among migrants and non-migrants

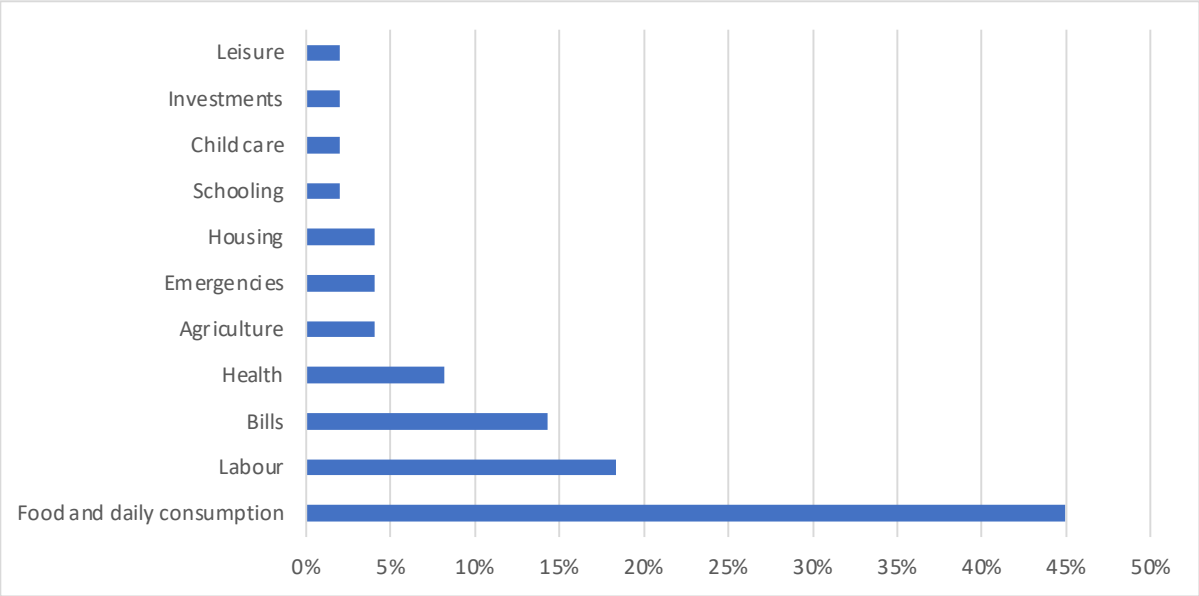
	Have you noticed any changes in the support you provide over time?	Have you noticed any changes in the support you receive over time?
Increase	22%	27%
Decrease	50%	33%
No change	-	2%
Not sure/ applicable	28%	38%

What is more, the impact of financial remittances on adaptive capacity may have less to do with quantity than with quality. In other words, not how much households receive, but how and on what they choose to spend these remittances – whether on consumption (associated with survival) or investments (associated with accumulation). As Chart 1, suggests, most recipients interviewed during fieldwork (including both migrants and non-migrants and those residing in rural and urban areas) spent their remittances on daily consumption – in particular food (45 per cent) and monthly bills (14 per cent). The proportion of respondents who used their remittances to invest in additional labour (18 per cent), agriculture (4 per cent), schooling their children (2 per cent), and other livelihoods activities (2 per cent) was significantly lower. In a similar vein, Simiyu (2013) finds that most Kenyan households spend their remittances on consumption-related expenses such as bills and transport. Although this is challenged by other remittance studies in Kenya, which identify a positive relationship between remittances (albeit international rather than internal) and investments in education and livelihoods (for example, Hines and Simpson, 2018; Jena, 2018; and Maara et al., 2019).

To clarify this point, while respondents may spend a small proportion of the remittances they receive from others on livelihoods investments and schooling, this is not to say that

they didn't spend their own earnings on these. Indeed, many respondents with school-age children described spending most of their income on education costs. 'Once I pay school fees, all my money from savings just disappears', explained a 34-year-old mother of four from pastoral Tool. Given the irregular, seasonal and uncertain nature of remittances, this suggests that many households ringfence their own income for known and regular expenditures (such as schooling and other investments) and use remittances to top up their daily consumption spending or unforeseen costs.

Chart 1: What do recipients spend their remittances on?



As argued in Chapter 6, strategies of survival (associated with consumption) are an important coping mechanism for poorer households, giving them breathing space and much-needed daily cash with which to navigate everyday challenges. While this can build adaptive capacity in incremental ways, it tends to be pathways of accumulation that significantly strengthen the multiple levers of adaptive capacity. As most respondents use remittances for purposes of survival rather than accumulation, this suggests that opportunities for building adaptive capacity through financial remittances are likely, for the most part, to be incremental rather than significant. What is more, when recipients come to rely entirely on remittances for all of their consumption needs, their capacity and willingness to adapt can become eroded altogether. A 70-year-old Ngenia respondent described how he no longer had to struggle for jobs as his children pay all of his bills and expenses, enabling him to rest, relax and an enjoy a comfortable life. While supporting elderly relatives represents an important social safety net, this example suggests nonetheless that remittances can both 'facilitate the uptake of adaptive measures' as well as 'render adaptation superfluous' (Ng'ang'a et al., 2016, 55).

The analysis so far has primarily focused on the adaptive capacity of the recipients of financial remittances. This only tells us half the story. Indeed, the outcomes for senders can be very different, particularly when they find themselves trapped in unaffordable and unsustainable arrangements (more on this in Section 5 of this chapter). Under these scenarios, the pressure of providing remittances becomes a financial burden on senders' own adaptive capacity, whilst simultaneously expanding the levers of adaptive capacity for

recipients. This underlines the see-saw like nature of many relational exchanges – whereby the ups of some are connected (and even dependent) on the downs of others. In other words, the expansion of recipients' adaptive capacity can come at the cost of senders' own capacity to adapt in the long term. When it comes to financial remittances, 'Someone – somewhere – pays' (Lindley, 2009, 1330). With that said, afore-mentioned data on remittances (Table 3) suggests that, for the most part, financial transfers are relatively balanced, with migrants and non-migrants remitting similar values in both directions. Such disproportionate and unsustainable ups and downs were thus experienced in practice by a minority of respondents.

What is more, while some senders may, on balance, lose out financially, they often gain in other ways from sending financial remittances. This simultaneous mix of advantages and disadvantages is expressed by a civil society informant in Nanyuki: 'We have a big support network based on clan and tribe. This can be a bad thing when there are people depending on you, and at the end of the month they are calling and asking for money. But it is good in terms of having a good network.' Indeed, symbolic and emotional gains are a key recompense for sending financial remittances. These encompass identity formation or the feelings of satisfaction, fulfilment and contentment that emerge from the act of giving and the gratitude of recipients. When asked how he felt about financially supporting others, a Nanyuki migrant explained, 'I am contented that I can help solve their needs with the little that I contribute. Once you help the needy, you get God's blessings.' A comparable response was given by a female migrant in Nanyuki who explained how supporting her parents financially has elevated her status among her siblings, making her happy to be 'useful and important to [her] family and society'. Similar findings of emotional and social fulfilment have been found elsewhere. Young Pakistani migrants in Manchester associated the sending of remittances with recreating cultural references and bonds with relatives back home (Werbner, 1990). Likewise, Somali refugees derive a sense of familial solidarity, cultural affirmation and pride by supporting relatives back home, which make a painful separation seem worthwhile (Lindley, 2009). In these ways, the sending of financial remittances builds the human attributes and social networks that contribute to adaptive capacity.

3. Circumstances under which reciprocity builds adaptive capacity

This up-and-down, uneven picture of social and financial exchange challenges the task of evaluating collective outcomes of reciprocity for adaptive capacity. While it reflects the lived realities of everyday relations, this unevenness does not, however, mean that patterns or trends that shape the outcomes for adaptive capacity are entirely absent. As the next two sections of this chapter will now argue, much depends on the nature of reciprocal arrangements – in particular, how fair, equal and mutual they are. In this regard, particular attention is paid to power relations, inequalities of access and socioeconomic status. This first section explores the circumstances under which reciprocity builds adaptive capacity, in particular opportunities for mutually beneficial, fair and equal arrangements. A wide range of academic disciplines, including anthropology, ethnology, sociology, psychology and economics recognise reciprocity as a key determinant of human behaviour and relationships, as well as a 'Universal mechanism for social exchange, cohesion and support' (Sienkiewicz, 2017, 2). Much of this literature associates reciprocal relationships with broadly positive concepts such as trust, solidarity, friendship, mutual gain and moral

economy. This section asks what do positive arrangements look like? Under what circumstances do they occur? Who is involved in them? How do they evolve over time? And how do they influence adaptive capacity?

3.1. Mutual dependency and gain

> 'By some moving and some remaining, households are looking to achieve some kind of balance. The ones who move out no longer have to rely on scarce resources, but the plot can also support them in some ways. Some seasons are good, and it allows those who stay behind to send and share farm resources when there is a surplus. It is a network that is trying to support everyone in the homestead, but you don't have to live altogether in one place in order to do this. It is a very common scenario in Laikipia. Household members can support each other in this way during the ups and downs, and they take the pressure off the nuclear household. It is a survival strategy for most of the households. You are trying to minimise pressure on a small plot. When times are good, you support the household. When times are bad, you receive support. And it is working.' (NGO informant interviewed in Nanyuki)

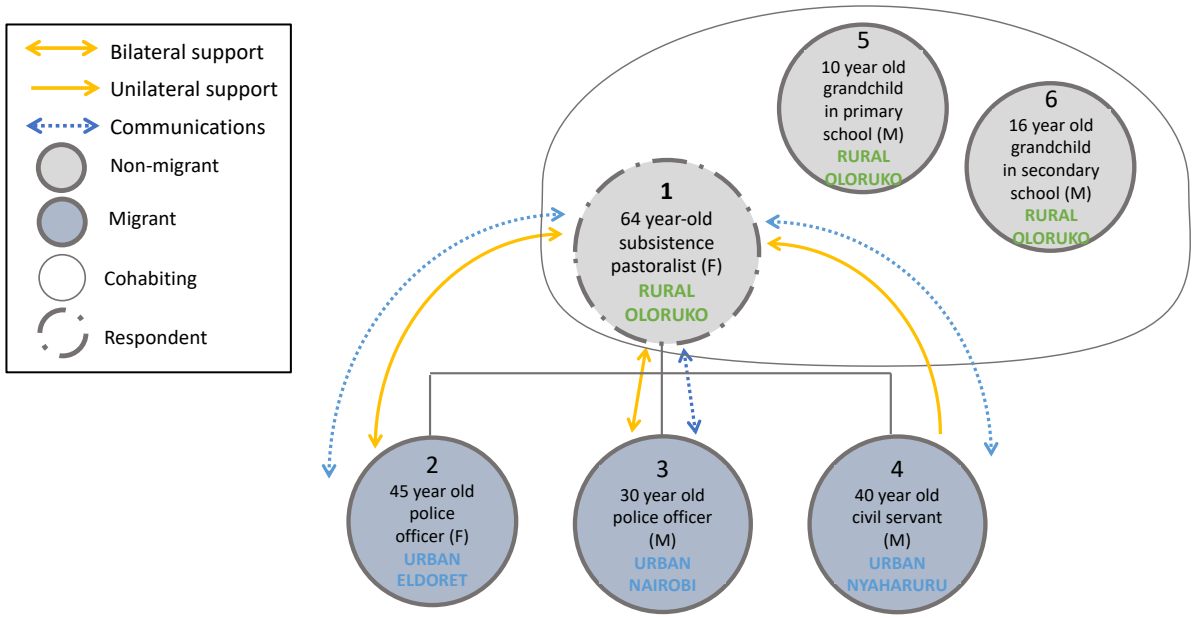
The above description alludes to a general sense of balance among those involved in positive relationships of reciprocal exchange. A similar impression is illustrated by a 64-year-old widow residing in rural Oloruko (Il Polei). As illustrated by Map 9, her children had moved to towns (Eldoret, Nairobi and Nyaharuru) to work in the police and civil service. With the wages they earn, they are able to send her enough money to cover her living costs and needs. Her daughter also financed her house build, enabling the respondent to move out of her traditional manyatta and into a permanent stone house.[51] In return for these remittances, the widow looks after two of her grandchildren on a permanent basis. She also herds her children's livestock in their absence. She secures their homes, keeping them clean and ensuring that their possessions are not lost or stolen. Finally, she keeps them informed of news in the community, thereby enabling them to keep abreast of important events and new opportunities that may be useful to them.

There is balance and fairness to this reciprocal arrangement, with all sides putting in more or less what they get out. This contributes to a strong sense of collective solidarity, with the widow and her children tied together by mutual dependency and gain. From this broadly harmonious perspective, reciprocity appears to build the multiple levers of adaptive capacity of all those involved. For the respondent's children, this arrangement enables them to keep working in town in the knowledge that their children and assets are being looked after – thereby protecting the financial capitals (wage earnings and assets) and natural resources (land and livestock) that contribute to adaptive capacity. For the widow, the regular remittances she receives boost her financial capitals, enabling her to remain in her place of origin in relative comfort and security, thereby boosting in the process her mental and physical health (human attributes). In her own words, this has 'given me peace of mind,

[51] A manyatta is a traditional Maasai homestead, typically comprising a group of huts made of grass, sticks, mud and cow dung that form a unit within a common fence.

helped me to keep more livestock, have a proper diet and access better medical care.' What is more, the mutual trust and reliance that these arrangements demand, as well as the regular back and forth communications these entail, further strengthen the social ties and networks that foster adaptive capacity. To reinforce this 'social' point, Parsons describes reciprocity as a 'Powerful thing. It builds trust, from which springs durable connections. It forms, shapes and bounds groups. It is in many ways the basic unit of social relations, without which cooperation in all of its complexity ceases to function' (2019, 11).

Map 9: Familial exchanges of a non-migrant pastoralist in Oloruko



3.2. Balance can be uneven and lumpy

The 64-year-old widow provides a useful starting point for considering the circumstances under which reciprocity builds adaptive capacity. Her reciprocal arrangement with her children was characterised by a sense of collective balance. Sahlins (1974, 176) defines 'balanced' reciprocity as a form of direct exchange, in precise balance, with the reciprocation being the customary equivalent of the thing received, without delay. And yet, this classical and rigid interpretation of reciprocity does not reflect the lived realities of contemporary Laikipians. Patterns of reciprocal exchange do not need to be 'balanced' (in a rigid sense) in order to engender positive outcomes for adaptive capacity.[52] In fact, contrary to assumptions, the opposite is often true. Everyday reciprocity is uneven and lumpy, but this does not mean that is necessarily unequal, unfair or even unbalanced. Indeed, it this apparent imbalance that enables reciprocal exchange to sustain and build adaptive capacity in the long run. The focus here is on a fluid, shifting and adjustable interpretation of balance, which recognises and accommodates the ups and downs of everyday encounters, and the undulating challenges and opportunities that people face throughout the different stages of their lives. This fluid, uneven and lumpy interpretation of balance played out

[52] Indeed, Sahlins himself advocates moving beyond such rigid, economistic interpretations of exchange if we are to really grasp the 'interplay between reciprocity, social relations and material circumstances' (1974, 172).

through reciprocity in three distinct ways, which are now explored in turn and in relation to adaptive capacity: 1) categories of support, 2) temporality, and 3) scale.

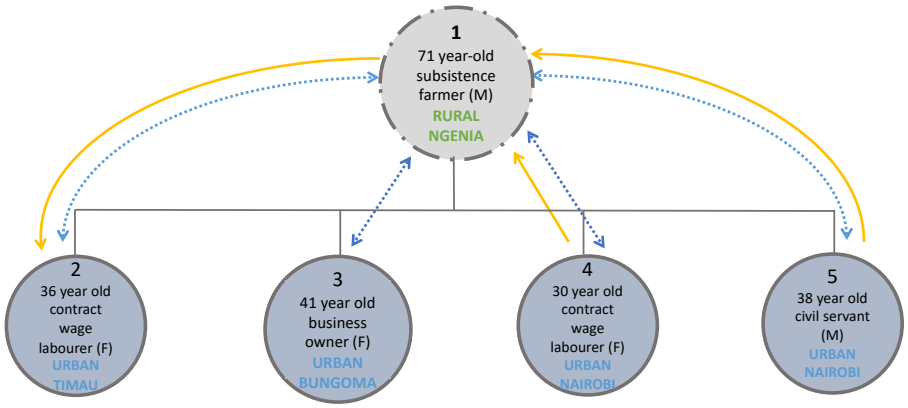
Firstly, when it comes to categories of support, what is given by one person is not usually what is reciprocated by another. For the 64-year-old widow, a financial gift was repaid with labour, childcare, advice, information or food. While some items are more or less evenly exchanged in both directions (money, food, advice and labour), others forms of support (such as school fee contributions, and looking after children, the elderly and assets) tend to travel unilaterally from migrant to non-migrant, and vice versa. While these exchanges may appear uneven, they are not necessarily unfair, unequal or unbalanced. If adaptive capacity is comprised of multiple parts, then this mix of different forms of exchange (money, labour, food, livestock, advice, childcare, etc) arguably builds the different (financial, social, natural, physical and human) aspects of adaptive capacity to a greater extent than a straightforward like-for-like exchange that would only strengthen one of these dimensions. What is more, what is sent and received often reflects the particular needs and abilities of those involved. In the case of the elderly widow, this was childcare and asset protection on the one side, and regular financial contributions on the other. By sending what they are able, and receiving what they need, these uneven reciprocal arrangements exert less pressure on households than a rigid like-for-like exchange, thereby expanding opportunities for building adaptive capacity. In the words of a 56-year-old widowed farmer, 'I don't lose anything by providing support... because I provide agricultural produce when it is in excess'.

Secondly, uneven patterns of exchange reflect a temporal dimension that ebbs and flows over time. This suggests that networks of exchange are not best captured by a single snapshot in time, as reciprocity tends to play out in the long run. For example, households often sponsor a relative's education in the expectation that improved job prospects will place that individual in a better position to support and repay them in the years to come. Likewise, many parents find they initially remit more to offspring, but that the balance shifts back in their favour once their children have established themselves and become self-reliant. This temporal flexibility can accommodate the changing needs and abilities of interconnected household members as they enter different stages of their lives, and experience cyclical ups and downs. It temporarily takes the pressure off household members at times in their lives when they are unable to support others. These positive patterns of reciprocity enable individuals to lean on others while they build their own livelihoods and adaptive capacity – albeit in the knowledge that the favour will need to be returned in the future. Risk is minimised by strong moral and social obligations and the risk of exclusion. Indeed, within these norms of reciprocity, while immediate or equal repayment is not required, it is nonetheless expected that senders and receivers culminate in approximate balance over time (Lever-Tracy and Holton, 2001, 95).

A third factor behind the uneven and lumpy appearance of exchanges relates to scale. From a bilateral perspective – individual to individual – exchanges often appear uneven, with one person giving to another whilst receiving nothing in return. And yet, in a collective sense – that takes into account the various interactions occurring simultaneously between the different members of a household – the balance of reciprocity tends to even out. This complex web of sending and receiving is illustrated by the inter-household exchanges of a 71-year-old farmer in Ngenia. The arrows of support depicted in Map 10 are all unilateral,

and therefore, on first sight at least, uneven. From a collective scale, however, support sent by one relative is often reciprocated to another. For example, the 71-year-old farmer receives money from two of his children which he uses not only to pay for his own bills and costs, but also to support his daughter in Timau with money to pay for medicines and childcare. This suggests that individuals don't necessarily expect a like-for-like transaction with each person they send to, as long as dynamics of sending and receiving even out across the household unit as a whole. Likewise, a focus on collective rather than bilateral reciprocity redistributes the pressure of remitting across those in a stronger position to do so, thereby creating a stronger enabling environment for building adaptive capacity.

Map 10: Familial exchanges of non-migrant farmer interviewed in Ngenia



4. Circumstances under which reciprocity erodes adaptive capacity

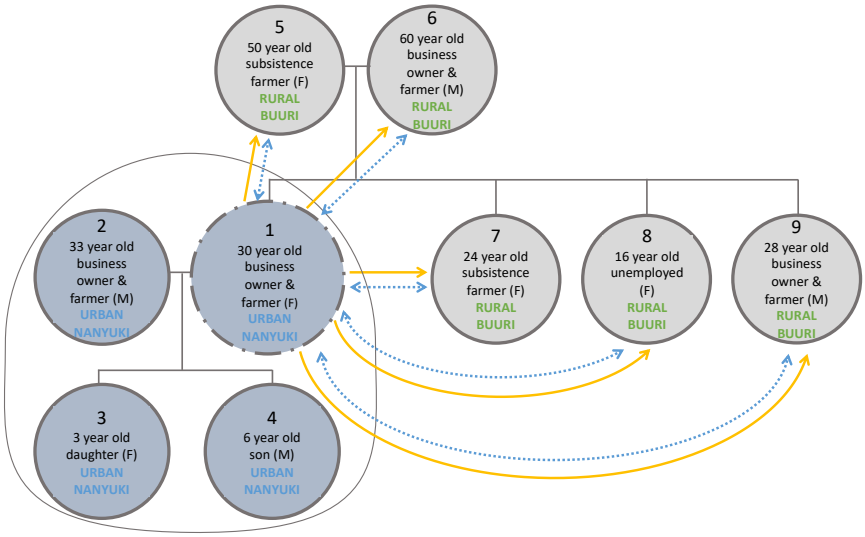
Having explored the nature of mutually beneficial patterns of exchange that positively contribute to adaptive capacity, the chapter now turns to the unequal, unfair and undesirable arrangements of reciprocity that erode adaptive capacity. In doing so, it builds on Sahlins' spectrum of 'generalised' and 'negative' reciprocity (1974).

'Generalised' reciprocity exists at the positive pole, and represents the gift that is given freely, generously and in solidarity without an open stipulation of return, and even then only if possible and necessary. At the other 'unsociable' extreme of Sahlins' spectrum lies 'negative' reciprocity, characterised as an attempt to get something for nothing, and to maximise gain at the expense of others. Sahlins' differentiation between 'positive' (generalised) and 'negative' reciprocity was guided by morals. Morally speaking, the gift that is freely and generously given is positive, whereas an attempt to get something for nothing is morally abhorrent. When it comes to adaptive capacity, however, such clear delineations begin to break down, for two main reasons. Firstly, when senders find themselves trapped in unaffordable arrangements, both generalised and negative forms of reciprocity ultimately act as a financial and emotional drain on their adaptive capacity. Secondly, the gift is rarely 'freely' or 'generously' given but is in fact given and repaid under obligation and self-interest, thereby exacerbating inequalities. These two points are now explored in turn in the following sub-sections.

4.1. Financial and emotional drain

Negative patterns of reciprocal exchange take many forms and may not even be recognised as harmful by those who see them as a normal part of social exchange and obligation between family members. This is illustrated by a 30-year-old migrant who had moved from Meru to Nanyuki in 2013 (Map 11). Having previously worked as an informal teacher in a rural primary school, she now runs a roadside kiosk café in one of Nanyuki's slums. Overall, she compares her current urban lifestyle favourably to her earlier life in rural Buuri – stating that she can save more than before and, as her own boss, is no longer exploited by others. Nevertheless, her profits are eroded by the high cost of business rates, utilities, taxes, goods, rent and school fees. This exacerbates the heavy financial burden of supporting five extended family members, whilst receiving no support in return. So much so that she has been forced to reduce what she sends over time as her own income has dwindled.

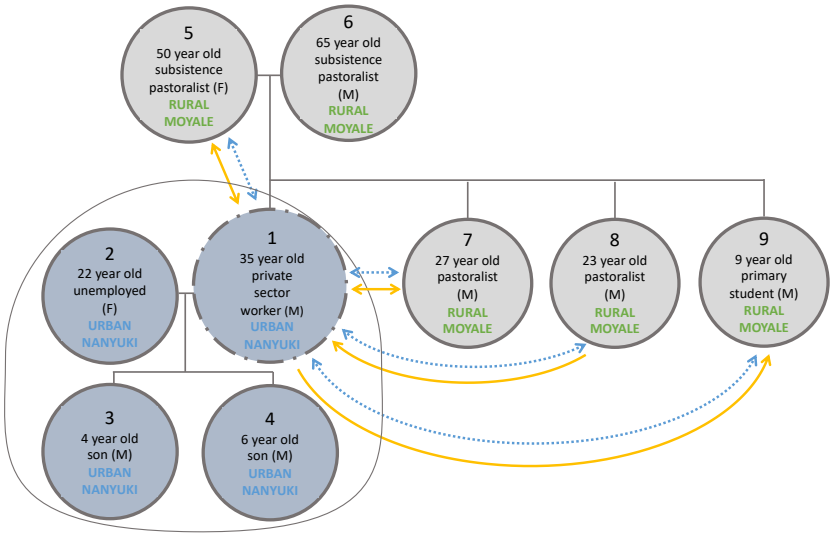
Map 11: Familial exchanges of a migrant farmer in urban Nanyuki



In spite of this, she (like many other respondents in a similar situation) expressed little resentment. In a context of high living costs, she and others recognised the value of sending support to struggling family, and understood why relatives may be unable to recompense them to the same level. In a handful of cases, some respondents who sent remittances even requested that struggling relatives stop sending them money and goods in return, and instead save these for themselves. Such open and generous arrangements are reminiscent of Sahlins' theory of 'generalised' reciprocity: the gift that is given freely, generously and in solidarity without an open stipulation of return, and, even then, only if possible and necessary. While such arrangements may sound both virtuous and advantageous in theory (especially from a moral perspective), in practice the inequalities they entail progressively deteriorate the different levers of adaptive capacity of those who can ill afford to maintain them. Under such circumstances, generous arrangements can quickly shift from generalised to negative reciprocity, indicating that the distance between the two may be less polar opposite than Sahlins' spectrum suggests.

In this grey area, reciprocity can become a significant burden and a drain on senders. Unfair and unsustainable patterns of exchange deplete financial capitals and assets, strain social networks, liquidise natural resources, exacerbate stress levels and exhaust personal attributes. Taken together, these outcomes weaken senders' motivation and capacity to adapt, and limit their own opportunities for accumulation and advancement. This was the case of a 35-year-old migrant who had moved from pastoral Moyale (northern Kenya) to Nanyuki in 2014 with his wife and two young children (Map 12). Despite earning just $3 per day (wealth group 2) he reliably remitted $38 of his earnings (42 per cent of his household income) each month to his mother and two of his seven siblings. Once monthly bills and living costs were deducted, he had little to no savings left over for himself and his household. While he was grateful for the livestock herding that his wider family provide in return – 'I am comfortable knowing that my family is taking care of my livestock since they treat them like their own' – this in-kind support does not compensate his lost earnings. When asked how supporting relatives back home impacts his own wellbeing and livelihood, he responded: 'I have not been able to save money as I would like to. If I were not providing this support, I could have saved a little money, which my household could have used to make investments, such as opening up a shop for my wife.' Under financial pressure, he has had to reduce the amount he remits, suggesting that unequal relations of reciprocity are less sustainable in the long run than relationships cemented by mutual gain. Senders are unable to maintain consistent levels of support and may be more likely to choose (or be compelled) to reduce and even pull out of them altogether when they become completely unsustainable.

Map 12: Familial exchanges of a migrant pastoralist in urban Nanyuki



Similar dynamics are occurring among wealthier groups, suggesting that unsustainable patterns of reciprocal exchange are not just a burden on poor and marginalised senders. A 51-year-old divorcee from Nanyuki with a monthly income of $330 (wealth group 4) complained about the ongoing support she sends to her migrant son and daughter. She has been forced to take out loans to sustain these financial obligations, and has been unable to invest in her own livelihood in ways that she had planned: buying land and expanding her business. While poorer households may have less to start with, wealthier groups are often expected to give more – putting both groups in a difficult situation. This trend is illustrated

in Chart 2, which shows (with the exception of wealth group 5),[53] that the amount households send and receive increases with their wealth status. Table 5 reinforces this point, showing that while the poorest remit very little, respondents in wealth groups 2, 3 and 4 remitted a similar proportion of their total income. The question is therefore one of affordability rather than wealth per se. When remittances exceed a certain threshold, in proportional rather than absolute terms, both rich and poor alike can find themselves trapped in unmanageable, unequal and negative arrangements of reciprocity that erode their own capacity to adapt.

Chart 2: Average value of remittances (US$) sent and received by wealth group

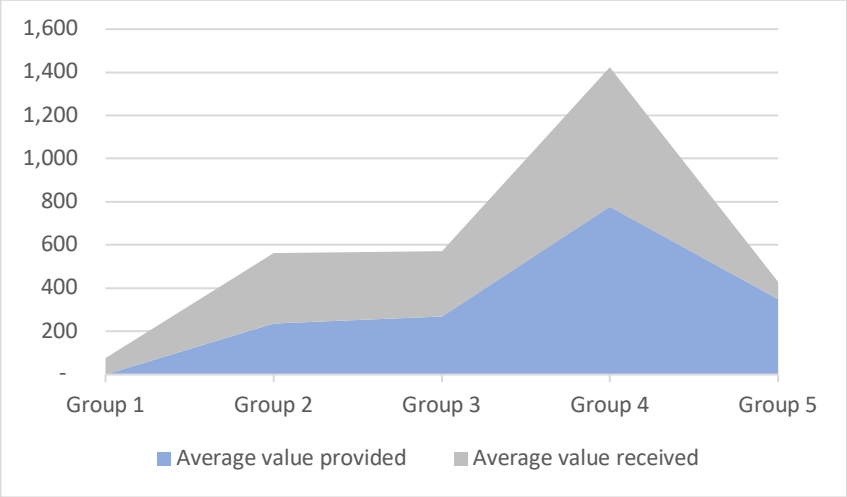


Table 5: Remittances as a proportion of respondents' annual income

	Group 1	Group 2	Group 3	Group 4	Group 5
Remittances as a proportion of annual income	0%	19%	12%	14%	4%

4.2. Exclusion, obligation and inequality

The afore-mentioned examples of the two migrants struggling to cope with the financial obligations of reciprocal exchange resonates with Mauss' study of gift exchange. Mauss (1925) builds on Sahlins' ideas of reciprocity by arguing that while gifts are in theory voluntary, they are in fact given and repaid under obligation and economic self-interest. Even generalised reciprocity (the gift freely given) comes with certain strings attached. Mauss suggests that these obligations fall under three key rules or duties: the obligation to give, repay and receive. This puts pressures on both senders and receivers. For the senders, overpowering social obligations that are too entrenched to resist or even question cast doubt on the voluntary or free nature of reciprocal arrangements. For receivers, the act of

[53] Why are respondents in wealth group 5 sending less remittances in absolute and proportional terms? One explanation is that as the wealthiest groups do not need to rely on remittances, they not incentivised to maintain reciprocal arrangements in the long run. To illustrate this point, a wealthy migrant in Loisokut described the remittances she receives in carefree, non-committal terms, as, 'Just a bonus – even without it I would still survive and meet all my needs.' Another explanation relates to representation – only five out of the 49 community respondents fell into this wealth group, making it harder to draw firm conclusions from a small sample group.

giving bestows on the giver a bond or a hold over the recipient. It also gives material objects – such as money, food, clothes and other goods – an emotional, spiritual and symbolic value. Lévi-Strauss takes this idea further by arguing that 'Goods are not only economic commodities, but vehicles and instruments for… power, influence, sympathy, status and emotion; and that the skilful game of exchange… consists in a complex totality of conscious or unconscious manoeuvres' (1969, 54).

In this context of power, obligation and self-interest, it is perhaps not surprising that subversive and unfair arrangements of reciprocal exchange should accentuate inequalities. Fafchamps and Gubert (2007) argue that reciprocal arrangements ignore, mask and even enhance inequalities and exclusion. For example, the same social ties that bring members of a household or community together as a collective, reciprocal group also enable that same group to exclude outsiders (Portes, 1998). Indeed, when asked why they did not participate in reciprocal exchanges, respondents described being socially ostracised from the family unit, or being too poor to contribute. In these scenarios, dominant individuals, such as male breadwinners or community leaders, are more likely to orbit the centre of reciprocal networks than those who do not conform to a certain gender, generation, socioeconomic status or outlook. This cements their authority, while further disenfranchising and even excluding altogether the socially weaker, financially poorer and culturally marginalised members of a household or community. Similar dynamics are echoed within communities, with many respondents complaining that the reciprocal benefits of rural-urban livelihoods are restricted to households with the financial means and social connections needed to migrate in the first place. In this context, 'Social categories are constructed within mobility systems that welcome some individuals while closing the door to others' (Carmo and Hedberg, 2019, 102).

The analysis so far has focused on the relationship between reciprocity and inequality. But how do these unequal and exclusive arrangements of reciprocity influence adaptive capacity? Equity is a key determinant of communities' ability to cope and adapt (Smit et al., 2001, 897). Within Laikipia, the unequal distribution of land and water, financial capitals, political opportunities and social networks has benefited a minority. Forty per cent of land is controlled by fewer than 43 individuals (Letai, 2011), and significant socioeconomic inequalities exist between different Laikipia North and the rest of the county (Chapter 5). By limiting the natural resources, human attributes and financial opportunities of many (and even most) of the wider community, inequality renders societies as a whole less adaptive. The tensions that arise from such unfair and unequal arrangements weaken the wider enabling environment for adaptive capacity, by undermining opportunities for collective community action and resulting in the kinds of inter-communal conflict that emerged in Laikipia in 2017 and 2021 (Chapter 5).

That said, while unequal arrangements typically cement the authority of powerful minorities, they can also, under some circumstances, create new opportunities and spaces for renegotiating unequal power relations. Gendered and generational changes that have seen young people and women moving and diversifying their livelihoods more than ever before, often becoming migrant breadwinners in their households. This can shift their relative status within reciprocal arrangements from recipient to donor. For example, a 29-year-old youth described how his family now respects him more as a migrant than when he

lived in his home settlement in Marsabit, as he supports them financially and helps them to solve family issues. This was echoed by a 40-year-old female migrant: 'My role as a wife has improved and now I put more on the table as opposed to depending on my husband. I am actively involved in household development and investments as I have gained more knowledge on livelihood and accessed more opportunities'. As well as gaining the respect of her immediate family, her greater proximity to urban services and opportunities has also improved her status and reliability among extended family in rural Timau. They now rely on her to mediate family issues and grant them access to information and opportunities.

As a result of rural-urban livelihoods, and the reciprocal arrangements that these incur, these respondents have succeeded in transitioning away from their peripheral status. No longer at the margins of reciprocal exchange, they now find themselves at the centre of family structures. With others now relying on them, they are in a stronger position from which to renegotiate unequal social relations in their favour. Under these circumstances, and returning to Mauss and Lévi-Strauss (1969), the material support they provide comes with symbolic strings attached – the gift (money, food, advice, somewhere to stay) is given in return for greater immaterial power, influence and status. While on the one hand this same power, influence and status can cement the authority of powerful groups, it can also subversively redress long-standing power imbalances, particularly when it converges with wider dynamics that simultaneously re-level the playing field. This can build a more conductive enabling environment for adaptive capacity by alleviating the marginalising impacts of gender, generation and ethnicity.

5. Concluding remarks

This chapter defines reciprocal exchange as the mutual (though often lumpy and uneven) exchange of goods, ideas and favours between people and places. In contrast to the dominant economistic approach, reciprocal exchange embodies a mix of financial, political social, ideational, cultural, environmental and emotional meanings. Reciprocity is also characterised by multiplicity – it connects multiple people who share multiple forms of material and immaterial exchange in multiple directions. These are reflected in the wider patterns of reciprocity occurring between people and places, whereby rural and urban places leave their mark on one another, in much the same way as social remittances connect 'host' and 'home' communities in a web of influence and exchange. Such patterns of multi-directional exchange challenge the assumed migrant-to-stayee, urban-to-rural direction of exchange depicted in much of the literature. As livelihoods come under growing pressure, the nature and direction of exchange is changing.

How does this picture of reciprocal exchange relate to adaptive capacity? The relationship is not straightforward. This is in large part because adaptive capacity is not a standalone entity, but is comprised of different (social, financial, physical, natural, human) levers and influenced by a complex enabling environment that encompasses ethnicity, gender and generation, community, governance and conflict. Reciprocal structures of exchange interact with these different levers and determinants in different ways, with mixed and uneven outcomes for adaptive capacity as a whole. For some, therefore, reciprocity represents a pathway to greater adaptive capacity and socio-economic mobility, while for others it reinforces inequalities that erode adaptive capacity. The impacts of social and financial

remittances provide a clear illustration of these complex and uneven outcomes. On the one hand, social remittances strengthen human attributes (skills, knowledge, practices) and expand financial opportunities – especially for marginalised groups, such as women, minority groups and pastoralists. On the other hand, social remittances can erode traditional knowledge and societal values – thereby weakening the social levers of adaptive capacity, and undermining opportunities for inter-generational and cross-community collective action. A similarly up-and-down picture emerges with financial remittances, often with diverging outcomes for senders and receivers. While remittances boost recipients' financial capitals, they tend to be spent on immediate consumption (survival) rather than investments (accumulation), suggesting incremental rather than significant opportunities for building adaptive capacity.

Viewed from this perspective, reciprocal exchange simultaneously pushes and pulls the multiple levers and determinants of adaptive capacity, thereby building and undermining it at the same time. While this messy and apparently random picture obscures the relationship with adaptive capacity as a whole, certain patterns and trends nonetheless emerge to shape and influence outcomes. In particular, it is the *nature* of the arrangements, rather than the specifics of what or how much is exchanged, that ultimately shapes the relationship between reciprocal exchange and adaptive capacity. In other words, it is the conditions, context and power relations under which exchanges occur that determines outcomes for adaptive capacity. When there is balance and fairness, characterised by a strong sense of collective solidarity and mutual dependency and gain, reciprocal exchange positively and constructively builds the adaptive capacity of those involved. This involves a fluid, shifting and adjustable (rather than a rigid one-for-one) interpretation of balance, which accommodates the undulating challenges and opportunities that people face throughout the different stages of their lives. Indeed, it is precisely this flexibility that enables reciprocal exchange to sustain and build adaptive capacity in the long run.

Harmful forms of reciprocity start to emerge when the adaptive capacity of one person is strengthened at the expense of another. Unfair and unsustainable patterns of reciprocal exchange take many forms, and may not even be recognised as harmful by those who view them as a morally-motivated and normal part of social exchange and obligation between family members. With this in mind, the extent to which reciprocity builds adaptive capacity has less to do with morals (whether an arrangement is morally 'good' or 'bad') than equality (whether an arrangement is fair and equal). Indeed, when senders become trapped in unaffordable arrangements of exchange, such moral distinctions break down altogether. In this scenario, all forms of reciprocity (including the morally good and bad) become a financial and emotional drain, undermining opportunities for self-advancement and adaptive capacity. What is more, the gift is rarely 'free' or 'generous', but is given and repaid under conditions of obligation and self-interest that typically accentuate long-standing inequalities. This underlines again the see-saw like, relational nature of many reciprocal exchanges – whereby the ups of some are connected (and even dependent) on the downs of others.

Chapter 8 – Rural-urban Changes and Adaptive Capacity

Emulating the approach adopted by the previous two chapters on livelihood diversification and reciprocity, this chapter narrows the focus to a particular aspect of rural-urban livelihoods. It considers the extent to which changes associated with rural-urban livelihoods build adaptive capacity. Rural-urban livelihoods are associated with a wide array of changes that have emerged in earlier chapters. These include gender and generational changes, weakening community cohesion, cash-based societies, the erosion of local languages and customs, moral decline and a loss of respect for elders, among others. This chapter concentrates on three specific rural-urban changes: changing leadership structures, the growth of rural-urban hubs and centres, and changes to riparian areas. Not only did these changes emerge strongly during fieldwork, but they are also closely associated with rural-urban livelihoods – in particular the dynamics of mobility and migration, translocal and reciprocal connections, social and financial remittances, and livelihood diversification.

As in the previous chapters, these three rural-urban changes are analysed in terms of their impacts on the different elements of the adaptive capacity framework developed in Chapter 5. These elements include financial capitals, natural resources, social networks, human attributes and physical infrastructure at the household level, as well as the wider dynamics of ethnicity, gender and generation, community, governance and conflict. From this starting point, this chapter explores several questions. For whom and under what circumstances do changes in leadership, riparian areas and rural-urban hubs build adaptive capacity? To what extent do they strengthen some of the levers of adaptive capacity, whilst simultaneously undermining others? How does this uneven picture balance out to inform adaptive capacity as a whole? And how and why do these dynamics shift over time and place?

Section 1 begins by theorising change from a political ecology of mobilities perspective. Section 2 then explores the range of social and physical changes that are occurring in Laikipia, and which can be connected in different ways to rural-urban livelihoods. Following on from this, Section 3 narrows the focus to changing leadership structures at the micro- and meso-levels with a focus on gendered and generational changes. Section 4 explores the growth of market hubs and shopping centres and their impact on economic development, poverty reduction, social networks and community cohesion. Section 5 analyses how changes to riparian areas simultaneously push and pull the multiple levers of adaptive capacity, as well as creating winners and losers. Finally, Section 6 summarises the key findings and conclusions.

1. Theorising change

In the current era of globalisation and cross-border flows, migration is widely associated with change. ‘A lot of changes have resulted from people moving’ was a common refrain (articulated by a male community leader in Bokish) when asked to describe the impact of rural-urban livelihoods on their lives and the wider community. For Castles, this shift is not surprising: ‘If the principle of the ‘container society’ in which all social relationships take place within the nation-state is no longer sustainable (even as a myth), then flows across borders become a crucial area of investigation for the social sciences’ (2010, 1577). What is

more, migration interacts with class, gender, generation and ethnicity – all of which embody the structures of power and status related to wider societal changes (Van Hear, 2010). Movements are therefore highly socialised, steeped and implicated in wider meanings and political implications (Cresswell, 2010b, 2010a, 1999). Another reason that migrants are considered vehicles for change is that they are often seen as innovators, as influential gatekeepers for subsequent movements, and as strategically situated at the margins of several different networks (Curran and Saguy, 2001). At the same time, social and financial remittances that result from migration are associated with 'cultural diffusion' that shapes community and family formation and political integration (Levitt, 1998).

Much of the literature thus focuses on the relationship between migration and change. By expanding the focus to rural-urban livelihoods, this chapter widens the conventional analysis beyond migration per se to also include mobility, translocality and immobility. Furthermore, the focus on leadership structures, riparian areas, and rural-urban hubs exemplifies a range of both the symbolic and physical, as well as the social and environmental. This resonates with the political ecology of mobilities approach adopted by this thesis, which seeks to incorporate both natural and societal dynamics. Other aspects of this political ecology of mobilities framework also emerge in relation to rural-urban livelihoods and change.

Firstly, recognition of the multiple drivers of change. While some respondents made a direct connection between rural-urban livelihoods and change, many also recognised that the drivers of changes are entangled within a wider web of often interlinked factors, such as globalisation, digitisation, devolution, transport, communications, environmental change, monetisation and commodification, to name a few. This multi-faceted approach echoes the multiple drivers of mobility (Chapter 3), as well the multi-dimensional framework of adaptive capacity (Chapter 4). In this multi-faceted context, how can we measure the role and influence of rural-urban livelihoods? Some scholars argue that migration contributes to changes that are already in motion – in other words it is a co-contributor, rather than a catalyst of change in its own right (Vertovec, 2004). Other scholars theorise migration's role not just in broader social transformations, but also as a direct driver of change (Van Hear, 2010, 1531). Building on these ideas, this chapter argues that rural-urban livelihoods are contributing to inevitable changes that are already in motion, but that they nonetheless play a unique role in fast-tracking these changes and are likely to continue to drive them forwards in the future.

Secondly, rural-urban livelihoods and change are entangled in non-linear relationships characterised by complex feedback mechanisms.[54] This resonates with the relational approach adopted by many political ecologists: how connected entities are continuously shifting and evolving through ongoing interactions with one another. These interactions can be temporal: an understanding of feedback and how it operates can shine a light on the ways and means by which 'migration at one time has a causal relationship with subsequent migration patterns (or not)' (Bakewell et al., 2016, 4). They can also be geographic: whereby the 'change potential of migration is often gestated in events that took place "there", rather

[54] Feedback is defined as, 'Operating when it is possible to trace a path from the observation of migration from A to B at one time, to changes in the patterns of migration from A to B at a later time' (Bakewell et al., 2016, 4).

than “here’’’ (Portes, 2010, 1557). For most studies on feedback, the emphasis has been on how existing patterns of migration both encourage or discourage subsequent patterns of migration, often with a particular focus on the role played by social networks (de Haas, 2010, 1588). This chapter addresses feedback from a different angle. It considers the feedback mechanisms existing between rural-urban livelihoods and change. In other words, the ways in which rural-urban livelihoods influence wider social, political, cultural and natural changes that, in turn, influence rural-urban livelihoods. Viewed from this perspective, a causal, non-linear pattern of reciprocal exchange and influence emerges between rural-urban livelihoods and change that obscures clearly defined start- and end-points, as the existing state of affairs are themselves in a continuous state of flux. See Section 3 on leadership changes for an illustration of what this looks like in practice.

2. Social and physical changes are widespread in Laikipia

A wide range of different changes have emerged in recent years and decades in Laikipia – many of which have already been introduced already in these thesis and will now be explored in more detail in this chapter. These span society and ecology, the social and the physical, the natural and built environments. Rural-urban livelihoods – and in particular the dynamics of mobility and migration, translocal and reciprocal connections, social and financial remittances, and livelihood diversification – have contributed both directly and indirectly to many of these changes, often in conjunction with a range of other factors.

Observable changes in land use practices have emerged in recent years. Increased demand for land and timber for housing, construction and business has resulted in deforestation and the replacement of indigenous trees with exotic variations. At the same time, rivers have dried up and their banks have been altered by increased water demand and irrigation farming – transforming the natural appearance of riparian areas. The appearance of farms has also been altered by new crops, irrigation infrastructure and greenhouses. The influx of new farming practices, coupled with drought, has encouraged farmers to shift away from planting maize, beans and potatoes to more lucrative cash crops such as fruits and vegetables with a shorter growing season. ‘These changes are significant in this area and are happening on a large scale’, explained a community informant in Ngenia. Changes in land use and the natural landscape are also occurring among pastoral communities. ‘There was a time you would go to Laikipia North and find livestock and cattle. Now you go there, and you don’t see much cattle’, explained an NGO informant. The combination of environmental change and reduced access (brought about by privatisation and fencing of land) have reduced available pasture, compelling pastoral communities to de-stock or move their cattle southwards towards Mount Kenya. In order to adapt to these challenges, Kenyan pastoralists are increasingly turning to camel husbandry (Volpato and King, 2019). This shift has been especially noticeable in Laikipia North, where camel numbers have risen from a few to around 3,000 over the past two decades (Jane et al., 2013).

Migration, mobility and remittances have also contributed to visible changes in Laikipian housing and infrastructure. When they return to places of origin, many migrants construct modern houses for themselves and their family. Likewise, social and financial remittances help to transfer new building practices and expectations that are changing the face of many rural communities. In pastoral areas, numerous respondents remarked on the replacement

of the traditional manyatta (pastoral dwellings made of mud, cow dung and wood) with permanent houses of stone, brick and wood. Across Laikipia, and much of Kenya, changing preferences in roofing materials from thatch to mabati – imported steel sheets in bright red, green and blue – are also changing the physical appearance of the landscape. While these changes can be linked to wider process of global trade and the increase in cheap imports and manufacturing, they also stem from migration-inspired changes in socioeconomic practices and expectations. Similar findings emerge from rural Namibia, where returning migrants build 'matchbox' houses, upgrade kraals and water tanks, and furnish their homes with modern furniture and electronics (Greiner, 2010). Changes in housing and infrastructure are also occurring in urban settings, albeit to a more diluted extent. Indeed, immigration has contributed to observable changes in the urban landscape, such as sprawling slum areas, and an increase in overcrowding, temporary housing, waste, construction and traffic.

As well as altering the physical organisation of rural and urban communities, socio-cultural changes associated with normative and value shifts are also occurring throughout Laikipia. As seen in Chapter 7, those who move are exposed to new opportunities and lifestyles that can alter their identity and behaviour and, by extension, norms and values in places of origin (de Haas, 2010). Remittances (both social and financial) have also been described as an 'important element in the relationship between migration and social change in countries of origin' (Lindley, 2009). Exposure to new ideas, desires and money 'changes the migrant and also changes the village from where the migrant has come' (Rigg et al., 2008, 375). Social norms and practices, including behaviour, language, dress and eating habits have changed. For example, changes in the way that people dress have altered their physical appearance, marked by a shift in what many respondents described as 'modest' or 'traditional' to 'modern' attire, such as dresses, skirts, trousers, blouses and shirts among women and men. Movements in and out have also contributed to physical changes in the appearance of many communities. Out-migration of young people has noticeably de-populated many villages, and shifted the demographic balance towards older generations. This means that the profile of those looking after agriculture and livestock is older than it used to be (Rigg, 2006a). Many elderly pastoral respondents frequently complained about having to assume the security and grazing responsibilities of younger generations who have moved elsewhere. And the average age of a Kenyan farmer is widely referred to as 60 years old (Birch, 2018). Immigration from other counties has also visibly changed the ethnic composition of many Laikipian communities, with some respondents complaining that they are now living amongst strangers in their community.

Having conveyed the wide array of changes that are associated with rural-urban livelihoods in Laikipia, the rest of the chapter now turns to three specific changes: changing leadership structures, the growth of rural-urban hubs and centres, and changes to riparian area – and considers the extent to which these build adaptive capacity.

3. Changing leadership structures

The literature suggests that migration can challenge long-standing power relations and social norms associated with leadership. In Bangladesh, for example, migration is conceptualised as an instrument for interrogating the power of traditional elites and

reconfiguring class and gender identities (Rao, 2014). In Vietnam, growing transnational demand for so-called 'marriage migrants' has reconfigured gender power relations by enhancing daughters' status and power at home (Bélanger and Linh, 2011). In Mozambique, wartime displacement reconfigured social relations by 'rearranging balances of power within families, communities, and societies' (Lubkemann, 2016, 17). Research conducted across Mali, Nigeria, Tanzania and Vietnam has found that migration and remittances enable young women to renegotiate power relations and increase personal independence (Tacoli and Mabala, 2010). In support of this, Levitt and Lamba-Nieves argue that social remittances associated with migration 'shake up gender and generational dynamics in ways that benefit women' (2010, 3).

Similar dynamics are occurring in Laikipia. Respondents described noticeable changes in leadership structures in recent years, in particular a move away from the traditional dominance of male elders towards greater participation of women and youth not just at the household level, but also within the wider community. Within Laikipian households, women and youth are increasingly taking on greater responsibility for decision-making, particularly when it comes to mediation, education, livelihoods and expenditure. Within communities, these same groups are playing an increasingly prominent role in savings groups, committees and cooperatives. Their presence is also growing, though to a lesser extent, within local political posts as community leaders and representatives. But in what ways, and to what extent do these changing leadership structures associated with rural-urban livelihoods build adaptive capacity? And how do these dynamics play out at different levels and among different groups?

3.1. Adaptive capacity at the micro-level: empowerment and burden

Mobile and working Laikipian women engaged in rural-urban livelihoods tend to be less reliant on male relatives, often earning more than their spouses, and sometimes becoming the sole breadwinner. This can be an enabling experience that builds adaptive capacity. A 43-year-old pastoralist from Bokish felt 'more empowered than when [she] was just a house-wife and a peasant pastoralist'. Likewise, a 40-year-old Nanyuki woman who recently started contributing to the household finances is now actively involved for the first time in discussions about household development and investments. Other working female respondents described 'having a voice' and being better respected by their husbands and offspring than before. Taken together, these kinds of micro-level leadership changes strengthen women's access to the social, human, physical, financial and natural levers of adaptive capacity. For example, greater say at home and in the community enables mothers to advocate on behalf of daughters, with Laikipian communities seeing greater prioritisation of girls' education, and a growing rejection of female genital mutilation and early marriage. Greater female leadership also helps to soften the gendered stereotypes detailed in Chapter 5 that pigeon hole women to certain roles, responsibilities and occupations, thereby expanding women's prospects and, by extension, opportunities for adaptive capacity.

While many Laikipian women and youth are assuming greater responsibilities, leadership roles (particularly at the higher levels) continue to be dominated by male elders. An NGO informant in Nanyuki described how progress has been slower than hoped, with women still outnumbered by men in community forums, more likely to assume 'tokenistic' roles, and

rarely speaking up for fear of being seen as 'confrontational'. This suggests that, while opportunities for adaptive capacity are there for some women and youth, widespread gendered and generational changes in household leadership structures can be short-lived and superficial without genuine buy-in from wider society. What is more, while additional responsibilities can be liberating and empowering, they can also be a burden that exhausts opportunities for adaptive capacity. In addition to assuming greater responsibility for livestock, agriculture and business as well as in community cooperatives, savings groups, committees and church groups, most Laikipian women are still expected to look after the house and children. The stress of juggling so many duties can leave women feeling emotionally and physically drained, and with little time for personal advancement. This can undermine the human resources associated with adaptive capacity. 'I feel pressed to the corner providing for my entire family with no help from anyone', admitted one female respondent.

This somewhat mixed picture between leadership changes and adaptive capacity can be understood in terms of feedbacks. Rural-urban livelihoods and leadership changes emerge as relational – each influencing and contributing to the other in complex and diverse ways. On the one side, leadership changes influence rural-urban livelihoods. By challenging gendered stereotypes, leadership changes render mobility and work among women and youth more socially acceptable, and therefore more likely to occur in the guise of rural-urban livelihoods. On the other side, rural-urban livelihoods influence leadership changes. The increased mobility and work opportunities associated with rural-urban livelihoods have enabled women and young people to increase their earning potential and gain exposure to new ideas and experiences. This improves their standing and influence in society, and opens them up to new leadership opportunities. Viewed from this perspective, rural-urban livelihoods reinforce and extend the wider gendered and generational changes that contributed to women and youth engaging in rural-urban livelihoods in the first place, according to a self-reinforcing and cyclical relationship.

And yet, under other circumstances, this same relationship can be mutually-undermining, rather than self-reinforcing. By exposing women to a growing burden of roles and responsibilities, gendered and generational changes can limit opportunities for them to move in the long run. Women's adoption of an increasingly broad array of tasks frees up possibilities for men (now un-burdened from many of their traditional responsibilities) to move away, whilst simultaneously reducing the time and opportunities available for women themselves to move. This explains why Laikipian women engaging in rural-urban livelihoods are more likely to engage in daily commuting than longer-distance migration because they must return home each day to assume household responsibilities and community commitments. Laikipian men and, to a lesser extent, women without children, are much more likely to move further and for longer periods of time as they are not expected to fulfil home-based responsibilities to the same extent and are therefore freer to move. What is more, as male heads of households move to towns and engage in new activities, women are often obliged to take on even greater responsibility at home, which further limits the likelihood that they themselves will be able to move (Livingstone and Ruhindi, 2013, 231). Viewed from this perspective, changes in leadership structures allow certain groups to move in certain ways, thereby putting some groups (often the least burdened by these changes) in a better position to adapt than others.

3.2. Adaptive capacity at the meso-level: local governance and development

Going beyond the micro-level, changes in leadership can also contribute to improved local governance – an important lever for strengthening the adaptive capacity of communities as a whole. Many respondents welcomed fresh leadership and greater gender and generational parity as a sign of improved democracy and accountability, and an opportunity for new ideas, perspectives and voices to emerge. 'The older generation used to be dictators but now there is democracy in the local leadership,' explained a community informant from Oloruko. Under new leadership, respondents described having greater agency and say in local decision-making, as well as a better grasp of their rights and the rule of the law. 'Now the community members know of their freedom and are not allowing themselves to be bullied', explained an informant in Lolien.

And yet, changes in governance can also be challenging for community dynamics – stirring up tensions and unease as new people and ideas call into question long-standing balances. This resonates with non-equilibrium theories typically found in ecology: unpredictable and even chaotic changes that can emerge when harmony and balance with 'resources, other populations or external forces like climate' are lost in the process of change (Ellis, 1996, 38). When conditions change beyond a certain threshold, complex social and environmental systems can undergo dramatic and even catastrophic changes (Folke, 2006, 437). While not as chaotic or dramatic as this, pastoral respondents nevertheless spoke of a 'push and pull' between older generations wanting to maintain the status quo and youth pushing for change. According to an NGO representative, the subsequent blurring of roles and responsibilities and structures of governance has weakened the pastoral system by making it harder to monitor livestock numbers, disease and land degradation. Viewed from this perspective, the loss of equilibrium can undermine financial capitals, natural resources and social networks that build adaptive capacity.

In addition to governance, new and energetic leadership can also drive local development. A 35-year-old male migrant in Dol Dol elected to various local leadership positions described having established multiple youth groups to strengthen local entrepreneurship and livelihoods, and provide drugs and alcohol counselling. A 29-year-old migrant in Loisokut had established two youth self-help groups, championed the construction of a nursery school, volunteered as a teacher, and represented the community at local events and forums. Likewise, a 43-year-old female migrant (who had been elected to the water committee, the Drug Investigation Board, community health work and employee of the local member of parliament) used her position of leadership as a platform for advocating for family planning, childhood vaccinations, girls' education, and an end to female genital mutilation and early marriage. These leadership efforts have the potential to strengthen the local finances, infrastructure, health, education, skills and livelihoods associated with adaptive capacity.

But only up to a point. Under pressure from economic decline and environmental change, households are less likely to have the time or the inclination to congregate around local leaders. According to a 47-year-old male farmer in Njoguini, 'People have no respect for leadership', and have stopped coming to local meetings, preferring to use the time to do

something else or 'make money'. In this context, opportunities for leaders to promote local development and adaptive capacity are constrained by a generalised disinterest and disillusionment in local politics. And, once again, the relationship between leadership change and adaptive capacity emerges as highly complex and non-linear.

3.3. Stasis, incremental or transformational changes?

In sum, the analysis of leadership changes points to a broadly positive relationship between rural-urban changes and adaptive capacity, albeit a relationship whose depth and reach remains uncertain. This gets at the heart of the question of this chapter: to what *extent* do the changes associated with rural-urban livelihoods build adaptive capacity? To what extent do they merely scratch the surface or, alternatively, go deeper to profoundly transform values, norms and institutions? This echoes wider debates around incremental and transformational change and adaptation that can be found in political ecology. The former occurs when people adapt to change incrementally by extending existing actions and behaviours, thereby maintaining the original essence and integrity of society (Kates et al., 2012, 7156). Going further, transformational change and adaptation are depicted as widespread and profound change along new trajectories (Lonsdale, 2015).

Within social sciences and, in particular, migration studies, academic divergence on this question is explicitly illustrated by Portes and Castles. Castles (2010, 1578) puts migration at the centre of change, arguing that it is 'an integral and essential part of social transformation processes'. He goes on to argue that migration theories should therefore be embedded within a broader social theory and a more general understanding of contemporary society. Contrastingly, Portes (2010) argues that migration (in the Americas at least) has only resulted in surface-level change rather than deeper transformations – although he does concede that changes in less developed countries may be more significant. He argues that a 'thick institutional web' preserves existing values and normative structures, and can only be overcome when migration is permanent, long-term and 'telluric'. In a similar vein, Freitag and von Oppen suggest that change may be fragile and unsustainable, seeing as 'translocality is often marked by transient, non-permanent and unordered spaces' (2010, 7).

Going further, a number of scholars argue that migration can actually strengthen and stabilise (rather than challenge or change) existing power structures – thereby putting the emphasis on stasis rather than change. In Mexico, Ariza and Portes (2009) describe out-migration as an economic safety valve that reduces discontent towards political elites and enables them to maintain their status and privilege. By the same token, others argue that migrants' remittances and savings enable households to circumvent weak or absent markets and local credit systems, thereby strengthening the economy of sending regions and even facilitating their expansion (Guarnizo, 2003; Massey et al., 2002; Portes, 2010; Stark, 1991). Similar findings have been identified in relation to environmental pressures. Solway (1994) acknowledges that drought can be 'revelatory' – by disrupting conventional routines and practice, it can expose structural problems and contradictions and create a space for innovation, experimentation and challenge to the status quo. In Botswana, however, Solway encountered the opposite effect – drought was the 'perfect scapegoat' to which all political

and economic contradictions could be attributed, leaving the underlying power relations unacknowledged and, therefore, unconfronted (Solway, 1994).

Building on these reflections, this chapter finds that rural-urban changes are challenging and changing, rather than strengthening and stabilising existing power structures. While the overall balance of power remains unequally weighted in favour of elderly men, changes in leadership structures are nonetheless significant at both the micro- and meso-levels. This puts the emphasis firmly on change rather than stasis. Whereas in the recent past, female or youth leadership would have been 'unthinkable', especially amongst male elders, there is now growing acceptance of their right to lead. For example, a participant of a focus group discussion in pastoral Bokish described how a woman's position was previously 'in the kitchen' raising children and doing the household chores. 'They were not allowed to talk in front of men' but now they are 'elected to leadership positions'.

And yet, these changes are nonetheless fragile – in the absence of genuine commitment from the wider household and community, changing leadership structures can be short-lived and superficial, limited to specific groups or circumstances, or legitimate only as long as they do not destabilise traditional roles and responsibilities. What is more, the nature of the relationship between leadership changes and adaptive capacity is constrained by the wider context, in particular deep-seated power relations and social norms, and economic incentives. Viewed from this perspective, sustainable change to the status quo is really only likely to occur when the 'natural (political) order of things' no longer matches contemporary livelihoods, social allegiances and interactions (Eriksen et al., 2015, 529). In other words, opportunities for transformational change to the status quo will remain limited as long as wider political economy pressures align with interests of dominant groups in the community. Viewed from this perspective, changing leadership roles and subsequent opportunities for adaptive capacity remain incremental, rather than transformational. Progress is being made, and the scene is being set for more significant, far-reaching and long-lasting changes in the future. But there is still a long way to go.

4. The growth of rural-urban hubs and centres

Having explored changing leadership structures, this section now turns to a second key change: the growth of rural-urban market hubs and shopping centres. Much attention has been paid to the physical changes to urban landscapes brought about by migration. The geographer Terry McGee developed the term 'desakota' (formed from the Indonesian words desa for village and kota for city) to describe processes of urbanisation in peripheral urban areas in East and Southeast Asia, where mixed rural and urban land use emerge as a result of dynamically related agricultural and industrial activities (McGee, 2002, 1991). Others have focused on the impact that rural-urban migration has on the physical layout and building structures of towns, in particular the proliferation of slums (Beauchemin and Bocquier, 2004; Beguy et al., 2010). In a similar vein, translocal scholars have researched the physical changes in local conditions brought about by mobile, translocal networks – arguing that the exchange of resources, practices and ideas simultaneously links and transforms interconnected places (Brickell and Datta, 2011; Greiner, 2010; Greiner and Sakdapolrak, 2013; Hedberg and Carmo, 2012).

Similar changes are also occurring to Laikipian landscapes. Rural villages located near to roads, junctions, markets, factories or commercial farms are metamorphosing into trading hubs or shopping centres. Numerous examples emerged during fieldwork including in Il Polei, Jua Kali, Baraka, Kimanjo, Njoguini, Kimanjo, Ngenia, Baraka and Ichuga, among others (see Map 1). The proliferations of hubs and centres marks a noticeable change in the landscape that has been gaining momentum since the 2000s, and is occurring across much of Sub-Saharan Africa (Agergaard et al., 2018). The solitary kiosk has mushroomed into a collection of shops, and subsequently into a market, so that (in the words of a government informant) '"John's shop" has become a town.' In contemporary Laikipia, hubs and centres have become a place to sell produce, purchase inputs, explore business opportunities, build networks, and access health, education and financial services.

While most research continues to be drawn to large, capital cities, the importance of small towns has attracted growing interest in recent years (for example, Baker and Pedersen, 1992; Berdegué and Proctor, 2014; Owusu, 2013; Satterthwaite, 2006; Steel et al., 2019). This academic shift reflects two wider trends: firstly that migrants are increasingly heading to smaller towns rather than capital cities; and secondly, that devolution has strengthened the role of secondary towns in local governance and development (Jistrom et al., 2018; Lohnert, 2017; Satterthwaite, 2006). Rural-urban livelihoods have played a key role in the proliferation of hubs and centres. Existing at the frontier of rural and urban, these hubs and centres are co-produced by rural and urban spaces to emerge as inherently 'rural-urban'. They share elements of both, but are simultaneously distinct from both (Berdegué and Proctor, 2014, 5). They reflect the economic interdependence between urban enterprise and rural consumers on the one hand, and rural producers and urban markets on the other (Satterthwaite and Tacoli, 2003). Other factors have also played a role in the proliferation of hubs and centres. Unreliable rainfall and an increasingly cash-based and consumeristic society have increased households' reliance on markets for daily necessities and services, contributing to the growth of hubs and centres. 'You used to be able to get what you needed from your farm, but now you cannot', explained a Nanyuki informant. The settling of former pastoralists has also promoted this localised form of urbanisation (Fratkin, 2013).

Having set the scene for rural-urban hubs and centres, this chapter now considers the ways and extent to which these hubs and centres promote adaptive capacity through a focus on local development, poverty reduction, social networks and community cohesion.

4.1. Economic development and poverty reduction

The growth of rural-urban hubs and centres is widely seen as driving local economic development and poverty reduction along three main pathways originally identified by Satterthwaite and Tacoli (2006). Firstly, as burgeoning local markets, these hubs and centres create much-needed demand for rural produce from neighbouring areas – thereby strengthening the financial capitals that build adaptive capacity. Rather than travelling to distant markets to sell their produce, suppliers can now bring their goods straight to local hubs and centres. The benefits of this were recognised by a pastoral respondent in Musul. Whereas in the past it would take him five days to travel to Nanyuki to sell his livestock, he can now walk the 10 kilometres to nearby Kimanjo market town, saving him time and money in the process.

Secondly, hubs and centres bring goods and services closer to rural residents. Boda boda motorbikes and matatu minibuses have multiplied on the sides of roads. Restaurants, pubs, clubs, bars, hotels and beauty salons are springing up. Novel and imported products and manufactured goods such as detergents, toiletries, confectionary, plastics, mobile phones and fabrics are on display at newly established shops and kiosks. Administrative and financial services and agents have also burgeoned. This greater proximity to supplies and inputs cuts out costly and time-consuming journeys, and facilitates livelihoods and, by extension, adaptive capacity. An NGO informant in Nanyuki explained that the growth of small towns means that people don't need to travel far to access power, banking, petrol, schools, and other services – they can now move within their local area. Likewise, improved access to health, education and government services strengthen human capitals and governance. That said, opportunities for building adaptive capacity are context-dependent (Berdegué et al., 2015; Hinderink and Titus, 2002; Satterthwaite and Tacoli, 2006). As the case of Laikipia North reveals, much depends on structural conditions, state investments, and transport and communications links (Chapter 5). Decades of governmental neglect have resulted in antiquated road networks, weak phone coverage, poor security and limited services in Laikipia North – stifling the ability of hubs and centres to connect remote residents with the goods, services and opportunities that can build adaptive capacity.

A third and final way in which rural-urban hubs and centres drive local development is by attracting migrants from nearby rural areas. As explained by an NGO informant in Nanyuki, 'Small towns have grown significantly in the past five years, and this means you don't need to move to larger towns and can stay in the grassroots area'. As a result, over the past 30 years, growing numbers of rural migrants are moving to smaller hubs and centres (which tend to be closer and less competitive) instead of larger cities that are associated with greater marginalisation and precarity (Lohnert, 2017). By increasing access for some of the poorest migrants to jobs and other opportunities, hubs and centres can build the financial levers of adaptive capacity. While the influx of migrants can put pressure on local jobs, resources and opportunities, localised immigration also creates new opportunities for business and enterprise (Chapter 6). For example, the transient nature of many small towns and trading hubs means that many migrants need to rent rooms, purchase meals and hire transport from local residents.

By promoting local development in these ways, hubs and centres strengthen the multiple levers of adaptive capacity: financial capitals (through business, trading and employment opportunities), human resources (improved access to health, education and other services), physical infrastructure (new markets, transport and communications opportunities) and governance (by bringing government, police and security services closer).

4.2. Social networks and community cohesion

And yet, at the same time as driving local development and poverty reduction, burgeoning hubs and centres are seen by many respondents as challenging the social fabric of rural areas and undermining their collective sense of solidarity and community cohesion. A 44-year-old resident of Njoguini centre lamented the increased prevalence of drugs, alcohol and tobacco, which she associated with the opening of pubs, bars, clubs and hotels to

accommodate the growing and transient population. Increases in theft, insecurity and prostitution were also linked to new arrivals, and in particular with single men. Other respondents blamed the growth in business and enterprise with rising consumerism and individualism. Viewed from this perspective, opportunities for local development and poverty reduction can come at the expense of social networks and community cohesion – with mixed and contradictory results for adaptive capacity as a whole. This is another example of the ways in which rural-urban livelihoods can simultaneously strengthen and weaken the different levers of adaptive capacity.

But is the erosion of social networks and community cohesion an outcome of rural-urban livelihoods specifically, or a natural and inevitable order of things to come? It would be simplistic to attribute the loss of social networks and community cohesion solely, or even primarily, to rural-urban livelihoods. Not only are rural-urban livelihoods part of a broader constellation of drivers of change, but they also contribute to changes that are already in motion, or would have happened anyway through the inevitable processes of flux and change that characterise our inter-connected and relational world. Indeed, people and places are always in a state of flux and change as a result of the ongoing and relational interactions with interconnected entities. In the words of Doreen Massey, 'The identity of a place does not derive from some internalised history. It derives, in large part, precisely from the specificity of its interactions with the 'outside' (1994, 13). Oakes and Schein (2006) conceptualise this relationality along two trajectories. The first is a materialist approach to place as produced by broader political economy. The second is a cultural approach to place-making as socially produced by identity construction, subject formation, and processes of social differentiation.

Building on this, this chapter argues that, while rural-urban livelihoods are certainly a co-contributor to wider social changes, they have nonetheless played a unique role in fast-tracking these changes and are likely to continue to drive them forwards in the future. By physically moving from one place to another, migrants link places together – becoming a vehicle, and even a catalyst, for wider processes of relational change. Migrants actively introduce new ideas and practices to the communities they move to and, in turn, are influenced by the ideas, practices and people they encounter while they are there. In so doing, they effect changes on places of destination, whilst also bringing change back home upon their return(s) to places of origin (see Chapter 7). In support of this, a community informant in Oloruko explained how migration has encouraged the emulation of new ideas and practices, resulting in 'many changes in the composition of the community'. These changes are further reinforced by ongoing translocal connections. Migrants' multiple situatedness and connectedness to places and people of origin and destination, as well as back and forth visits and remittances, help to further diffuse and spread new ideas and practices by connecting 'host' and 'home' communities in a web of influence and exchange. Fieldwork revealed that the ensuing changes can occur gradually over time through observation and emulation by the wider community, as well as more rapidly when returning migrants proactively circulate new skills, ideas and practices within the community.

To sum up, the example of rural-urban market hubs and shopping centres illustrates a number of key findings. Firstly, rural-urban livelihoods are closely linked to the growth of local trading hubs and shopping centres hubs. Secondly, social and physical changes – such

as local development, poverty reduction, solidarity and community cohesion – are the outcome of a complex and broad constellation of factors. Rural-urban livelihoods are just one among many factors (globalisation, digitisation, devolution, transport, communications, commodification) that contribute to these changes. Thirdly, rural-urban livelihoods – and in particular the dynamics of migration, mobility and translocality – play an important role in speeding up change. Fourthly, by promoting local development and poverty reduction whilst also challenging the collective sense of solidarity and community cohesion, these hubs and centres (and, by extension, rural-urban livelihoods) simultaneously push and pull the multiple levers of adaptive capacity, with mixed outcomes for adaptive capacity as a whole. This final finding is now explored in more detail in the context of changing riparian areas.

5. Changes to riparian areas

Changes in the appearance and functioning of riparian areas – in particular water levels, river beds and river banks – emerged as a key and visible change during fieldwork. Migration, social remittances and livelihood diversification associated with rural-urban livelihoods have contributed to significant changes in riparian areas. Increased immigration has put growing pressure on land and water resources, resulting in significant water demands on Laikipia's rivers. Laikipia's population has increased from 60,000 (1960) to 300,000 (1999) and up to 480,000 people (2017) – representing a significant rise in the number of domestic water users (Government of Kenya, 2013, 17). Indeed, population growth has occurred at a faster rate in Laikipia (4.7%) than for the country as a whole (3.3%) (Kiteme et al., 2008). The associated rapid urbanisation has increased urban demand for water from 8,000 to 12,000 cubic metres per day in the last decade. Furthermore, community water projects' (CWPs) increasingly pipe water directly from river intakes to nearby villages. Taken together, these pressures have contributed to noticeable changes in the appearance of riparian areas. River water across Laikipia County have visibly reduced: by 20 per cent in the Naro Moru river, nearly 60 in the Burguret river, 68 per cent in the Teleswani, and over 80 per cent in the Timau river (Lanari, 2014, 106). In support of this, a community informant in Ngenia recollected how, as a child, the river water used to flow all year round, whereas nowadays it is seasonal, drying up to reveal the river bed during dry seasons.

While immigration has increased domestic water demand, social remittances associated with rural-urban livelihoods have encouraged new farming techniques, in particular horticultural production that requires regular irrigation facilitated by access to river water. Since the 2000s, the Mount Kenya area has witnessed a significant shift away from rainfed to irrigated smallholder farming (Eckert et al., 2017). This has resulted in an increase in small-scale horticultural production along river banks, as well as the use of generators pumping water to larger farms nearby. In the words of a water technician interviewed in Nanyuki, 'Water challenges are happening because we are growing a lot of crops that require a lot of water. If we have alternative crops, the situation would be more sustainable'. In addition to drawing large quantities of water, some farmers are clearing riparian vegetation to make room for their crops. This has left the river bank noticeably bare and exposed, and sedimentation has turned the water brown (Muriithi and Yu, 2015).

At the same time, widespread livelihood diversification means that young pastoralists in Laikipia North are increasingly combining livestock duties with cash-generating activities, such as sand-harvesting. The harvesting of sand from river beds has become common practice, with respondents describing upwards of 100 lorries transporting sand away from Dol Dol and Il Polei on a daily basis (although exact figures are not available). The environmental impact of sand harvesting is less dramatic than other kinds of mining activities (Jørgensen, 2016). Nevertheless, the sustained and large-scale removal of sand erodes river banks, deteriorates riverbeds and undermines rivers' ability to store water during dry seasons. This has disrupted the flow of water and changed the appearance of rivers that are increasingly prone to drying up.

5.1. Pushing and pulling the multiple levers of adaptive capacity

Change is often depicted along positive and negative poles. Within the social sciences, change tends to be cast in a positive light (Portes, 2010). When change is conceptualised in terms of progress, development and modernity, it can take on a romanticised and even revolutionary appeal. This celebratory stance contrasts, however, with a counter narrative that negatively interprets these same changes with an irreversible loss of culture, traditions, livelihoods and general way of life. This stance is particularly prominent in literature concerned with agrarian and pastoral change. A similarly negative narrative of loss and damage can be seen within the natural sciences, which tend to interpret ecological changes such as those depicted in riparian areas as a loss of a pristine and 'natural' order things. It is worth noting that this invocation of pristine nature has subsequently been critiqued by political ecologists as both a myth and a political project used to justify particular policies, such as, 'the promulgation of conservation reserves across the world, where traditional local residents are excluded' (Robbins, 2012, 130).

The riparian case study moves away from these positive and negative poles by highlighting how the changes associated with rural-urban livelihoods simultaneously push and pull the multiple levers of adaptive capacity in different directions – for better and for worse. The preceding section illustrates how immigration, remittances and livelihood diversification associated with rural-urban livelihoods have squeezed access to water for many – thereby undermining the natural resource base that contributes to adaptive capacity. And yet, these same processes can simultaneously strengthen access to financial capitals through new markets, business and employment opportunities. For example, while sand harvesting is associated with river degradation, it also represents one of the few income-earning opportunities available to youth in Laikipia North and has subsequently become an important component of many households' livelihoods. A 44-year-old respondent in Musul explained how his six sons are now earning a 'good' income from harvesting and loading sand.

This mixed, up-and-down, uneven picture for adaptive capacity is also illustrated by riverside farm rentals. Wealthy urbanites looking to diversify their livelihoods into horticultural farming are increasingly leasing productive farmland near to rivers from impoverished rural farmers. On the one hand, this provides poor farmers with new financial capitals that enable them to invest in their livelihoods and boost their adaptive capacity. On the other hand, these arrangements undermine rural farmers' natural resource base and

damage the productivity of their land in the long run. According to a water specialist in Nanyuki, the tenants 'don't care about water use, land management, soil erosion, the fertiliser they use. After five years, the farmers…can no longer plant anything as the soil is no longer fertile.' Viewed from this perspective, rural-urban livelihoods and the changes they set in motion concurrently build and undermine adaptive capacity, thereby contributing to somewhat erratic, evolving, up-and-down outcomes for adaptive capacity as a whole. In this uneven context, the result is neither inherently positive nor negative, nor is it fixed and final. Similar findings were found in Chapter 7 on reciprocal exchange.

5.2. Winners and losers

In the previous section, rural-urban changes were found to simultaneously strengthen and undermine the multiple levers of adaptive capacity. This section argues that these same changes also result in diverging outcomes for different groups, simultaneously creating winners and losers, and thereby complicating outcomes for adaptive capacity as a whole.

The concept of winners and losers is popular within political ecology as well as the wider literature. O'Brien and Leichenko (2003) identify two main theoretical perspectives – each influenced by wider political projects built upon different values, worldviews and ambitions. The first perspective (which they situate within social Darwinism, environmental determinism and neoclassical economics) assumes that winners and losers are natural, inevitable and evolutionary. This de-politicises unequal outcomes as an unfortunate but unavoidable consequence of change. In contrast, the second perspective (common in Marxian political economy and political ecology) assumes that winners and losers are deliberately created within a context of underlying and unequal social and political structures (ibid). This reinforces the notion that adaptive capacity goes beyond the narrow confines of individual resources and agency, and is shaped and mediated by others within the community as well as the broader context in which they reside (Hoque, 2016; Smit and Pilifosova, 2003). It also lays the foundations for challenging and ultimately changing the underlying political and economic system in order to address these inequalities. This second (political) perspective corresponds most closely with findings from the field and is now illustrated in the following two examples of changing riparian areas and leadership structures.

'Winners and losers' emerged strongly in the context of riparian changes. Horticultural production along riparian areas boosts adaptive capacity for some groups at the expense of others. River-irrigated farming enables agriculturalists in the vicinity of Mount Kenya to overcome rainfall variabilities and earn a living year-round. This gives them sustainable access to the financial and natural resources that build adaptive capacity. And yet, these upstream gains in adaptive capacity come at the expense of downstream residents, particularly as the peak season of horticultural growing coincides with the dry season. Studies suggest that 70 per cent of water is abstracted in the first ten kilometres of the Ewaso river flow from Mount Kenya. This has left downstream communities without enough water to cover even basic household needs, undermining their own livelihoods and eroding adaptive capacity.[55] This emergence of upstream winners and downstream losers can be

[55] Mount Kenya Ewaso Water Partnership (MKEWP)

conceptualised as the natural and unavoidable consequence of geography and rainfall patterns. However, as argued in Chapter 5, it is also the outcome of unfair access to water that is rooted in underlying and unequal power structures associated with socioeconomic status, privatisation, corruption, devolution and immigration. According to an NGO informant, 'Climate change is responsible for 5 per cent [of water shortages] – human activities are responsible for 95 per cent'. Downstream respondents frequently complained that upstream communities take more than their fair share, stoking tensions and animosity between the two groups. During moments of crisis, such as in 2017 and 2021, these tensions have contributed to violent conflict – a key lever that ultimately undermines the adaptive capacity of all.

The concept of winners and losers also emerges from changing leadership structures illustrated at the start of this chapter. The growing prominence of women and youth comes at the expense of those – especially male elders – whose roles and responsibilities subsequently diminish. A local activist in Nanyuki described male elders still playing an important role in pastoral communities, but that this is increasingly relegated to cultural and ceremonial practices, such as circumcisions, blessings and local arbitration. The day-to-day political leadership and practical management (for example of natural resources, groups ranches, sand harvesting and resource allocation) is increasingly managed by the youth. This shift is not, however, the inevitable and apolitical outcome of age, but takes place in the context of wider dynamics and inequalities. For instance, fieldwork revealed that urban, wealthy and educated 'outsiders' are also assuming leadership positions at the expense of locals. 'This is because they are thought to know a lot more than the village laymen', explained an elderly male respondent in Dol Dol. Some respondents saw the knowledge and influence of wealthier, better educated outsiders as a positive means of transforming and developing their communities for the better and, by extension, strengthening wider adaptive capacity. For others, however, these changes were seen as being unfair and unsustainable and a threat to indigenous knowledge, customs and practices. 'Newcomers with money are given leadership positions at expense of the local indigenous people, which is very wrong', complained a 46-year-old female respondent from Baraka.

There are limitations to the winner-loser analogy. One significant shortcoming is that it fixes groups into static and dichotomous categories with little regard for complexity, blurred realities or shifting geographic and temporal scales (O'Brien and Leichenko, 2003). Who wins and loses ultimately shifts over time. The example of leadership changes illustrates how the power and influence of a previously dominant group – male elders – has become eroded over time as a result of shifting societal norms and expectations and wider dynamics. What is more, perceptions of winning and losing are highly subjective and politicised. They are felt and vocalised differently by different groups depending on their proximity to the resources accrued, their ability to take advantage of them, their reliance on maintaining the status quo, and their relative status in wider power relations of power. In this context, what appears as a win to one group is interpreted as a loss by another. This explains why younger respondents tended to embrace changing leadership structures that benefit them, while elderly interviewees lamented these same changes in terms of lost status, culture and traditions. The outcomes of change for adaptive capacity cannot be assumed to be positive or negative without reference to the local values and context of those involved (Farbotko and Lazrus, 2012; Marino and Ribot, 2012).

In spite of these conceptual shortcomings, ideas about winning and losing are analytically relevant when it comes to understanding the relationship between change and adaptive capacity. Firstly, the 'winners and losers' analogy acknowledges the unequal distribution of the effects of change. While change can open up new opportunities for some groups, it can be painful and even risky for others, especially those lacking socioeconomic safety nets to fall back on when things change for the worse (Nelson and Stathers, 2009, 89). Secondly, the analogy also recognises that advantages accrued to some groups often come directly at the expense of others. In other words that winners and losers are co-produced and come hand-in-hand, particularly where one group's efforts to adapt can directly or indirectly undermine the livelihoods, traditions or knowledge of others.

6. Concluding remarks

To sum up, this chapter argues that rural-urban livelihoods are generating a number of physical and social changes in Laikipia. Prominent amongst these are changing leadership structures, the growth of rural-urban hubs and centres, and changes to riparian areas. Three main conclusions emerge from the analysis of rural-urban changes and adaptive capacity, each dealing with different aspects of this relationship. The first reflects on the practical considerations for approaching the relationship. The second considers the extent of the relationship. While the third finding focuses on outcomes for adaptive capacity resulting from rural-urban changes.

A first conclusion is that the relationship between rural-urban livelihoods, change and adaptive capacity is highly complex, ambiguous and inconsistent, for a number of reasons. Change is a broad term, and the three changes explored in this chapter differ from one another, and also interact in different ways with adaptive capacity. This differentiation makes it difficult to ascertain wider trends about change and adaptive capacity. Interpreting the outcomes of change is also highly subjective. Different groups interpret change and its impact on adaptive capacity in different ways. Much depends on their proximity to the resources accrued, their ability to take advantage of them, their reliance on maintaining the status quo, and their relative status in wider power relations of power. Finally, interpreting change is time specific. Changes by their very nature continue to evolve over time. There is no fixed start and end point. The goal of establishing a definitive relationship between change and adaptive capacity is therefore futile. The answer will always be that it depends. Yes, for some. No, for others. Yes, at one time. No, at another time.

Moving beyond yes or no answers therefore, the real question is the *extent* to which rural-urban changes build adaptive capacity. With this in mind, a second conclusion is that rural-urban changes have incremental, rather than transformational, impacts on adaptive capacity. In the case of leadership changes, for example, visible progress is being made in terms of gendered and generational representation. But deeper, far-reaching and longer-lasting impacts have not yet occurred. In the absence of meaningful buy-in from the wider community, the impacts on adaptive capacity are likely to be short-lived and superficial, limited to specific groups or circumstances, or legitimate only as long as they do not destabilise traditional roles and responsibilities. More transformational impacts are likely to occur in the context of wider dynamics and power relations that go beyond the scope of

rural-urban livelihoods per se. While the impact of rural-urban changes on adaptive capacity should not therefore be overstated, rural-urban livelihoods nonetheless play an important role in speeding up and cementing the kinds of changes that influence adaptive capacity. Through back-and-forth visits, social and financial remittances and enduring translocal connections, rural-urban livelihoods connect 'host' and 'home' communities in a web of influence and exchange. In doing so, they spread new ideas and practices resulting in the kinds of social and physical changes that influence adaptive capacity.

The outcomes of change are often depicted along positive and negative poles. Moving away from this polarised approach, a third conclusion from this chapter is that rural-urban changes simultaneously strengthen and weaken the multiple levers of adaptive capacity in different directions, thereby contributing to somewhat erratic, evolving, up-and-down outcomes for adaptive capacity as a whole. Rural-urban changes and adaptive capacity are entangled in a non-linear relationship characterised by complex feedback mechanisms that can be both mutually-undermining as well as self-reinforcing. This is further compounded by the co-existence and co-production of both winners and losers: changes to leadership structure and riparian areas eroded the adaptive capacity of elderly men and downstream river users, while women, youth and upstream users tend to fare comparatively better. In this uneven context, the result is neither inherently positive nor negative, nor is it fixed and final. Attempts to fix outcomes in one direction or another are likely to be one-sided, without reference to the local values and context of those involved, or part of a political project, rather than an accurate reflection of what is happening on the ground. Rural-urban livelihoods ultimately influence adaptive capacity for better *and* for worse. You cannot have winners without losers – just as you cannot have change without stability.

Chapter 9 – Conclusion

1. Towards a political ecology of rural-urban livelihoods

This thesis has explored how people move, stay connected and adapt in contexts of change and pressure. It has done so through two original and deliberate framings. The first centres on rural-urban livelihoods – a livelihoods framing of moving that up until now has remained under-utilised and under-theorised. This research moves beyond the vagueness and all-pervasiveness of contemporary thinking around rural-urban livelihoods. Through case studies and illustrative maps, the research proactively digs deeper into what rural-urban livelihoods look like, whey there occur, and who they involve in everyday contemporary practice. Building on this approach, rural-urban livelihoods are conceptualised in two main ways. The first is activity-oriented – a rural-urban twist on the concept of 'multi-local livelihoods', with an emphasis on livelihood diversification, migration and mobility. Through this lens, rural-urban livelihoods encompass the array of activities, resources and opportunities that households engage in by moving between rural and urban settings. The second approach is people-oriented – an expansion on 'multi-sited households', but with an explicit focus on translocal connections, social support, remittances and reciprocity. Within this framing, rural-urban livelihoods encompass the array of connected individuals dispersed across rural and urban settings who stay in touch with and support one another to sustain a collective livelihood. By sharpening and deepening our understanding of rural-urban livelihoods both in theory and in practice, the thesis contributes to filling a significant gap in the academic literature.

The second framing that structures the research is a political ecology of mobilities that incorporates power relations, constructivism, relational thinking, plurality and difference. Only a handful of scholars have used this approach, and only then either in passing or narrowly in relation to either migration, mobility, transnationalism or translocality. Through a political ecology of mobilities approach – understood as encompassing migration, mobility, translocality and immobility – this thesis goes several steps further. Notions of politics, plurality, fluidity and interconnection emerge as key themes in the thesis. They influence not just how key concepts are defined, but also how relationships are understood, how inequalities are articulated, and how changes are contextualised. A political ecology of mobilities thus lays the ground for a wider set of questions that this thesis addresses. How livelihoods are changing, and why. Why rural-urban livelihoods build the adaptive capacity of some, and not others. How societal and environmental pressures interact and overlap. How events that take place elsewhere or in a different timeframe influence outcomes today and here. And whose version of events prevails over others and why this is the case.

Instead of being treated as separate, these two analytical framings – rural-urban livelihoods and political ecology of mobilities – emerge as complimentary and overlapping in this thesis. They share several similar traits and characteristics. For example, the combination of migration, mobility, immobility and translocality are simultaneously captured in both a political ecology of *mobilities* and a rural-urban livelihood. Without a balance between moving, staying put and staying connected, households would be unable to engage in rural-urban livelihoods in the first place or maintain them in the long run. Likewise, the relational

fluidity espoused by political ecology of mobilities is echoed across rural-urban livelihoods, which encompass multi-directional networks of connection, communication and exchange across rural and urban spaces. This relational stance challenges notions of fixity – as people and places are changed, challenged, modified and adapted by interconnected others and elsewheres.

By merging these two frameworks into an over-arching political ecology of rural-urban livelihoods, this thesis offers alternative and deeper insights into the ways in which households move, adapt and rebuild their livelihoods. Firstly, a political ecology of rural-urban livelihoods can help to push the boundaries of adaptive capacity into the domain of sustainable livelihoods. For many people, the end goal is not the capacity to adapt, but rather the sustainable rural-urban livelihoods that this entails. Secondly, a political ecology of rural-urban livelihoods provides a platform for challenging the 'migration as adaptation' narrative by providing much-needed nuance and balance to this politically charged debate. And finally, a political ecology of rural-urban livelihoods sets the scene for reimagining some of the wider logics and prevailing assumptions inherent in contemporary livelihoods thinking. These ideas are now explored in more detail below.

2. Pushing the boundaries of adaptive capacity into the domain of sustainable livelihoods

While it is now widely accepted that adaptive capacity is comprised of different elements, there is much less consensus about what these elements might be. In response, the thesis developed an illustrated framework for understanding adaptive capacity in Laikipia from a household- and community-level perspective. This encompasses a collection of five household attributes (financial, natural, human, social and physical) that in turn are shaped and mediated by an enabling environment influenced by gender and generation, ethnicity, community, governance and conflict. Viewed from this perspective, adaptive capacity is not a standalone entity, but is comprised of different levers and influencing factors that are simultaneously pushed and pulled in different directions by rural-urban livelihoods. This contributes to evolving, up-and-down and differentiated outcomes for adaptive capacity as a whole, which formulaic or aggregated assessments fail to capture. Among households and within communities, adaptive capacity cannot be predicted or measured through a technical calculation or adjustment. It is not simply the sum of its parts. Adding or subtracting different assets and attributes overlooks the mixed and contradictory household arrangements, as well as the wider societal considerations that ultimately influence outcomes.

While adaptive capacity might be the academic end point of this thesis, it is not the end goal of everyday lives and practice. Indeed, adaptive capacity is forward-looking, predictive and deals with potentiality rather than a current state of being (Engle, 2011; Rigg et al., 2016). So if adaptive capacity is a potential and predictive means to something else, what in concrete terms is the end goal for Laikipian households?

> 'Most people think changing their livelihood is a benefit and they are able to cope with the hardships of drought, water scarcity and inflation'. (Focus group discussion participant in pastoral Bokish)

> ‘It is very beneficial having a rural-urban livelihood. This creates a balance in my livelihood. This shift has helped me cope with challenges of drought, water scarcity and inaccessibility of towns. I have been able to diversify my livelihood as I always wished to do’. (35-year-old migrant businessman in Dol Dol)
>
> ‘I have been able to take care of my children better than in Turkana. I have adapted to challenges of drought and inadequate job opportunities. My household life is better than before’. (36-year-old female migrant working as a causal labourer in Nanyuki)
>
> ‘Many people who change livelihoods or combine livelihoods are able to benefit their lives and cope with challenges’. (Community leader interviewed in Nanyuki)
>
> ‘In this life, you have to be strategic about what kind of livelihood you conduct. Everyone in the neighbourhood and community are looking for better livelihoods to meet their personal and family needs. I have seen many people changing livelihoods while others combine many livelihoods together’. (28-year-old casual labourer from Nanyuki)

As these quotes reveal, for most people the end goal is not the capacity to adapt, but rather the sustainable livelihoods that this entails. In other words, a livelihood that can cope with and adapt to the ups and downs of everyday life now and in the future. Built into the specific question of this thesis (to what extent do rural-urban livelihoods build adaptive capacity?) is therefore a wider question about the extent to which rural-urban livelihoods are sustainable. Rural-urban livelihoods per se do not build adaptive capacity. But sustainable rural-urban livelihoods can.

The Sustainable Livelihoods Approach (SLA) suggests that livelihoods that rely on a diverse portfolio of assets and activities and that adapt over time are arguably more resilient to disruption and less vulnerable to change. Within this approach, a sustainable livelihood is one that can ‘cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, while not undermining the natural resource base’ (Chambers and Conway, 1992, 7). Building on and borrowing from SLA, this thesis adds a rural-urban dimension to sustainable livelihoods that reflects the mobile, translocal and diversified character of many contemporary livelihoods. A sustainable *rural-urban* livelihood is therefore defined as: a livelihood that can adapt to both pressures and opportunities without eroding crucial assets and future options by building activities, opportunities and networks across rural and urban settings.

According to this definition, sustainability implies three core features. Sustainability is ‘first and foremost’ used as a ‘corrective’ or ‘counter-balance’ to a host of negative pressures that span the nature-society divide (Caradonna, 2014, 3). In this regard, a sustainable rural-urban livelihood is determined by the extent to which it builds a household’s capacity to adapt to shocks and stresses. But there is also a more positive aspect to consider: the

capacity to respond to and get the most out of opportunities when they arise. Indeed, the growth in rural-urban livelihoods has emerged from a combination of both challenge and opportunity. These include unreliable rainfall and growing upstream water use, the appropriation, privatisation and compartmentalisation of land, economic decline in an increasingly cash-based society, political devolution, improved transport and communications and gendered and generational changes.

A second aspect encompasses a temporal reading of sustainability that emphasises continuation; the need to sustain, maintain and withstand. Sustainability in this sense is not just about adapting 'right now' to existing shocks and stresses; it is also about safeguarding resources and skills required for responding to future shocks and stresses, 'without a decline in crucial functions and without losing options for the future' (Folke et al., 2002, 18). When rural-urban livelihoods rely on present-day adaptations that undermine the resources, assets and capabilities that will be needed to respond to change in the future, they cannot be described as sustainable in the long-run.

Thirdly, as well as protecting and preserving critical assets and functions, long-term sustainability also suggests depth and integration. Sustainable adaptation is ultimately about identifying and addressing the root causes of vulnerability (Brown, 2011; Eriksen and O'Brien, 2007). This goes beyond rural-urban migration, occasional return visits or the sporadic sending of remittances and goods per se. It suggests a more integrated and mutual livelihood between household members entrenched across both rural and urban settings and consolidated by mutual social relations and reciprocated obligations. While many households exhibit rural-urban elements or tendencies, this narrows the focus to livelihoods that are not just profoundly and sustainably rural-urban, but which are also characterised by balance, collective solidarity and mutual dependency and gain.

3. Challenging the 'migration as adaptation' narrative

Migration is simultaneously conceptualised as a failure to adapt to environmental pressures and a potential strategy for adaptation. Moving in contexts of environmental change tends to be interpreted as unplanned and unwanted, as a last resort that occurs in the face of insurmountable challenge. It is the 'crisis' that is perceived as the driving factor behind people's movements. From the 2000s, however, more nuanced and celebratory accounts of mobility emerged, shifting the narrative from one that focused on the forced nature of environmental migration to one that highlighted migration as a proactive strategy for adapting to environmental change (Piguet, 2013; Vinke et al., 2020). While a more positive framing of migration is a welcome shift from the 'migration as crisis' narrative, it also comes with the risk of over-celebrating migration's potential for adaptation. A political ecology of rural-urban livelihoods provides balance and nuance to this debate. On the one hand, it emphasises how everyday mobility is an important aspect of contemporary life and livelihoods and, by extension, a compelling and logical avenue through which to adapt to a mounting range of pressures. On the other hand, it frames the relationship between rural-urban livelihoods and adaptive capacity as mixed and uncertain, for several reasons.

Firstly, rural-urban livelihoods favour those with the resources and influence needed to accumulate, rather than just survive. Wealth and influence enable richer households to

accumulate money, assert their rights, and access resources and opportunities better than the poor. Wealth and status also determine risk: while the rich are more likely to manage risk, poor households typically diversify into low-income, precarious activities that combine short-term financial gain with significant risk, thereby undermining adaptive capacity in the long run. Choice is also key. When rural-urban strategies are undertaken as a last resort and motivated by a lack of other options, adaptive capacity can become weakened, especially for households whose socioeconomic status limits them to unprofitable and precarious activities. Under these circumstances, households can become trapped in cycles of structural poverty that erode their capacity to adapt. Furthermore, when rural-urban diversification goes wrong, the impacts are felt more acutely by the poor, for whom it takes many years to rebuild lost resources, assets and attributes.

A second reasons for nuance and uncertainty is that rural-urban livelihoods have incremental, rather than transformational, impacts on adaptive capacity. Rural-urban livelihoods are speeding up and cementing the kinds of changes that influence adaptive capacity – such as changing leadership structures, growing rural-urban hubs, and changing riparian areas. But these changes remain fragile – without meaningful buy-in from the wider community, impacts are short-lived and superficial, limited to specific groups or circumstances, or legitimate only as long as they do not destabilise traditional roles and responsibilities. That said, impacts should not be discounted as insignificant just because they are small. Impoverished respondents often welcomed the modest income gains brought by rural-urban livelihoods as an important buffer or safety net, giving them breathing space and much-needed daily cash with which to navigate everyday challenges, and strengthening, albeit in subtle ways, adaptive capacity in the long-term.

Thirdly, the relationship between rural-urban livelihoods and adaptive capacity is characterised by compromise, trade-off and exchange, which can create an uneasy and unfair balance of outcomes. Interconnections exist between people and places that result in simultaneous pressures and opportunities being exerted across different groups and geographies. When there is balance and fairness, characterised by a strong sense of collective solidarity and mutual dependency and gain, these patterns of exchange can positively and constructively build the adaptive capacity of those involved. But in many instances, the adaptive capacity of one person or place is strengthened at the expense of another. In these scenarios, rural-urban livelihoods open up opportunities for adaptive capacity for some people and in some places at the same time as closing them down for interconnected others and elsewheres. A singular focus on a particular place or person misses the wider implications for interconnected entities, painting a one-sided picture that glosses over or misses altogether the other sides to the story, and in doing so risks overstating either the positives or the negatives.

A final reason that explains the mixed and uncertain relationship between moving and adapting is that interpreting outcomes remain highly subjective. Different groups interpret impacts and changes in different ways. Much depends on their proximity to the resources accrued, their ability to take advantage of them, their reliance on maintaining the status quo, and their relative status in wider power relations of power. Attempts to articulate outcomes in one direction or another are likely to be one-sided, without reference to the

local values and context of those involved, or part of a political project, rather than an accurate reflection of what is happening on the ground.

For the reasons outlined above, the relationship between moving and adapting is neither one of crisis nor of celebration. And a political ecology of rural-urban livelihoods – with its emphasis on politics, plurality, fluidity and interconnection – helps to balance and nuance these prevailing narratives. It also helps to challenge the reductionist tendency in mainstream thinking to fix on the role of migration. By stretching the analysis from migration per se to to everyday mobility, immobility and translocality, this thesis enriches the relationship between moving and adapting. A political ecology of rural-urban livelihoods also expands the focus from migrants to the families that support them, and the host communities that receive them. And, by extension from the individual agency of migrants to the wider structural relations and contexts in which moving and adapting occur. This takes the analysis even further beyond migration, and helps to embed movements within a livelihoods framing that recognises that adaptation isn't brought about by migrating per se, but by the deeper impacts and influence that moving has on people's everyday lives and livelihoods. Indeed, a narrow and one-dimensional focus on physical migration only scratches the surface of the wider dynamics underpinning and emerging from such movements in Laikipia: colonial legacies of land distribution, tribal conflict and ethnic discrimination, economic privatisation and commodification, gendered and generational inequalities, uneven access to water and other natural resources, among many others. Viewed from the perspective of a political ecology of rural-urban livelihoods, migration is just one part of a complex jigsaw puzzle that needs piecing together in order to make sense of the wider picture or story.

4. Reimagining contemporary livelihoods

This sets the scene for challenging and reimagining some of the wider logics and assumptions inherent in livelihoods thinking. A political ecology of rural-urban livelihoods frames livelihoods as fluid, plural and relational. This challenges the tendency to treat livelihoods as tangible and discrete categories, ring-fenced by labels such as pastoralist, agro-pastoralist, farmer, wage employee, casual labourer, trader or businessperson. Livelihoods are routinely imagined as something that can be seen, depicted and distilled, albeit embedded in wider cultures, symbolism and practices. And yet, in the context of widespread diversification and translocal exchange, Laikipian livelihoods comprise an array of different locations, activities and individuals that blur and obscure traditional conceptualisations. A singular focus on either a primary livelihood activity, particular location, or a specific breadwinner overlooks the array of secondary, tertiary and additional activities, places and people that contribute to contemporary livelihoods. Livelihoods are not limited to specific activities. They also encompass the connections and support – both financial and emotional – that households share with one another. For the vast majority of respondents, multiple people and activities collectively constitute a way of living. Whether through the accumulation of different activities that collectively add up to a viable livelihood for the household as a whole. Or through the combined efforts of dispersed yet connected people who rely on a shared pool of resources. What is more, for many people (especially those who are unable to make a living on their own), a livelihood may be less about

particular activities, and more about the connections that they are able to sustain with others.

In addition to being fluid, plural and relational, a political ecology of rural-urban livelihoods underscores the mobile and translocal nature of many contemporary livelihoods that are simultaneously rural and urban. 'Mobility-infused' or 'rural-urban' diversification have become increasingly widespread because of improved transport and the uneven distribution of resources and opportunities, which simultaneously facilitate and necessitate mobile approaches to diversification. This was not restricted to groups that are routinely associated with mobility – such as pastoralists, agro-pastoralists, hunter gatherers or travellers. Fluid, diversified and mobile livelihoods have become (and in many cases always have been) everyday practice for a wide range of different groups of people, including those who may not identify as being mobile. This challenges the prevailing sedentarist bias that imagines 'normal' life as settled. While mobility is recognised in many livelihoods studies, this tends to be relegated to a peripheral 'add-on' to be employed when things go wrong, or as a trait that is limited to a ring-fenced minority that has always engaged in mobile practices. In the case of Laikipia, this prevailing logic appears simplistic and out-dated. While farming and pastoralism continue to constitute an important (and often central) part of many livelihoods, mobility-infused diversification is increasingly becoming the norm.

As well as enhancing conventional livelihoods thinking, the conceptual intertwining of mobilities and livelihoods inherent in a political ecology of rural-urban livelihoods framing also influences conventional migration theory, which remains limited to discrete aspects of migratory experiences rather than the migratory process as a whole (Castles, 2010, 1569). To get around this impasse, Castles advocates, 'Re-embedding migration research in a more general understanding of contemporary society' that understands human mobility in relation to broader theories of social change and transformation (ibid). One way of doing this it to embed mobilities within a livelihoods framing. A political ecology of rural-urban livelihoods intrinsically links mobilities and livelihoods as relational concepts that influence one another, rather than entities in isolation. Viewed from this perspective, moving cannot be seen in uncomplicated isolation. As a specific action with clear-cut parameters. A physical action that is set apart and distinguishable from others. Ring-fenced and definable. An entity of its own. By conceptualising migration as a standalone 'something', as a specific entity, it becomes straightforward, uncomplicated and apolitical. Migration is just migration. And migrants are just migrants. When migration is balanced against the interconnected processes of staying in place and staying connected, moving isn't just a means to a livelihood – it is a fundamental part of that livelihood. By situating the myriad of ways in which people move in relation to everyday livelihood activities and ambitions, a political ecology of rural-urban livelihoods helps to ground mobilities within the wider political dynamics in which they occur. Viewed from this perspective, moving does not have to be something special or exceptional. As to understand mobility is to understand the role it plays in everyday and unremarkable livelihood practices and relations.

Bibliography

Abdi, H., 2019. Group in Kenya Aims to Get More Women on Motorbikes. VOA. https://learningenglish.voanews.com/a/group-in-kenya-aims-to-get-more-women-on-motorbikes/5101321.html

Adey, P., 2006. If Mobility is Everything Then it is Nothing: Towards a Relational Politics of (Im)mobilities. Mobilities 1, 75–94. https://doi.org/10.1080/17450100500489080

Adger, W., Barnett, J., Brown, K., Marshall, N., O'Brien, K., 2013. Cultural Dimensions of Climate Change Impacts and Adaptation. Nat. Clim. Change 3, 112–117. https://doi.org/10.1038/nclimate1666

Adger, W.N., 2006. Vulnerability. Glob. Environ. Change, Resilience, Vulnerability, and Adaptation: A Cross-Cutting Theme of the International Human Dimensions Programme on Global Environmental Change 16, 268–281. https://doi.org/10.1016/j.gloenvcha.2006.02.006

Adger, W.N., 2003. Social Capital, Collective Action, and Adaptation to Climate Change. Econ. Geogr. 79, 387–404.

Adger, W.N., Agrawala, S., Mirza, M.M.Q., Conde, C., O'Brien, K., Pulhin, J., Pulwarty, R., Smit, B., Takahashi, K., Enright, B., Fankhauser, S., Ford, J., Gigli, S., Jetté-Nantel, S., Klein, R.J.T., Pearce, T.D., Shreshtha, A., Shukla, P.R., Smith, J.B., Reeder, T., Rosenzweig, C., Vincent, K., Wandel, J., Allali, A., Leary, N.A., Magalhães, A.R., 2007. Assessment of adaptation practices, options, constraints and capacity, in: Parry, M.L., Canziani, O., F, Palutikof, J.P., Linden, P.J. v. d., Hanson, C.E. (Eds.), Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge and New York, p. 28.

Adger, W.N., Arnell, N.W., Black, R., Dercon, S., Geddes, A., Thomas, D.S.G., 2015. Focus on environmental risks and migration: causes and consequences. Environ. Res. Lett. 10, 060201. https://doi.org/10.1088/1748-9326/10/6/060201

Adger, W.N., Barnett, J., Chapin, F.S., Ellemor, H., 2011. This Must Be the Place: Underrepresentation of Identity and Meaning in Climate Change Decision-Making. Glob. Environ. Polit. 11, 1–25.

Adger, W.N., Dessai, S., Goulden, M., Hulme, M., Lorenzoni, I., Nelson, D.R., Naess, L.O., Wolf, J., Wreford, A., 2009. Are there social limits to adaptation to climate change? Clim. Change 93, 335–354. https://doi.org/10.1007/s10584-008-9520-z

Aeschbacher, J., Liniger, H., Weingartner, R., 2005. River Water Shortage in a Highland–Lowland System. Mt. Res. Dev. 25, 155–163. https://doi.org/10.1659/0276-4741(2005)025[0155:RWSIAH]2.0.CO;2

Agergaard, J., Tacoli, C., Steel, G., Ørtenblad, S.B., 2018. Revisiting Rural–Urban Transformations and Small Town Development in Sub-Saharan Africa. Eur. J. Dev. Res. 31, 2–11. https://doi.org/10.1057/s41287-018-0182-z

Agesa, R.U., 2004. One Family, Two Households: Rural to Urban Migration in Kenya. Rev. Econ. Househ. 2, 161–178. https://doi.org/10.1023/B:REHO.0000031612.77882.29

Agrawal, A., Gibson, C., 1996. Communities and Resource Management: A Critique (Workshop in political theory and policy analysis). Indiana University, Indiana.

Agrawal, A., Perrin, N., 2009. Climate adaptation, local institutions and rural livelihoods, in: Adger, W.N., Lorenzoni, I., OBrien, K.L. (Eds.), Adapting to Climate Change. Cambridge University Press, Cambridge, pp. 350–367. https://doi.org/10.1017/CBO9780511596667.023

Ahmed, S. (Ed.), 2003. Uprootings/regroundings: questions of home and migration. Berg, Oxford.

Al Jazeera, 2017. Kuki Gallmann shot as land invasions surge in Kenya. Al Jazeera.

Allman, D., 2015. Community centrality and social science research. Anthropol. Med. 22, 217–233. https://doi.org/10.1080/13648470.2015.1081670

Ameso, E.A., Bukachi, S.A., Olungah, C.O., Haller, T., Wandibba, S., Nangendo, S., 2018. Pastoral Resilience among the Maasai Pastoralists of Laikipia County, Kenya. Land 7, 78. https://doi.org/10.3390/land7020078

Amis, P., 2006. Urban Poverty in East Africa, in: Bryceson, D.F., Potts, D. (Eds.), African Urban Economies - Viability, Vitality or Vitiation? Palgrave Macmillan, London, pp. 169–183.

Andersson, J.A., 2002. Going places, staying home : rural-urban connections and the significance of land in Buhera district, Zimbabwe (phd). s.n., S.l.

Andersson, J.A., 2001a. Reinterpreting the Rural-Urban Connection: Migration Practices and Socio-Cultural Dispositions of Buhera Workers in Harare. Afr. J. Int. Afr. Inst. 71, 82–112. https://doi.org/10.2307/1161482

Andersson, J.A., 2001b. Mobile workers, urban unemployment and rural identities: Rural-urban workers of Buhera Migrants, Zimbabwe, in: Bruijn, M. de, Dijk, R. van, Foeken, D. (Eds.), Mobile Africa: Changing Patterns of Movement in Africa and Beyond, African Dynamics. Brill, Leiden ; Boston, pp. 89–106.

Appadurai, A., 1996. Modernity at large : cultural dimensions of globalization /, Public worlds ; University of Minnesota Press, Minneapolis ; London :

Ariza, M., Portes, A., 2009. El país transnacional: Migración mexicana y cambio social a través de la frontera. UNAM-Instituto de Investigaciones Sociales, Mexico.

Arnall, A., Kothari, U., Kelman, I., 2014. Introduction to politics of climate change: Discourses of policy and practice in developing countries. Geogr. J. 180, 98–101. https://doi.org/10.1111/geoj.12054

Ayantunde, A.A., de Leeuw, J., Turner, M.D., Said, M., 2011. Challenges of assessing the sustainability of (agro)-pastoral systems. Livest. Sci., Special Issue: Assessment for Sustainable Development of Animal Production Systems 139, 30–43. https://doi.org/10.1016/j.livsci.2011.03.019

Bah, M., Cissé, S., Diallo, G., Lerise, F., Okpara, E., Olawoye, J., Tacoli, C., 2003. Changing rural–urban linkages in Mali, Nigeria and Tanzania. Environ. Urban. 15, 12.

Baker, J., 2006. Survival and Accumulation Strategies at the Rural–Urban Interface in North-West Tanzania, in: Tacoli, C. (Ed.), The Earthscan Reader in Rural-Urban Linkages. Earthscan, London ; Sterling, VA, pp. 41–55.

Baker, J., 1995. Survival and accumulation strategies at the rural-urban interface in north-west Tanzania: Environ. Urban. 7. https://doi.org/10.1177/095624789500700103

Baker, J., Pedersen, P.O. (Eds.), 1992. The Rural-urban interface in Africa: expansion and adaptation, Seminar proceedings. Nordiska Afrikainstitutet in cooperation with Centre for Development Research, Copenhagen, Uppsala.

Bakewell, O., 2008. Research Beyond the Categories: The Importance of Policy Irrelevant Research into Forced Migration. J. Refug. Stud. 21, 432–453. https://doi.org/10.1093/jrs/fen042

Bakewell, O., Kubal, A., Pereira, S., 2016. Introduction: Feedback in Migration Processes, in: Bakewell, O., Engbersen, G., Fonseca, M.L., Horst, C. (Eds.), Beyond Networks: Feedback in International Migration, Migration, Diasporas and Citizenship. Palgrave Macmillan UK, London, pp. 1–17. https://doi.org/10.1057/9781137539212_1

Barnett, J., 2006. Climate change, insecurity, and injustice. MIT Press.

Barnett, J., O'Neill, S., 2010. Maladaptation. Glob. Environ. Change 20, 211–213. https://doi.org/10.1016/j.gloenvcha.2009.11.004

Barnett, J., Webber, M., 2010. Accommodating Migration to Promote Adaptation to Climate Change, Policy Research Working Paper Series. The World Bank.

Barrett, C.B., Reardon, T., Webb, P., 2001. Non-farm income diversification and household livelihood strategies in rural Africa: concepts, dynamics, and policy implications. Food Policy 26, 315–331. https://doi.org/10.1016/S0306-9192(01)00014-8

Bassett, T.J., Fogelman, C., 2013. Déjà vu or something new? The adaptation concept in the climate change literature. Geoforum 48, 42–53. https://doi.org/10.1016/j.geoforum.2013.04.010

Beauchemin, C., Bocquier, P., 2004. Migration and Urbanisation in Francophone West Africa: An Overview of the Recent Empirical Evidence. Urban Stud. 41, 2245–2272. https://doi.org/10.1080/0042098042000268447

Beguy, D., Bocquier, P., Zulu, E.M., 2010. Circular migration patterns and determinants in Nairobi slum settlements. Demogr. Res. 23, 549–586. https://doi.org/10.4054/DemRes.2010.23.20

Bélanger, D., Linh, T.G., 2011. The impact of transnational migration on gender and marriage in sending communities of Vietnam. Curr. Sociol. 59, 59–77. https://doi.org/10.1177/0011392110385970

Belliveau, S., Smit, B., Bradshaw, B., 2006. Multiple exposures and dynamic vulnerability: Evidence from the grape industry in the Okanagan Valley, Canada. Glob. Environ. Change 16, 364–378. https://doi.org/10.1016/j.gloenvcha.2006.03.003

Béné, C., Newsham, A., Davies, M., Ulrichs, M., Godfrey-Wood, R., 2014. Review Article: Resilience, Poverty and Development. J. Int. Dev. 26, 598–623. https://doi.org/10.1002/jid.2992

Berckmoes, L., White, B., 2014. Youth, Farming and Precarity in Rural Burundi. Eur. J. Dev. Res. 26, 190–203. https://doi.org/10.1057/ejdr.2013.53

Berdegué, J., Proctor, F., Cazzuffi, C., 2015. Inclusive Rural–Urban Linkages.

Berdegué, J.A., Proctor, F.J., 2014. Inclusive Rural–Urban Linkages, Working Paper Series N° 123. Working Group: Development with Territorial Cohesion. Territorial Cohesion for Development Program. RIMSIP, Santiago, Chile.

Berger, P., 1989. Rainfall and agroclimatology of the Laikipia Plateau, Kenya. Geographica Bernesia and Geographical Society of Berne, Berne, Switzerland.

Berkes, F., Colding, J., Folke, C., 2002. Navigating Social-Ecological Systems: Building Resilience for Complexity and Change. Cambridge University Press, Cambridge, UNITED KINGDOM.

Berrang-Ford, L., Ford, J.D., Paterson, J., 2011. Are we adapting to climate change? Glob. Environ. Change 21, 25–33. https://doi.org/10.1016/j.gloenvcha.2010.09.012

Bettini, G., Gioli, G., 2016. Waltz with development: insights on the developmentalization of climate-induced migration. Migr. Dev. 5, 171–189. https://doi.org/10.1080/21632324.2015.1096143

Bettini, G., Nash, S.L., Gioli, G., 2017. One step forward, two steps back? The fading contours of (in)justice in competing discourses on climate migration. Geogr. J. 183, 348–358. https://doi.org/10.1111/geoj.12192

Biersack, A., Greenberg, J.B. (Eds.), 2006. Reimagining political ecology, New ecologies for the twenty-first century. Duke University Press, Durham.

Bigsten, A., 1996. The circular migration of smallholders in Kenya. J. Afr. Econ. 5, 1–20.

Birch, L., 2018. Agricultural productivity in Kenya: Barriers and opportunities (Helpdesk report: knowledge, learning and evidence for development). K4D, London.

Bixler, R.P., Dell'Angelo, J., Mfune, O., Roba, H., 2015. The political ecology of participatory conservation: institutions and discourse. J. Polit. Ecol. 22, 164–182. https://doi.org/10.2458/v22i1.21083

Black, R., 1998. Refugees, environment and development /, Longman development studies. Longman, Harlow :

Black, R., Adger, W.N., Arnell, N.W., Dercon, S., Geddes, A., Thomas, D., 2011a. Migration and global environmental change. Glob. Environ. Change 21, S1–S2. https://doi.org/10.1016/j.gloenvcha.2011.10.005

Black, R., Adger, W.N., Arnell, N.W., Dercon, S., Geddes, A., Thomas, D., 2011b. The effect of environmental change on human migration. Glob. Environ. Change, Migration and Global Environmental Change – Review of Drivers of Migration 21, S3–S11. https://doi.org/10.1016/j.gloenvcha.2011.10.001

Black, R., Collyer, M., 2014. "Trapped" population: Limits on mobility at times of crisis, in: Humanitarian Crises and Migration: Causes, Consequences and Responses. Routledge, London and New York, pp. 287–305.

Blaikie, P., Brookfield, H., 1987. Land degradation and society. Methuen, London and New York.

Blench, R., Marriage, Z., 1999. Drought and livestock in semi-arid Africa and Southwest Asia, Working Paper 117. ODI, London.

Blerk, L. van, 2016. Livelihoods as Relational Im/mobilities: Exploring the Everyday Practices of Young Female Sex Workers in Ethiopia. Ann. Am. Assoc. Geogr. 106, 413–421. https://doi.org/10.1080/00045608.2015.1113116

Boccagni, P., 2010. Exploring migrants' affective ties at a distance: is "multi-sited" ethnography enough?, COMCAD Working Papers. Universität Bielefeld, Fak. für Soziologie, Centre on Migration, Citizenship and Development (COMCAD), Bielefeld.

Bond, J., 2014. A holistic approach to natural resource conflict: The case of Laikipia County, Kenya. J. Rural Stud. 34, 117–127. https://doi.org/10.1016/j.jrurstud.2014.01.008

Brickell, K., Datta, A. (Eds.), 2011. Translocal geographies: spaces, places, connections. Ashgate, Farnham Burlington, VT.

Brooks, N., 2003. Vulnerability, risk and adaptation: A conceptual framework, Working Paper 38. Tyndall Centre for Climate Change Research.

Brooks, N., Adger, W.N., 2007. Technical Paper 7: Assessing and Enhancing Adaptive Capacity. United Nations Framework Convention on Climate Change (UNFCCC), Geneva.

Brooks, N., Adger, W.N., Mick Kelly, P., 2005. The determinants of vulnerability and adaptive capacity at the national level and the implications for adaptation. Glob. Environ. Change, Adaptation to Climate Change: Perspectives Across Scales 15, 151–163. https://doi.org/10.1016/j.gloenvcha.2004.12.006

Brown, K., 2011. Sustainable adaptation: An oxymoron? Clim. Dev. 3, 21–31. https://doi.org/10.3763/cdev.2010.0062

Bryant, R.L., 1997. Beyond the Impasse: The Power of Political Ecology in Third World Environmental Research. Area 29, 5–19.

Bryceson, D.F., 2006. Vulnerability and viability of East and Southern Africa's apex cities, in: Bryceson, D.F., Potts, D. (Eds.), African Urban Economies - Viability, Vitality or Vitiation? Palgrave Macmillan, London, p. 319.

Bryceson, D.F., 2002. The Scramble in Africa: Reorienting Rural Livelihoods. World Dev. 30, 725–739. https://doi.org/10.1016/S0305-750X(02)00006-2

Bryceson, D.F., 1999. African rural labour, income diversification & livelihood approaches: a long-term development perspective. Rev. Afr. Polit. Econ. 26, 171–189. https://doi.org/10.1080/03056249908704377

Buchanan-Smith, M., Lind, J., 2005. Armed violence and poverty in Northern Kenya: a mini case study for the Armed Violence and Poverty Initiative (Report).

Butynski, T.M., Jong, Y.A. de, 2014. Primate Conservation in the Rangeland Agroecosystem of Laikipia County, Central Kenya. Primate Conserv. 2014, 117–128. https://doi.org/10.1896/052.028.0104

Cannon, T., 2014. Why do we pretend there is "Community"? Problems of Community Based-Adaptation (CBA) and Community Based Disaster Risk Reduction (CBDRR).

Vulnerability Poverty. http://vulnerabilityandpoverty.blogspot.com/2014/04/why-do-we-pretend-there-is-community.html

Caradonna, J.L., 2014. Sustainability: A History. Oxford University Press, Incorporated, Oxford, UNITED STATES.

Carmo, R.M., Hedberg, C., 2019. Translocal mobility systems: Social inequalities and flows in the wild berry industry. Geoforum 99, 102–110. https://doi.org/10.1016/j.geoforum.2018.12.002

Carney, D. (Ed.), 1998. Sustainable rural livelihoods : what contribution can we make? London : Department for International Development.

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

Carr, E.R., 2015. Political Ecology and Livelihoods, in: Perreault, T.A., Bridge, G., McCarthy, J. (Eds.), The Routledge Handbook of Political Ecology, Routledge International Handbooks. Routledge, Taylor & Francis Group, London ; New York, NY, pp. 332–342.

Carr, E.R., 2005. Placing the Environment in Migration: Environment, Economy, and Power in Ghana's Central Region. Environ. Plan. Econ. Space 37, 925–946. https://doi.org/10.1068/a3754

Carrier, N., Kochore, H.H., 2014. Navigating ethnicity and electoral politics in northern Kenya: the case of the 2013 election. J. East. Afr. Stud. 8, 135–152. https://doi.org/10.1080/17531055.2013.871181

Castles, S., 2012. Understanding the relationship between methodology and methods, in: Vargas-Silva, C. (Ed.), Handbook of Research Methods in Migration, Elgar Original Reference. Edward Elgar, Cheltenham, UK ; Northampton, MA, pp. 7–25.

Castles, S., 2010. Understanding Global Migration: A Social Transformation Perspective. J. Ethn. Migr. Stud. 36, 1565–1586. https://doi.org/10.1080/1369183X.2010.489381

Castles, S., 2002. Climate change, drought and pastoralism in the Sahel. Discussion note for the World Initiative on Sustainable Pastoralism, New Issues in Refugee Resaerch, Working Paper No. 70. UNHCR.

Castree, N., 2004. Differential geographies: place, indigenous rights and 'local' resources. Polit. Geogr. 23, 133–167. https://doi.org/10.1016/j.polgeo.2003.09.010

Catley, A., Lind, J., Scoones, I., 2013. Development at the Margins : Pastoralism in the Horn of Africa, Pastoralism and Development in Africa. Routledge. https://doi.org/10.4324/9780203105979-1

Chambers, R., 1989. Editorial Introduction: Vulnerability, Coping and Policy. IDS Bull. 20, 1–7. https://doi.org/10.1111/j.1759-5436.1989.mp20002001.x

Chambers, R., 1987. Sustainable livelihoods, environment and development: putting poor rural people first.

Chambers, R., Conway, G., 1992. Sustainable rural livelihoods: practical concepts for the 21st century. Institute of Development Studies (UK).

Chepkoech, W., Mungai, N.W., Stöber, S., Lotze-Campen, H., 2020. Understanding adaptive capacity of smallholder African indigenous vegetable farmers to climate change in Kenya. Clim. Risk Manag. 27, 100204. https://doi.org/10.1016/j.crm.2019.100204

Commission on Global Governance (Ed.), 1995. Our global neighborhood: the report of the Commission on Global Governance. Oxford University Press, Oxford ; New York.

Cooke, B., Kothari, U. (Eds.), 2001. Participation: the new tyranny? Zed Books, London ; New York.

Coulthard, S., 2008. Adapting to environmental change in artisanal fisheries—Insights from a South Indian Lagoon. Glob. Environ. Change, Globalisation and Environmental Governance: Is Another World Possible? 18, 479–489. https://doi.org/10.1016/j.gloenvcha.2008.04.003

County Government of Laikipia, 2021. Laikipia Shrugs off Pandemic Woes to Register Growth in Own Revenue. Cty. Gov. Laikipia. https://www.laikipia.go.ke/1113/laikipia-shrugs-off-pandemic-woes-register-growth-in-own-revenue/

Cresswell, T., 2010a. Geographies of Mobilities: Practices, Spaces, Subjects, 1st edition. ed. Routledge, Farnham, Surrey ; Burlington, VT.

Cresswell, T., 2010b. Towards a Politics of Mobility. Environ. Plan. Soc. Space 28, 17–31. https://doi.org/10.1068/d11407

Cresswell, T., 2006. On the move : mobility in the modern Western world /. Routledge, New York :

Cresswell, T., 1999. Embodiment, Power and the Politics of Mobility: The Case of Female Tramps and Hobos. Trans. Inst. Br. Geogr. 24, 175–192.

Cronk, L., 2002. From True Dorobo to Mukogodo Maasai: Contested Ethnicity in Kenya. Ethnology 41, 27–49. https://doi.org/10.2307/4153019

Curran, S.R., Saguy, A.C., 2001. Migration and cultural change: a role for gender and social networks. J. Int. Women's Stud. 54–77.

Dai, X., Wu, Z., Fan, Y., Li, B., Yang, Z., Nan, B., Bi, X., 2020. Characteristics and Determinants of Livelihood Diversification of Different Household Types in Far Northwestern China. Sustainability 12, 64. https://doi.org/10.3390/su12010064

Dale, A., Onyx, J., 2005. A Dynamic Balance: Social Capital and Sustainable Community. UBC Press, Vancouver.

D'Arcy, M., 2018. Kenya illustrates both the promise as well as the pitfalls of devolution. The Conversation. URL http://theconversation.com/kenya-illustrates-both-the-promise-as-well-as-the-pitfalls-of-devolution-96729

Davis, D., K., 2015. Historical appraoches to political ecology, in: Perreault, T.A., Bridge, G., McCarthy, J. (Eds.), The Routledge Handbook of Political Ecology, Routledge International Handbooks. Routledge, Taylor & Francis Group, London ; New York, NY, pp. 263–275.

Davoudi, S., Shaw, K., Haider, L.J., Quinlan, A.E., Peterson, G.D., Wilkinson, C., Fünfgeld, H., McEvoy, D., Porter, L., Davoudi, S., 2012. Resilience: A Bridging Concept or a Dead

End? Plan. Theory Pract. 13, 299–333. https://doi.org/10.1080/14649357.2012.677124

De Brauw, A., Mueller, V., 2012. Do Limitations in Land Rights Transferability Influence Mobility Rates in Ethiopia? J. Afr. Econ. 21, 548–579.

de Haas, H., 2010. The Internal Dynamics of Migration Processes: A Theoretical Inquiry. J. Ethn. Migr. Stud. 36, 1587–1617. https://doi.org/10.1080/1369183X.2010.489361

de Laat, J., 2005. Moral Hazard and Costly Monitoring: The Case of Split Migrants in Kenya. Brown University.

DeCuir-Gunby, J., 2008. Mixed Methods Research in the Social Sciences, in: Osborne, J.W. (Ed.), Best Practices in Quantitative Methods. SAGE, Thousand Oaks, CA, pp. 125–136.

Demski, C., Capstick, S., Pidgeon, N., Sposato, R.G., Spence, A., 2017. Experience of extreme weather affects climate change mitigation and adaptation responses. Clim. Change 140, 149–164. https://doi.org/10.1007/s10584-016-1837-4

Deressa, T.T., Hassan, R.M., Ringler, C., Alemu, T., Yesuf, M., 2009. Determinants of farmers' choice of adaptation methods to climate change in the Nile Basin of Ethiopia. Glob. Environ. Change, Traditional Peoples and Climate Change 19, 248–255. https://doi.org/10.1016/j.gloenvcha.2009.01.002

Deshingkar, P., Farrington, J. (Eds.), 2009. Circular migration and multilocational livelihood strategies in rural India. Oxford University Press, New Delhi ; New York.

Deshingkar, P., Start, D., 2003. Seasonal Migration for Livelihoods in India: Coping, Accumulation and Exclusion, Working Paper 220. ODI.

Dick, E., Duchêne-Lacroix, C., 2016. Multilocal living in the Global South and the Global North: Differences, Convergences and Universality of an Underestimated Phenomenon. Trialog 124/125, 116–117.

Dingwerth, K., Pattberg, P., 2009. World Politics and Organizational Fields: The Case of Transnational Sustainability Governance: Eur. J. Int. Relat. https://doi.org/10.1177/1354066109345056

Djurfeldt, A.A., 2012. Virtuous and Vicious Cycles in Rural–Urban Linkages: Cases from Zimbabwe. Afr. Rev. 4, 136–156. https://doi.org/10.1080/09744053.2012.782957

Douglass, M., 2018. A Regional Network Strategy for Reciprocal Rural–Urban Linkages: An Agenda for Policy Research with Reference to Indonesia, in: Tacoli, C. (Ed.), The Earthscan Reader in Rural-Urban Linkages. Routledge, London.

Downing, T.E., Gitu, K.W., Kamau, C.M. (Eds.), 1989. Coping with drought in Kenya: national and local strategies, Food in Africa series. L. Rienner, Boulder, Colo.

Eakin, H., 2005. Institutional change, climate risk, and rural vulnerability: Cases from Central Mexico. World Dev. 33, 1923–1938. https://doi.org/10.1016/j.worlddev.2005.06.005

Eakin, H., Luers, A.L., 2006. Assessing the Vulnerability of Social-Environmental Systems. Annu. Rev. Environ. Resour. 31, 365–394. https://doi.org/10.1146/annurev.energy.30.050504.144352

Eckert, S., Kiteme, B., Njuguna, E., Zaehringer, J.G., 2017. Agricultural Expansion and Intensification in the Foothills of Mount Kenya: A Landscape Perspective. Remote Sens. 9, 784. https://doi.org/10.3390/rs9080784

El-Hinnawi, E., 1985. Environmental refugees. UNEP, Nairobi.

Ellis, F., 2003. A Livelihoods Approach to Migration and Poverty Reduction. Paper Commissioned by the DFID. London.

Ellis, F., 2000a. Rural Livelihoods and Diversity in Developing Countries Oxford UP. Oxford University Press, Oxford.

Ellis, F., 2000b. Rural livelihoods and diversity in developing countries. Oxford University Press, Oxford :

Ellis, F., 1998. Household strategies and rural livelihood diversification. J. Dev. Stud. 35, 1–38. https://doi.org/10.1080/00220389808422553

Ellis, J., 1996. Climate variability and complex ecosystem dynamics: implications for pastoral development, in: Scoones, I. (Ed.), Living with Uncertainty: New Directions in Pastoral Development in Africa. Intermediate Technology Publications, London, pp. 37–46.

Elmhirst, R., 2015. Feminist political ecology, in: Perreault, T.A., Bridge, G., McCarthy, J. (Eds.), The Routledge Handbook of Political Ecology, Routledge International Handbooks. Routledge, Taylor & Francis Group, London ; New York, NY, pp. 519–530.

Elmhirst, R., 2012. Displacement, Resettlement, and Multi-Local Livelihoods. Crit. Asian Stud. 44, 131–152. https://doi.org/10.1080/14672715.2012.644891

Engle, N.L., 2011. Adaptive capacity and its assessment. Glob. Environ. Change, Special Issue on The Politics and Policy of Carbon Capture and Storage 21, 647–656. https://doi.org/10.1016/j.gloenvcha.2011.01.019

Eriksen, S., Lind, J., 2009. Adaptation as a political process: adjusting to drought and conflict in Kenya's drylands. Environ. Manage. 43, 817–835. https://doi.org/10.1007/s00267-008-9189-0

Eriksen, S., O'Brien, K., 2007. Vulnerability, poverty and the need for sustainable adaptation measures. Clim. Policy 7, 337–352. https://doi.org/10.1080/14693062.2007.9685660

Eriksen, S., O'Brien, K., Rosentrater, L., 2008. Climate Change in Eastern and Southern Africa: Impacts, Vulnerability and Adaptation (No. Report 2008:2). GECHS, Oslo.

Eriksen, S.H., Brown, K., Kelly, P.M., 2005. The dynamics of vulnerability: locating coping strategies in Kenya and Tanzania. Geogr. J. 171, 287–305. https://doi.org/10.1111/j.1475-4959.2005.00174.x

Eriksen, S.H., Nightingale, A.J., Eakin, H., 2015. Reframing adaptation: The political nature of climate change adaptation. Glob. Environ. Change 35, 523–533. https://doi.org/10.1016/j.gloenvcha.2015.09.014

Erzeberger, C., Kelle, U., 2003. Making inferences in mixed methods: The rules of integration, in: Tashakkori, A., Teddlie, C. (Eds.), Handbook of Mixed Methods in Social & Behavioural Research. Sage, Thousand Oaks, CA.

Escobar, A., 2010. Postconstructivist political ecologies, in: The International Handbook of Environmental Sociology, Second Edition. Edward Elgar Publishing Limited, Cheltenham, UK ; Northampton, MA.

Escobar, A., 1996. Constructing Nature: Elements for a poststructural political ecology, in: Peet, R., Watts, M. (Eds.), Liberation Ecologies: Environment, Development, Social Movements. Routledge, London and New York.

Evans, H.E., Ngau, P., 1991. Rural-Urban Relations, Household Income Diversification and Agricultural Productivity. Dev. Change 22, 519–545. https://doi.org/10.1111/j.1467-7660.1991.tb00424.x

Fafchamps, M., Gubert, F., 2007. The formation of risk sharing networks. J. Dev. Econ., Papers from a Symposium: The Social Dimensions of Microeconomic Behaviour in Low-Income Communities 83, 326–350. https://doi.org/10.1016/j.jdeveco.2006.05.005

Falkingham, J., Chepngeno-Langat, G., Evandrou, M., 2012. Outward Migration from Large Cities: Are Older Migrants in Nairobi 'Returning'? Popul. Space Place 18, 327–343. https://doi.org/10.1002/psp.678

Farbotko, C., Lazrus, H., 2012. The first climate refugees? Contesting global narratives of climate change in Tuvalu. Glob. Environ. Change, Adding Insult to Injury: Climate Change, Social Stratification, and the Inequities of Intervention 22, 382–390. https://doi.org/10.1016/j.gloenvcha.2011.11.014

Farbotko, C., McMichael, C., Dun, O., Ransan-Cooper, H., McNamara, K., Thornton, F., 2018a. Transformative mobilities in the Pacific: Promoting adaptation and development in a changing climate. Asia Pac Policy Stud 1. http://dx.doi.org/10.1002/app5.254

Farbotko, C., McMichael, C., Dun, O., Ransan-Cooper, H., McNamara, K.E., Thornton, F., 2018b. Transformative mobilities in the Pacific: Promoting adaptation and development in a changing climate. Asia Pac. Policy Stud. 5, 393–407. https://doi.org/10.1002/app5.254

Felli, R., Castree, N., 2012. Neoliberalising Adaptation to Environmental Change: Foresight or Foreclosure? Environ. Plan. A 44, 1–4. https://doi.org/10.1068/a44680

Findley, S.E., 1994. Does Drought Increase Migration? A Study of Migration from Rural Mali during the 1983-1985 Drought. Int. Migr. Rev. 28, 539–553.

Fine, B., Lapavitsas, C., 2004. Social Capital And Capitalist Economies. South-East. Eur. J. Econ. 2, 17–34.

Flury, M., 1988. Small-Scale Farming and Changes of Land Use in the Highland of Laikipia, Kenya. Mt. Res. Dev. 8, 265–272. https://doi.org/10.2307/3673547

Foeken, D., Owuor, S.O., 2001. Multi-Spatial Livelihoods in Sub-Saharan Africa: Rural farming by urban households - The case of Nakuru Town, Kenya, in: Bruijn, M. de, Dijk, R. van, Foeken, D. (Eds.), Mobile Africa: Changing Patterns of Movement in Africa and Beyond, African Dynamics. Brill, Leiden ; Boston, pp. 125–140.

Folke, C., 2006. Resilience: The emergence of a perspective for social–ecological systems analyses. Resil. Vulnerability Adapt. Cross-Cut. Theme Int. Hum. Dimens. Programme Glob. Environ. Change 16, 253–267. https://doi.org/10.1016/j.gloenvcha.2006.04.002

Folke, C., Carpenter, S., Elmqvist, T., Gunderson, L., Holling, C.S., Walker, B., 2002. Resilience and sustainable development: building adaptive capacity in a world of transformations. Ambio 31, 437–440.

Folke, C., Hahn, T., Olsson, P., Norberg, J., 2005. Adaptive Governance of Social-Ecological Systems. Annu. Rev. Environ. Resour. 30, 441–473. https://doi.org/10.1146/annurev.energy.30.050504.144511

Foresight, 2011. Migration and Global Environmental Change. Final Project Report. The Government Office for Science, London.

Fox, G.R., 2018. Maasai group ranches, minority land owners, and the political landscape of Laikipia County, Kenya. J. East. Afr. Stud. 12, 473–493. https://doi.org/10.1080/17531055.2018.1471289

Francis, E., 2000. Making a living : changing livelihoods in rural Africa /. Routledge, London:

Francis, E., 1998. Gender and rural livelihoods in Kenya. J. Dev. Stud. 35, 72–95. https://doi.org/10.1080/00220389808422565

Franquesa, J., 2011. "We've Lost Our Bearings": Place, Tourism, and the Limits of the "Mobility Turn." Antipode 43, 1012–1033. https://doi.org/10.1111/j.1467-8330.2010.00789.x

Fratkin, E., 2013. Seeking alternative livelihoods in pastoral areas, in: Scoones, I., Catley, A., Lind, J. (Eds.), Pastoralism and Development in Africa: Dynamic Change at the Margins, Pathways to Sustainability Series. Routledge, Abingdon, Oxon ; New York, N.Y, pp. 197–205.

Fratkin, E., Roth, E.A., Nathan, M.A., 2004. Pastoral Sedentarization and Its Effects on Children's Diet, Health, and Growth among Rendille of Northern Kenya. Hum. Ecol. 32, 531–559.

Frayne, B., 2005. Rural productivity and urban survival in Namibia: Eating away from home. J. Contemp. Afr. Stud. 23, 51–76. https://doi.org/10.1080/0258900042000329457

Freitag, U., von Oppen, A. (Eds.), 2010. Introduction. Translocality - An approach to connection and transfer in area studies, in: Translocality: The Study of Globalising Processes from a Southern Perspective, Studies in Global Social History. Brill, Leiden [The Netherlands] ; Boston.

Fundi, M., 2017. Seven okayed to run for Samburu East MP. The Star. https://www.the-star.co.ke/news/2017-06-02-seven-okayed-to-run-for-samburu-east-mp/

Gallopín, G.C., 2006. Linkages between vulnerability, resilience, and adaptive capacity. Resil. Vulnerability Adapt. Cross-Cut. Theme Int. Hum. Dimens. Programme Glob. Environ. Change 16, 293–303. https://doi.org/10.1016/j.gloenvcha.2006.02.004

Geddes, A., Adger, W.N., Arnell, N.W., Black, R., Thomas, D.S.G., 2012. Migration, Environmental Change, and the 'Challenges of Governance.' Environ. Plan. C Gov. Policy 30, 951–967. https://doi.org/10.1068/c3006ed

Gemenne, F., Blocher, J., 2017. How can migration serve adaptation to climate change? Challenges to fleshing out a policy ideal. Geogr. J. https://doi.org/10.1111/geoj.12205

Geschiere, P., Gugler, J., 1998. Introduction: The Urban-Rural Connection: Changing Issues of Belonging and Identification. Afr. J. Int. Afr. Inst. 68, 309–319. https://doi.org/10.2307/1161251

Gezon, L., Paulson, S., 2005. Place, Power, Difference: Multiscale Research at the Dawn of the the Twenty-first Century, in: Political Ecology across Spaces, Scales and Social Groups. Rutgers University Press, New Brunswick, NJ, and London.

Gezon, L., Paulson, S., Watts, M., 2005. Politics, ecologies and geneaologies, in: Political Ecology across Spaces, Scales and Social Groups. Rutgers University Press, New Brunswick, NJ, and London.

Gichuki, F.N., 2002. Water scarcity and conflicts: a case study of the Upper Ewaso Ng'iro North Basin, in: Blank, H.G., Mutero, C.M., Murray-Rust, H. (Eds.), The Changing Face of Irrigation in Kenya: Opportunities for Anticipating Changes in Eastern and Southern Africa. IWMI, Colombo, pp. 113–134.

Glick Schiller, N., Basch, L., Szanton Blanc, C., 1995. From Immigrant to Transmigrant: Theorizing Transnational Migration. Anthropol. Q. 68, 48–63. https://doi.org/10.2307/3317464

Glick Schiller, N., Salazar, N.B., 2013. Regimes of Mobility Across the Globe. J. Ethn. Migr. Stud. 39, 183–200. https://doi.org/10.1080/1369183X.2013.723253

Goodhand, J., 2001. Violent Conflict, Poverty and Chronic Poverty. https://doi.org/10.2139/ssrn.1754535

Government of Kenya, 2018. Laikipia County. Second County Development Integrated Development Plan 2018-2022. Government of Kenya, Nairobi.

Government of Kenya, 2013. Laikipia County. First County Development Integrated Development Plan 2013-2017. Government of Kenya, Nairobi.

Grabowska, I., Garapich, M.P., 2016. Social remittances and intra-EU mobility: non-financial transfers between U.K. and Poland. J. Ethn. Migr. Stud. 42, 2146–2162. https://doi.org/10.1080/1369183X.2016.1170592

Graham, M.D., Greenwood, C., Kahiro, G., Adams, W.M., 2009. The Use of 'Push to Talk' Mobile Phone Technology to Reduce Human Elephant Conflict, Laikipia District, Kenya, Working Paper 2, Laikipia Elephant Project. CETRAD, Nanyuki, Laikipia.

Gray, C., Wise, E., 2016. Country-specific effects of climate variability on human migration. Clim. Change 135, 555–568. https://doi.org/10.1007/s10584-015-1592-y

Greene, J.C., Caracelli, V.J., Graham, W.F., 1989. Toward a Conceptual Framework for Mixed-Method Evaluation Designs. Educ. Eval. Policy Anal. 11, 255–274. https://doi.org/10.3102/01623737011003255

Greiner, C., 2010. Patterns of Translocality: Migration, Livelihoods and Identities in Northwest Namibia. Sociologus 60, 131–161.

Greiner, C., Sakdapolrak, P., 2015. Migration, Environment and Inequality: Perspectives of a Political Ecology of Translocal Relations, in: Advances in Global Change Research. https://doi.org/10.1007/978-3-319-25796-9_10

Greiner, C., Sakdapolrak, P., 2013. Translocality: Concepts, Applications and Emerging Research Perspectives. Geogr. Compass 7, 373–384. https://doi.org/10.1111/gec3.12048

Griffiths, M., 2019. Networks of Reciprocity: Precarity and Community Social Organisations in Rural Myanmar. J. Contemp. Asia 49, 602–625. https://doi.org/10.1080/00472336.2018.1542450

Grothmann, T., Patt, A., 2005. Adaptive capacity and human cognition: The process of individual adaptation to climate change. Glob. Environ. Change 15, 199–213. https://doi.org/10.1016/j.gloenvcha.2005.01.002

Grothmann, T., Reusswig, F., 2006. People at Risk of Flooding: Why Some Residents Take Precautionary Action While Others Do Not. Nat. Hazards 38, 101–120. https://doi.org/10.1007/s11069-005-8604-6

Guarnizo, L.E., 2003. The Economics of Transnational Living. Int. Migr. Rev. 37, 666–699.

Gunderson, L.H., Holling, C.S. (Eds.), 2002. Panarchy: Understanding Transformations in Human and Natural Systems, 1st ed. edition. ed. Island Press, Washington, DC.

Haan, A. de, Brock, K., Coulibaly, N., 2002. Migration, livelihoods and institutions: contrasting patterns of migration in Mali. J. Dev. Stud. 38, 37–58.

Haggblade, S., Hazell, P., Reardon, T., 2010. The Rural Non-farm Economy: Prospects for Growth and Poverty Reduction. World Dev., The Future of Small Farms 38, 1429–1441. https://doi.org/10.1016/j.worlddev.2009.06.008

Hajer, M., Versteeg, W., 2005. A decade of discourse analysis of environmental politics: Achievements, challenges, perspectives. J. Environ. Policy Plan. 7, 175–184. https://doi.org/10.1080/15239080500339646

Håkansson, N.T., 2019. Criticizing resilience thinking: A political ecology analysis of droughts in nineteenth-century East Africa. Econ. Anthropol. 6, 7–20. https://doi.org/10.1002/sea2.12127

Hannam, K., Sheller, M., Urry, J., 2006. Editorial: Mobilities, Immobilities and Moorings. Mobilities 1, 1–22. https://doi.org/10.1080/17450100500489189

Hartmann, B., 2010. Rethinking climate refugees and climate conflict: Rhetoric, reality and the politics of policy discourse. J. Int. Dev. 22, 233–246. https://doi.org/10.1002/jid.1676

Head, E., 2009. The ethics and implications of paying participants in qualitative research. Int. J. Soc. Res. Methodol. 12, 335–344. https://doi.org/10.1080/13645570802246724

Hedberg, C., Carmo, R.M. do (Eds.), 2012. Translocal Ruralism: Mobility and Connectivity in European Rural Spaces, GeoJournal Library. Springer Netherlands.

Henry, S., Piche, V., Ouedraogo, D., Lambin, E., 2004. Descriptive Analysis of the Individual Migratory Pathways According to Environmental Typologies. Popul. Environ. 25, 397–422.

Hinderink, J., Titus, M., 2002. Small Towns and Regional Development: Major Findings and Policy Implications from Comparative Research. Urban Stud. 39, 379–391. https://doi.org/10.1080/00420980220112748

Hines, A.L., Simpson, N.B., 2018. Migration, Remittances and Human Capital Investment in Kenya. IZA Discuss. Pap.

Homewood, K, Coast, E, Kiruswa, S, Serneels, S, Thompson, M, Trench, P, 2006. Maasai pastoralists: diversification and poverty. Nairobi, Kenya.

Hoque, S.F., 2016. Differential livelihood adaptation to socio-ecological change in coastal Bangladesh. University of Leeds. Sustainability Research Institute. School of Earth and Environment, Leeds.

Hughes, L., 2006. Moving the Maasai : a colonial misadventure, St Antony's series. Palgrave Macmillan, Basingstoke :

Huho, J.M., Kosonei, R.C., 2014. Understanding Extreme Climatic Events for Economic Development in Kenya. IOSR J. Environ. Sci. Toxicol. Food Technol. 8, 14–24. https://doi.org/10.9790/2402-08211424

Hulme, M., 2008. Geographical work at the boundaries of climate change: Boundary Crossings. Trans. Inst. Br. Geogr. 33, 5–11. https://doi.org/10.1111/j.1475-5661.2007.00289.x

Hunter, L.M., 2005. Migration and Environmental Hazards. Popul. Environ. 26, 273–302.

Hussein, K., Nelson, J., 1998. Sustainable Livelihoods and Livelihood Diversification, IDS Working Paper 69. IDS.

Jamal, V., Weeks, J., 1988. The Vanishing Rural-Urban Gap in Sub-Saharan Africa. Int. Labour Rev. 127, 271–292.

Jane, K.N., Mwangi, J.G., Nkurumwa, A.O., 2013. Climate Change Challenges and Adaptation Strategies Amnog the Pastoralists of Laikipia County Kenya. Int. J. Agric. Ext. 1, 20–30.

Jena, F., 2018. Migrant Remittances and Physical Investment Purchases: Evidence from Kenyan Households. J. Dev. Stud. 54, 312–326. https://doi.org/10.1080/00220388.2017.1288219

Jistrom, M., Archila Bustos, M., Loison, S.O., 2018. African Smallholder Farmers on the Move: Farm and Non-Farm Trends for Six SubSaharan African Countries, 2002–15, in: Andersson Djurfeldt, A., Dzanku, F.M., Isinika, A.C. (Eds.), Agriculture, Diversification, and Gender in Rural Africa: Longitudinal Perspectives from Six Countries. Oxford University Press, Oxford, United Kingdom.

Johnson, R.B., Onwuegbuzie, A.J., 2004. Mixed Methods Research: A Research Paradigm Whose Time Has Come. Educ. Res. 33, 14–26. https://doi.org/10.3102/0013189X033007014

Johnson, R.B., Onwuegbuzie, A.J., Turner, L.A., 2007. Toward a Definition of Mixed Methods Research. J. Mix. Methods Res. 1, 112–133. https://doi.org/10.1177/1558689806298224

Jónsson, G., 2011. Non-migrant, sedentary, immobile, or 'left behind'? Int. Migr. Inst., Working Papers 17.

Jónsson, G., 2010. The environmental factor in migration dynamics - a review of African case studies.

Jónsson, G., 2008. Migration Aspirations and Immobility in a Malian Soninke Village 45.

Jørgensen, N.J., 2016. Schooling, Generation, and Transformations in Livelihoods: Youth in the Sand Economy of Northern Kenya. Labouring Learn. 1–21. https://doi.org/10.1007/978-981-4585-97-2_26-1

Kates, R.W., Travis, W.R., Wilbanks, T.J., 2012. Transformational adaptation when incremental adaptations to climate change are insufficient. Proc. Natl. Acad. Sci. 109, 7156–7161. https://doi.org/10.1073/pnas.1115521109

Kibreab, G., 1999. Revisiting the Debate on People, Place, Identity and Displacement. J. Refug. Stud. 12, 384–410. https://doi.org/10.1093/jrs/12.4.384

Kiriti, T., Tisdell, C.A., 2001. Migration of Husbands, Remittances and Agricultural Production: Impacts when Wives Head Households in Rural Kenya (No. 100211), Social Economics, Policy and Development Working Papers, Social Economics, Policy and Development Working Papers. University of Queensland, School of Economics.

Kiteme, B.P., Wiesmann, U., Kohler, T., Notter, B., Liniger, H., 2008. Dimensions of Global Change in African Mountains: The Example of Mount Kenya. CETRAD, Nairobi.

KNBS, 2020. Laikipia County Statistical Abstract 2020. Kenya National Bureau of Statistics, Nairobi, Kenya.

KNBS, 2017. Access To Mobile Phone Service By County And District. Kenya National Bureau of Statistics, Nairobi.

KNBS, 2013. Exploring Kenya's Inequality. Pulling Apart of Pooling Together? Laikipia County. Kenya National Bureau of Statistics, Nairobi.

Kniveton, D., Schmidt-Verkerk, K., Smith, C., Black, R., 2008. Climate Change and Migration: Improving Methodologies to Estimate Flows (Reports and working papers), IOM Migration Research Series, No. 33. IOM, Geneva.

Kniveton, D., Smith, C., Black, R., Schmidt-Verkerk, K., 2009. Challenges and approaches to measuring the migration– environment nexus, in: Migration, Environment and Climate Change: Assessing the Evidence. IOM, Geneva.

Kothari, U., 2013. Political discourses of climate change and migration: resettlement policies in the Maldives. Geogr. J. 180, 130–140. https://doi.org/10.1111/geoj.12032

Kothari, U., 2002. Migration and Chronic Poverty, Working Paper No 16. Institute for Development Policy and Management, University of Manchester.

Kothari, U., Arnall, A., 2015. Challenging climate change and migration discourse: Different understandings of timescale and temporality in the Maldives. Glob. Environ. Change 31, 199–206. https://doi.org/10.1016/j.gloenvcha.2015.01.011

Kouritzin, S., 2000. Bringing Life to Research: Life History Research and ESL. TESL Can. J. 17. https://doi.org/10.18806/tesl.v17i2.887

Kristensen, S., Birch-Thomsen, T., 2013. Should I stay or should I go? Rural youth employment in Uganda and Zambia. Int. Dev. Plan. Rev. 35, 175–201. https://doi.org/10.3828/idpr.2013.12

Krüger, F., 1998. Taking advantage of rural assets as a coping strategy for the urban poor: the case of ruralurban interrelations in Botswana. Environ. Urban. 10, 16.

Kubik, Z., Maurel, M., 2016. Weather Shocks, Agricultural Production and Migration: Evidence from Tanzania. J. Dev. Stud. 52, 665–680. https://doi.org/10.1080/00220388.2015.1107049

Kutsche, P., 1995. Review of Towards a Transnational Perspective on Migration: Race, Class, Ethnicity, and Nationalism Reconsidered. Am. Anthropol. 97, 402–403.

Lanari, N., 2014. Development of the Commercial Horticulture Sector Northwest of Mount Kenya from 2003 to 2013 and Its Impact on River Water Resources of the Upper Ewaso Ng'iro Basin Master (Thesis).

Lanari, N., Schuler, R., Kohler, T., Liniger, H., 2018. The Impact of Commercial Horticulture on River Water Resources in the Upper Ewaso Ng'iro River Basin, Kenya. Mt. Res. Dev. 38, 114–124. https://doi.org/10.1659/MRD-JOURNAL-D-16-00135

Largent, E.A., Lynch, H.F., 2017. Paying Research Participants: Regulatory Uncertainty, Conceptual Confusion, and a Path Forward. Yale J. Health Policy Law Ethics 17, 61–141.

Latour, B., 2005. Reassembling the social an introduction to actor-network-theory /, Clarendon lectures in management studies. Oxford University Press, Oxford ; New York :

Law, J., 1992. Notes on the theory of the actor-network: Ordering, strategy, and heterogeneity. Syst. Pract. 5, 379–393. https://doi.org/10.1007/BF01059830

Lazaro, E., Agergaard, J., Larsen, M.N., Makindara, J., Birch-Thomsen, T., 2019. Urbanisation in Rural Regions: The Emergence of Urban Centres in Tanzania. Eur. J. Dev. Res. 31, 72–94. https://doi.org/10.1057/s41287-018-0185-9

Leach, M., Mearns, R. (Eds.), 1996. The lie of the land: challenging received wisdom on the African environment, African issues. International African Institute in assocation with James Currey ; Heinemann, Oxford : Portsmouth, N.H.

Lee-Smith, D., Memon, P.A., 1994. Urban agriculture in Kenya, in: Egziabher, A.G. (Ed.), Cities Feeding People: An Examination of Urban Agriculture in East Africa. International Development Research Centre, Ottawa, pp. 67–84.

Leithead, A., 2017. Are Kenya ranch invasions driven by drought or politics? BBC News.

Lemos, M.C., Lo, Y.-J., Nelson, D.R., Eakin, H., Bedran-Martins, A.M., 2016. Linking development to climate adaptation: Leveraging generic and specific capacities to reduce vulnerability to drought in NE Brazil. Glob. Environ. Change 39, 170–179. https://doi.org/10.1016/j.gloenvcha.2016.05.001

Lerise, F., Kibadu, A., Mbutolwe, E., Mushi, N., 2001. The Case of Lindi and its Region, Southern Tanzania. IIED, Working Paper 2.

Letai, J., 2011. Land Deals in Kenya: The Genesis of Land Deals in Kenya and its Implication on Pastoral Livelihoods - A Case Study of Laikipia. Oxfam, Nairobi.

Letai, J., Lind, J., 2013. Squeezed from all sides. Changing resource tenure and pastoralist innovation on the Laikipia Plateau, Kenya, in: Scoones, I., Catley, A., Lind, J. (Eds.), Pastoralism and Development in Africa: Dynamic Change at the Margins, Pathways to Sustainability Series. Routledge, Abingdon, Oxon ; New York, N.Y, pp. 164–176.

Lever-Tracy, C., Holton, R., 2001. Social exchange, reciprocity and amoral familism: Aspects of Italian chain migration to Australia. J. Ethn. Migr. Stud. 27, 81–99. https://doi.org/10.1080/13691830124785

Levitt, P., 1998. Social Remittances: Migration Driven Local-Level Forms of Cultural Diffusion. Int. Migr. Rev. 32, 926–948. https://doi.org/10.2307/2547666

Levitt, P., Lamba-Nieves, D., 2010. "It's Not Just About the Economy, Stupid" - Social Remittances Revisited. Migration Policy Institute, Washington.

Lindley, A. (Ed.), 2014a. Crisis and migration: critical perspectives, 1. publ. ed, Routledge studies in development, mobilities and migration. Routledge, London.

Lindley, A., 2014b. Environmental Processes, Political Conflict and Migration: A Somali Case Study, in: Humanitarian Crises and Migration: Causes, Consequences and Responses. Routledge, London and New York, pp. 160–178.

Lindley, D.A., 2009. The Early-Morning Phonecall: Remittances from a Refugee Diaspora Perspective. J. Ethn. Migr. Stud. 35, 1315–1334. https://doi.org/10.1080/13691830903123112

Little, P., 2009. Income diversification among pastoralists: Lessons for policy makers (Policy Brief No. 3). The Common Market for Eastern and Southern Africa (COMESA), Lusaka.

Little, P.D., 2014. Economic and political reform in Africa : anthropological perspectives /. Indiana University Press, Bloomington :

Little, P.D., 2013. Reflections on the future of pastoralism in the Horn of Africa, in: Scoones, I., Catley, A., Lind, J. (Eds.), Pastoralism and Development in Africa: Dynamic Change at the Margins, Pathways to Sustainability Series. Routledge, Abingdon, Oxon ; New York, N.Y, pp. 243–249.

Little, P.D., 1992a. Seasonality and rural-urban linkages in southern Somalia, in: Baker, J., Pedersen, P.O. (Eds.), The Rural-Urban Interface in Africa: Expansion and Adaptation, Seminar Proceedings. Nordiska Afrikainstitutet in cooperation with Centre for Development Research, Copenhagen, Uppsala, pp. 85–101.

Little, P.D., 1992b. The elusive granary : herder, farmer, and state in northern Kenya, African studies series ; Cambridge U.P., Cambridge :

Little, P.D., Smith, K., Cellarius, B.A., Coppock, D.L., Barrett, C., 2001. Avoiding Disaster: Diversification and Risk Management among East African Herders. Dev. Change 32, 401–433. https://doi.org/10.1111/1467-7660.00211

Livingstone, J., Ruhindi, E., 2013. Women and economic diversification in pastoralist societies. A regional perspective, in: Scoones, I., Catley, A., Lind, J. (Eds.), Pastoralism and Development in Africa: Dynamic Change at the Margins, Pathways to Sustainability Series. Routledge, Abingdon, Oxon ; New York, N.Y, pp. 231–239.

Lohnert, B., 2017. Migration and the rural-urban transition in Sub-Saharan Africa, SLE discussion paper. Seminar für ländliche Entwicklung (SLE), Berlin.

Loiske, V.-M., 1995. Social differentiation, conflicts and rural-urban interaction in the Babati Area, Tanzania, in: Baker, J., Aina, T.A. (Eds.), The Migration Experience in Africa. Nordiska Afrikainstitutet, Uppsala, pp. 220–233.

Loison, S.A., 2015. Rural Livelihood Diversification in Sub-Saharan Africa: A Literature Review. J. Dev. Stud. 51, 1125–1138. https://doi.org/10.1080/00220388.2015.1046445

Lonsdale, K., 2015. Transformational adaptation: what it is, why it matters & what is needed. UKCIP.

Lubkemann, S.C., 2016. The Meanings of the Move?: From "Predicaments of Mobility" to "Potentialities in Displacement." Confl. Soc. 2, 16–36. https://doi.org/10.3167/arcs.2016.020105

Lubkemann, S.C., 2008. Involuntary Immobility: On a Theoretical Invisibility in Forced Migration Studies. J. Refug. Stud. 21, 454–475. https://doi.org/10.1093/jrs/fen043

Luers, A.L., 2005. The surface of vulnerability: An analytical framework for examining environmental change. Glob. Environ. Change 15, 214–223. https://doi.org/10.1016/j.gloenvcha.2005.04.003

Ma, E.K., 2016. Translocal spatiality: Int. J. Cult. Stud. https://doi.org/10.1177/1367877902005002568

Maara, J.N., Manda, D.K., Kiiru, J.M., 2019. Remittances and Household Expenditure Allocation Behavior in Kenya. Afr. J. Econ. Rev. 7, 85–108.

MacQueen, K.M., McLellan, E., Metzger, D.S., Kegeles, S., Strauss, R.P., Scotti, R., Blanchard, L., Trotter, R.T., 2001. What Is Community? An Evidence-Based Definition for Participatory Public Health. Am. J. Public Health 91, 1929–1938. https://doi.org/10.2105/AJPH.91.12.1929

Marino, E., Ribot, J., 2012. Special Issue Introduction: Adding insult to injury: Climate change and the inequities of climate intervention. Glob. Environ. Change, Adding Insult to Injury: Climate Change, Social Stratification, and the Inequities of Intervention 22, 323–328. https://doi.org/10.1016/j.gloenvcha.2012.03.001

Marshall, N.A., Park, S.E., Adger, W.N., Brown, K., Howden, S.M., 2012. Transformational capacity and the influence of place and identity. Environ. Res. Lett. 7, 034022. https://doi.org/10.1088/1748-9326/7/3/034022

Martin, M., Billah, M., Siddiqui, T., Abrar, C., Black, R., Kniveton, D., 2014. Climate-related migration in rural Bangladesh: a behavioural model. Popul. Environ. 36, 85–110.

Maru, N., 2020a. A relational view of pastoral (im)mobilities Nomadic People.

Maru, N., 2020b. A Relational View of Pastoral (im)mobilities. Nomadic Peoples 24, 209–227. https://doi.org/10.3197/np.2020.240203

Massey, D., 1994. Space, Place, and Gender, NED-New edition. ed. University of Minnesota Press.

Massey, D., 1991. A Global Sense of Place. Marxism Today.

Massey, D.S., 1990. Social Structure, Household Strategies, and the Cumulative Causation of Migration. Popul. Index 56, 3–26. https://doi.org/10.2307/3644186

Massey, D.S., Durand, J., Malone, N.J., 2002. Beyond Smoke and Mirrors: Mexican Immigration in an Era of Economic Integration. Russell Sage Foundation.

Mata-Codesal, D., 2018. Is it simpler to leave or to stay put? Desired immobility in a Mexican village. Popul. Space Place 24, e2127. https://doi.org/10.1002/psp.2127

Mauss, M., 1925. The gift : forms and functions of exchange in archaic societies /. Cohen & West, London,.

McDowell, C., de Haan, A., 1997. Migration and Sustainable Livelihoods: A Critical Review of the Literature, IDS Working Paper 65. Sussex: Institute of Development Studies.

McDowell, J.Z., Hess, J.J., 2012. Accessing adaptation: Multiple stressors on livelihoods in the Bolivian highlands under a changing climate. Glob. Environ. Change, Adding Insult to Injury: Climate Change, Social Stratification, and the Inequities of Intervention 22, 342–352. https://doi.org/10.1016/j.gloenvcha.2011.11.002

McEvoy, J., Wilder, M., 2012. Discourse and desalination: Potential impacts of proposed climate change adaptation interventions in the Arizona–Sonora border region. Glob. Environ. Change 22, 353–363. https://doi.org/10.1016/j.gloenvcha.2011.11.001

McGee, T.G., 2002. Reconstructing “The Southeast Asian City” in an Era of Volatile Globalization. Asian J. Soc. Sci. 30, 8–27.

McGee, T.G., 1991. The Emerging Desakota Regions in Asia: Expanding a Hypothesis, in: Ginsburg, N., Koppell, B., McGee, T.G. (Eds.), The Extended Metropolis: Settlement Transition in Asia. University of Hawaii Press, Honolulu.

Metcalfe, V., Pavanello, V., Mishra, P., 2011. Sanctuary in the city? Urban displacement and vulnerability in Nairobi, Working and discussion papers. ODI, London.

Miller, F., Osbahr, H., Boyd, E., Thomalla, F., Bharwani, S., Ziervogel, G., Walker, B., Birkmann, J., van der Leeuw, S., Rockström, J., Hinkel, J., Downing, T., Folke, C., Nelson, D., 2010. Resilience and Vulnerability: Complementary or Conflicting Concepts? Ecol. Soc. 15. https://doi.org/10.5751/ES-03378-150311

Misati, R.N., Kamau, A., Nassir, H., 2019. Do migrant remittances matter for financial development in Kenya? Financ. Innov. 5, 1–25. https://doi.org/10.1186/s40854-019-0142-4

Mishra, S., Mazumdar, S., Suar, D., 2010. Place attachment and flood preparedness. J. Environ. Psychol. 30, 187–197. https://doi.org/10.1016/j.jenvp.2009.11.005

Mollinga, P.P., 2020. Knowledge, context and problemsheds: a critical realist method for interdisciplinary water studies. Water Int. 45, 388–415. https://doi.org/10.1080/02508060.2020.1787617

Moore, D.S., 1998. Subaltern Struggles and the Politics of Place: Remapping Resistance in Zimbabwe's Eastern Highlands. Cult. Anthropol. 13, 344–381.

Mortimore, M.J., Adams, W.M., 2001. Farmer adaptation, change and 'crisis' in the Sahel. Glob. Environ. Change, The African Sahel 11, 49–57. https://doi.org/10.1016/S0959-3780(00)00044-3

Mortreux, C., Barnett, J., 2017. Adaptive capacity: exploring the research frontier. Wiley Interdiscip. Rev. Clim. Change 8, e467. https://doi.org/10.1002/wcc.467

Mosberg, M., Eriksen, S.H., 2015. Responding to climate variability and change in dryland Kenya: The role of illicit coping strategies in the politics of adaptation. Glob. Environ. Change 35, 545–557. https://doi.org/10.1016/j.gloenvcha.2015.09.006

Myers, N., 2002. Environmental refugees: a growing phenomenon of the 21st century. Philos. Trans. R. Soc. B Biol. Sci. 357, 609–613. https://doi.org/10.1098/rstb.2001.0953

Nelson, D.R., Adger, W.N., Brown, K., 2007. Adaptation to Environmental Change: Contributions of a Resilience Framework. Annu. Rev. Environ. Resour. 32, 395–419. https://doi.org/10.1146/annurev.energy.32.051807.090348

Nelson, V., Stathers, T., 2009. Resilience, power, culture, and climate: a case study from semi-arid Tanzania, and new research directions. Gend. Dev. 17, 81–94. https://doi.org/10.1080/13552070802696946

Neumann, K., Hilderink, H., 2015. Opportunities and Challenges for Investigating the Environment-Migration Nexus. Hum. Ecol. 43, 309–322. https://doi.org/10.1007/s10745-015-9733-5

Newell, P., 2008. The Political Economy of Global Environmental Governance. Rev. Int. Stud. 34, 507–529.

Newell, P., Pattberg, P., Schroeder, H., 2012. Multiactor Governance and the Environment. Annu. Rev. Environ. Resour. 37, 365–387. https://doi.org/10.1146/annurev-environ-020911-094659

Newman, I., Ridenour, C., Newman, C., DeMarco, G.M.P., 2003. A typology of research purposes and its relationship to mixed methods research, in: Handbook of Mixed Methods in Social and Behavioural Research. Sage, Thousand Oaks, CA, pp. 167–188.

Newman, L., Dale, A., 2005. Network Structure, Diversity, and Proactive Resilience Building: a Response to Tompkins and Adger. Ecol. Soc. 10. https://doi.org/10.5751/ES-01396-1001r02

Newman, W., 2013. Mapping as allied research, in: Jarret, C., Kim, K.-H., Senske, N. (Eds.), The Visibility of Research: Proceedings of the 2013 ARCC Sprint Research Conference. University of North Carolina, Charlotte, pp. 228–236.

Ng'ang'a, S.K., Bulte, E.H., Giller, K.E., McIntire, J.M., Rufino, M.C., 2016. Migration and Self-Protection Against Climate Change: A Case Study of Samburu County, Kenya. World Dev. 84, 55–68. https://doi.org/10.1016/j.worlddev.2016.04.002

Ngutu, M., Bukachi, S., Olungah, C., Kiteme, B., Kaeser, F., Haller, T., 2018. The Actors, Rules and Regulations Linked to Export Horticulture Production and Access to Land and

Water as Common Pool Resources in Laikipia County, Northwest Mount Kenya. Land 7, 110. https://doi.org/10.3390/land7030110

Nicholson, C.T.M., 2014. Climate change and the politics of causal reasoning: the case of climate change and migration. Geogr. J. 180, 151–160. https://doi.org/10.1111/geoj.12062

Nielsen, J.Ø., Reenberg, A., 2010. Cultural barriers to climate change adaptation: A case study from Northern Burkina Faso. Glob. Environ. Change, Adaptive Capacity to Global Change in Latin America 20, 142–152. https://doi.org/10.1016/j.gloenvcha.2009.10.002

Njeru, T.N., 2022. What explains food price hikes in Kenya. And what should be done. The Conversation. http://theconversation.com/what-explains-food-price-hikes-in-kenya-and-what-should-be-done-179597

Notter, B., MacMillan, L., Viviroli, D., Weingartner, R., Liniger, H.-P., 2007. Impacts of environmental change on water resources in the Mt. Kenya region. J. Hydrol. 343, 266–278. https://doi.org/10.1016/j.jhydrol.2007.06.022

Novak, P., 2007. Place and Afghan Refugees: A Contribution to Turton. J. Refug. Stud. 20, 551–578. https://doi.org/10.1093/jrs/fem038

NRT, 2020. Livelihoods and enterprise. North. Rangel. Trust. https://www.nrt-kenya.org/about-nrt

Oakes, T., Schein, L., 2006. Translocal China: Linkages, Identities and the Reimagining of Space. Taylor & Francis Group, Florence, UNITED STATES.

Oba, G., 2013. The Sustainability of Pastoral Production, in: Scoones, I., Catley, A., Lind, J. (Eds.), Pastoralism and Development in Africa: Dynamic Change at the Margins, Pathways to Sustainability Series. Routledge, Abingdon, Oxon ; New York, N.Y, pp. 29–36.

O'Brien, K.L., Leichenko, R.M., 2003. Winners and Losers in the Context of Global Change. Ann. Assoc. Am. Geogr. 93, 89–103.

O'Brien, K.L., Leichenko, R.M., 2000. Double exposure: assessing the impacts of climate change within the context of economic globalization. Glob. Environ. Change 10, 221–232. https://doi.org/10.1016/S0959-3780(00)00021-2

Ogalleh, S., Vogl, C.R., Eitzinger, J., Hauser, M., 2012. Local Perceptions and Responses to Climate Change and Variability: The Case of Laikipia District, Kenya. Sustainability 4, 3302–3325. https://doi.org/10.3390/su4123302

O.Nyumba, T., Wilson, K., Derrick, C.J., Mukherjee, N., 2018. The use of focus group discussion methodology: Insights from two decades of application in conservation. Methods Ecol. Evol. 9, 20–32. https://doi.org/10.1111/2041-210X.12860

Opiyo, F.E., Wasonga, O.V., Schilling, J., Mureithi, S.M., 2012. Resource-based conflicts in drought-prone Northwestern Kenya : the drivers and mitigation mechanisms. WUDPECKER J. Agric. Res. 1, 442–453.

Ørtenblad, S.B., Birch-Thomsen, T., Msese, L.R., 2019. Rural Transformation and Changing Rural–Urban Connections in a Dynamic Region in Tanzania: Perspectives on Processes

of Inclusive Development. Eur. J. Dev. Res. 31, 118–138. https://doi.org/10.1057/s41287-018-0177-9

Oucho, J.O., 1996. Urban migrants and rural development in Kenya. Nairobi University Press, Nairobi, Kenya :

Owuor, S., 2004. Urban households ruralizing their livelihoods: The changing nature of urban-rural linkages in an East African town. Leiden, p. 25.

Owuor, S.O., 2007. Migrants, urban poverty and the changing nature of urban–rural linkages in Kenya. Dev. South. Afr. 24, 109–122. https://doi.org/10.1080/03768350601165926

Owusu, G., 2013. The Changing Views on the Role of Small Towns in Rural and Regional Development in Africa.

Pahl-Wostl, C., 2009. A conceptual framework for analysing adaptive capacity and multi-level learning processes in resource governance regimes. Glob. Environ. Change 19, 354–365. https://doi.org/10.1016/j.gloenvcha.2009.06.001

Painter, T.M., 1996. Space, Time and Rural-Urban Linkages in Africa: Notes for a Geography of Livelihoods. Afr. Rural Urban Stud. 3, 79–98.

Parsons, L., 2019. Giving as a total social phenomenon: Towards a human geography of reciprocity. Geogr. J. 185, 142–155. https://doi.org/10.1111/geoj.12298

Peet, R., Robbins, P., Watts, M. (Eds.), 2011. Global political ecology. Routledge, London ; New York.

Pelling, M., High, C., 2005. Understanding adaptation: What can social capital offer assessments of adaptive capacity? Glob. Environ. Change 15, 308–319. https://doi.org/10.1016/j.gloenvcha.2005.02.001

Perreault, T.A., Bridge, G., McCarthy, J. (Eds.), 2015. The Routledge handbook of political ecology, Routledge international handbooks. Routledge, Taylor & Francis Group, London ; New York, NY.

Peth, S., Sakdapolrak, P., 2020a. When the origin becomes the destination: Lost remittances and social resilience of return labour migrants in Thailand. Area 52, 547–557. https://doi.org/10.1111/area.12598

Peth, S., Sakdapolrak, P., 2020b. Resilient family meshwork. Thai–German migrations, translocal ties, and their impact on social resilience. Geoforum 114, 19–29. https://doi.org/10.1016/j.geoforum.2020.05.019

Pettenger, M.E. (Ed.), 2007. The social construction of climate change: power, knowledge, norms, discourses, Global environmental governance. Ashgate, Aldershot, Hampshire, England ; Burlington, VT.

Piguet, E., 2013. From “Primitive Migration” to “Climate Refugees”: The Curious Fate of the Natural Environment in Migration Studies. Ann. Assoc. Am. Geogr. 103, 148–162. https://doi.org/10.1080/00045608.2012.696233

Piguet, E., Pecoud, A., de Guchteneire, P., 2011. Migration and Climate Change: An Overview. Refug. Surv. Q. 30, 1–23. https://doi.org/10.1093/rsq/hdr006

Porst, L., Sakdapolrak, P., 2017. How scale matters in trasnlocality: uses and potentials of scale in translocal research. Erdkunde 71, 111–126.

Portes, A., 2010. Migration and Social Change: Some Conceptual Reflections. J. Ethn. Migr. Stud. 36, 1537–1563. https://doi.org/10.1080/1369183X.2010.489370

Portes, A., 1998. Social Capital: Its Origins and Applications in Modern Sociology. Annu. Rev. Sociol. 24, 1–24. https://doi.org/10.1146/annurev.soc.24.1.1

Potts, D., 1997a. Urban lives: Adopting new strategies and adapting rural links, in: Rakodi, C. (Ed.), The Urban Challenge in Africa: Growth and Management of Its Large Cities. United Nations University Press, Tokyo ; New York, pp. 447–94.

Potts, D., 1997b. Urban lives: Adopting new strategies and adapting rural links, in: Rakodi, C. (Ed.), The Urban Challenge in Africa: Growth and Management of Its Large Cities. United Nations University Press, Tokyo ; New York, pp. 447–494.

Potts, D., 1995. Shall We Go Home? Increasing Urban Poverty in African Cities and Migration Processes. Geogr. J. 161, 245–264. https://doi.org/10.2307/3059830

Potts, D., Mutambirwa, C., 1990. Rural-urban linkages in contemporary Harare: why migrants need their land. J. South. Afr. Stud. 16, 677–698. https://doi.org/10.1080/03057079008708256

Radel, C., Schmook, B., Carte, L., Mardero, S., 2018. Toward a Political Ecology of Migration: Land, Labor Migration, and Climate Change in Northwestern Nicaragua. World Dev. 108, 263–273. https://doi.org/10.1016/j.worlddev.2017.04.023

Rajaram, P.K., 2003. “Making Place”: The “Pacific Solution” and Australian Emplacement in the Pacific and on Refugee Bodies. Singap. J. Trop. Geogr. 24, 290–306. https://doi.org/10.1111/1467-9493.00160

Ramisch, J., 2019. “We make others wait now”: Youth, motorcycles, and masculinities on the road to development in Kenya.

Ramisch, J., 2016. “Never at ease”: cellphones, multilocational households, and the metabolic rift in western Kenya. Agric. Hum. Values 979. https://doi.org/10.1007/s10460-015-9654-3

Ramisch, J., 2014. “We will not farm like our fathers did” Multilocational livelihoods, cellphones, and the continuing challenge of rural development in western Kenya. pp. 10–25. https://doi.org/10.13140/2.1.1557.6003

Rao, N., 2014. Migration, mobility and changing power relations: aspirations and praxis of Bangladeshi migrants. Gend. Place Cult. 21, 872–887. https://doi.org/10.1080/0966369X.2013.810600

Rees, W., 2006. Ecological Footprints and Appropriated Carrying Capacity: What Urban Economics Leaves Out, in: Tacoli, C. (Ed.), The Earthscan Reader in Rural-Urban Linkages. Earthscan, London ; Sterling, VA, pp. 284–297.

Ribot, J.C., Peluso, N.L., 2003. A Theory of Access*. Rural Sociol. 68, 153–181. https://doi.org/10.1111/j.1549-0831.2003.tb00133.x

Rigg, J., 2006a. Land, farming, livelihoods, and poverty: Rethinking the links in the Rural South. World Dev. 34, 180–202. https://doi.org/10.1016/j.worlddev.2005.07.015

Rigg, J., 2006b. Evolving Rural–Urban Relations and Livelihoods in Southeast Asia, in: Tacoli, C. (Ed.), The Earthscan Reader in Rural-Urban Linkages. Earthscan, London ; Sterling, VA, pp. 68–87.

Rigg, J., 1998. Rural–urban interactions, agriculture and wealth: a southeast Asian perspective. Prog. Hum. Geogr. 22, 497–522. https://doi.org/10.1191/030913298667432980

Rigg, J., Oven, K.J., Basyal, G.K., Lamichhane, R., 2016. Between a rock and a hard place: Vulnerability and precarity in rural Nepal. Geoforum 76, 63–74. https://doi.org/10.1016/j.geoforum.2016.08.014

Rigg, J., Veeravongs, S., Veeravongs, L., Rohitarachoon, P., 2008. Reconfiguring rural spaces and remaking rural lives in central Thailand. J. Southeast Asian Stud. 39, 355–381. https://doi.org/10.1017/S0022463408000350

Robbins, P., 2015. The Trickster Science, in: Perreault, T.A., Bridge, G., McCarthy, J. (Eds.), The Routledge Handbook of Political Ecology, Routledge International Handbooks. Routledge, Taylor & Francis Group, London ; New York, NY, pp. 89–101.

Robbins, P., 2012. Political ecology : a critical introduction /, 2nd ed. ed, Critical introductions to geography. J. Wiley & Sons, Chichester, West Sussex ; Malden, MA :

Rocheleau, D.E., Steinberg, P.E., Benjamin, P.A., 1995. Environment, development, crisis, and crusade: Ukambani, Kenya, 1890–1990. World Dev. 23, 1037–1051. https://doi.org/10.1016/0305-750X(95)00016-6

Rockenbauch, T., Sakdapolrak, P., 2017. Social networks and the resilience of rural communities in the Global South: a critical review and conceptual reflections. Ecol. Soc. 22. https://doi.org/10.5751/ES-09009-220110

Rodman, M.C., 1992. Empowering Place: Multilocality and Multivocality. Am. Anthropol. 94, 640–656.

Roncoli, C., Okoba, B., Gathaara, V., Ngugi, J., Nganga, T., 2010. Adaptation to Climate Change for Smallholder Agriculture in Kenya: Community-Based Perspectives from Five Districts. International Food Policy Research Institute, Washington, DC.

Sahlins, M.D., 1974. Stone Age economics /. Tavistock Publications, London :

Salazar, N.B., Smart, A., 2011. Anthropological Takes on (Im)Mobility. Identities 18, i–ix. https://doi.org/10.1080/1070289X.2012.683674

Salih, M.A.R.M., 1995. Pastoralist Migration to Small Towns in Africa, in: Baker, J., Aina, T.A. (Eds.), The Migration Experience in Africa. Nordiska Afrikainstitutet, Uppsala, pp. 181–196.

Satterthwaite, D., 2006. Small Urban Centres and Large Villages: The Habitat for Much of the World's LowIncome Population, in: Tacoli, C. (Ed.), The Earthscan Reader in Rural-Urban Linkages. Earthscan, London ; Sterling, VA, pp. 15–38.

Satterthwaite, D., Tacoli, C., 2006. The Role of Small and Intermediate Urban Centres in Regional and Rural Development: Assumptions and Evidence, in: Tacoli, Cecilia (Ed.), The Earthscan Reader in Rural-Urban Linkages. Earthscan, London ; Sterling, VA, pp. 155–183.

Satterthwaite, D., Tacoli, C., 2003. The Urban Part of Rural Development: The Role of Small and Intermediate Urban Centres in Rural and Regional Development and Poverty Reduction.

Schewel, K., 2020. Understanding Immobility: Moving Beyond the Mobility Bias in Migration Studies. Int. Migr. Rev. 54, 328–355. https://doi.org/10.1177/0197918319831952

Scoones, I., 2009. Livelihoods perspectives and rural development. J. Peasant Stud. 36, 171–196. https://doi.org/10.1080/03066150902820503

Scoones, I., 1998. Sustainable Rural Livelihoods: A Framework for Analysis, IDS Working Paper 72. IDS.

Scoones, I., Catley, A., Lind, J. (Eds.), 2013. Pastoralism and development in Africa: dynamic change at the margins, 1st ed. ed, Pathways to sustainability series. Routledge, Abingdon, Oxon ; New York, N.Y.

Sen, A., 1990. Poverty And Famines: An Essay on Entitlement and Deprivation, Reprint edition. ed. Oxford University Press, U.S.A., Oxford.

Shackleton, S., Ziervogel, G., Sallu, S., Gill, T., Tschakert, P., 2015. Why is socially-just climate change adaptation in sub-Saharan Africa so challenging? A review of barriers identified from empirical cases. Wiley Interdiscip. Rev. Clim. Change 6, 321–344. https://doi.org/10.1002/wcc.335

Sienkiewicz, J.J., 2017. Do you always get what you give? A mixed-methods approach to reciprocity within the informal (trans)national social protection networks of migrants (No. Working Papers, No. 153). Center on Migration, Citizenship and Development (COMCAD).

Simiyu, C., 2013. Remittance and Household Expenditures in Kenya. J. Emerg. Issues Econ. Finance Bank. JEIEFB 2.

Skeldon, R., 1997. Migration and development : a global perspective, Longman development studies. Longman, Harlow :

Smit, Barry, Ahmad, Q.K., Anisimov, O., Arnell, N., Brown, S., Burton, I., Campos, M., Canziani, O., Carter, T., Cohen, S.J., Desanker, P., Easterling, W., Fitzharris, B.B., Forbes, D., Gitay, H., Githeko, A., Gonzalez, P., Gubler, D., Gupta, S., Haines, A., Harasawa, H., Holten, J.I., Jallow, B.P., Jones, R., Kundzewicz, Z., Lal, M., Rovere, E.L.L., Leary, N., Leemans, R., Liu, C., Magadza, C., Manning, M., Mata, L.J., McCarthy, J., McLean, R., McMichael, A., Miller, K., Mills, E., Mirza, M.M.Q., Murdiyarso, D., Nurse, L., Parmesan, C., Parry, M., Patz, J., Petit, M., Pilifosova, O., Pittock, B., Price, J., Root, T., Rosenzweig, C., Sarukhan, J., Schellnhuber, J., Schneider, S., Scholes, R., Scott, M., Sem, G., Smith, J., Sohngen, B., Tsyban, A., van Ypersele, J.-P., Vellinga, P., Warrick, R., Wilbanks, T., Woodward, A., Wratt, D., 2001. Summary for Policy Makers. IPCC, Geneva.

Smit, B., Pilifosova, O., 2003. From Adaptation to Adaptive Capacity and Vulnerability Reduction, in: Huq, S., Smith, J.B., Klein, R.J.T. (Eds.), Climate Change, Adaptive Capacity And Development. World Scientific Publishing Company, Singapore, SINGAPORE.

Smit, B, Pilifosova, O., Huq, S., Klein, R.J.T., Burton, I., Challenger, B., 2001. Adaptation to Climate Change in the Context of Sustainable Development and Equity, in: Climate Change 2001: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, p. 36.

Smit, B., Wandel, J., 2006. Adaptation, adaptive capacity and vulnerability. Resil. Vulnerability Adapt. Cross-Cut. Theme Int. Hum. Dimens. Programme Glob. Environ. Change 16, 282–292. https://doi.org/10.1016/j.gloenvcha.2006.03.008

Smith, M.P., 2011. Translocality: A Critical Reflection, in: Brickell, K., Datta, A. (Eds.), Translocal Geographies: Spaces, Places, Connections. Ashgate, Farnham Burlington, VT.

Smucker, T.A., Wisner, B., 2008. Changing household responses to drought in Tharaka, Kenya: vulnerability, persistence and challenge. Disasters 32, 190–215. https://doi.org/10.1111/j.1467-7717.2007.01035.x

Söderström, O., Randeria, S., Ruedin, D., D'Amato, G., Panese, F., 2013. Of Mobilities and Moorings: Critical Perspectives, in: Critical Mobilities. Routledge, London, pp. 1–21.

Soklaridis, S., 2009. The Process of Conducting Qualitative Grounded Theory Research for a Doctoral Thesis: Experiences and Reflections. Qual. Rep. 14, 718–733. https://doi.org/10.46743/2160-3715/2009.1375

Solway, J.S., 1994. Drought as a Revelatory Crisis: An Exploration of Shifting Entitlements and Hierarchies in the Kalahari, Botswana. Dev. Change 25, 471–495. https://doi.org/10.1111/j.1467-7660.1994.tb00523.x

Sorde Marti, T., Mertens, D.M., 2014. Mixed Methods Research With Groups at Risk: New Developments and Key Debates. J. Mix. Methods Res. 8, 207–211. https://doi.org/10.1177/1558689814527916

Spear, T.T., Waller, R., African Studies Association (Eds.), 1993. Being Maasai: ethnicity & identity in East Africa, Eastern African studies. J. Currey ; Mkuki na Nyota ; EAEP ; Ohio University Press, London : Dar es Salaam : Nairobi : Athens.

Spencer, S., 2010. Visual Research Methods in the Social Sciences: Awakening Visions. Routledge, London. https://doi.org/10.4324/9780203883860

Speranza, C.I., Kiteme, B., Wiesmann, U., Jörin, J., 2018. Community-based water development projects, their effectiveness, and options for improvement: lessons from Laikipia, Kenya. Afr. Geogr. Rev. 37, 192–208. https://doi.org/10.1080/19376812.2016.1253485

Staples, J. (Ed.), 2007. Livelihoods at the margins: surviving the city. Left Coast Press, Walnut Creek, CA.

Stark, O., 1991. The Migration of Labor. B. Blackwell, Cambridge, Mass., USA ; Oxford, UK.

Stark, O., Bloom, D.E., 1985. The New Economics of Labor Migration. Am. Econ. Rev. 75, 173–178.

Stark, O., Lucas, R.E.B., 1988. Migration, Remittances, and the Family. Econ. Dev. Cult. Change 36, 465–481.

Steel, G., Birch-Thomsen, T., Cottyn, I., Lazaro, E.A., Mainet, H., Mishili, F.J., van Lindert, P., 2019. Multi-activity, Multi-locality and Small-Town Development in Cameroon, Ghana, Rwanda and Tanzania. Eur. J. Dev. Res. 31, 12–33. https://doi.org/10.1057/s41287-018-0183-y

Suhrke, A., 1994. Environmental Degradation and Population Flows. J. Int. Aff. 47, 473.

Symanski, R., Manners, I.R., Bromley, R.J., 1975. The Mobile-Sedentary Continuum. Ann. Assoc. Am. Geogr. 65, 461–471.

Tacoli, C., 2011. Not Only Climate Change: Mobility, Vulnerability and Socio-economic Transformations in Environmentally Fragile Areas in Bolivia, Senegal and Tanzania. IIED.

Tacoli, C., 2009. Crisis or adaptation? Migration and climate change in a context of high mobility. Environ. Urban. 21, 513–525. https://doi.org/10.1177/0956247809342182

Tacoli, C. (Ed.), 2006a. The Earthscan reader in rural-urban linkages. Earthscan, London ; Sterling, VA.

Tacoli, C., 2006b. Editor's Introduction, in: The Earthscan Reader in Rural-Urban Linkages. Earthscan, London ; Sterling, VA.

Tacoli, C., 2002. Changing Rural-Urban Interactions in Sub-Saharan Africa and their Impact on Livelihoods: A summary, Working Paper Series on Rural-Urban Interactions and Livelihood Strategies. Working Paper 7. IIED, London.

Tacoli, C., Mabala, R., 2010. Exploring mobility and migration in the context of rural—urban linkages: why gender and generation matter. Environ. Urban. 22, 389–395. https://doi.org/10.1177/0956247810379935

Tappe, O., Nguyen, M.T.N., 2019. Southeast Asian Trajectories of Labour Mobility: Precarity, Translocality, and Resilience. TRaNS Trans-Reg. -Natl. Stud. Southeast Asia 7, 1–18. https://doi.org/10.1017/trn.2019.4

Taylor, C., 2011. Shaping Topographies of Home: A Political Ecology of Migration. University of South Florida.

Taylor, M., 2015. The political ecology of climate change adaptation livelihoods, agrarian change and the conflicts of development, Routledge explorations in development studies. Routledge, London ;New York.

Taylor, V., Chappells, H., Medd, W., Trentmann, F., 2009. Drought is normal: the socio-technical evolution of drought and water demand in England and Wales, 1893–2006. J. Hist. Geogr. 35, 568–591. https://doi.org/10.1016/j.jhg.2008.09.004

Teddlie, C., Tashakkori, A., 2011. Mixed Methods Research. Contemporary Issues in an Emerging Field, in: Denzin, N.K., Lincoln, Y.S. (Eds.), The SAGE Handbook of Qualitative Research. Sage, Thousand Oaks, CA, pp. 285–299.

Tetreault, D., 2017. Three Forms of Political Ecology. Ethics Environ. 22, 1–23.

Thompson, S., 1996. Paying respondents and informants, Social Research Update 14. University of Surry.

Torrance, M., 2009. The Rise of a Global Infrastructure Market through Relational Investing. Econ. Geogr. 85, 75–97.

Tostensen, A., 2004. Rural-urban linkages in sub-Saharan Africa: Contemporary debates and implications for Kenyan urban workers in the 21st century. Work. Pap. - Chr Michelsen Inst.

Transparency International, 2019. Corruption Perceptions Index, 2019. Transparency International, Berlin.

Truelove, H.B., Carrico, A.R., Thabrew, L., 2015. A socio-psychological model for analyzing climate change adaptation: A case study of Sri Lankan paddy farmers. Glob. Environ. Change 31, 85–97. https://doi.org/10.1016/j.gloenvcha.2014.12.010

Tshikala, S.K., Fonsah, E.G., 2018. Analysis Of The Impact Of Migrations And Remittances On Income Diversification In Rural Africa: A Case Study Of Kenya (No. 266703), 2018 Annual Meeting, February 2-6, 2018, Jacksonville, Florida, 2018 Annual Meeting, February 2-6, 2018, Jacksonville, Florida. Southern Agricultural Economics Association.

Tshikala, S.K., Kostandini, G., Fonsah, E.G., 2019. The Impact of Migration, Remittances and Public Transfers on Technology Adoption: The Case of Cereal Producers in Rural Kenya. J. Agric. Econ. 70, 316–331.

Turner, J.H., Dolch, N.A., 1996. Using Classical Theorists to Reconceptualize Community Dynamics. Res. Community Sociol. 6, 19–36.

Ulrich, A., Ifejika Speranza, C., Roden, P., Kiteme, B., Wiesmann, U., Nüsser, M., 2012. Small-scale farming in semi-arid areas: Livelihood dynamics between 1997 and 2010 in Laikipia, Kenya. J. Rural Stud. 28, 241–251. https://doi.org/10.1016/j.jrurstud.2012.02.003

Unks, R.R., King, E.G., Nelson, D.R., Wachira, N.P., German, L.A., 2019. Constraints, multiple stressors, and stratified adaptation: Pastoralist livelihood vulnerability in a semi-arid wildlife conservation context in Central Kenya. Glob. Environ. Change 54, 124–134. https://doi.org/10.1016/j.gloenvcha.2018.11.013

Van Hear, N., 2010. Theories of Migration and Social Change. J. Ethn. Migr. Stud. 36, 1531–1536. https://doi.org/10.1080/1369183X.2010.489359

Verne, J., 2012. Living Translocality: Space, Culture and Economy in Contemporary Swahili Trade: 150. Franz Steiner Verlag Wiesbaden GmbH, Stuttgart.

Vertovec, S., 2004. Migrant Transnationalism and Modes of Transformation. Int. Migr. Rev. 38, 970–1001.

Vinke, K., Bergmann, J., Blocher, J., Upadhyay, H., Hoffmann, R., 2020. Migration as Adaptation? Migr. Stud. 8, 626–634. https://doi.org/10.1093/migration/mnaa029

Volpato, G., King, E.G., 2019. From cattle to camels: trajectories of livelihood adaptation and social-ecological resilience in a Kenyan pastoralist community. Reg. Environ. Change 19, 849–865. https://doi.org/10.1007/s10113-018-1438-z

Walsh, Z., Böhme, J., Wamsler, C., 2020. Towards a relational paradigm in sustainability research, practice, andeducation. Ambio. https://doi.org/10.1007/s13280-020-01322-y

Wangari, E., Thomas-Slayter, B., Rocheleau, D., 1996. Gendered visions for survival: Semi-arid regions in Kenya, in: Rocheleau, D.E., Thomas-Slayter, B.P., Wangari, E. (Eds.),

Feminist Political Ecology: Global Issues and Local Experiences, International Studies of Women and Place. Routledge, London ; New York, pp. 127–154.

Warner, K., Afifi, T., 2014a. Where the rain falls: Evidence from 8 countries on how vulnerable households use migration to manage the risk of rainfall variability and food insecurity. Clim. Dev. 6, 1–17. https://doi.org/10.1080/17565529.2013.835707

Warner, K., Afifi, T., 2014b. Enhancing Adaptation Options and Managing Human Mobility in the Context of Climate Change, in: Humanitarian Crises and Migration : Causes, Consequences and Responses. Routledge, Abingdon, Oxon ; New York, NY, pp. 199–220.

Waters, J., Adger, W.N., 2017. Spatial, network and temporal dimensions of the determinants of adaptive capacity in poor urban areas. Glob. Environ. Change 46, 42–49. https://doi.org/10.1016/j.gloenvcha.2017.06.011

Watts, M., 1983. On the Poverty of Theory: Natural Hazards Research in Context, in: Hewitt, K. (Ed.), Interpretations of Calamity from the Viewpoint of Human Ecology, The Risks & Hazards Series. Allen & Unwin, Boston.

Watts, M.J., 2015. Now and Then: The origins of political ecology and the rebirth of adaptation as a form of thought, in: Perreault, T.A., Bridge, G., McCarthy, J. (Eds.), The Routledge Handbook of Political Ecology, Routledge International Handbooks. Routledge, Taylor & Francis Group, London ; New York, NY, pp. 19–50.

Watts, M.J., 1991. Mapping Meaning, Denoting Difference, Imagining Identity: Dialectical Images and Postmodern Geographies. Geogr. Ann. Ser. B Hum. Geogr. 73, 7–16. https://doi.org/10.1080/04353684.1991.11879612

Werbner, P., 1990. The migration process : capital, gifts and offerings among British Pakistanis., Explorations in anthropology. Berg, New York ; Oxford :

Wiesmann, U., 1998. Sustainable regional development in rural Africa : conceptual framework and case studies from Kenya. University of Berne Switzerland, Institute of Geography, Berne, Switzerland.

Wiesmann, U., Gichuki, F.N., Kiteme, B.P., Liniger, H., 2000. Mitigating Conflicts Over Scarce Water Resources in the Highland-Lowland System of Mount Kenya. Mt. Res. Dev. 20, 10–16. https://doi.org/10.1659/0276-4741(2000)020[0010:MCOSWR]2.0.CO;2

Wisner, B., Blaikie, P., Blaikie, P.M., Cannon, T., Davis, I., 2004. At Risk: Natural Hazards, People's Vulnerability and Disasters. Psychology Press.

Wisner, B., Pelling, M., Mascarenhas, A., Holloway, A., Ndong, B., Faye, P., Ribot, J., Simon, D., 2015. Small Cities and Towns in Africa: Insights into Adaptation Challenges and Potentials, in: Pauleit, S., Coly, A., Fohlmeister, S., Gasparini, P., Jørgensen, G., Kabisch, S., Kombe, W.J., Lindley, S., Simonis, I., Yeshitela, K. (Eds.), Urban Vulnerability and Climate Change in Africa: A Multidisciplinary Approach, Future City. Springer International Publishing, Cham, pp. 153–196. https://doi.org/10.1007/978-3-319-03982-4_5

World Bank, 2021. Migration and Remittances. World Bank. https://www.worldbank.org/en/topic/labormarkets/brief/migration-and-remittances

World Bank, 2020. Net official development assistance and official aid received (current US$) - Kenya | Data. https://data.worldbank.org/indicator/DT.ODA.ALLD.CD?locations=KE

Wrathall, D.J., Bury, J., Carey, M., Mark, B., McKenzie, J., Young, K., Baraer, M., French, A., Rampini, C., 2014. Migration Amidst Climate Rigidity Traps: Resource Politics and Social–Ecological Possibilism in Honduras and Peru. Ann. Assoc. Am. Geogr. 104, 292–304. https://doi.org/10.1080/00045608.2013.873326

Zaehringer, J., Wambugu, G., Kiteme, B., Eckert, S., 2018. How do large-scale agricultural investments affect land use and the environment on the western slopes of Mount Kenya? Empirical evidence based on small-scale farmers' perceptions and remote sensing. J. Environ. Manage. 213, 79–89. https://doi.org/10.1016/j.jenvman.2018.02.019

Zetter, R., Morrissey, J., 2014. The Environment-Mobility Nexus: Reconceptualising the Links between Environmental Stress, (Im)mobility and Power, in: Fiddian-Qasmiyeh, E., Loescher, G., Long, K., Sigona, N. (Eds.), The Oxford Handbook of Refugee and Forced Migration Studies, Oxford Handbooks in Politics & International Relations. Oxford University Press, Oxford, United Kingdom.

Zoomers, A., Westen, G. van, Terlouw, K., 2011. Looking forward: translocal development in practice. Int. Dev. Plan. Rev. https://doi.org/10.3828/idpr.2011.26

Annex 1: Interview guides

Community respondent: Migrant

1. What challenges did you face in making a living in your place of origin? Describe. Rank these in order of severity?
2. What challenges do you face in making a living here [in the place you have moved to]? Rank these in order of severity.
3. How do the challenges you face here compare to the challenges you faced in your place of origin?
4. Why did you move?
5. How has moving to this place affected the way you make your living? Describe
6. What impact has your movement had on the wellbeing of the family and wider community? Describe
7. What impact has moving had on your position/status within your household, family or wider society? Describe this impact and your feelings/opinions about this.
8. Do you have any plans to return to your place of origin? Under what circumstances would you return?
9. Has moving to this place improved your access to the (financial, natural, human, physical, social, political) resources you need to make a living? If yes/no, describe.
10. Do you face any challenges in accessing these resources? Describe
11. Do you still rely on resources (financial, natural, human, physical, social, political) in your place of origin in order to make your living? Describe
12. Identify family members (parents, siblings and children) and draw a circle around individuals living together in this household/manyatta
13. Identify the location of family members living elsewhere
14. What is the age of the family member(s)?
15. What is the main livelihood of each of the household members? (incl respondent)
16. What secondary livelihoods (if any) are each of the household members engaged in?
17. What is the highest level of education of the family member(s)?
18. Do you stay connected with family members who stayed behind [to a rural or urban area]?
19. How do you stay connected with each other?
20. How often do you stay connected with each other?
21. Is it important that you stay connected with each other? Why (not)?
22. Why do you not stay connected?
23. Do you support family members who stay behind?
24. What kind of support do you give to family members who stay behind?
25. How often do you provide them with this support?
26. What is the value of this support (on an annual basis)?
27. Have you noticed any changes in the support you provide over time?
28. What impact has providing this support had on your own wellbeing/livelihood? What benefits and disadvantages has it brought?
29. Why do you not support family members who stay behind?
30. Beyond family, do you support any friends or community members in your place of origin?
31. Do family members who stay behind support you?

32. What kind of support do they provide you with?
33. How often do they provide you with this support?
34. What is the value of the support that they provide (on an annual basis)?
35. What do you use the support for?
36. Have you noticed any changes in the support you receive over time?
37. What impact has receiving this support had on your wellbeing/livelihood? What benefits or advantages has it brought to you?
38. Why do you not receive support from family members who stay behind?
39. Beyond family, do you receive support from anyone else - either in your place of origin or in the place you have moved to? Describe

Additional background information				
Land ownership	In present location			
	Elsewhere			
Livestock ownership		# owned (here)	# owned (elsewhere)	# sold (last 12 mths)
	dairy cows			
	bulls			
	ox			
	heifers			
	goats			
	sheep			
	horses/donkeys			
	camel			
	pigs			
	chicken			
	rabbit			
	hives			

House structure (only applicable for rural respondents)	Mud	Mud/wood	Wood	Wood/stone	Stone

House ownership (only applicable for urban residents)	Rented	Part-owned/shared	Fully owned

Agricultural production and sales (last 12 months)		# bags harvested (90kg)	# bags sold (90kg)
	Maize		
	Beans		
	Potato		
	Wheat		

Income (last 12 months)	Horticultural sales	
	Off-farm trading	
	Wage employment	
	State/NGO contributions	
	Sale of livestock products	

Community respondent: Non-migrant

1. What challenges does your household face in making a living? How would you rank these in order of severity?
2. Are you less able to make ends meet than in the past five years? Describe
3. Have the ways in which your household makes a living changed?
4. How have the ways in which your household makes a living changed? Describe
5. What impact have these livelihood changes had on your wellbeing? What benefits and disadvantages have they brought? Describe
6. Why have the ways in which you earn a living not changed?
7. Have you noticed any changes in the way your neighbours or community make their living?
8. Do you rely on (financial, natural, human, physical, social, political) resources located elsewhere [in a rural or urban location] in order to make a living?
9. Do you or other members of your household need to move in order to access these resources? Describe
10. Do you face any challenges in accessing these resources? Describe
11. Identify family members (parents, siblings and children) and draw a circle around individuals living together in this household/manyatta
12. Highlight any family members identified in the family tree who have move(d) to a [rural or urban] setting
13. What is the age of the family member(s)
14. What is the main livelihood of each of the household members? (incl respondent)
15. What is the secondary livelihood of each of the household members? (incl respondents)
16. What is the highest level of education of the family member(s)?
17. Where do/did you they move to?
18. What is/was the duration of this movement?
19. Why do/did they move?
20. Have you noticed any changes in the way you/other household members move?
21. What impact have these movements had on your household's wellbeing? What benefits or disadvantages have they brought?
22. Do you think these movements are leading to wider social changes within your household, or wider community? Describe
23. Why do you/other family members not move?
24. How does your situation (i.e. no family migration) compare to others in the community?
25. Do you stay connected with family members who migrate [to a rural or urban area]?
26. How do you stay connected with each other?
27. How often do you stay connected with each other?
28. Is it important that you stay connected with each other? Why (not)?
29. Why do you not stay connected?
30. What are your feelings/opinion about not staying connected?
31. Do you support family members who migrate [to a rural or urban area]?
32. What kind of support do you give to family members who migrate?
33. How often do you provide them with this support?
34. What is the value of this support (on an annual basis)?
35. Have you noticed any changes in the support you provide over time?

36. What impact has providing this support had on your own wellbeing? What benefits and disadvantages has it brought?
37. Why do you not support family members who migrate?
38. Beyond family, do you support other members of the community who migrate elsewhere? Describe
39. Do family members who migrate support you?
40. What kind of support do they provide you with?
41. How often do they provide you with this support?
42. What is the value of the support that they provide (on an annual basis)?
43. What do you use the support for?
44. Have you noticed any changes in the support you receive over time?
45. What impact has receiving this support had on your wellbeing? What benefits or advantages has it brought to you?
46. Beyond support to your household, do family members who migrate also provide support to the wider community?
47. Why do family members who migrate not support you?
48. Beyond family members who migrate, do you receive support from anyone else?

Background information - interviewee					
Land ownership	In present location				
	Elsewhere				
Livestock ownership		# owned (here)	# owned (elsewhere)	# sold (last 12 mths)	
	dairy cows				
	bulls				
	ox				
	heifers				
	goats				
	sheep				
	horses/donkeys				
	camel				
	pigs				
	chicken				
	rabbit				
	hives				
House structure (only applicable for rural respondents)	Mud	Mud/wood	Wood	Wood/stone	Stone
House ownership (only applicable for urban residents)	Rented	Part-owned/shared	Fully owned		
Agricultural production and sales (last 12 months)		# bags harvested (90kg)	# bags sold (90kg)		
	Maize				
	Beans				
	Potato				

	Wheat		
Income (last 12 months)	Horticultural sales		
	Off-farm trading		
	Wage employment		
	State/NGO contributions		
	Sale of livestock products		

Key informant respondent

1. What top 3 challenges (political, economic, social and environmental) do households face in making a living in this area/Laikipia today? Rank these in order of severity.
2. Are more people less able to make ends meet than in the past five years? Describe
3. Have you noticed any changes in the way that households make their living in this area/Laikipia? Describe
4. What is causing these changes?
5. Do these livelihood changes help people to adapt to the challenges they face, or do they worsen their situation?
6. Are people moving elsewhere in order to make a living in this area/Laikipia? Describe
7. What impact do these movements have on people's lives and livelihoods?
8. Do you think these movements are leading to wider social changes? Describe
9. Why do people not move?