Adapting or maladapting? Climate change, climate variability, disasters and resettlement in Malawi

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Declaration

This thesis conforms to a 'papers style" format in which the middle chapters consist of five discrete articles written in a style that is appropriate for publication in peer-reviewed journals in the field. The first, second and final chapters present synthetic overviews and discussions of the field, methodology and findings of the research undertaken. One article has been published, one has been accepted for publication (in press), while two of the unpublished manuscripts have been peer-reviewed and the versions incorporated in the thesis are the revised submission. One paper has been submitted for publication and is still under review. Although the content of these chapters is the same as what has been published or submitted for publication, the manuscripts have been reformatted to present a single, continuous thesis. The formatting is mostly on section, paragraph and in-text referencing styles. References for individual manuscripts and other chapters have also been consolidated and formatted into a single reference section covering the whole thesis.

Chapter 3 has been published in the journal *Risk, Hazards & Crisis in Public Policy* as:

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All manuscripts are single-authored. I was responsible for all aspects of data collection, data analysis and writing of the manuscripts. Professor Clionadh Raleigh and Professor Dominic Kniveton were the supervisors and they provided feedback on initial drafts of the manuscripts and other chapters of the thesis.

I hereby declare that this thesis has not been and will not be, submitted in whole or in part to another University for the award of any other degree.

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Abbreviations

CBDRM	Community-based disaster risk management
CCA	Climate change adaptation
CEO	Chief executive officer
CIRS	Chancellor International Research Scholarship
CONGOMA	Council for Non-governmental Organisation in Malawi
DaLA	Damage and loss assessment
Df	Degree(s) of freedom
DFDR	Development Forced Displacement and Resettlement
DoDMA	Department of Disaster Management Affairs
DRM	Disaster risk management
DRR	Disaster risk reduction
ENSO	El Nino Southern Oscillation
ESRC	Economic and Social Research Council
FGD	Focus group discussion
GoM	Government of Malawi
GVH	Group village headman
HIV/AIDS	Human Immunodeficiency Virus, Acquired Immunodeficiency Syndrome
HRNA	Human Recovery Needs Assessment
IGO	Intergovernmental organisation
IHS	Integrated household survey
IPCC	Intergovernmental Panel on Climate Change
IRR	Impoverishment risks and reconstruction model for resettling displaced populations
KII	Key informant interview
LLDRM	Local-level disaster risk management
MK	Malawi Kwacha
MP	Member of Parliament
MPPACC	Model of private proactive adaptation to climate variability and change
MVAC	Malawi Vulnerability Assessment Committee

NGO	Non-governmental organisation
NSO	National Statistical Office
OECD	Organisation for Economic Co-operation and Development
PAR	Pressure and release model
PhD	Doctor of Philosophy
PMT	Protection motivation theory
SPSS	Statistical Package for the Social Sciences
TA	Traditional authority
UN	United Nations
UNDP	United Nations Development Programme
UNFCCC	United Nation Framework Convention on Climate Change
UNHCR	United Nations High Commissioner for Refugees
UN-HABITAT	United Nations Human Settlements Programme
UN-ISDR	United Nations International Strategy for Disaster Reduction
VH	Village headman
WMO	World Meteorological Organisation

Translation of local terms used in the thesis

Term	**Translation**
Ganyu	Casual labour, mostly agro-based
Gogochalo	Owner of the land, a title given to chiefs
Madzi	Water; can also be used to mean floods
Nyika	A type of tuberous water lily, often consumed as food in times of food insecurity

Thesis summary

Governments and other players are promoting resettlement of people exposed to severe climatic shocks and stresses such as floods to reduce risks. This is common where other measures are deemed not feasible. Yet, evidence shows limited success in such schemes. This thesis presents findings of a study conducted in urban and rural Malawi to understand why some people resettle while other stay when exposed to the same hazards. The study used a mixed methods design where data collection, analysis and reporting combined both qualitative and quantitative methods.

Presented through five manuscripts, the thesis finds that government's constrained capacity in resettlement and general disaster risk management and adaptation processes, the threat posed by chiefs who are leading the resettlement process, inadequacy of land, lack of support to those resettling and the threat posed by drought are the key factors explaining why some people resettle while others stay. These challenges arise from poorly conceived mechanical adaptation solutions that fail to recognise the complexity of flood risk and human vulnerability to multiple hazards. While offering shor-term relief to floods, resettlement can conceal key drivers of vulnerability while also generating new forms of vulnerability.

The study further questions the relevance of decentralising disaster risk governance in the face of resource capture and other weaknesses in the local government system. At the community level, the thesis reveals the multifaceted nature of chiefs who are frustrating the resettlement process, while also illicitly benefitting from humanitarian aid. Finally, it recommends broadening the definition of 'trapped population' in climate change to encompass wealthier households who are failing to move due to inadequacies of land. These findings call for serious reflection for developing countries, particularly on the need to consider the broader social, political, cultural and economic context in the design of adaptation and disaster risk reduction policies.

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CHAPTER 1 : Introduction

1.1 Introduction

Climate change will greatly affect low-income countries that are highly exposed but have low adaptive capacity. For most developing countries, structural measures that allow *in situ* adaptation against risks such as floods remain out of reach. The majority of the population living in high-risk areas within these countries have already reached their limits to adaptation, hence requiring more transformative adaptation pathways (Adger et al., 2009; Kates et al., 2012; Dow et al., 2013; Huq et al., 2013; Felgenhauer, 2015). One such transformational measure being promoted is resettlement of populations from high-risk areas (Correa; 2011; Arnall et al., 2013a; Artur & Hilhorst, 2014). Resettlement can be an effective way of preventing future climatic shocks and stresses as it can eliminate the likelihood of a disaster. At the global scale, key international instruments and agreements have taken up human displacement, migration and resettlement in the context of climate change and disasters. These include: the Sendai Framework for Disaster Risk Reduction (paragraphs 27(k) and 33[l]); Cancun Decision 1/CP.16 (paragraph 14 [f]); Doha Decision 3/CP.18 (paragraph 7(a)[vi]); Paris Agreement (paragraph 50); Nansen Initiative Agenda for the Protection of Cross-Border Displaced Persons in the Context of Disasters and Climate Change and the Sustainable Development Goals (paragraph 14).

However, despite reaching apparent limits to adaptation, adoption of resettlement as an adaptive action among equally vulnerable populations has been patchy. Further, evidence from both development-forced displacement and resettlement (DFDR) and climate or disaster-induced resettlement reveal several cases where adoption of resettlement has produced negative outcomes (Scudder, 2005; Patt and Schroter, 2008; Correa; 2011; Ferris, 2011b; Oliver-Smith & de Sherbinin, 2014). For instance, in a study of 44 dam-induced displacement and resettlement projects, Scudder (2005) found that only three led to improved living standards, five restored living standards of the majority while the remaining 36 made the majority worse off. This PhD thesis considers the context explaining the different adoption rates of planned resettlement in Malawi across highly climate vulnerable areas.

This chapter is the overall introduction to the thesis. It begins by explaining the aim and scope of the study before presenting the study's theoretical framework. It then reviews the key literature surrounding the theoretical framework, gives a picture of the study locations, presents the research questions and concludes with a synopsis of how the whole thesis has been organised.

1.2 Research aim and scope

Malawi is a least developed country highly exposed to climate-related risk in Sub-Saharan Africa and is particularly vulnerable due to its low adaptive capacity. While there is no evidence of statistically significant trends in rainfall, there are strong annual variability in rainfall across the country, which are attributed to Indian Ocean Sea Surface Temperatures caused by the El Nino Southern Oscillation, with the associated El Niño and La Niña tending to cause opposite climate conditions (McSweeney et al., 2008). Recently, drought and floods have become annual occurrences with the 2017 Global Climate Risk Index by Germanwatch ranking the country as the third most affected by weather-related extreme events in 2015 at the global scale (Kreft et al., 2016).

In 2015, Malawi faced severe flooding that affected 15 of its 28 districts, leading to a declaration of a state of disaster. According to records in Malawi's national disaster profile, about 1.1 million people were affected, with 230,000 displaced, 106 dead and 176 reported missing. The floods further destroyed 64,000 hectares of crop fields and damaged public infrastructure and private property. Nsanje and Chikwawa were the most affected districts by the floods. In 2016, Mzuzu city in the northern part of the country also faced its worst flooding on record that led to 7 deaths and displacement of 19,000 people. Following these flooding episodes, a policy decision was made to encourage voluntary resettlement of people living in high-risk areas in Nsanje, Chikwawa and Mzuzu. Malawi had previously attempted a similar policy measure following floods in Nsanje in 2012, where an agreement was signed between government and local chiefs to relocate from unsafe places. However, this was largely unsuccessful and adoption of the current resettlement policy has also been a challenge. The aim of this study is, therefore, to understand why this is the case.

There are multiple unresolved questions about the propensity, willingness and opportunities of people to resettle, or not, in response to climate variability and change. While several studies have been conducted on disaster or climate-induced resettlement

(Patt and Schroter, 2008; Carmona and Correa, 2011; Arnall et al., 2013a; Bowman and Henquinet, 2015; Gebauer and Martin, 2015; Rogers and Xue, 2015; Islam and Hasan, 2016; Chen et al., 2017; Mavhura et al., 2017; Tan, 2017), these studies have focused on already executed or failed resettlement programmes. The major concern has been on success, failures and consequences of resettlement than attempting to understand why people choose to resettle or stay in the first place. Kloos and Baumert (2015**)** and Vlaeminck et al. (2016) looked at resettlement choices, but their studies were hypothetical, focused on experimenting the willingness of people to resettle rather than assessing resettlement schemes that have been planned or are underway. For those that have looked at decisions, they have tended to adopt linear approaches, where resettlement choices have been taken as direct reactions to climate-induced stresses and shocks on lives and livelihoods. The problem with such environmental deterministic narratives is that they conceal other important factors that explain adaptation decisions that people in low-income countries make. Adaptation decisions are usually not straightforward. They are often shaped by and made within a highly politicised environment and in consideration of other competing livelihood pathways (Patt and Schroter, 2008; Foresight, 2011; Pelling, 2011; Tanner and Allouche, 2011).

This, therefore, requires consideration of both the structures within which people are making decisions and their agency in taking actions to protect them from the impacts of climate variability and change. Of particular relevance is understanding how adaptation finance, governance structures and power relationships across multiple scales are shaping how individuals, households and communities perceive risk and make adaptation choices. For instance, despite the important role that chiefs play in the affairs of rural life and livelihoods, limited attempts have been made to understand how they operate in relation to adaptation or disaster risk management at the local level. Related to this is the question of whether decentralisation of adaptation or disaster risk governance can achieve better outcomes. A number of studies have looked at the behavioural dimensions of adaptation or disaster risk reduction in terms of risk perception and how that influences adoption of protective behaviours (Thieken et al., 2007; Patt and Schroter, 2008; Lindell and Hwang, 2008; Solberg et al., 2010; Kreibich, 2011; Botzen et al., 2012; Bubeck et al., 2012; Saroar and Routray, 2012; Poussin et al., 2014). Most of these have tended to focus on structural mitigation measures or insurance, with resettlement mostly neglected. Another aspect that has not received attention is how resettlement threatens governance structures and power

relationships, or how it may be creating new forms of vulnerability, thereby initiating negative feedbacks that may jeopardise adaptation.

This PhD study, therefore, sought to fill some of these gaps by looking at the key themes outlined in the preceding paragraph. It challenges the predominant linear discourse in understanding resettlement as one of the measures being adopted to adapt to climate variability and change, using a case study of Malawi. Its primary purpose is to understand the context in which different climate-related resettlement outcomes occur. It asks: what factors explain the variation in adoption of resettlement by households across areas with similar levels of vulnerability to climate variability and change?

Instead of addressing resettlement as an inevitable reaction to climate variability and change, this thesis considers how people perceive the risk of staying or moving, and how the context influences their decisions. Risk perception emphasises how individuals use and process information on the present and future state of the environment. The context explanation, on the other hand, seeks to uncover how governing institutions across scales structure the options that vulnerable households and communities can choose from in adapting to severe climate variability and change. Although these explanations are not entirely mutually exclusive nor exhaustive, they do offer different interpretations as to why externally designed adaptation programmes, which largely rely on individual and 'rational' reactions to threats, often mistake the political and social contexts in which people make decisions. The thesis also demonstrates how collective action is organised at the sub-national level. It, therefore, brings in a more nuanced perspective that studies resettlement planning and execution and considers both structure and agency.

1.3 Overview of study location[1]

1.3.1 Geography

Lying between latitudes 9° 22’ and 17° 7’ south, and longitudes 32° 40’ and 35° 55’ east, Malawi covers an area of 118,484 km^2, with a 2017 projected population of 17.4 million. The country is bordered by Mozambique to the east, south and southwest, Tanzania to the

[1] This section provides details about the country where the study was conducted, and briefly touches on the districts and city where actual fieldwork was carried out. Specific details about Mzuzu City are provided in chapter 6, while chapters 4 and 5 have more details about Nsanje and Chikwawa districts.

north and Zambia to the West within Sub-Saharan Africa (Munthali et al., 2003; NSO, 2008; MVAC, 2015). Malawi's climate is subtropical, relatively dry, with its wet season running from October to April, which is also the warmest period. According to Malawi's Department of Climate Change and Meteorological Services, the country experiences 95% of its precipitation between November and April, with annual average rainfall ranging from 725 mm to 2,500 mm. While there is no evidence of statistically significant trends in rainfall, there is strong annual rainfall variability across Malawi, which is attributed to Indian Ocean Sea Surface Temperatures caused by the El Nino Southern Oscillation (ENSO). The ENSO is associated with El Niño and La Niña that cause mixed responses (McSweeney et al., 2008). An increase in average annual temperature of 0.9 ^{0}C, increase in number of hot days and nights as well as a decrease in the number of cold days and nights has been observed over Malawi between 1960 and 2006 (McSweeney et al., 2008; World Bank, 2011). The exposure and sensitivity of Malawi's natural resource, ecosystem and food supplies to climate variability and change and its low adaptive capacity make it particularly vulnerable to climate change impacts (Brown, 2011a; DoDMA, 2015). Malawi is ranked as one of the least developed countries and the 2016 UNDP Human Development Report ranked it at 170 out of 188 countries (UNDP, 2016), which further impacts on its adaptive capacity.

The two districts and one city selected for the study have all been recently and previously impacted by floods and were targets of the resettlement policy option. Nsanje and Chikhwawa are neighbouring districts, both located in the Lower Shire Valley of southern Malawi, with a population of 295,900 and 566,283, respectively. Mzuzu city is located within Mzimba district in northern part of Malawi and has a population of 254,891. Both Nsanje and Chikwawa are rural based districts, with 98% of the population in Chikwawa and 92% in Nsanje living in rural areas, while Mzuzu is an urban location (NSO, 2008). Malawi's baseline livelihood profile produced by the Malawi Vulnerability Assessment Committee (MVAC) shows that the country is divided into 18 livelihood zones basing on geography, production systems and markets. The livelihood zones define the livelihood patterns followed by people living within each zone (MVAC, 2015). Being an urban area, Mzuzu city does not fall within any of the livelihood zones while Nsanje and Chikwawa are in the Lower Shire Valley Livelihood Zone. While both Nsanje and Chikwawa are recognised as both climate vulnerable and disaster-prone districts in Malawi, Mzuzu city, just like other urban areas in Malawi, is not considered as such.

1.3.2 Stresses and shocks

The third integrated household survey (IHS3) report for Malawi shows that 84.8% of the population live in rural areas, 64% of the population aged 15 and above are literate and that the national poverty rate is 50.7. Further, the report shows that 85% of the population are engaged in agriculture, average cultivated land per household is 4 acres where maize is grown by 69.7% of the population, followed by pigeon peas (16.4%), tobacco (8.5%), beans (5.6%), sorghum (4.9%) and rice (2.8%) (NSO, 2012a). With very limited mineral resources and being a land-locked country, agriculture remains the backbone of the economy as well as the most common source of livelihood for the majority of the population, with about 75% of the labour force employed in the agricultural sector and agriculture contributing more than 40% to the country's GDP (Bryceson, 2006; NSO, 2005).

The national profile for disasters and reports from the Malawi Vulnerability Assessment Committee show that floods, drought, crop pests and diseases and stormy rains or strong winds are the most common disasters that Malawi faces, though the country periodically also faces hailstorms and earthquakes. Drought and floods remain the major climatic shocks that Malawi faces.

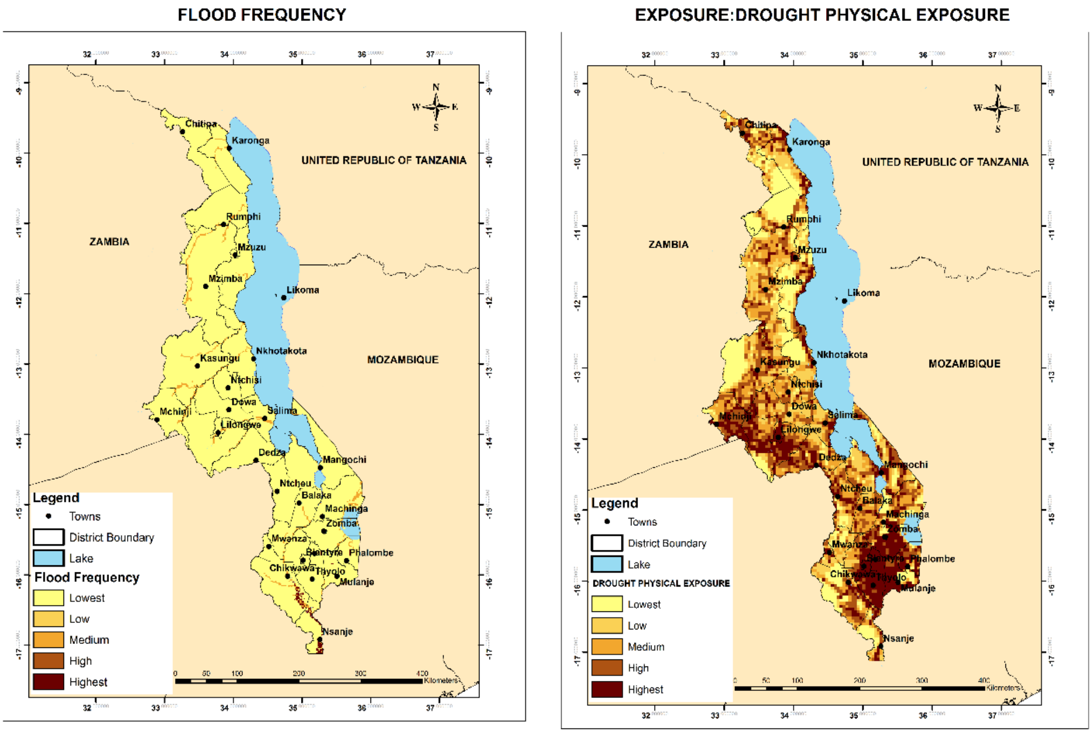

Figure 1:1: Maps of Malawi showing vulnerability to floods and drought

Source: DoDMA (2015), pp. 30-31

Figure 1:1 shows two maps of Malawi illustrating flood frequency and exposure to drought across the country. Jointly, drought and floods cause about 1.7 annual loss in GDP, with severe events causing more losses (World Bank, 2011). The total damage and losses from the 2015 floods were estimated at 335 million US$ while recovery costs were put at 494 million US$, with a 5% loss in GDP (GoM, 2015a). For the 2016 drought, total damage and losses were estimated at 365.9 million US$ while recovery required US$500.2 million US$, with a 5.6% loss in GDP (GoM, 2016).

A compilation of data from MVAC's food security assessment reports shows that between 2005 and 2016, 21 million Malawians were cumulatively affected by food insecurity alone. A drought in 1991/92 affected more than 6 million people, led to a 60% decline in maize production and an 8% decline in GDP (Clay et al., 2003). The IHS3 report also shows that one in every three Malawians faces severe low food security. Four of the five most common shocks that households experience as identified in the IHS3 are all related to agriculture: drought or irregular rains (faced by 37.8% of the population), unusually high costs of agricultural inputs (26.2%), unusually high prices for food (24.5%), unusually low prices for agricultural outputs (12.2%) and serious illness or accident of household member (11.5%).

1.3.3 Responses to shocks and stresses

The IHS3 data shows that most households do nothing in response to shocks, while a few rely on relief assistance and participation in programmes where they exchange their labour for cash, food or inputs (NSO, 2012a). However, specifically in response to food insecurity, the report shows that 31% rely on low cost and less preferred food types; 24% reduce the meal portion size;19% reduce the number of meals taken per day; 10% opt to restrict food consumptions for adults; and 13% borrow food or rely on assistance from neighbours or friends (NSO, 2012a).

In addition to these measures, in times of stresses resulting from climatic disasters, households in Malawi adopt different coping strategies such as selling of household assets, engaging in micro-enterprises such as charcoal production and local beer selling, undertaking informal employment and moulding and selling bricks (Kalanda-Joshua, 2010; Stringer et al., 2010; Kakota et al., 2011). Adaptation strategies include migration; engagement in irrigation farming; cultivation of drought-tolerant crops such as millet and sorghum; cultivation of different types of crops; rearing of drought resilient livestock such

as chicken and goats; establishment of community grain banks; practicing conservation agriculture; establishing woodlots and reforestation; constructing houses with raised foundation; river training and construction of embankments (Stringer et al., 2010; Kakota et al., 2011; Panga-Panga et al., 2012; Joshua et al., 2016). Frequent cases of disasters in some parts of the Lower Shire Valley have led to increased cases of crop theft and adoption of negative coping strategies such as prostitution that have led to increased cases of HIV/AIDS (Kalanda-Joshua et al., 2010). Joshua et al. (2016) further indicate that one of the challenges rural communities face in adapting to climate change in the Lower Shire Valley is limited access to technologies that would facilitate effective adaptation such as irrigation systems and improved varieties of seeds and fertiliser.

1.4 Theoretical framework

This study is guided by a theoretical framework, which in turn is grounded in a number of different theories and analytical frameworks from social psychology, resettlement, migration, disaster risk reduction and governance to understand adaptation in general and resettlement in particular. While theories and the literature from social psychology help in explaining how individuals make adaptation decisions, those from governance, migration, resettlement and disaster risk reduction provide the context that influence, and within which such decisions are made and where the adaptation takes place. Together, they offer the potential for a more nuanced and complete way of understanding why some people resettle while others choose not to, or return after resettling.

Figure 1:2 is an illustration of the theoretical framework adopted by the study, with some elements borrowed from the Foresight report's conceptual framework for drivers of migration (Foresight, 2011, p. 33). The concepts and theories have been grouped along four key areas. It shows that elements within each category tend to influence or affect others within or in another group:

i) The whole adaptation process is initiated by threats posed by climate change and variability and disasters. In the case of this thesis, the threat posed by floods is driving the whole resettlement process.

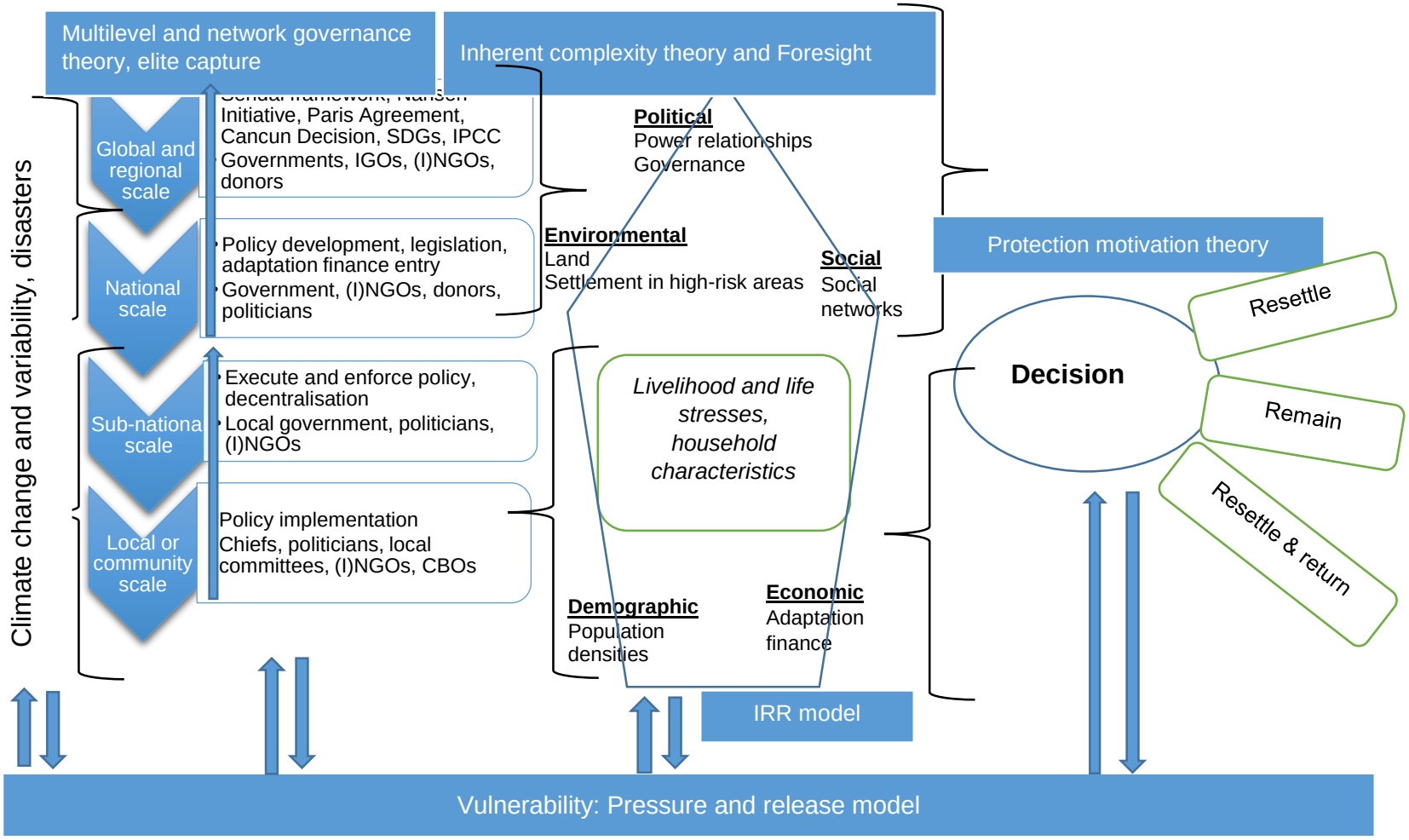

***Figure 1:2**: Theoretical framework for the PhD study*

ii) This threat leads to the development of policies and frameworks starting with the global scale that are then domesticated by countries in policies and practice. Within this, a network of actors and institutions exists, from the global to the local scale. These actors interact with each other and shape what policies and actions are implemented. For instance, paragraph 27(k) of the Sendai Framework for Disaster Risk Reduction calls for countries to "formulate public policies, where applicable, aimed at addressing the issues of prevention or relocation, where possible, of human settlements in disaster risk zones, subject to national law and legal systems" (UNISDR, 2015, p. 18). In response, policy statement 3.5.1.3 of Malawi's National Disaster Risk Management Policy states: "the policy will ensure the identification and implementation of long-lasting solutions to floods and other disasters including considering the issue of relocation" (GoM, 2015b, p. 8). The implementation of this policy stipulation is being done at local level, carried out by NGOs, chiefs and local government players. There is feedback between and across the players, which can go from bottom to top, and vice versa. The multilevel and network governance theories assist in understanding how these players and institutions operate and shape adaptation and disaster risk reduction policy and practice. Understanding the power relationships at play across scales, and how elites operate is also important.

iii) In the third case, the pentagon shows that resettlement is a complex process that, apart from being shaped by multiple players and institutions operating across scales, is also determined by a number of political, environmental, social, demographic and economic factors. Of primary concern at this level is how these shape the livelihoods that people adopt that then influence the adaptation choices they make. These factors are not isolated from the network governance system as they are embedded within and defined by the system. The resettlement inherent complexity theory, the impoverishment risks and reconstruction model for resettling displaced populations and the framework provided by the Foresight report on migration and global environmental change provide a suitable framework within which they are understood.

iv) The last part is represented by the social-psychological process, where, finally, individuals and households decide whether they should resettle or not, or even return after resettling.

v) It can be noted from the illustration of the theoretical framework that understanding vulnerability is of primary concern to the whole process: each of these stages can increase or reduce vulnerability to climate-related disasters. This thesis also contends that resettlement in itself plays a role in creating new forms of vulnerability, exacerbating existing levels of vulnerability or obscuring them. Vulnerability reduction and creation is also multi-level, from the global to the community and is created within the social, political, environmental and economic systems. The pressure and release model talks directly to the link between vulnerability and hazards and how these jointly create disasters.

Although the theoretical framework indicates some progression from one stage to another, these stages are not mutually exclusive. Each of the empirical papers addresses more than one of these elements. The framework has primarily been presented to provide a simplified way of understanding the key concepts and theories that shaped the design and outcomes of this PhD study. For instance, the political, environmental, social, demographic and economic factors are often embedded within the institutions, some of which exist or operate within the communities targeted with adaptation policies. Similarly, individuals at the local level do play a part, directly or through their representatives, in the development and implementation of policies. The national players are also part of the global system while the decentralised level is involved or consulted in national decisions. Other than the influence of a hazard, the institutions and actors do create incentives and disincentives that largely shape decisions to resettle or not. The following section provides more details on the key theories.

1.4.1 Multilevel and network governance theory

Adaptation and disaster risk reduction actions are complex and are implemented or facilitated by multiple actors, working at various scales with different expertise, perceptions, goals and background. Both the fifth IPCC assessment report and the Sendai Framework recognise that managing climate change and disaster risks involve multiple players. These represent different institutions and interests, a scenario that requires multi-level organisation and governance (IPCC, 2014b; UNISDR, 2015). The actors and institutions operate at the global, regional, national, sub-national and local scales. The actors include national governments, intergovernmental organisations, local and

international nongovernmental organisations, the private sector, politicians, local leaders and communities. This complex web of actors and institutions requires collaboration and coordination for effective delivery of public goods and services (Preston et al., 2013).

Multi-level and network governance theories provide a framework within which the operations of these actors and institutions across scales can be understood (Bulkeley, 2010; Vedeld et al., 2015). Network governance theory moves away from traditional bureaucratic or market forms of governance and provides a framework that connects with the changing arena for services provision (Provan and Milward, 2001; Goldsmith and William, 2004; Bulkeley, 2010). Delivery of government services is thus carried out by a network of non-state actors, who collaborate with each other, while also collaborating with, and being coordinated by the state. The role of public servants thus becomes more organising resource and generating public value within the networks than the traditional management of people or delivering services (Goldsmith and William, 2004).

Jones et al. (1997) define network governance as involving "a select, persistent, and structured set of autonomous firms (as well as non-profit agencies) engaged in creating products or services based on implicit and open-ended contracts to adapt to environmental contingencies and to coordinate and safeguard exchanges" (p. 914). Goldsmith and William (2004) compare network governance more to the setting and functioning of a web of computer networks as opposed to the traditional organisational chart. Klijn and Koppenjan (2012) have isolated four core assumptions and concepts associated with the network governance theory. The first is about *actors, interdependency and frames* who formulate and implement policies within a network. The actors depend on each other, though they may hold different views and interests. The second element touches on *interactions and complexity*. This holds that delivery of service and formulation and implementation of policies result from complex interactions among different actors. The third component deals with *institutional features,* which includes rules that guide behaviour and social relations among actors in the network. The last aspect is about *network management,* focusing on how interactions are guided and managed.

Networks can be ad hoc such as those activated for a short time following a disaster or can be partnerships where non-state actors are used as vehicles to deliver services and goods to the public (Goldsmith and William, 2004). This collaboration achieves many outcomes, including cost-effectiveness and capacity building of network members. It also improves service delivery, usage, access, integration and responsiveness

(Provan and Milward, 2001; Takahashi and Smutny, 2002). Due to the multiplicity of actors, power asymmetry is controlled within a network, where network power becomes more prominent than traditional notions of power (Innes and Booher, 2002).

Networks tend to be flexible and fast, thereby enabling reaching a wider population within a shorter period. Among the core foundations of network governance are trust and diplomacy, where the goal is to achieve cooperative behaviour than profit (Rhodes, 2007; Davies, 2012; Klijn and Koppenjan, 2012). This is contrasted with markets and hierarchies as other forms of governance, though Klijn and Koppenjan (2012) argue that this could be misleading as markets and bureaucracies still exist as forms of coordination in networks. The authors conclude that trust should not be considered as the inherent characteristic of networks but rather an important asset in achieving networks.

However, due to the complexity of interactions, divergent interest and multiple actors, development of interactions in public service delivery may be erratic than linear, and can fail, be time-consuming, have high transaction costs, or produce win-win outcomes (Klijn and Koppenjan, 2012). Accountability challenges can also rise, and one challenge is determining who should be accountable to whom (Page, 2004; Goldsmith and William, 2004). Where they are the financiers, governments have often used audits and other control mechanisms to ensure accountability of networks. However, Page (2004) argues that low control accountability that is political and professional may be more effective than formal ones that are legal or hierarchical. Goldsmith and William (2004) recommend tying incentives or rewards to the production of agreed or expected results.

1.4.2 Political economy, power and elite capture

The foregoing discussion on multilevel and network governance suggests that the translation of international agreements into policies and practices at national and sub-national level is done through a highly contested political environment. Within this network, power interplay across multiple actors, including governments, politicians, donors, civil society, chiefs, the private sector, academia and communities cannot be avoided. While delivery of adaptation services is largely done through networks, the power dynamics among and across individuals that shape such interactions cannot be ignored. This, therefore, substantiates the need for a political economy approach to

climate change (Tanner and Allouche, 2011) that assists in understanding how power relations occur and how these influence adaptation policies and actions at national and sub-national scales. This approach also assists in understanding how elites operate across scales and why some capture public goods and services.

Focusing just on the technocratic or managerial approaches to adaptation may obscure "the ways that ideas, power and resources are conceptualised, negotiated and implemented by different groups at different scales" (Tanner and Allouche, 2011, p. 11). Pelling (2011, p. 1) argues that "adaptation is a social and political act; one intimately linked to contemporary, and with the possibility for re-shaping future, power relations in society." The dominant narratives in climate change attest to the power interplay, operating at multiple scales with multiple actors involved (Kothari, 2014). Such discourses may reinforce the interest of certain powerful groups and individuals and entice them to implement policies that benefit certain individuals. In the mid-2000s in the Maldives, for instance, resettlement programmes were being championed by the president to merely demonstrate to the global community that the country was a victim of climate change and that the state was taking serious action to address the threat (Kothari, 2014). Similar observations have been made in Mozambique (Wisner, 1979; Arnall et al., 2013a), Bangladesh (Zaman, 1991) and India (Bavinck et al., 2014).

Power can be understood as both an ability (Weber, 1947) and a property of social relationships (Emerson, 1962). Research on power has shown that it can produce both positive and negative outcomes. Positive outcomes include altruism, organisational citizenship behaviour and avoidance of self-interested behaviours in moral hazard situations. Negative outcomes include corruption, withholding effort from tasks, withholding information from group members and showing morally hypocritical behaviours. Such outcomes depend on who holds the power and the context in which it is exercised (Sturm and Antonakis, 2015; Chen et al., 2001; Pitesa and Thau, 2013; DeWall et al., 2011; Lammers et al., 2010).

Several definitions of power have been provided by scholars: a review by Sturm and Antonakis (2015) found 24 separate definitions of power by different scholars in peer-reviewed papers. While differing in some context, the definitions contain three important characteristics of power, requiring possession of (a) *discretion* (agency) to act and (b) the *means* (innate, position) to (c) *enforce* one's will. Someone powerful is, therefore, someone who is able to enforce their will on others. In line with this understanding and for the purposes of this study, power is understood as "having the discretion and the

means to asymmetrically enforce one's will on others" (Sturm and Antonakis, 2015: 139). Though not focusing on the source or antecedent of power, this definition includes sociological aspects of power such as discretion characteristics and social relationship properties. It also includes the means through which power is gained and exercised, without necessarily narrowing it to control over valued resources (Sturm and Antonakis, 2015).

Studies focusing on the effects of power on cognition, behaviour or processing of information have shown that power holders demonstrate various traits. These include: willingness to initiate negotiations (Magee et al., 2007); showing less compassion towards other people's suffering (van Kleef et al., 2008); being less loss averse (Inesi, 2010); focusing on a central aspect of an issue and processing information at abstract levels (Smith and Trope, 2006); being more likely to approach outcomes that are rewarding to them and use others to achieve such outcomes (Sturm and Antonakis, 2015).

While possession of power has been linked to acting upon one's preference, the outcome of such behaviour can be for the individual or collective good. This can create a paradox, where some power holders might demonstrate self-interest and act for their own good, while others might be more altruistic and act for the common good (DeCelles et al., 2012; Overbeck and Droutman, 2013). There are moderating factors that help in understanding the complexities created by the paradox which exist at different levels. For instance, at the individual level, these may include moral identity, communal versus exchange orientation of the power holder and possessing an 'other orientation' (Chen et al., 2001; Blader and Chen, 2012). Communally oriented power holders tend to be altruistic while exchange-oriented ones act in self-serving manners (Chen et al., 2001).

Elite capture poses a great threat to the success of community-based adaptation or DRR projects (Buggy and McNamara, 2016). Elite capture often occurs as part of patrimonialism or neopatrimonialism, where relationships are based on how elites and subjects relate with each other, forming patron-client relationships (Platteau and Abraham, 2002; deGrassi, 2008). However, the traditional notion of neopatrimonialism tends to obscure the agency of people, as it suggest that individuals are mere subjects, who "have no choice but to comply" to whatever elites decide (Platteau and Abraham, 2002, p. 113) This is not always the case as people can use collective action to control elite capture (Dasgupta and Beard, 2007; deGrassi, 2008; Arnall et al., 2013b). Mansuri and Rao (2004) acknowledge that the set-up in most rural communities means that some level of elite domination or capture cannot be avoided.

1.4.3 Pressure and release model

The pressure and release model (also referred to as crunch model), developed by Blaikie et al. (1994) and refined by Wisner et al. (2004) define a disaster in a manner that moves away from an environmental deterministic perspective by bringing in a human ecological framework. A disaster is considered to culminate from two sources of pressure: the physical or biological hazard and the broader social context that creates vulnerability. A disaster is, therefore, not just a result of a biophysical hazard, but only becomes a disaster when it encounters a vulnerable population. A disaster risk is thus considered as

$$risk = hazard \times vulnerability$$

The vulnerability progresses through three stages: root or underlying causes, dynamic pressures and unsafe conditions (Figure 1:3). While presenting different perspectives of vulnerability, the three stages are closely related. The hazard is considered as being autonomous and would still occur even if the agent was not present (Arnall, 2015). Disaster impacts are therefore tied to the presence of a vulnerable population and are triggered by the hazard. Vulnerability is rooted in the environmental, social, political, economic and political systems within which people live. These systems, for instance, determine the resource allocation and distribution to the population and can create inequalities. They also reflect power relations within society, with those most vulnerable being considered of lesser importance to those who hold power, thereby exacerbating their vulnerability.

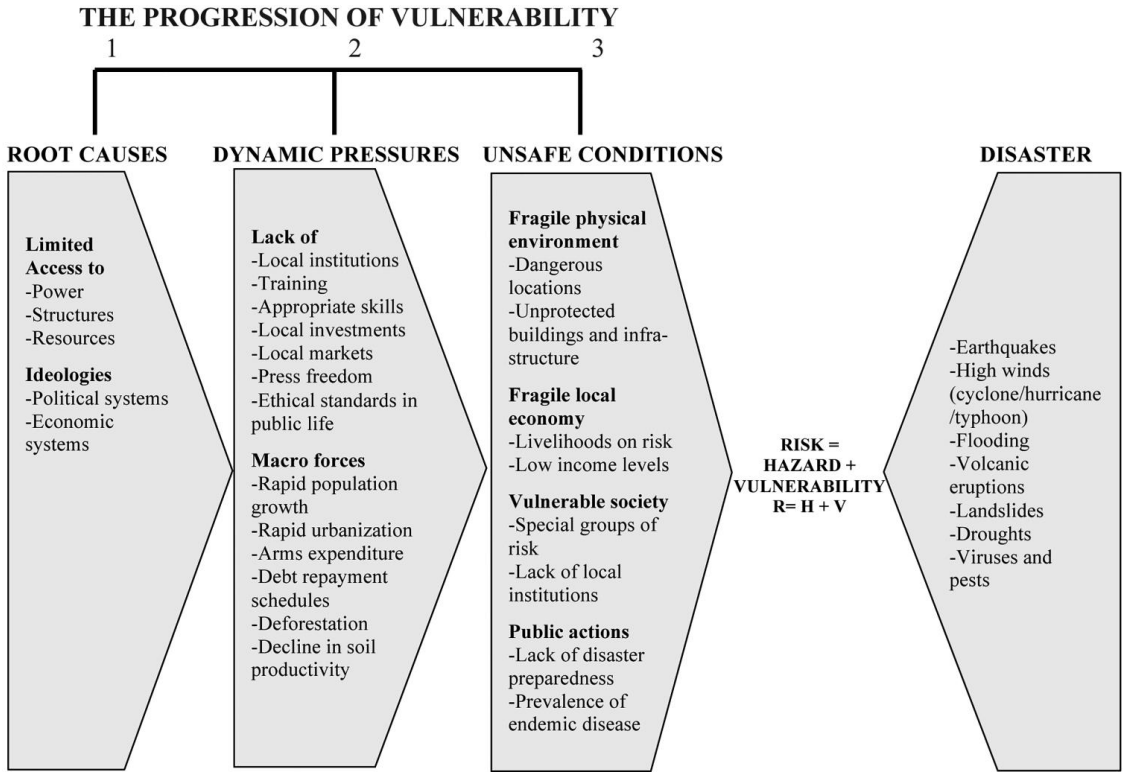

***Figure 1:3**: The pressure and release model*
Source, Wisner et al. (2004), p. 51

Manyena (2012) argues that one key challenge with most applications of the PAR model has been to focus more on the hazard event than on the vulnerability. The focus of disaster risk reduction, or adaptation, should be to 'release' the pressure through vulnerability reduction, while also, where feasible, reducing the strength of the hazard when it occurs. Failure to address root causes of vulnerability would increase dynamic pressures, which would further increase unsafe conditions, hence increasing the likelihood of a disaster. For most vulnerable people, poverty could be a key driver of occupying unsafe conditions, which has resulted from root causes and dynamic pressures. Addressing vulnerability may, therefore, also be tied to poverty reduction. This requires a developmental approach that also considers the key drivers of poverty such as power relationships and government policies. As the following section shows, when implemented haphazardly, resettlement as a risk reduction measure can lead to impoverishment, thereby worsening vulnerability.

1.4.4 Impoverishment risk and reconstruction model

Cernea's (2000, 2004) *impoverishment risks and reconstruction model for resettling displaced populations* (IRR) is a theoretical model for involuntary resettlement that highlights the intrinsic risks that cause impoverishment through forced displacement, as well as the ways to counteract such risks. Whilst originally designed for the analysis of development-forced displacement and resettlement, Cernea (1997) argues it can be used in other contexts such as displacement induced by disasters or conflicts. The model has eight impoverishment components (landlessness, joblessness, homelessness, marginalisation, increased morbidity, food insecurity, loss of access to common property resources and social/community disarticulation) and four functions (predictive, diagnostic, problem-resolution and research). It classifies major losses of displacement and suggests ways to prevent them through well-planned resettlement.

Proper resettlement would reverse the impoverishment risks: from landlessness to land-based resettlement; from joblessness to reemployment; from homelessness to house reconstruction; from marginalization to social inclusion; from increased morbidity to improved health care; from food insecurity to adequate nutrition; from loss of access to common property resources to restoration of community assets and services; and from community or social disarticulation to networks and community rebuilding (Cernea, 1997, 2000, 2004). Bang and Few (2012) analysed the social vulnerability of populations resettled due to disasters in Cameron using Cernea's IRR model and showed how the involuntary resettlement had itself created deep-seated socio-economic and cultural challenges.

While the majority of studies using the model have been on DFDR, shortfalls have been observed with the model even in the few studies that have focused on climate change or disaster-related resettlement. McDowell (2002), focusing on refugees and people resettled as a result of disasters, proposes an impoverishment risks-led livelihoods research that focuses not on poor households as a given category, but rather on the sub-processes of impoverishment, explaining, for instance, why households become poor and why they stay poor following resettlement. Dwivedi (2002) argues that the IRR model is mainly important in providing a tool that informs planners about the various losses faced by displaced people, which assists them to devise advance strategies to prevent them. However, the model ignores other losses that displaced people face that cannot be valued such as loss of institutions, identities and livelihoods. It also adopts a mechanical approach to problem-solving; land for landlessness, jobs for joblessness, ignoring the possibility that people may not necessary want to be compensated with exactly what they

have lost (Dwivedi, 2002). Another deficit with the model is its inability to highlight the vulnerabilities and capacities of the displaced and how these are affected by resettlement (Mugah, 2000; Alexandrescu, 2013). Edwards (2013) questions the model's assumption that everyone will be affected equally by a move.

1.4.5 Inherent complexity theory

De Wet (2006) proposes a theory that attempts to address some of the shortfalls of the IRR model. The inherent complexity theory focuses on why resettlement often goes wrong and proposes two main approaches to respond to the question. The first approach, he calls the *inadequate input* approach, which holds that resettlement fails due to lack of appropriate inputs, including legal frameworks, policies, political will, funding, pre-displacement research, careful implementation and monitoring. Failures and challenges of resettlement can be addressed by appropriate policies and practices. Cernea's IRR model falls within the inadequate input approach (de Wet, 2006).

The second approach is called *inherent complexity*, which holds that resettlement emerges out of a complex interaction of various factors in an unpredictable manner and in ways challenging for rational planning. There are interrelated multiple factors, including cultural, social, environmental, economic, institutional and political, which are occurring within imposed spatial change as well as local level initiatives and response. Apart from occurring simultaneously in a kind of interlinked and mutually influencing transformative process, the internal changes are also under the influence of and respond to the imposition from external sources of power as well as the initiatives of local actors. The different stakeholders involved in the process, the interactions between these stakeholders and the different circumstances under which resettlement occurs add to the complexity of resettlement.

It is therefore not possible to address the complexity of resettlement through 'technical fixes' advocated by the inadequate input approach. Rather, a more comprehensive, participatory and open-ended approach is necessary to understand, adapt to and utilise the opportunities provided by the inherent complexity of the process of displacement and resettlement. Policies that support a genuine open-ended and participatory approach to resettlement planning and decision-making are, therefore, essential (de Wet, 2006).

1.4.6 Foresight: migration and global environmental change

While not a theory as such, there are several elements from the Foresight report relevant to resettlement and this study. Firstly, while acknowledging that exposure to hazards such as floods and droughts is a major source of displacement of populations, both temporary and permanent, the key argument of the report is that environment change in itself is not a major driver of human mobility. A combination of political, economic, social, demographic and environmental factors contribute to the movement, with economic factors being the major drivers (Black et al., 2011; Foresight, 2011). The report also recognises the role of human agency in migration decisions. In addition, the report also distinguishes between two forms of people who choose to stay than move when faced with climatic shocks and stresses: those that stay because they are unable to move (called "trapped population") and those who choose to stay (called "immobile"). The report emphasises much on the fact that rather than creating mobility, climate change may erode critical assets for households, thereby reducing the incidence of movement, creating a "trapped population." This trapped population is more vulnerable, with low levels of capital that not only prevents them from moving but it also reduces their capacity to deal with the effects of climate change *in situ* (Foresight, 2011).

1.4.7 Social-psychological perspectives: protection motivation theory

The field of social-psychology provides a number of important theories and models that explain how people perceive personal risk and behave in particular ways basing on such an assessment. Of relevance to this study is the protection motivation theory (PMT). Developed by Rogers (1983), PMT focuses on health behaviours and differentiates between two major perceptual processes: threat appraisal and coping appraisal. Grothmann and Patt (2005) adapted the PMT to understand adaptation behaviours in response to climate change by developing a model of private proactive adaptation to climate variability and change (MPPACC).

Threat appraisal, also called risk perception (Grothmann and Reusswig, 2006), involves assessing the likelihood of a threat occurring and how severe its consequences

would be when it does occur. Threat appraisal is considered an important amplifier and motivation factor as individuals will have to perceive the threat first before they can start thinking of taking any protective action (Bubeck et al., 2012; Lo, 2013; Lawrence et al., 2014). It also provides a picture on how an individual estimates the likelihood of impact to himself and those that matter to him in the event that nothing is done to prevent or protect oneself against the risk. Threat appraisal also assists in understanding differences between what experts' objective assessments view as risks and what individuals themselves consider as risk (Ho et al., 2008). There can, therefore, be variations in perceptions of risk and adaptation measures between experts and non-experts. For instance, Damm et al. (2013) found that communities tend to consider natural factors as causes of hazards while experts consider anthropogenic factors. Using a behavioural approach in a case study on flood-induced resettlement in Mozambique, Patt and Schroter (2008) show that resettlement programmes can fail due to differences in risk perception between policy makers and local communities. One such area of disagreement is on relative likelihood, where farmers view climate-related events as less likely to occur while policymakers believe they are.

Coping appraisal, as part of the protection motivation theory, is important in understanding decisions to adapt as it provides a picture on how people calculate the options before them and their ability to adapt, including by factoring in the cost and effectiveness of such options (Grothmann and Reusswig, 2006). Coping appraisal involves assessing the efficacy of the available response measures, while also considering one's self-efficacy. While *self-efficacy* is about how one assesses his or her ability in terms of knowledge, skills and other resources to deal with a hazard, *response-efficacy* is about the effectiveness of the action itself in protecting people from the impacts of a hazard (Lindell and Whitney, 2000). Self-efficacy can be shaped by social and cultural factors such as public discourse and media (Solberg et al., 2010). During coping appraisal, the cost of response is also factored in. *Response costs* can include difficulty or complexity of action, its unpleasantness or side effects, life disruption and expenses (Rogers, 1983).

Most studies have found that coping or adaptation appraisal predicts behaviour better than threat appraisal: those with high threat appraisal but low coping appraisal may take no protective action and instead resort to denial, wishful thinking or fatalism (Prentice-Dunn and Rogers, 1986; Rogers and Prentice-Dunn, 1997; Grothmann and Patt, 2005; Grothmann and Reusswig, 2006). Additional factors such as reliance on public

adaptation, risk experience and incentives can act as barriers or enablers to the adoption of protective behaviours (Grothmann and Patt, 2005; Lawrence et al., 2014).

1.4.8 Hazard proximity and experience

The role of hazard experience in mediating protective behaviour has been widely studied. Poussin et al. (2014) reported in a study in France that experience with flood significantly and positively affected the number of mitigation measures that households took. Kreibich et al.'s (2005) study in Germany found that more households were able to take private protective measures after a flood, with 42% undertaking some adaptation measures to their building. Reynaud et al. (2013) also found that those evacuated from floods expected more frequent floods in the future. In Austria, a study by Damm et al. (2013) noted that those affected by a landslide manifested higher levels of risk perception. For those affected by a disaster, differences in the level of experience with the disaster can explain some of the variations in risk perception and eventual adoption of protective behaviours (McGee et al., 2009). Perception of risk can also vary with the type of hazard (Lindell and Hwang, 2008). Saroar and Routray (2012) showed that experience with adapting to excessive rainfall increases one's adaptive capacity, though this was not the case with salinity intrusion.

In some cases, however, previous experience with hazards and knowledge about disaster risks do not translate into adoption of flood mitigation measures, with a number of studies either showing weak (Bubeck et al., 2012; Scolobig et al., 2012) or negative correlation (Botzen et al., 2012). Less than half of households affected by previous severe floods in an Italian Alpine region expected to be affected by similar floods in the future (Scolobig et al., 2012). Whitmarsh (2008) found that people affected by floods in England were not much more knowledgeable about climate change or able to adopt risk protection behaviours than those not affected. However, those exposed to air pollution had higher perceptions of climate change risk. Lawrence et al.'s (2014) study found that those that had experienced floods and those that had not only differed in their flood risk exposure knowledge but not in terms of actions taken to protect themselves or in accepting the risk of floods. Qualitative data from the same study, however, showed that flood experience influenced adoption of protective behaviours. Another study by Lin et al. (2008) in Taiwan revealed that while those affected by a disaster and living in high-risk areas pay

more attention to information about the hazard than the public, they are less willing to adapt.

Harvatt et al. (2011) found that most people living in areas that have been defined as high-risk do not consider themselves to be at risk. Siegrist and Gutscher's (2008) study in Switzerland looked at people who had recently been impacted by a flood and compared them to other people also living in flood prone areas but not impacted. The study observed that the perception of flood consequences differed between the two groups; those not previously affected tended to underestimate the impact. Hung et al. (2007) found that people prefer settling close to high-risk areas because land and houses are cheap, the locations offer more livelihood opportunities and are closer to the centre of the city. While outsiders may consider this irrational, it is a rational decision by households who consider the opportunities offered by staying or leaving such areas (Wachinger et al., 2013).

1.5 Climate change, adaptation and resettlement

1.5.1 Climate change and variability evidence

Significant changes in precipitation and temperature over time can provide an indication of climatic change (Arnone et al., 2013; Simelton et al., 2013). In defining climate normal, a 30-year average is often used by the World Meteorological Organisation (WMO, 2007; Arguez and Vose, 2011). Climate change is not just about changes in the average, but can also be a change in variability (Stern and Cooper, 2011; Hansen et al., 2012; Simelton et al., 2013). Hansen et al. (2012) argue that the focus on a 30-year period may be important when looking at anomalies within a recent period, but may hide the fact that climate variability itself could be changing across decades. Changes in rainfall frequency and intensity per rainfall occurrence can lead to variations in total rainfall (Méndez-Lázaro et al., 2014). So, rather than the case being overall change over a longer period, more variations in climatic patterns could be observed presently than in past decades. A study by Stern and Cooper (2011) in Zambia found recent years to show more variability in rainfall than previous ones.

Discrepancies have been observed between the perception of individuals on climatic conditions and trends, and objective meteorological and hydrological data, especially rainfall and temperature (Osbahr et al., 2011; Simelton et al., 2013; Sutcliffe et al., 2016). For instance, two separate studies by Sutcliffe et al. (2016) in Malawi and

Simelton et al. (2013) in Botswana and Malawi found no evidence to support claims by farmers of changes in rainfall onset and cessation, duration of rainfall season and dry spells. These studies went on to question the effectiveness of adaptation strategies that tend to focus on perceptions than objective scientific evidence, such as promoting adoption of short-season, early maturing varieties of crops. Hansen et al. (2012) suggest that climate variability, occurring often, may be the greatest barrier to human acceptance or recognition of climate change, where distinguishing between the two can be a challenge. The discrepancy could also be explained by memory challenges where most people can remember better recent events than past ones, making them associate recently observed events with long-term trends (Simelton et al., 2013). Farmers have also been observed to easily remember extreme events, as compared to other less severe occurrences (Osbahr et al., 2011). Osbahr and colleagues (2011) further argue that while farmers may attribute harsh climatic conditions such as drought to climate change, the actual cause of the impact they feel could be due to additional factors than just the drought, including economic factors and other livelihood stresses. For instance, a famine in 2002 in Malawi was attributed to additional socio-economic and political factors than just climatic conditions (Devereux, 2002).

1.5.2 Adaptation, coping and maladaptation

A number of factors, including safety and economic well-being, can motivate risk reduction or adaptive behaviours. It can involve building adaptive capacity or implementing adaptation actions and decisions. Adaptation incentives can either provide additional motivation for adaptation or, in cases of low-risk perception, offer an alternative source of motivation (Grothmann and Patt, 2005). A distinction is often made on adaptations basing on timing and purposefulness. Planned adaptations are mostly facilitated by external actors, such as the state, on behalf of communities. The timing can be reactive or anticipatory. Autonomous or spontaneous adaptation, on the other hand, are those mostly carried out by individuals on their own. Adaptation can also be short or long term, localised or widespread and its form can be structural or non-structural (Smit et al., 2000; Adger et al., 2003, 2005).

Another distinction is made between coping and adaptation: coping strategies are not always the same as adaptation strategies. Coping strategies offer short-term relief and do not protect people against future impacts of climate change and variability (Terry,

2009). Coping emphasises those actions and activities taking place within existing structures such as production systems and might include migration and selling of assets (Adger, 1996; Eriksen et al., 2005). However, an intrinsic link exists between coping and adaptation as one of the prime ways of facilitating adaptation is through strengthening coping. Besides, most adaptation studies have emphasised the need to reduce sensitivity, thereby reducing the need to cope (Eriksen et al., 2005).

Adaptation and disaster risk reduction actions taken to address vulnerability include those that aim at reducing dependence on vulnerable systems, such as crop diversification; decreasing sensitivity, such as settling away from high risk areas, or strengthening existing systems so as to limit potential damage such as planting of trees (Adger et al., 2003). Several studies from sub-Saharan Africa found that, in response to climate-induced stresses and shocks, households and communities sell their assets; withdraw children from school; send children to live elsewhere; migrate; borrow formally and informally; change food consumption habits; take on wage employment; rely on outside help; diversify livelihoods; change farming practices; plant trees; reduce household expenditure; rely on social networks; turn to faith and church groups, and; engage in petty trading (Thomas et al., 2007; Paavola, 2008; Westerhoff and Smit, 2009; Osbahr et al., 2010; Hisali et al., 2011; Below et al., 2012).

Scholars also recognise that not every adaptation to climate change and variability is good, or can achieve its intentions (Eriksen and O'Brien, 2007; Westerhoff and Smit, 2009; Barnett and O'Neill, 2010; Brown, 2011b; Eriksen et al., 2011; Barnett and O'Neill, 2012; Juhola et al., 2016). Some strategies are maladaptive. Barnett and O'Neill (2010) proposed five types of maladaptation, which were categorised as actions that: (i) increase emissions of greenhouse gases; (ii) disproportionately burden the most vulnerable; (iii) have high opportunity costs; (iv) reduce incentives to adapt, and (v) set paths that limit the choices available to future generations. Juhola et al. (2016) later compressed these categories into three, as: rebounding vulnerability, shifting vulnerability and eroding sustainable development. *Rebounding vulnerability* is where an adaptation action further increases the vulnerability of the implementing or targeted actors to future climate change impacts. In *shifting vulnerability*, it is an external actor's vulnerability that is increased by an adaptive action. *Eroding sustainable development* implies that an adaptation action is producing negative side effects that impact the environment, social and economic values while also increasing greenhouse gas emissions.

According to Adger and his colleagues (2005), there is no uniformity in evaluating the success of adaptation as what can be considered successful by one community can be viewed differently by another. They argue that issues of effectiveness, equity, legitimacy and efficiency are central in measuring the success of adaptation. The question of equity and legitimacy, for instance, requires unravelling the losers and winners from an adaptation action but also the extent to which adaptation actions are acceptable to all those affected. This can also be linked to the element of effectiveness where, among others, an adaptation action is judged as effective when it does not contribute to increased vulnerability for all those concerned in the short or long term, so that a benefit to one entity does not lead to harm to another (Adger et al., 2005). Huq et al. (2003) argue that it is only when adaptation measures are able to reduce current vulnerability while also tackling future climate change vulnerability that they can be considered effective. However, many countries and actors have focused more on restoring the normalcy of disaster affected communities and their social order following a disaster, which has left the primary causes of vulnerability unaddressed (Bankoff and Hilhorst, 2009).

1.5.3 Limits to adaptation

Adaptation can also reach certain limits that would require alternative pathways. Already, in a number of developing countries adaptation limits are being reached (Huq et al., 2013). When adaptation limits have been reached, traditional adaptation practices do not work, resulting in damage and losses (Dow et al., 2013; Huq et al., 2013; Preston et al., 2013; Felgenhauer, 2015). Limits to adaptation are different from barriers, though barriers can contribute to reaching adaptation limits. Working from the perspective of an actor, Dow et al. (2013) define limits to adaptation as "a point at which an actor can no longer secure valued objectives from intolerable risk through adaptive action" (p. 306).

The definition is linked to Kinke and Renn's (2002) categorisation of responses to climate risks, which are acceptable risks, tolerable risks and intolerable risks. Acceptable risks do not pose major threats to individuals, hence they do not require adaptive or disaster risk reduction action. Tolerable risks, on the other hand, require risk reduction or adaptation actions for them to be avoided or managed. Once risks reach the intolerable, or unacceptable (Hall et al., 2012) level, the limit to adaptation has been reached and existing measures will not work. This requires transforming behaviour for the risk to be avoided, and may also require support from external institutions. Deciding

at what point a risk can be considered acceptable, tolerable or intolerable will vary from place to place and from one individual to another (Dow et al., 2013).

Adger et al. (2009) argue that adaptation limits are a social construction; they are part of and arise from society, which calls for consideration of other dimensions of limits to adaptation. Society can shape adaptation limits, through perceptions, values, power structures and processes. Traditionally, the focus has been on ecological, physical, economic and technological limits. They, thus, propose additional four domains in the social construction of limits to adaptation: "ethics (how and what we value), knowledge (how and what we know), risk (how and what we perceive) and culture (how and why we live)" (Adger et al., 2009, p. 338).

Adaptation limits assist policy makers in recognising that current adaptation practices will fail, or are already failing, hence necessitating new forms of adapting. Felgenhauer (2015) provides three policy options that can be taken when thresholds of adaptation limits have been reached. First, would be to invest in additional adaptation. The second option is to implement new adaptation approaches. The third choice is to adopt transformational adaptation, which involves changing the damage-response system rather than the adaptation itself. Transformational adaptation can be implemented in advance when adaptation failures are expected, or could be taken as a measure of the last resort when all other adaptive actions have failed (Preston et al., 2013; Felgenhauer, 2015).

Kates et al. (2012) distinguish between two forms of climate change adaptation: *incremental* and *transformation*. Incremental adaptation involves extending familiar measures that are already being used to better reduce exposure to the impacts of climate variability and change. Transformational adaptation is mostly collective and involves either new ways of adapting, large scale or intensity adaptation, or adaptations that transform or move locations. Transformational adaptation is often difficult to implement due to uncertainties about climate variability and change; uncertainties on the benefits of adapting; the cost of adapting and; institutional and behavioural barriers that prefer existing systems and policies.

1.5.4 Resettlement: overview and typologies

Resettlement has often been used as a transformational climate change adaptation or disaster risk reduction measure, especially in cases where an area has become inhabitable

due to disasters or risk of disasters (Bang & Few, 2012). Resettlement does not just involve the physical movement of people, but involves replacement of housing, assets, livelihoods, land, access to resources and services and restoration of socioeconomic and cultural conditions. In most cases, resettlement is assisted, which involves incentive mechanisms and financial compensation usually from government, NGOs and other development agencies (de Sherbinin et al., 2011; Ferris, 2011a). Resettlement programmes involve a number of stakeholders: national governments who make strategic or policy decisions, local authorities who are responsible for making operational decisions and non-state actors who provide support at both levels (Keraminiyage & Piyatadsananon, 2013).

Typologies of resettlement are characterised in various forms, ranging from issues of voluntariness (voluntary and involuntary), geographical scope (internal and international), duration (permanent and temporary) and causative factors (climate shocks and hazard, mitigation or adaptation projects) (Foresight 2011; Black et a., 2011; de Sherbinin et al. 2010, 2011; Ferris, 2011a; Bettini, 2014). Spontaneous or voluntary resettlement has tended to be more successful than forced ones (Ferris, 2011a). However, there are a lot of dynamics involved in resettlement processes that it becomes difficult at times to differentiate between the different typologies. For instance, it can often be difficult to determine whether a disaster or climate-induced resettlement process should be considered voluntary. This is especially the case where people's land has been inundated or their homes destroyed and they have to resettle because the land is no longer safe for habitation or there is just no place to settle. As a result, and within this context, resettlement associated with disasters or climate change is often considered involuntary (Ferris, 2011a; 2012, 2015). Even for an involuntary resettlement process to succeed, some people ought to volunteer to participate, while in other cases people have tended to volunteer to resettle just to get the immediate incentives and then return or resettle somewhere else thereafter (Hammond, 2008; Artur and Hilhorst, 2014).

De Sherbinin, et al. (2010) identify three types of climate change induced displacement and resettlement based on cause: those induced by mitigation projects, those induced by adaptation projects and infrastructure and those implemented in the name of adaptation. Focusing on the third category to which this study relates, people can be resettled because they have been displaced by disasters, or because their land is no longer suitable for habitation due to disaster risks. There can also be cases where a whole country, such as small-island states, is at risk of inundation due to sea-level-rise, requiring

the relocation of the whole population (Ferris, 2011a; de Sherbinin et al., 2010; Barnett and O'Neill, 2012).

1.5.5 Success and failure in resettlement

The literature on resettlement shows variations in resettlement adoption as well as in its eventual success, with a preponderance of failures. Successful or failed resettlement programmes are not judged by the mere fact that a resettled community has not returned, but also by the extent to which the resettled community has become self-reliant or similar to the original one (Oliver-Smith, 1991). Studies have also shown that success of resettlement programmes is not just about the provision of housing and social amenities. In one case of climate-induced resettlement in Mozambique, for instance, the government built entire villages in the hills overlooking the floodplains, with modern services such as electricity, and farmers were provided with the opportunity of going back to farm in the floodplains, and even encouraged to maintain two homes. In the end, most of them abandoned the sites and permanently returned to their old high-risk areas (Patt and Schroter, 2008).

A number of factors in the design, construction, implementation and delivery of resettlement programmes contribute to success or failure. These include poor choice and design of resettlement site, poor housing design and construction, lack of consultations with those being resettled and the host community and lack of legal and policy frameworks (Oliver-Smith, 1991; Hammond, 2008; Patt & Schroter, 2008; Carmona & Correa, 2011; Ferris, 2011b; Usamah & Haynes, 2011; Barnett and O'Neill, 2012; Johnson, 2012; Keraminiyage & Piyatadsananon, 2013; Oliver-Smith & de Sherbinin, 2014). In addition, failure to recognise and understand the complex interaction and unpredictable nature of several cultural, social, environmental, economic, institutional and political factors around resettlement can lead to failure. For instance, understanding what role social institutional processes such as social networks and governance play in communities helps in reducing impoverishment of the resettled (Oliver-Smith & de Sherbinin, 2014).

When people have been settled away from their livelihood or land, and their livelihoods have not been restored, the resettlement site could be abandoned (Ferris, 2011b; Barnett and O'Neill, 2012; Keraminiyage & Piyatadsananon, 2013; Arnall et al., 2013a). Often, resettled communities are forced to change some of their livelihood

practices and this requires the development of new skills, change of roles within the family as well as expanding and establishing new social networks (Artur & Hilhorst, 2014). Those affected by resettlement are not just the displaced, but also other resident population and the host community (Ferris, 2011).

1.5.6 Disaster risk reduction/management or climate change adaptation?

Climate change and disaster risk management (mostly used in this thesis in the context of climate change adaptation and disaster risk reduction) have often been considered separate areas, though related in several aspects. Differences are often considered in the case of disaster risk reduction being current and historical while adaptation considers the future perspective. Disaster risk reduction (DRR) is based on community experience while adaptation is based on global policy agenda (Thomalla et al., 2006; Mercer, 2010). DRR and climate change adaptation (CCA) are also considered to have different approaches and strategies, they ascribe to different local and international institutional arrangements and that they have different funding modalities (Thomalla et al., 2006). However, due to their interconnectedness, scholars have argued that such demarcations are often considered cosmetic and not necessary (Mercer, 2010; Begum et al., 2014; Kelman et al., 2015).

In Malawi, the effects of climate change are addressed within the context of both adaptation and disaster risk management. Response strategies such as humanitarian aid resulting from climatic hazards like floods and drought are provided within the disaster risk management context. The overall government agency that is coordinating the resettlement process that is induced by a climatic hazard (floods) is the Department of Disaster Management Affairs. In addition, as explained in CHAPTER 3, the government institutions, non-governmental organisations and donors working on adaptation and disaster risk reduction work hand in hand, with the majority of projects tackling the two within the same context. As argued by Mercer (2010), climate change adaptation and disaster risk reduction strategies at the community level are very similar, if not identical. In the majority of instances in Malawi, it is not possible to isolate adaptation practices from disaster risk management ones, thereby making the practicality of assessing adaptation separate from disaster risk management onerous.

This thesis focuses on floods and to some extent drought, both of which are climatic hazards. As such, while recognising that disaster risk reduction or management goes

beyond climatic hazards (Thomalla et al., 2006; Kelman et al., 2015) and that the two are guided by different national and international policy frameworks, this study considers both disaster risk and adaptation practices and institutions within the same context. By doing so, it moves away from debates of whether climate change should be placed within disaster risk reduction as proposed by Kelman and colleagues (2015), or vice versa (Begum et al., 2014). The study considers the two as equally important spheres that interact and co-exist both in policy and practice, while also differing in other aspects. In that way, it recognises that both CCA and DRR or DRM aim at reducing vulnerability and building resilience to hazards and disasters (Begum et al., 2014).

1.6 Definition of key terms

Several terms from the fields of climate change and disaster risk management have been used in this study. This section provides the definitions that the study has adopted for these key terms. Several other terms used for specific aspects in the thesis are defined within appropriate chapters. The thesis largely follows definitions in the fifth assessment report of the Intergovernmental Panel on Climate Change (IPCC) (and in some context uses definitions from the fourth report). It has also adopted the 2009 disaster risk reduction definitions provided by the United Nation International Strategy for Disaster Reduction (UNISDR). In cases where these two sources do not have definitions for the terms, or where the definitions provided are considered inadequate, alternative definitions from the literature are adopted. In a number of instances, further classifications or examples are provided for the key terms being defined.

Events such as floods and droughts can be as a result of either climate change or climate variability (Jónsson, 2010). The fifth IPCC assessment report defines *climate change* as "a change in the state of the climate that can be identified by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer" (p. 120). On the other hand, the report defines *climate variability* as "variations in the mean state and other statistics … of the climate on all spatial and temporal scales beyond that of individual weather events" (p. 121).

The UNISDR defines *vulnerability* as "the characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard" (p. 30). The fourth IPCC report defines vulnerability as "the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including

climate variability and extremes" IPCC (2007, p. 89). Vulnerability can arise from various physical, social, economic, political and environmental conditions and can be created internally or externally (Wisner et al., 2004; Fussel, 2007). Eriksen and O'Brien (2007) have identified three context-specific dimensions of vulnerability: physical risks from climate stresses, adaptive capacity of those exposed to climate risks and social and environmental processes that worsen the risks and limit adaptive capacity. Vulnerability is often considered as a function of exposure, sensitivity and adaptive capacity (Yohe and Tol, 2002; Turner II et al., 2003; Adger, 2006; Smit and Wandel, 2006; IPCC, 2014). Exposure is concerned with the extent to which actors are in the 'firing line' of impacts of climate variability and change; 'sensitivity' deals with actors' capacity to be 'wounded' by these impacts while adaptive capacity is about how actors shield themselves to recover from or address climate change impacts (Turner II et al., 2003; Paavola, 2008).

Adaptation is defined by the fifth IPCC report as "the process of adjustment to actual or expected climate and its effects" (p. 118), while the fourth report expands the definition by defining it as "initiatives and measures to reduce the vulnerability of natural and human systems against actual or expected *climate change* effects" (IPCC, 2007, p. 76). Barnett and O'Neill (2010) proposed an initial definition of *maladaptation* as "action taken ostensibly to avoid or reduce vulnerability to climate change that impacts adversely on, or increases the vulnerability of other systems, sectors or social groups," (p. 211). Later, Juhola and colleagues (2016) expanded the definition to, among others, distinguish maladaptation from failed adaptation or avoidant adaptation actions. They define maladaptation as "a result of an intentional adaptation policy or measure directly increasing vulnerability for the targeted and/or external actor(s), and/or eroding preconditions for sustainable development by indirectly increasing society's vulnerability" (Juhola et al., 2016, p. 139). This study adopts the revised definition of maladaptation as proposed by Juhola et al. (2016) as it is more encompassing and takes into consideration rebounding vulnerability, where an adaptation action can increase the vulnerability not just of other actors, but even those implementing the action or targeted by it.

Biesbroek et al. (2013) define *barriers to adaptation* as

> the actors' subjective interpretations or collective understanding of sequentially or simultaneously operating factors and conditions that emerge from the actor, the governance system, or the system of concern, which the actor values as having a negative influence on the process and reduce the

> chances of successful outputs, but that are manageable and can be overcome with concerted efforts, or by creating and seizing opportunities (p. 1127).

From the field of disaster risk management, the UNISDR defines a *risk* or threat as "the combination of the probability of an event and its negative consequences" (UNISDR, 2009, p. 25) while a *hazard* is "a dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage" (UNISDR, 2009, p. 17). A *disaster* is defined as "a serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources"(p. 9).

Disaster risk management (DRM) is defined as "the systematic process of using administrative directives, organisations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster" (UNISDR, 2009, p. 10). DRM is often considered to have two components: disaster risk reduction and disaster management, where the latter is about response phase (Begum et al., 2014). *Disaster risk reduction* is

> the concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events (pp. 10-11).

The term *mitigation* is used in both the climate change and disaster risk management context, but with different meanings. The fifth IPCC report defines climate change mitigation as "a human intervention to reduce the sources or enhance the sinks of greenhouse gases" (p. 125). In the context of disasters, mitigation is defined as "the lessening or limitation of the adverse impacts of hazards and related disasters" (UNISDR, 2009, p. 19). Unless specifically indicated, in this thesis the term 'mitigation' is used in the DRM context as defined by UNISDR. The study also adopts UNISDR definition of *resilience*, which is:

> the ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions (p. 24).

Arnall (2015) further calls for the need to define resilience beyond the ability to bounce back following a negative event, so that it also encompasses human agency to politically challenge structural processes that are at the centre of their vulnerability.

Finally, Weerasinghe (2014, p. 10) defines planned *relocation* as "a solutions-oriented measure, involving the State, in which a community (as distinct from an individual/household) is physically moved to another location and resettled there." *Resettlement*, on the other hand, is defined as "the process of enabling persons to establish themselves permanently in a new location, with access to habitable housing, resources and services, measures to restore/recover assets, livelihoods, land, and living standards, and to enjoy rights in a non-discriminatory manner" (Weerasinghe, 2014, p.10).

1.7 Research questions

In understanding the context within which different climate-related resettlement outcomes occur, the main question that guided this PhD project was: why are there variations in adopting resettlement as an adaptation behaviour among households with similar levels of vulnerability to climate variability and change? In addressing this, a set of four subsidiary questions guided the research process, each of which was responded through its own manuscript. However, being a single PhD study, overlaps in the questions and sub-questions is inevitable:

1. *How is the overarching governance system shaping disaster risk reduction and adaptation policy and practice?*

The question aimed at investigating how Malawi's disaster risk governance architecture is contributing to either positive or negative DRM outcomes, or both. It focused on the key actors at national and decentralised government levels (government, non-governmental organisations, politicians, donors) and how their positions and practices are influencing adaptation and resettlement processes across scales. In doing so, the network governance theory and additional questions guided the process. The sub-questions included:

> Who are the key players in disaster risk governance in Malawi and at what scales do they operate? To what extent do the stakeholders and institutions collaborate and what are the incentives and disincentives? How feasible is decentralised disaster risk governance? How effective and accountable are the institutions and stakeholders?

2. *How do traditional elites positively or negatively influence community-level delivery of DRR or CCA practices in rural Malawi?*

This question aimed at understanding the local context within which households, individuals and communities make adaptation and DRR decisions. Guided by a political economy perspective, it assessed who the key actors are at the sub-national level, and focused on chiefs. It then looked at how these local elites shape the decision-making process for households and communities and eventual success or failure of resettlement and other adaptation or disaster risk management actions. It assessed how chiefs negotiate the process to their advantage and how their position as gatekeepers for government plays out in achieving particular adaptation outcomes. Some of the key sub-questions were:

> Who are the key actors and institutions in disaster risk management and adaptation at local level? What form of implementation do DRR and CCA programmes, such as resettlement and humanitarian relief, take at local level? What role do chiefs play in DRR and CCA, particularly in resettlement and humanitarian response? How does the central and local government relate with local elites in DRR and adaptation? How do communities use collective action in decisions related to DRR and CCA? What form does elite capture take in adaptation or DRR at community level?

3. *How do households living in high climate risk rural areas perceive resettlement as an adaptation measure to climate change and climate variability?*

This question primarily helped in understanding the individual and household decision-making process in relation to general adaptation behaviours. It focused on understanding risks that households face, how they perceive these climate-related risks and whether such perceptions can explain the variations in adoption of resettlement as an adaptation measure. In meeting this objective, the question relied on the protection motivation theory from social-psychology and was further guided by several sub-questions:

> How do households and communities living in areas of high climate variability and change risk perceive present and future risks? What objective evidence is present to substantiate these perceptions? How do individuals perceive their vulnerability and adaptive capacity? What adaptation and coping strategies are adopted by households and communities? How do households perceive resettlement as an adaptation or DRR measure? To what extent do such

perceptions influence decisions to resettle or stay? To what extent do demographic and other socio-economic factors influence adaptation and resettlement decisions?

4. *How effective is the use of resettlement in addressing vulnerability to flood risks in high-risk urban areas?*

Guided by the pressure and release model, the objective was to investigate the level of vulnerability to flood risk and how resettlement is being used to reduce flood risk in Mzuzu city. Additional questions that assisted in meeting this objective included:

What are the key vulnerability factors to flood risks in the city? To what extent is urban DRR considered a priority by the city and the national DRM architecture? How and why is resettlement used as a risk reduction measure in the city? How do households perceive resettlement as an adaptation or DRR measure? What other DRR strategies are being used in the city? How effective are these strategies in reducing disaster risk?

1.8 Structure of the thesis

This thesis is organised in eight chapters, with the introduction as the first chapter. The second chapter provides the methodology used for the study, and justifies why a mixed methods approach was adopted for this study. Chapters three to six provide empirical findings of the study, each addressing a specific research question. Chapter seven provides a reflexive account of conducting research as an insider. These five chapters are written as manuscripts aligned to the structure and requirements of academic peer-reviewed journals. While the overall format is similar, there are some minor variations in how they are presented as each follows specific requirements for the journal where it has been published or submitted for publication.

Each of these chapters also has an abstract, introduction and literature review section. Chapters three to six also have a methodology section, while chapter seven reflects on the methodology used for the whole thesis. While the overall introductory chapter for the thesis also provides a review of existing literature, the focus has been generic and streamlined to aspects that have not been covered, or not fully covered, in individual papers. The same applies to the methodology section in each chapter. Similarly, although each of the manuscripts has been submitted or published with its own

reference section, a consolidate reference section is provided at the end of thesis rather than presenting it within individual chapters. Though attempts have been made to limit duplication, a few instances should be expected.

Paper 1 (chapter 3) addresses the first research question (*How is the overarching governance system shaping disaster risk reduction and adaptation policy and practice?*). It provides the overarching framework for the governance of disaster risk and climate change adaptation. It is based on semi-structured interviews, participant observation and document analysis. The paper uses the disaster risk management system in Malawi to demonstrate how the key actors facilitate or affect adaptation and risk reduction efforts at national and subnational levels. These key actors are those that have been entrusted with adaptation and disaster risk management policy development and implementation.

The paper focuses on local and central government actors, politicians and players from local and international non-governmental organisations. Each of these actors may be located within particular loci, but their operations not only cut across the scales of governance but are also overlapping. It is how these actors relate to each, interact, agree and disagree that determine the implementation, success and failure of adaptation or disaster risk practices across scales. While acknowledging the contribution of each of these actors to adaptation and disaster risk governance, this chapter shows that they individually or jointly have unique shortfalls that threaten successful adaptation or disaster risk reduction. Particularly, the chapter dwells on decentralisation of disaster risk governance and provides evidence that questions the relevance of decentralisation within such a derelict system.

Paper 2 (chapter 4) narrows down to the local level and provides a rural perspective of adaptation and disaster risk governance, responding to the second research question (*How do traditional elites positively or negatively influence community-level delivery of DRR or CCA practices in rural Malawi?*). Based on interviews with chiefs in Nsanje and Chikwawa and other key informants, focus groups, participant observations and documents review, the study presents one of the first detailed empirical evidence on the role of chiefs in adaptation and disaster risk management. The paper is based on two programmes: one on resettlement where chiefs were the key players and another one on food insecurity response where chiefs were deliberately excluded.

It starts by showing who the chiefs are, their basis for authority and legitimacy and their role in rural lives and livelihoods. It then focuses on elite control and capture, showing how chiefs are frustrating and aiding resettlement and also how they are

benevolently and malevolently capturing the humanitarian intervention by circumventing established mechanisms. In the case of resettlement, the irony lies in the fact that chiefs are the biggest losers following a resettlement process, yet they are being asked to lead the process. Recognising the critical role that chiefs play in the lives and livelihoods of rural communities, including in adaptation and DRR, the paper concludes that exclusion of chiefs may neither be desirable nor feasible and alternative pathways should be sought for positive engagement.

Still on the rural context, paper 3 (chapter 5) answers the third research question (*How do households living in high-risk rural areas perceive resettlement as an adaptation measure to climate change and climate variability?)*. The focus is on the adaptation decision making process at household level for the two districts of Chikwawa and Nsanje. This is based on a household questionnaire survey, key informant interviews, participant observations and focus groups. It concentrates on how households perceive the disaster risks they are exposed to and how they respond to such threats. Specifically in the context of resettlement, the paper considers how households evaluate the consequences of staying or moving.

To achieve this, it tries to understand how social-psychological and socio-economic factors influence resettlement decisions. The paper also presents and discusses the main adaptation measures that households are adopting, while also providing evidence for climate change and variability. One important aspect that the study demonstrates is that socio-economic factors are less significant predictors of resettlement outcomes when compared to social-psychological ones. Its conclusion is that resettlement and adaptation decision-making processes are not simple: they are inherently complex and require consideration of multiple threats that households are exposed to and the context within which such decisions are made.

Moving away from the rural context, paper 4 (chapter 6) presents the urban perspective of resettlement, DRR and adaptation. It combines views of government actors, households and local institutions in addressing the fourth research question: *How effective is the use of resettlement in addressing vulnerability to flood risks in high-risk urban areas?* The paper focuses on the population that was affected by floods in 2016 in Mzuzu city, following which a decision was made by government to resettle some of the displaced. It uses data from the third integrated household survey, focus groups, participant observations, key informant interviews and document analysis. It presents manifestations of vulnerability and resettlement that are distinct from the rural context in

multiple ways. Apart from differences in the actors involved, urban areas contain a large proportion of renters which is not the case with rural areas, thereby bringing complexities in the resettlement planning and decision-making process. Just like the rural setting, land remains a crucial issue in resettlement decision and planning. However, the land administration systems for rural and urban areas are different. This calls for different approaches in dealing with land challenges. The main conclusions are that resettlement is not only an ineffective way of addressing key drivers of urban vulnerability, but also that the focus on resettlement is masking these key drivers.

Chapter seven is part of the overall methodology for the PhD study, but presents a reflexive account of conducting fieldwork for an insider researcher. Rather than placing it soon after the methodology chapter, it has been placed after the empirical chapters to reflect on the process through which the evidence in these chapters was gathered. It focuses on six thematic areas related to the research process: researcher identity, social desirability, neutrality, ethical dilemmas, challenges and opportunities of conducting peer research and the role of gatekeepers. Each of these aspects, while related, presents different ways of understanding the logistics and intricacies of insider fieldwork within a low-income country.

Chapter 8, which is the last one, brings together all the evidence by isolating the key findings from each paper. The chapter then discusses how the individual papers are linked to each other, how they collectively meet the study's objective and how they answer the research questions. In addition, this chapter outlines the contributions of the thesis to knowledge in the field. The utility of the study for purposes of policy and practice is also provided. A discussion of the main limitations of the study is provided and areas requiring further studies are suggested.

CHAPTER 2 : Methodology

2.1 Introduction

This chapter provides the overall methodology used for the study. It starts by presenting the philosophical assumptions behind the choice of study design and methodology before discussing the actual methods and data collection approaches used. The chapter further presents additional sources of data used for the study as well as ethical issues encountered during the study. It thereafter presents a reflexive account of the research process, focusing on challenges and opportunities encountered as well as key lessons learnt in the course of the research.

Each of the four papers in the thesis has a methodology section that provides specific details for that paper. Due to journal manuscript size restrictions, the individual papers only focus on key methodological issues. This section, therefore, further develops on these individual methodological accounts and provides additional details and process descriptions that are not included, or are briefly presented in the individual papers. Though effort has been made to limit the level of repetition, some overlaps are unavoidable.

2.2 Research design and methodology

Most scholars recommend that, at a minimum, the research questions, purpose of research and the circumstances should dictate the choice of methodology selected (Sechrest and Souraya, 1995; Johnson and Onwuegbuzie, 2004; Greene, 2008; Bryman, 2016; Biesta, 2010). The design of the study and choice of research methods was guided by the type of research questions in the first case. In addition, the theoretical framework, identity and position of the researcher as well as the need for methodological, data, investigator and theoretical triangulation guided the design choice. Therefore, a mixed methods design, combining qualitative and quantitative approaches, was adopted for this study.

2.2.1 Pragmatism and mixed methods design

Opponents of mixed methods argue that qualitative and quantitative approaches have unique epistemological foundations and combining the two will destroy those foundations. This has come to be referred to as the 'incompatibility thesis' (Howe, 1988). Lying on the extreme ends of a continuum are positivist and interpretivist paradigms, which are associated with quantitative and qualitative research, respectively. The positivist approach holds that research should be based on pure observations that are devoid of individual influences, such as interest, influence, purposes and values of the researcher. In the interpretivist paradigm, observations cannot be considered pure and the metaphysical element cannot be isolated from the research (Howe, 1988; Johnson and Onwuegbuzie, 2004).

This study adopts a pragmatic approach. Rather than focusing on the purists' hierarchies of positivist and constructivist, pragmatism centres on how best to utilize the usefulness of the two to enhance one's understanding. This offers a middle-point or alternative perspective with shared meanings and joint actions (Johnson and Onwuegbuzie, 2004; Morgan, 2007; Biesta, 2010; Lieber and Weisner, 2016). Qualitative methods are considered to generate rich, valid and detailed data on processes that consider the perspective of participants, while quantitative methods produce outcome data that is factual and reliable and can be generalised to the wider population (Steckler et al., 1992). Pragmatism allows back and forth movement between the two. In doing so, it moves away from dogmatism, where qualitative and quantitative approaches are considered as absolutes that confine a researcher to one or the other (Johnson and Onwuegbuzie, 2004).

Morgan (2007) argues that the use of a pragmatic approach provides three key alternatives that combine the strengths and weaknesses of qualitative and quantitative approaches: abduction, intersubjectivity and transferability. *Abduction* oscillates between induction and deduction. Morgan's view of abduction goes beyond the traditional focus of using theories to explain observations and make inductive inferences, but assesses inferences through action, where prior induction results are assessed to predict whether future behaviour would be workable. While recognising that complete subjectivity or objectivity may not be possible in a research environment, *intersubjectivity* calls for joint action and shared meaning in the creation of knowledge. Methodologically, this requires paying particular attention to the social processes that can produce both conflict and consensus during research.

Transferability moves away from the notion of choosing between two extremes where research findings are either considered specific to a particular situation or place and hence not generalizable (qualitative), or falling within a set of generalised principles and applicable in other context (quantitative). With mixed methods, the focus is not on the generalizability of the results but on what has been learnt with one method in a particular setting and how best such knowledge can be used in other settings with a clear basis for making such claims (Morgan 2007; Biesta, 2010; Shannon-Baker, 2016). Biesta (2010) cautions that pragmatism should not be considered as a philosophical paradigm in itself but as insights that guide proper understanding of mixed methods research. Since different approaches can bring different outcomes and connections, pragmatic judgement of knowledge requires consideration of the procedures and processes that have been used to arrive at our understanding of reality.

This research project involved several techniques in ascertaining adaptation practices and behaviours, including semi-structured interviews, focus groups, surveys and participant observation (micro-ethnography). While the data collection methods are predominantly qualitative in nature, the study does not prioritise one approach over the other. Bryman (2011) states that most research reports that use mixed methods neither clearly specify what resulted from the combination of the methods, nor do they justify why the use of mixing the methodologies was essential. Lieber and Weisner (2016) and Bryman (2011) also note that another major challenge is that the majority of studies tend to report qualitative and quantitative findings separately without interweaving the two, mostly because the two seem to be answering different research questions. In line with this thinking, Johnson and Onwuegbuzie (2004) advise that for the methodology to be considered a mixed-method, the mixing or integration of the results should be an obvious core element of the study. For this research project, the design of the study, the collection and analysis of data and the presentation of results are made cognisant of these pitfalls and every effort is made to move away from them.

To better understand adaptation and resettlement, this research combined exploratory and convergent mixed method designs (Creswell and Plano Clark, 2011; Creswell, 2014): initial qualitative data were collected and analysed that improved the design of the questionnaire. The collection of quantitative data and further qualitative data were done in parallel. While three of the primary data collection approaches were qualitative (focus groups, semi-structured interviews and participant observation), findings were complemented by the household and online questionnaire survey as well

as other secondary datasets and documents. To ensure that the approaches were able to complement each other, the data collection tools covered the same or very similar themes, albeit viewed from positions of different participants (see Annex 1: Household questionnaire and Annex 2: Focus group discussion guide for the household questionnaire and focus group guide used for the study, respectively).

2.2.2 Data collection sites and timing

Initially, the study was designed to divide the population equally into four mutually exclusive strata that manifested different outcomes of resettlement behaviour across villages and households. These were: those that have resettled, those that are planning to resettle, those that have returned and those that have refused to resettle. It was discovered during fieldwork that this categorisation could not work. At the village level, dividing villages according to these strata was not possible as a number of villages had a combination of households falling into more than one category. The second challenge was at the household level. Households that had returned were dispersed within their villages of origin, most of which could not be easily accessed. In addition, differentiating between those that had refused to resettle and those that were planning to resettle also proved difficult as the self-reports were unreliable and time-consuming. While the data collection captured some households that indicated they were planning to resettle or had returned, these two groups were combined during data entry and analysis together with the group of 'refused to resettle.' A new variable of 'not resettled' was created.

Another major challenge encountered during fieldwork was logistical in nature. The majority of original villages were located in floodplains demarcated by rivers with no bridges or access roads connecting the upper and lower land. These were the villages where households had moved from and where most of those that had refused to resettle or returned after resettling were located. The only available means of transport was through local, uncertified canoes across rivers where cases of crocodile attacks were commonly reported. It was, therefore, decided that these high-risk areas would not be visited. However, those villages where the canoes were in slightly better condition and cases of crocodile attacks were not reported, or those that did not require crossing rivers, were visited (see Figure 2:1).

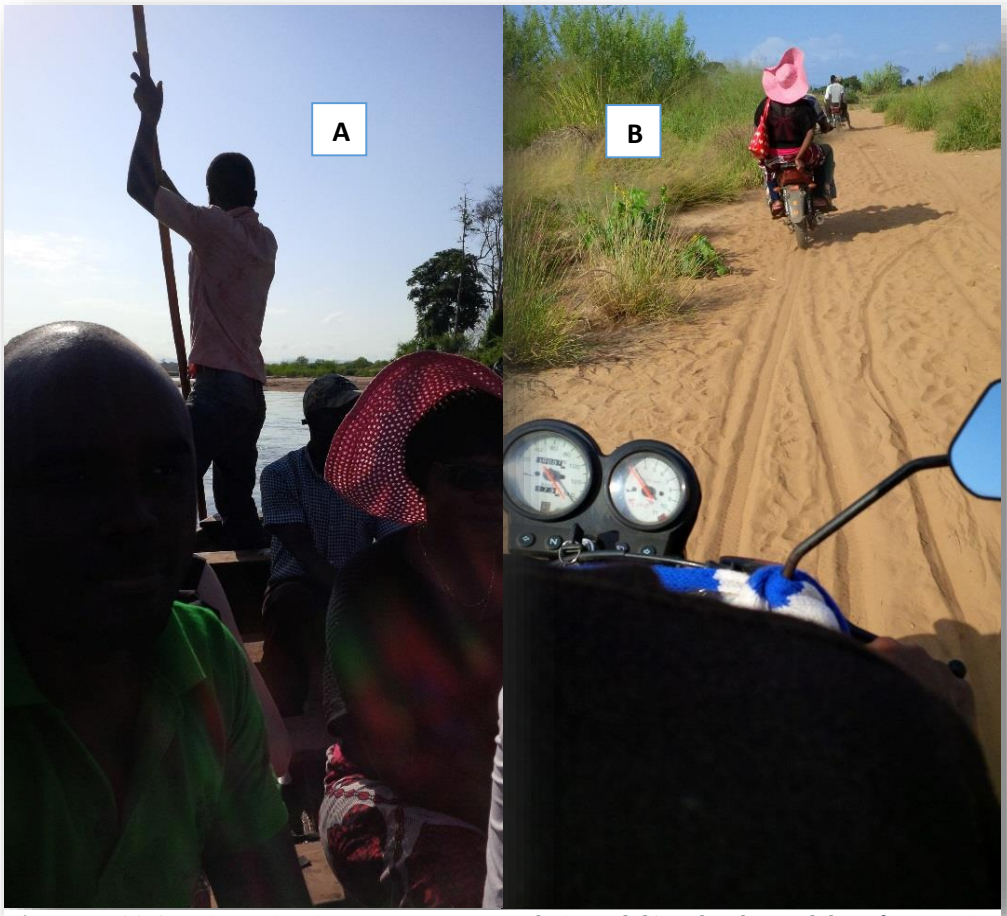

Figure 2:1 *(a) Crossing a river in a canoe to a research site and (b) on local motorbikes after crossing the river with research assistants*

Source: author

Fieldwork was conducted in Nsanje and Chikwawa districts in southern Malawi and Mzuzu city in northern Malawi, as primary locations. In addition, chapter 3 that focuses on governance aspects also collected data from ten additional districts of Phalombe, Mulanje, Blantyre (rural), Balaka, Machinga, Mangochi, Salima, Dedza, Nkhatabay and Rumphi. Data were also collected in Lilongwe, the capital city of Malawi, where central government as well as most NGOs and donors are based. Fieldwork commenced in July 2015 and was completed in June 2016. However, in the course of data analysis and write-up, additional and follow-up interviews were conducted between July and December 2016 through phones, email or skype. The period of fieldwork commenced while some of the displaced people were still in camps and continued up to a time when the camps were decommissioned and those displaced had either resettled or returned.

2.2.3 Access

Fluency in the language of the people being studied is considered a key asset that eases acceptance in a community as it helps in establishing rapport and gaining access to sensitive or hidden information (Borchgrevink, 2003; Bernard, 2013). As Bernard (2011, p. 270) advises: "the most important thing you can do to stop being a freak is to speak the language of the people you're studying—and speak it well." I did not require any language training or a translator as I was conversant in the languages spoken in my study sites. One advantage of being a government employ who has worked in the study areas was that I had limited challenges in accessing research sites and participants, other than those mentioned in section 2.2.2. I already knew most of the gatekeepers in the locations or knew people who connected me to them. My background also made it easy for me to participate in meetings, workshops and other activities related to my study at different levels.

My vast reach at national level also made it easier for me to arrange interviews with key informants. At district level, the initial point of contact was the office of the district commissioner (for Chikwawa and Nsanje) or chief executive officer (for Mzuzu city). During these initial meetings, I introduced myself and my team, explained the purpose of the research and sought permission to conduct the study in the district or city. The district commissioners and chief executive officer were also key informants and interviews were also conducted with them. In each district, a gatekeeper was identified from within the council, prior to travelling to the area, who provided contact details of other gatekeepers at local level. Each key informant was sent an email and/or called in advance where possible. All interviews with practitioners at national, district and city levels were held in the respondent's offices or at an agreed location.

At community level, gatekeepers were the first points of contact. The gatekeepers assisted in organised key informant interviews and focus groups. They also sent advance communication to the village head about the study. In each village, before commencing data collection, the village head was visited who provided permission to conduct the study. The village head also provided the venue for most focus groups. Since the village head was also a key informant, interviews were also conducted with him or her. Key informant interviews and household surveys at local level were conducted within the home of respondents.

Part of the data collection was jointly done with another PhD student from Trinity College Dublin, Ireland, who was focusing on gender dimensions of adaptation to climate change. Due to language challenges for her, a translator was recruited. The data collection sheets were merged so that both her questions and mine were covered within a single session.

2.2.4 Triangulation

To achieve better results through more in-depth understanding and completeness, most scholars recommend multiple triangulations covering methodology, data, investigator or theory (Denzin, 1970; Arksey and Knight, 1999; Thurston et al., 2008; Bergman, 2011; Bryman, 2016; Flick et al., 2012; Flick, 2014). For this study, *methodological triangulation* was approached not only through the use of quantitative and qualitative methods, but also by using multiple qualitative data collection methods, thereby allowing "… complementary compensation of the weaknesses and blind spots of each single method" (Flick, 2014: 30). The focus group discussions, observations and key informant interviews assisted in understanding why people adopt certain adaptation behaviours. On the other hand, the survey provided complementary data for inferential statistics as well as variations in behaviours within adaptation and resettlement.

At the level of *data triangulation*, the study followed a recommendation by Denzin (1970) who suggests using three different levels of unit of analysis in terms of the 'person': aggregate, interactive and collectivity. At the *aggregate* level, the study focused at heads of households, their spouses or individual key informants. At *interactive* level, the focus was on groups of research participants and at *collectivity* level, the study focused on the village, district and national scales. These different scales provided insight from different points of view but on the same or very similar areas. In addition, within data triangulation, the study used three sources of data: primary research, document review and secondary datasets. At the level of *theoretical triangulation*, the design and execution of the study was multidisciplinary, combining social-psychology, political economy and geography. From social psychology, the protection motivation theory and previous empirical studies on risk perception were utilised. The field of political economy and public administration provided the governance aspects of the study, while theories and literature on resettlement, adaptation and disaster risk management from geography were also used.

Scholars recommend investigator triangulation as a way of addressing some of the challenges encountered during fieldwork associated with mixed methods, such as researcher bias, reliability and validity of the data generated (Denzin, 1970; Thurston et al., 2008; Archibald, 2015). In addition, Krueger and Casey (2001) suggest the use of moderators and researchers who do not hold positions of power in relation to the study to address power differentials. At the level of *investigator triangulation*, towards the end of my fieldwork part of the data collection was jointly carried out with another PhD student who was studying gender dimensions of climate change adaptation. In addition, experienced research assistants were recruited and trained who assisted with the data collection. This also allowed for divisions of labour among the team members: for instance, my research partner was mostly involved in leading key informant interviews at national and district level. I assisted with the logistical aspects, translations, but also led some of the focus groups and KII. I also did participant observations and administration of questionnaires. The research assistants administered the bulk of questionnaires, while one also assisted with translations.

2.2.5 Data collection methods

2.2.5.1 Questionnaire survey

The questionnaire was drafted before the fieldwork, though it was further refined after analysing initial findings of preliminary focus groups and key informant interviews. The initial qualitative data assisted in refining some of the questions and response choices. The questionnaire was thereafter translated into local language and, together with research assistants, pretested on a sample of the target population. The pretesting was done to check if the tool captured the study's objectives, but also to ensure that it was simple enough to be used by the research assistants. The pre-testing did not identify major issue, other than a few questions that required rephrasing.

According to the third Integrated Household Survey report, 45.9% of the population in Nsanje and 44.4% in Chikwawa have never attended school, with literacy rates of 45.5% and 48.6%, respectively (NSO, 2012a). As a result, the household questionnaire was translated into local language and administered through face-to-face structured interviews. The questionnaire interviews were conducted within the home of

respondents as there were some questions that required physical observation of respondents' assets. On average, one questionnaire took 45 minutes to complete.

The household questionnaire was divided into eight main sections: i) basic information, which covered general demographic characteristics of a household and access to services; ii) employment and livelihoods; iii) agriculture; iv) household responsibilities; v) decision-making and social capital; vi) risks and hazards; vii) weather, climate change and adaptation and; viii) resettlement. The organisation was in form of a funnel approach (Oppenheim, 1992), where the first few questions were general introductory ones meant to set the tone, before progressing into more specific areas. The online survey targeted practitioners and had more specific questions on climate change, adaptation and resettlement practices. Although the majority of the questions were close-ended, there were a few open-ended questions. Most questions had an 'other' option to allow for additional responses. During the data entry stage, responses to the open-ended and the 'other' responses were coded and entered as separate variables.

2.2.5.2 Semi-structured interviews

Barriball and While (1994) argue that semi-structured interviews are important for research that attempts to explore opinions and perceptions on complex and/or sensitive issues. The interviews allow probing of issues as well as seeking clarification, while also reducing the risk of social desirability. They also allow a researcher to find out things that cannot be observed, while also bringing out tacit perceptions, understandings and feelings (Arksey and Knight, 1999). The focus of semi-structured interviews is on particular themes of interest to the researcher which are elicited using open questions (Brinkmann and Kvale, 2015).

Elites and other officers working within government, NGOs, UN agencies, academia, politicians and donors were particularly targeted for semi-structured interviews as it was a challenge to bring them together in focus groups. Local chiefs and members of local committees responsible for adaptation and disaster risk management were also interviewed. Those targeted were either geographically dispersed, or very busy. I also chose semi-structured interviews for elites and practitioners as they gave room to explore issues in-depth. This could not have been obtained through a questionnaire. A

standardised interview schedule was developed that guided the interviews. An interview guide was developed and used during the interviews.

2.2.5.3 Focus groups

Apart from being less time consuming, focus groups are flexible and offer breadth in use. Epistemologically, they can be used within essentialist or social constructionist frameworks. Focus groups allow observation of people's interaction in collective sense-making in terms of "how views are constructed, expressed, defended and (sometimes) modified within the context of discussion and debate with others" (Wilkinson, 1998: 186). By being able to tell what people know through different forms of interaction, and also being able to provide data on group norms, focus groups provide dimensions that cannot be tapped through interviews (Morgan, 1997). Other strengths of focus groups include: i) they release participant inhibition by allowing full and open expression of perceptions, thoughts, feelings, experiences and attitudes; ii) they are able to handle contingencies; iii) they allow data to be easily interpreted due to the wide range of responses and; iv) they can provide exploratory information that could be used to formulate research questions and hypothesis (Byers and Wilcox, 1991; Morgan, 1997).

Focus group discussions were conducted with ordinary community members in the study areas. Separate focus groups were held for men and women to understand different perceptions, but the majority were mixed. A checklist was developed for focus groups that guided the discussions. Focus groups were conducted at a common meeting point for the village. Each focus group lasted between one and a half to two hours and participants were drawn from within the community. Participants had to be those affected by the floods and/or drought. A mixture of other attributes such as gender, age, marital status and level of income were considered when selecting participants, depending on whether it was a single-gender focus group or mixed.

2.2.5.4 Participant observation

Participant observation involves taking "part in the daily activities, rituals, interactions, and events of a group of people as one of the means of learning the explicit and tacit aspects of their life routines and their culture" (DeWalt and DeWalt, 2002, p. 1).

DeWalt and DeWalt (2002) advise that when considering a study that involves participant observation one has to consider the research design elements: the kind of research questions; research site selection in relation to the research question and practical implications; the relevance and representativeness of the sample selected, and; the data capturing, management and analysis strategies.

I observed the resettlement process and local adaptation and leadership practices at different levels. At national level, I attended meetings that focused on the study's areas. At district and village levels, I participated in several local meetings and activities. I also accompanied government officials during monitoring or supervisory activities on programmes related to the study. I also observed communities in their daily livelihood and adaptation practices such as in their gardens, at local markets and within homes. In conducting observations, I mostly used passive and unobtrusive approaches so as to avoid influencing the processes in any way. Kawulich (2005: 15) advises taking the attitude of "treat me like a little child who knows nothing," as this allows informants to be very open and help in discussing, demonstrating or explaining aspects important to the study. Wherever necessary, I asked questions to get a clearer picture of whatever process or activity was being observed. The observations also involved transect walks through the communities to observe behaviours and practices.

A field diary was used to record key observations made during the field visit, including observations made during focus groups and other data collection methodologies. A key reason for maintaining a research diary lies in its ability to be "a coherent central record of project ideas, information and activities, and its use as a stimulus for reflective thinking" (Newbury, 2001, p. 8). A diary also allows internal dialogue that assists in analysis and comprehension of key issues encountered in the course of research, while at the same time enhancing critical thinking (Smith, 1998; Moon, 1999). The output of the field diary forms part of the reflexive account in Chapter Seven.

2.2.5.5 Document analysis

In addition to primary data collection, the study also analysed several secondary published and unpublished documents from both state and non-state sources. These included policy documents, acts of parliament, speeches, budgets, official web-pages,

workshops reports, minutes of meetings and reports of other field-level activities relevant to the study. In addition, relevant print and electronic media publications were accessed and used.

2.2.6 Sampling technique and sample size

Before discussing the sampling procedures, it is important to present the administrative divisions of Malawi as this will help in understanding the sampling strategies. Malawi is divided into 28 administrative districts, four cities and two municipalities (collectively referred to as local authorities). A District Commissioner heads each district, while a Chief Executive Officer heads cities and municipalities. Further, cities and municipalities have a mayor while districts have a chairperson, both elected as local councillors. Each district is itself composed of numerous Traditional Authority (TA) areas. Each TA area is governed by a Traditional Authority and is made up of a number of 'Group Village Headman' (GVH) areas. A GVH area is a collection of villages and is headed by a 'Group Village Headman.' The smallest administrative unit is a village, which is a collection of households and is led by a 'Village Headman.' For cities and municipalities, the equivalence of a TA is a ward, then a neighbourhood and a block.

The first step for both qualitative and quantitative methods sampling was to carry out a cluster sampling to identify the villages where the research was to be conducted. Initially, traditional authorities that were affected by the 2015 floods were selected. From these TAs, villages in four clusters were to be selected: where people have resettled, where they have refused to resettle, where they are planning to resettle and where they have returned. However, as reported in section 2.2.2, this categorisation of villages met several challenges and was abandoned. Considering that of relevance to the study was whether an individual or household had resettled or not, and not necessarily villages, the critical factor was the sample size falling within the two resettlement outcomes.

Since the social context can affect the way people perceive and respond to adaptation (Adger, et al., 2005), it was important to select villages by considering some social confounders that might affect responses. While finding exact villages that would fit within all the characteristics in the study areas was not possible, the sampling for Nsanje and Chikwawa where the questionnaire survey was administered ensured that as

much as possible of the following factors were matched, or at least similar, in the selection of villages:

a) Access to social services: schools, health facility, potable water and food-produce market;
b) Reliance on both rain-fed agriculture and cultivation along river banks or flood plains;
c) Presence of NGO or government projects on climate adaptation or disaster risk management;
d) Impacted by the 2015 floods;
e) Impacted by the 2015 and 2016 drought/food insecurity.

Initially, the size of the village was one of the confounding factors to be considered, but this was abandoned when it was noted that the resettlement process had greatly affected village sizes. While it is recommended that sample sizes should be representative of the population, there is no definite sample size as it all depends on several factors. De Vaus (2004) suggests that when considering sample sizes, one has to consider variations or stratification in the sample in relation to key variables, the precision of estimates from the sample, whether important decisions are to be made based on the sample, the cost and time implications and how the data will be analysed. For household questionnaires, simple random sampling was used to select the households. Research assistants visited each of the third house in each village where the study was conducted.

For focus groups and key informant interviews, separate focus groups and interviews were held for individuals falling within the two key categories. Selection of participants in key informant interviews was based on a predefined category of targeted stakeholders: the study focused on those that had some role in the resettlement process, or those that had responsibilities related to climate change and/or disaster risk management.

The complexity of everyday life, time and financial resource limitations made it difficult to observe every aspect of life. Although fieldwork in anthropology requires spending considerable amount of time in the field, it is possible to undertake participant observation within shorter periods such as weeks or months, especially for those already familiar with the research sites and participants, or those with restrictive timeframes (Bernard, 2011, 2013; Brockmann. 2011; Bryman, 2016). In addition, the study was not located within one geographical area, which required movement from one site to another. Rather than following every aspect of behaviour in the study areas, the study was only

interested in certain behaviours and activities at community, district and national levels. Therefore, a systematic (or structured) observation was used, where only important elements of participant's activities were observed, both as an observing participant and a participating observer depending on the context (Denzin, 1970; Bernard, 2011, 2013). Johnson and Sackett (1998) state that systematic observation helps in directing who to observe, where to observe, when to observe and how to record the observations. The focus was on specific aspects of individual, group or institutional activities that were of interest to the study.

In total, 34 focus groups, 140 key informant interviews (with chiefs, community-level key informants, district-level government and NGO officials, central-level government and NGO officials, United Nations and development partners, private sector, academia and politicians), 353 household questionnaire interviews and 70 practitioner questionnaire interviews were conducted (see table 2-1). During the same period, I observed as a participant 30 monitoring or supervisory visits and attended at least 20 workshops or meetings at different levels[2].

Table 2-1 Summary of key research respondents

Method	***Respondent category***	***Location***			
		Central/HQ level	**Nsanje**	**Chikwawa**	**Mzuzu**	**Other districts**
Focus groups N = 34	Mixed		6	6	4	
	Men		3	3		
	Women		3	3		
	Youths		2	2		
	Elderly		2			
Key informant interviews N = 140	Chiefs (include both individual and group interviews)		27	26	3	
	Local key informants		3	2	3	
	District officials		15		6	11

[2] The figures presented here are the totals for the whole study, covering all four papers. While most of the research participants across papers were the same, some papers targeted specific groups of people, as explained in individual papers. Some of those that responded to the practitioner questionnaire were the same as those targeted for key informant interviews. However, focus group participants were different from those that responded to the household questionnaire, or the local key informants.

	(including district-based NGOs)					
	NGOs central level	10				
	UN and development partners	7				
	Government central level	20				
	Private sector		1			
	Politicians		1			
	Academia	5				
Household questionnaire interviews N = 353	Male		76	46		
	Female		101	129		
	Missing gender		1			
Practitioner semi-structured questionnaire interviews N = 70	NGOs	15	4			
	Government	21	1	1	2	7
	Academia	6			1	
	UN and donors	7				
	Media	4				
	Private sector	1				

2.3 Complementary data sources

In addition to primary data collected by the researcher, the study also used other secondary and primary datasets to contribute to the strength and validity of the research findings. Table 2-2 provides a summary of, among others, the key additional sources of data, the type of data they provide, methodology used to collect the data and its relevance to this PhD project. The table also indicates the chapter(s) where each of the data sources has been used. The information covered in Table 2-2 excludes other secondary data sources utilised, such as reports, minutes, legislative and policy documents.

***Table 2-2**: Additional data sources*

	Data type	Data source	Geographical coverage	Period covered	Methodology used in collecting data	Relevance to research	Frequency of data collection	Chapter where used
1	Livelihood and vulnerability profiles	Malawi Vulnerability Assessment Committee	National	2015	Household economy approach	Provides information on the livelihood profiles of the study areas as well as common measures applied to address shocks and stresses	Once every 5 years	1 & 5
2	Rainfall	Department of Climate Change and Meteorological Services	National	1971-2015	Rain gauge recordings	Provides information on rainfall variability and evidence of any long-term change	Daily	5 & 6
3	Disasters	Department of Disaster Management Affairs	National	1946-2016	Observation, household enumeration	Provides historical information on disaster occurrence, impact and response provided	Daily as when disaster occurs	1, 3, 4, 5 & 6
4	River levels	Department of Water Resources	National	1970-2011 (varying)	River gauge recordings	Provides river levels and forecast of floods	Daily as per water levels	5
5	Food insecurity	Malawi Vulnerability Assessment Committee	National	2003-2016	Household economy approach	Provides historical information on household affected by food insecurity, which is closely linked to droughts, floods and livelihoods	Annual	1, 3, 4, 5 & 6

6	2015 Floods detailed impacts	World Bank and Department of Disaster Management Affairs	National	2015	Damage and loss assessment (DaLA) and Human Recovery Needs Assessment (HRNA)	Provides detailed information on impact of the 2015 floods on districts and sectors	Once	1, 3, 4, 5 & 6
7	2016 drought detailed impacts	World Bank and Department of Disaster Management Affairs	National	2016	DaLA and HRNA	Provides detailed information on impact of the 2016 drought on districts and sectors	Once	1, 3, 4, 5 & 6
8	Household conditions	National Statistics Office	National	2010/2011	Nationally representative random household survey (integrated household survey)	Provides key household, community, agriculture and fisheries characteristics of the country	Every 5 years	6
9	Socio-political and economic attitudes	Afrobarometer survey	National and regional (35 African countries covered)	2014-2015	Nationally representative random survey	Provides public attitude data on democracy, governance and economic conditions of the country	Periodic	4

2.4 Ethical considerations

Section 7.2.4 in chapter 7 reflects on some of the key ethical issues encountered in conducting the study, as well as the approval process. The ethical approval for this study was granted by the University of Sussex's Cross-Schools Research Ethics Committee. Further approvals were provided in Malawi at national level and at district level through District Commissioners and Chief Executive Officer where fieldwork was conducted. All the information collected has been treated with strict confidentiality, maintaining anonymity. Pseudonyms have been used instead of real names, wherever necessary. However, in certain cases, respondents indicated that their details can be revealed. This was often the case for local elites or officers from government and NGOs. The outputs of the study, however, have not used names of respondents, even where consent was provided. The research, however, had a low-risk rating and did not pose any particular threat to participants at any stage. Participation was voluntary, which was clearly communicated to all participants. All participants were informed about the purpose of the study, why they were selected, and their right to withdraw their participation at any time. None of the research participants withdrew their participation in the study, although a few key informants could not make themselves available due to other commitments. Raw datasets were also anonymised and encrypted with the encryption password known only to the researcher.

2.5 Data analysis

Largely, the analysis of the data, presentation of results and their discussion integrated the qualitative and quantitative findings into a single narrative frame. Since the study used a mixed methods design, a convergent side-by-side data analysis and reporting approach was adopted (Creswell and Plano Clark, 2011; Creswell, 2014). Qualitative and quantitative data were analysed separately but presented and discussed side-by-side, noting any convergence or divergence between the two sources. For all papers, more than one qualitative data collection method was used. During analysis and reporting, results from focus groups, semi-structured interviews and observations were presented and discussed jointly.

Household questionnaire data were entered into a spreadsheet, which was exported to IBM SPSS Statistics 23 where most of the quantitative data analysis was

conducted. In addition, some data analysis and drawing of graphs were done through MS Excel. Descriptive statistics were mostly in form of frequencies and cross-tabulations, while Chi-square and binary logistic regression tests were the main inferential statistics used. The quantitative analysis was further guided by the literature as well as findings from other data sources. For instance, if focus group and interview participants mentioned income as a common challenge and a possible factor influencing adaptation decisions, this was tested through inferential statistics to determine its statistical significance in predicting resettlement outcomes.

A recorder was used to capture focus group discussions and semi-structured interviews. Permission was sought from participants to use the recorder before its use. The recorded data were transcribed before it could be analysed. After transcribing, data were merged with field notes and analysed using thematic and constant comparison analysis (Charmaz, 2003; Ryan and Bernard, 2003; Braun and Clarke, 2005; Leech and Onwuegbuzie, 2007; Onwuegbuzie et al., 2009; Bryman, 2016). The use of multiple categories of research participants to look at the same or very similar issues necessitated these analysis approaches for qualitative data. The approaches were also key to the study since it was comparing practices between two groups adopting distinct adaptation outcomes.

Following largely on Bryman (2016), Onwuegbuzie and colleagues (2009) and Braun and Clarke (2005), the analysis initially involved getting acquainted with the data through active review of field notes and transcripts, which was followed by identification of codes from the datasets. The codes were then combined and transformed into themes or patterns, and related themes were thereafter combined and categorised. Since this study was comparing two study groups but also using different participants, a key component of the data analysis process was to identify relationships in form of agreements and disagreements across themes and participants. The qualitative data analysis process also identified key quotations that were used to illustrate key themes coming out of the data.

2.6 Conclusion

The use of mixed methods assisted in providing richer information, while compensating for shortfalls of one approach over another. If only a questionnaire survey had been used, the detailed explanations for certain behaviours being adopted and the challenges that communities are facing could not have been fully understood. Similarly, relying only on

qualitative data could not have quantified the variations in behavioural outcomes. While semi-structured interviews provided critical information that may not have been obtained in a group context, the focus groups allowed different views to be expressed. Through focus groups, participants could agree or disagree on an issue, something that was not possible in the semi-structured interviews. Observing people as they performed their normal tasks also assisted in confirming or adding on to the findings obtained through the other approaches. Finally, the review of documents provided necessary background information, while also giving additional evidence to complement the findings.

The choice of methodology was partly to address some of the fears regarding the identity and position of the researcher. However, in retrospect, some of the assumptions and fears relating to these ended up being unfounded during fieldwork. In several instances, interviewers with peers and communities were fruitful because of their awareness of researcher's identity and position. This also depended on prior work rapport built with them. Nevertheless, the methodological choices made mitigated against major challenges during fieldwork and provided a more comprehensive understanding of the phenomenon.

CHAPTER 3 : ‘Government doesn’t have the muscle’: state, NGOs, local politics and disaster risk governance in Malawi - Paper 1

Abstract

The Sendai Framework for Disaster Risk Reduction, 2015-2030, calls for countries to strengthen disaster risk governance systems as a pathway to disaster risk reduction. This paper assesses the disaster risk governance system in Malawi, Sub-Saharan Africa, to understand how the positioning of multiple actors is contributing to the creation of an environment generating either positive or negative outcomes. The study utilises a landscape governance analytical framework grounded within network governance theory and predominantly relies on qualitative approaches. The study finds that non-governmental organisations are delivering the majority of disaster risk management services in the country. However, there are shortfalls within and across key actors and institutions that are frustrating progress and could reverse isolated gains that the country has made. While central government is largely detached from community level implementation, its incapacity is worsened by politicians and local government actors who have positioned themselves to capture risk reduction finance. The paper, therefore, questions the rationale behind the urgency in decentralising disaster risk governance before addressing critical challenges within the local government system. These findings, while specifically for Malawi, are also pertinent to other developing countries struggling to deal with the consequences of climate variability and change.

Keywords: *disaster risk governance; Malawi; decentralisation; climate change; NGO*

3.1 Introduction

The significance of governance in disaster risk management (DRM) is evidenced by the inclusion of disaster risk governance as the second priority for action in the Sendai Framework for Disaster Risk Reduction, 2015-2030: '*strengthening disaster risk governance to manage disaster risk'* (UNISDR, 2015). Effective disaster risk governance is instrumental to successful disaster risk reduction and adaptation to climate change and variability. Governance has been seen to play an important role in defining vulnerability to disasters, either by protecting or increasing the ability of those exposed to hazards to protect themselves where governance is effective or by increasing vulnerability where it is ineffective (Werg et al., 2013). Disaster risk governance as a process involves political commitment, participation and coordination of a network of actors operating at different scales with the aim of achieving certain DRM goals (Tierney, 2012; Melo Zurita et al., 2015; van Niekerk, 2015). Each actor, while working within a network, may have their own agenda, approaches and perceptions, which may lead to both complementarity and contradictions (King, 2007; Bankoff and Hilhorst, 2009).

Malawi is a key recipient of adaptation finance in Africa, though data for 1996-2011 show that, of total aid received, only 6% of activities, 4% of projects and 1% of committed funds were directed towards climate change (Baker et al., 2013; Barrett, 2013, 2014). Most of this aid is channelled through a network of non-state actors. However, the financing has not translated into enhanced disaster resilience, with climatic disasters becoming endemic. The 2017 Global Climate Risk Index by Germanwatch ranked Malawi as the third most affected country in the world by weather-related extreme events in 2015 (Kreft et al., 2016). Concerns have also been raised on the absence of a decentralised disaster risk governance system in Malawi. However, the overall decentralised system in Malawi has largely been inefficient and previous studies have attributed this to absence of local councillors, inadequate fiscal and human resource devolution, political settlements and related principal-agent challenges (Kayuni and Tambulasi, 2011; Tambulasi, 2011; Chasukwa and Chinsinga, 2013; O'Neil et al., 2014; Chiweza, 2015).

The aim of this paper is, therefore, to assess how Malawi's disaster risk governance architecture is contributing to either positive or negative DRM outcomes, or both. The paper looks at the actions and inactions of the actors and institutions in DRM

and assesses how these are enhancing disaster risk management in the country or providing barriers to successful disaster risk management.

In doing so, several questions guide the analysis, which include: Who are the key players in disaster risk governance in Malawi and at what scales do they operate? To what extent do the stakeholders and institutions collaborate and what are the incentives and disincentives? How feasible is decentralised disaster risk governance? How effective and accountable are the institutions and stakeholders? In answering these questions, the paper adopts a theoretical framework based on multi-level and network governance theories. The rest of the paper is organised into four main sections. The first section starts by providing the theoretical and analytical frameworks for the paper and then reviews key literature in disaster risk governance. This is followed by the methodology section. The third section presents and discusses the results of the study, while the last section summarises the key conclusions and contributions of the study.

3.1.1 Network governance and governance landscape

Multi-level governance theories attempt to understand the interplay between multiple actors, multiple scales of government, multiple sectors and multiple implementation arrangements in addressing complex challenges and wicked problems like climate change and disasters. It promotes both vertical and horizontal cooperation across actors and institutions, thereby closing the policy gaps that may exist across levels of government (OECD, 2010; Bulkeley, 2010; Vedeld et al., 2015). *Network* governance theory is a component of multilevel governance that recognises that service delivery has become more complex, necessitating a shift from bureaucratic and rigid hierarchical systems of governance (Provan and Milward, 2001; Goldsmith and William, 2004; Bulkeley, 2010). A *hierarchical* governance model adopts a multi-level command-and-control coordination approach, where decisions are made following established rules and policies at the top (Hanssen et al., 2013).

Key to the network governance theory is the recognition that development outcomes do not just result from combined efforts of agents and institutions, but arise more from a network within which agents and institutions exist and co-exist (Jones et al., 1997). The aim is to provide the best services as a whole, distinct from what could have been produced individually without collaborating, where diverse expertise and resources are collectively at the disposal of the network (Goldsmith and William, 2004).

Two key forms of networks are relevant to this study. In a *joined-up government* network, service delivery is jointly done by different government agencies, where they coordinate their efforts and share information (Goldsmith and William, 2004). In *third-party government*, non-state actors are used to deliver public services (Goldsmith and William, 2004). States that strongly rely on non-state actors for single or joint delivery of public services are considered 'hollow states', though they may retain monitoring and coordination functions (Milward, 1996; Goldsmith and William, 2004).

Writing within the context of earthquake risk reduction in Nepal and India, Jones, Oven and Wisner (2016) propose a governance landscape analytical framework that considers three contexts: *stakeholders*, *institutions* and *incentives*. The stakeholder context is about the players involved in DRR and how these relate and interact, who include both state and non-state actors. The institutional context focuses on the agencies responsible for enforcement of standards and regulations and delivery of DRR services. The incentives and disincentives can affect the performance of government officials and other actors.

To bring the key issues together, the study adapts Jones et al.'s (2016) governance landscape analytical framework and applies it within a network governance theory. While maintaining the three key elements of the framework, the study integrates additional elements within network governance theories. For instance, stakeholders and institutions are considered jointly as, in the context of this study, it becomes challenging to disentangle institutions from stakeholders or actors. The paper is thus organised along three key analytical areas: first, *network actors and institutions* that focus on network governance systems, politics and decentralisation. The second part looks at the *incentives and disincentives* for collaboration, and the last element looks at *accountability* aspects.

3.1.2 Disaster risk governance

Disaster risk governance comprises norms, actors and practices that are established primarily to reduce the impact and losses from disasters. The norms include legal and policy frameworks as well as other mechanisms that promote collective action (Tierney, 2012). Good disaster risk governance can be achieved when there is "existence of public capacities and local institutions designed to support vulnerability reduction measures" (Werg et al., 2013, p. 1615).

It is generally acknowledged that the most critical engagement of actors and actual implementation of global and national policies occur at the local level, where the actors are close to, or within, the policy issue (Wisner et al., 2004; Scott and Tarazona, 2011; Melo Zurita et al., 2015; Garschagen, 2016). Decentralisation of power and resources to local authorities is, therefore, an important facet of disaster risk governance. In theory, decentralisation of disaster risk governance does not just bring government closer to the people, but empowers them through their participation while at the same time improving the capacity of local government and communities to undertake DRM functions (Allen, 2006; Manyena, 2006; Parthasarathy, 2016; Rumbach, 2016).

While decentralisation has been seen to be beneficial, evidence also reveals multiple challenges. Studies from Vietnam (Garschagen, 2016), Pakistan, (Mustafa and Wrathall, 2011), Thailand (Marks and Lebel, 2016), Indonesia (Djalante and Thomalla, 2012), Cameroon (Bang, 2014), Zimbabwe (Manyena, 2006), South Africa and Mozambique (Scott and Tarazona, 2011) show that decentralisation has not achieved the desired goals at the local level. For instance, DRM decentralisation has given powers to political elites to use resources meant for disaster response for clientelistic relationships (Scott and Tarazona, 2011; Blackburn, 2014; Parthasarathy, 2016). Like most developing countries, Malawi's decentralisation process under democratic governance has met challenges to the extent that some scholars have described it as a 'black box' (O'Neil, 2014), 'chaos' or 'crisis' (Kayuni and Tambulasi, 2011). Wunsch (2001, 2013) argue that most challenges facing decentralisation in African states can be explained by the inclination of the centre or local elites to continue capturing resources and authority, thereby creating principal-agency challenges.

3.1.3 NGOs and DRM

NGOs perform multiple generic functions: they deliver services on behalf of government, collaborate or compete with government in delivering services, pilot new or alternative interventions, advocate for change in policy and practice and criticise government mishaps (Luna, 2001; Bankoff and Hilhorst, 2009; Batley and Rose, 2011). In disaster risk governance, NGOs have been seen as important players in countries that are less prone to disasters, where government's interest in DRR is limited (Izumi and Shaw, 2012b). For most developing countries, capacity shortfalls and inadequate state funding have shifted the locus to NGOs who undertake most of the states' functions, including

adaptation and DRM (Benson et al., 2001; Allen, 2006; Batley and Rose, 2011; Tierney, 2012; van Niekerk, 2014, 2015; Jones et al., 2016). Compared to the state, NGOs' are at an advantage as they use participatory and community-based approaches, are considered to be quicker in the provision of services and are able to work with the marginalised (Benson et al., 2001; Bankoff and Hilhorst, 2009; Johnston, 2014).

However, challenges have been noted in NGOs' efforts in DRM. Most NGOs concentrate on humanitarian response and there have been questions about the effectiveness of NGOs' interventions and their lack of accountability (Izumi and Shaw, 2012a, b; Tierney, 2012; Espia and Fernandez, 2015; Cheema et al., 2016; Jones et al., 2016). Islam and Walkerden's (2015) post-disaster study in two villages in Bangladesh found that NGOs' relief efforts are marred by corruption, favouritism, delays, high-interest rates on microcredit and coordination challenges. In some cases, the focus of NGOs on humanitarian relief makes communities view them as outsiders who only come to the community to provide aid and leave thereafter (Espia and Fernandez, 2015).

3.2 Methodology and study location

This paper is based on data collected over two years between September 2014 and October 2016, with fieldwork being carried out in Malawi between July 2015 and June 2016. The study collected qualitative data through semi-structured interviews with key informants, participant observation and document analysis. Interview participants were purposively selected from government ministries, departments, NGOs and development partners involved in DRM or climate change. While at least 20 national-level interviews were primarily formal, several informal interviews were conducted during meetings and participation in other activities. Interviews were also held with 15 district level government and NGO officers actively involved in DRM or climate change adaptation from twelve districts of Phalombe, Mulanje, Nsanje, Chikwawa, Blantyre (rural), Balaka, Machinga, Mangochi, Salima, Dedza, Nkhatabay and Rumphi, all of which are vulnerable to multiple hazards according to Malawi's hazard and vulnerability atlas (*Figure 3:1*). Follow-up interviews were also conducted with 13 key informants between July and November 2016 through emails, skype and mobile phone calls. Interviews primarily focused on roles of different actors in DRM; funding sources, funding arrangements and accountability; past, present and future DRM projects or interventions; plans; perceptions about the country's DRM system; challenges and best practices.

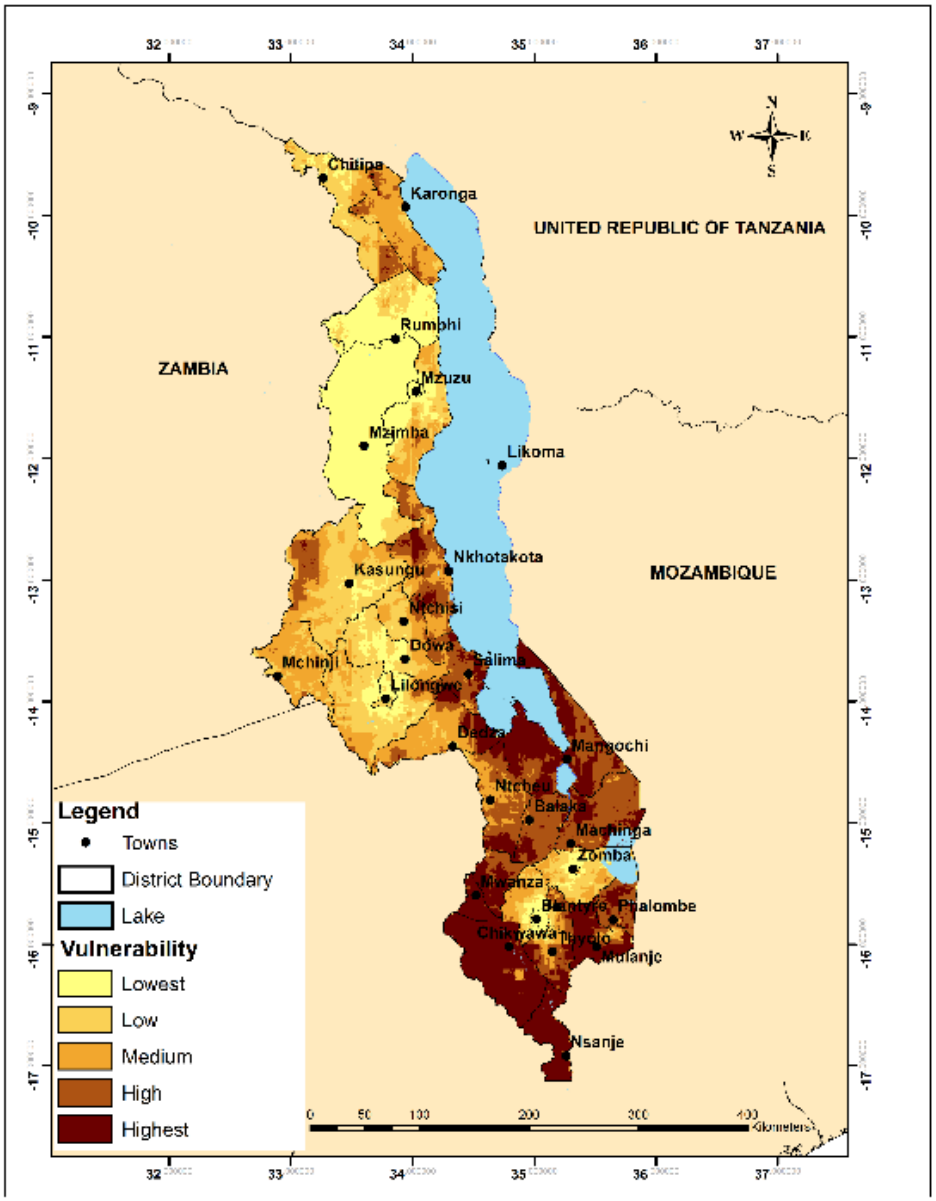

Figure 3:1: *Malawi's population vulnerability to multi-hazard*
Source: DoDMA (2015), p. 24

At least 20 workshops and meetings at national and district level were attended. Part of these workshops involved the development of national tools such as training manuals, resilience plan and DRM bill, while others were organised to share lessons or as consultative processes towards the development of plans and frameworks. The author also accompanied government, donor and NGO officials in more than 30 district and community-level project monitoring and supervisory exercises on DRR, response and recovery across Malawi. The study also benefitted from a National DRM Platform Conference held in May 2016 in Lilongwe, Malawi's capital city. The conference brought

together 210 participants from NGOs, central and local government, academia, media, councillors, chiefs and donors where several actors shared progress on project activities, policies and plans. Informal discussions were held with several participants. The focus during such workshops and field exercises was on observing the DRM practices at different levels, who the key players were, what they were doing (also where and how), challenges, while also conducting informal interviews. Relevant documents, including policies, plans, legislation and national budgets were also analysed. OECD data on climate finance to Malawi for 2013-2014 were also accessed and analysed.

Microsoft Excel was used in analysing the quantitative data to produce descriptive statistics and graphs. Qualitative data in form of transcripts, field notes and from documents were analysed using thematic analysis, where the key themes were generated (Bryman, 2016). In addition, quotes from transcribed data have been used to support the analysis.

3.3 Results and discussion

This section presents and discusses the results within the three broader structures explained within the analytical framework in the introduction. Within the network actors and institutions, it focuses on government sectors, NGOs, decentralised scale and political actors. This is followed by the incentives and disincentives that focus on the motivation and demotivation for DRM across actors and scales. The last sub-section deals with accountability issues across actors and institutions and is specifically meant to demonstrate the threat posed by corruption and accountability failures to DRM decentralisation.

3.3.1 Network actors and institutions

3.3.1.1 Joined-up government, policy and legislative framework

DRM and climate change management functions are often handled by different government ministries, though they often overlap (Schipper, 2009; Birkmann and von Teichman, 2010; Ireland, 2011; Koivisto, 2014). In Malawi, climate change falls under the Ministry of Natural Resources, Energy and Mining while DRM is under the Office of the Vice President through the Department of Disaster Management Affairs (DoDMA). Despite having different structures and policies, approaches used to address disasters and

those for climate change adaptation are largely the same and involves the same actors. The most common disasters in Malawi – floods and drought – are also climatic.

Limited capacity and the multi-dimensional nature of DRM also means that most DRM functions have to be sub-contracted. From the government side, disaster risk management activities are executed by government sectors in form of joined-up government networks. As of 2016, DoDMA had five donor-funded projects on DRR and recovery, three funded by the World Bank and two by UNDP. Of the two UNDP projects, one was on early warning systems and the other one was a generic DRM programme support. However, DoDMA's implementation of the DRM programme support was restricted to development of governance instruments such as policies, while much of the early warning project was implemented by two other government departments. Within the UNDP programme support, there was a community-based DRR component whose implementation was delegated to NGOs, community-based organisations and civil protection committees through sub-grants. Similarly, all three World Bank projects were subcontracted to service providers, who include government departments and other non-state actors. A DoDMA officer justified this:

> *DoDMA's role is coordination and as such sectoral government ministries and departments, who have specialist expertise in their sector, are allowed to lead implementation of interventions under their sector under the coordination of DoDMA. By doing this, DoDMA is of the view that different government ministries and departments will appreciate their role in DRM and know that this is not the responsibility of DoDMA alone.*

Government's DRM implementation at local and community level, when it does so, is largely hierarchical, with minimal participation of communities. When a disaster occurs, officers from central government mobilise and distribute relief items with local government officers, with communities just on the receiving end. In DRR, the department of water resources deployed equipment and personnel to three districts to rehabilitate dykes and did not involve the community.

Despite being guided by a 1991 Disaster Preparedness and Relief Act, there has been a recognised shift from response orientation to risk reduction and a DRM bill has been drafted. A DRM policy aligned to the Hyogo Framework for Action was approved in 2015 and institutional structures at national, district and local level also focus on DRR. The first priority area of Malawi's DRM policy is about mainstreaming DRM into sustainable development. The common causes of vulnerability to disasters in Malawi point to the fact that disaster risk governance requires policy changes not just within the office responsible for DRM, but across all relevant government sectors. Mainstreaming

has been shown to facilitate placement of DRM at the centre of development planning and implementation processes at all levels (Rumbach and Kudva, 2011; Jones et al., 2013). This has necessitated the review of enabling policies and laws such as those on water management, health, education, urban planning and construction so that they integrate disaster risk. The Ministry of Lands, Housing and Urban Development, for instance, is developing a national urban policy, national building regulations, a national resettlement policy and national safer housing construction guidelines that factor in DRM. The Ministry of Health is also developing a policy aimed at addressing the threats posed by climate change to the health sector.

Malawi has had two national development strategies, Malawi Growth and Development Strategy I (2006-2011) and II (2011-2016). For both strategies, DRM was one of the thematic areas jointly with social protection and has been included in the successor development plan. In the education sector, as many as five universities have introduced programmes at undergraduate and postgraduate levels on DRM. The primary and secondary curricula have been revised with DRM topics appearing in agriculture, geography and social studies. According to an officer from the Malawi Institute of Education (MIE) that develops national curricula for primary and secondary education:

> *MIE realises that impacts of disasters can be addressed if we are well prepared and ready to act and are equipped with knowledge for effective disaster risk management. Knowing that children are agents of learning in their homes and communities, MIE has integrated DRM issues in the primary and secondary school curricula in order to increase awareness on disasters amongst learners and communities at large so as to build a culture of safety and increase preparedness.*

3.3.1.2 Decentralised government

There are various actors and institutions involved in disaster risk governance at the local government scale. There also exist a web of local committees responsible for different aspects of rural life and livelihood. Under the 1998 National Decentralization Policy, ministries and departments at central level are required to devolve their functions and resources to local authorities. At present, DoDMA has not devolved its functions. Before decentralisation is undertaken, a devolution plan is developed that outlines the functions that will be devolved. The process commenced in March 2014 and by the end of 2016, the plan was not yet approved. Both government and NGOs felt the process should be

sped up, and in the words of one respondent: "*we need to move away from seeing central government directing everything at local level*."

Only 11 of Malawi's 28 districts have DRM officers who, apart from being at junior grade, are employed on non-established positions. "*Our job security is the major threat as we have to renew our contracts every year since 2010, and sometimes twice a year. We don't know what will come tomorrow*," said one district DRM officer. In the majority of districts, government relies on desk officers who belong to other government departments with their own core mandate where DRM often receives limited attention. The junior grade of existing officers has also raised concerns in some districts as the officers fail to command authority since most of the people they have to work with are senior to them. One officer shared his experience:

> *Whenever I make decisions or organise a meeting, some do not make themselves available just because I am a desk officer and being less educated than them. I remember this other time a certain sector head in a meeting when I crashed his point on managing DRR funds, he rose and said 'who are you, young man? I started working long ago and what can you tell me? Moreover, you are just taking care of the post temporarily.' This was demoralising…*

However, DoDMA indicated that plans are in place to recruit permanent officers in all districts.

3.3.1.3 Third party government: the prominence of NGO

Consortia of at least five NGOs implement the majority of DRR and adaptation projects in Malawi. Networks are often coordinated and regulated by some administrative organ, which also channels funds to members (Provan and Milward, 2001). In Malawi, donors are deliberately promoting working through networks or consortium and most of the funds to local NGOs are channelled through UN agencies or international NGOs such as Christian Aid, Catholic Relief Services, Care, Oxfam and Save the Children. NGOs working on climate change and DRM issues have formed the Civil Society Network on Climate Change whose membership for 2016 stood at 47. The network is an active forum for coordinating and sharing of information among members, with full-time paid officers. NGOs in Malawi are governed through the NGO Board and coordinated through the Council for Non-Governmental Organisations in Malawi (CONGOMA), both established under the NGO Act of 2001. The NGO Board is appointed by and reports to government and is perceived by NGOs as an imposition on their autonomy, while CONGOMA is led

by NGOs. Information provided by CONGOMA secretariat shows that Malawi has 1031 registered NGOs. As of 2016, paid-up NGOs totalled 537, of which 165 were international and 372 local. Records compiled from government and NGO sources show that there are more than 80 NGOs involved in DRM in Malawi.

Unlike findings presented by Espia and Fernandez (2015) showing that NGOs are considered outsiders by communities, most communities in Malawi consider NGOs to be closer to them than government. Their involvement in both humanitarian and risk reduction activities means that their presence in the community is not just dependent on disasters. But what form do their implementation take at sub-national level? Maskrey (2011) discusses two common types of local level implementation arrangements: community-based disaster risk management (CBDRM) and local-level disaster risk management (LLDRM). LLDRM is mostly focused on building the capacity of local governments while CBDRM targets the community and places the community at the centre of implementation. As opposed to government, NGOs use CBDRM approaches: 'community-based,' 'participatory,' or 'integrated' have become the mantra in project titles on DRM and adaptation. The importance of participation in improving outcomes has already been documented elsewhere (Maskrey, 2011; Samaddar, et al., 2015). As also argued by Izumi and Shaw (2012a, b), the proximity of NGOs to communities makes them better placed to understand the needs at the local level and bridge the gap between policy and practice, by implementing interventions that address actual community vulnerabilities.

Most community-based DRR and adaptation practices in Malawi have been introduced or championed by NGO networks. The majority of DRR activities are embedded within broader adaptation projects since, as also shown by Koivisto (2014) in neighbouring Mozambique, adaptation attracts more international funding than DRR. Some of those observed during fieldwork included community mapping, participatory vulnerability and capacity assessments, simulation exercises, community-based early warning systems and community grain silo. This agrees with Maskrey (2011) who has argued that the rise and spread of community-based DRM and local level DRM can be attributed to networks.

However, NGO operations are multifaceted and multilevel. At the district level, they provide capacity-building support to council technical staff. Some NGOs such as Concern Universal (now United Purpose) provide direct financial support to district councils to implement DRM activities. They also play prominent roles in development

and funding of national instruments such as policies and plans, carry out advocacy work and participate in coordination structures such as the National DRM Platform. Every year during the budget session of parliament, some NGO networks lobby members of parliament (MPs) to increase funding to government sectors with DRM and climate change mandates. Just as observed in South Africa by van Niekerk (2015), NGOs played key roles in the drafting of Malawi's DRM policy and bill. However, this participation reveals that networks are not devoid of bureaucracy as each group wants its contributions considered, which often causes delays. For instance, around February 2016 Malawi initiated the development of a national resilience plan and planned to complete the process by June. However, there have been back and forth comments from donors, NGOs and academia to the extent that - one year later - the plan was still being drafted. A donor representative justified this:

> *What we want from the development community is to have a perfect national framework that speaks to all key resilience areas and that everyone is happy with. Otherwise, we risk developing another document that will just be gathering dust on people's shelves.*

So, mostly, government and NGOs have formed symbiotic relationships. "*The relationship between government and NGOs is very good. Government provides space for NGOs to voice out their views and sometimes such are taken into consideration,"* said an NGO officer. NGOs' legitimacy and resource mobilisation largely rely on government. Completion of most grant application processes for NGOs requires government's endorsement. In implementing LLDRM and CBDRM projects, NGOs often seek technical support from relevant government departments, thereby promoting collaboration and coproduction. For NGOs to operate in a district, they need approval from government. Section 23 of the NGO Act 2001 gives government powers to cancel or suspend the registration of an NGO.

3.3.1.4 Politicians and DRM

Elected politicians are important actors in DRM at all governance scales. They facilitate mobilisation of resources for local and community implementation and also play crucial roles in enacting laws aimed at reducing disaster risks. At local government level, a few cases were cited where councillors or MPs had been helpful in DRM. These included providing transport for relief items or facilitating delivery of disaster reports to the council. In a few cases, MPs used resources from the constituency development fund to

support community-level disaster risk reduction efforts. Responding to a question on the role of MPs and councillors in DRM, a council official said: "*For risk reduction, they are helpful since they influence communities in taking a leading role on risk reduction works. On humanitarian works, they are very destructive…"*

For the majority of cases, most MPs and councillors are seen to be more interested in realising personal goals than the common good. With frequent disasters, humanitarian aid has been taken as a tool for vote buying and bolstering clientelism. Indeed, as also observed elsewhere by Scott and Tarzona (2011), while government rarely funds disaster risk reduction, it is very rare for disaster response funding requests to be rejected. Confirming this, a senior government officer stated: "*When a disaster has occurred, funding will come for the department to be able to provide emergency response to those that have been affected. But the same doesn't happen with DRR interventions*."

While the Local Government Act of 1998 requires local councillors to be champions of transparency and accountability, some of them focus on exploiting resources that come to the councils as pathways to political hegemony.

> *Most politicians always want things to happen in their areas. Even if no significant disaster happens in their area, you find them producing a huge list of the affected people. They always want to be viewed as helping their people. They are not a good tool to use for information regarding issues of disasters.* (Interview with a district-based NGO officer).

3.3.2 Incentives and disincentives for collaboration

Jones et al. (2016) have called for more attention to be paid to the role that 'champions' play in incentivising DRR. Both Jones et al. (2016) and Van Niekerk (2014) have argued that DRM functions are often placed in the highest political office to support effective implementation. Most participants interviewed agreed that the placement of DoDMA in the Vice President's (VP) office offers multiple opportunities and visibility, while also signifying political will. With minimal ministerial responsibilities, the DRM function offers the vice presidency a platform to champion disaster risk reduction. A respondent from the academia said: "*this guy (VP) is result-oriented and is changing the shape of DRR in Malawi*." In a number of DRM meetings with various players that the VP chaired, he emphasised on resilience. The national resilience plan was his initiative and he has been promoting the participation of private sector in DRR.

The major reason for NGOs prominence in Malawi relates to government's funding and governance challenges and shift in donor funding policy to Malawi. The majority of adaptation and DRM finance in Malawi comes from donors. From around 2012/2013, reduced donor confidence in government's financial accounting system and other governance shortfalls forced donors to freeze direct budgetary support. Since then, most of the resources have been channelled through NGOs as off-budget support. A 2016 World Bank report shows that off-budget support from donors for the government's official development assistance in the 2015/16 fiscal year rose to 70%, from 51% in 2012/13 and 31% in 2008/09 (World Bank, 2016).

Project-level data on official development assistance for 2013-2014 from the Organisation for Economic Cooperation and Development (OECD) shows Malawi receiving US$625 million (current price) aid as grants (82%) and loans (18%) for climate-related activities. 74% of this amount was delivered through non-state actors, with government receiving 21%. 81% of the aid that went to government were loans. Of the 199 total projects, 155 were for non-state actors of which 60% were by NGOs (Figure 3:2 and Figure 3:3).

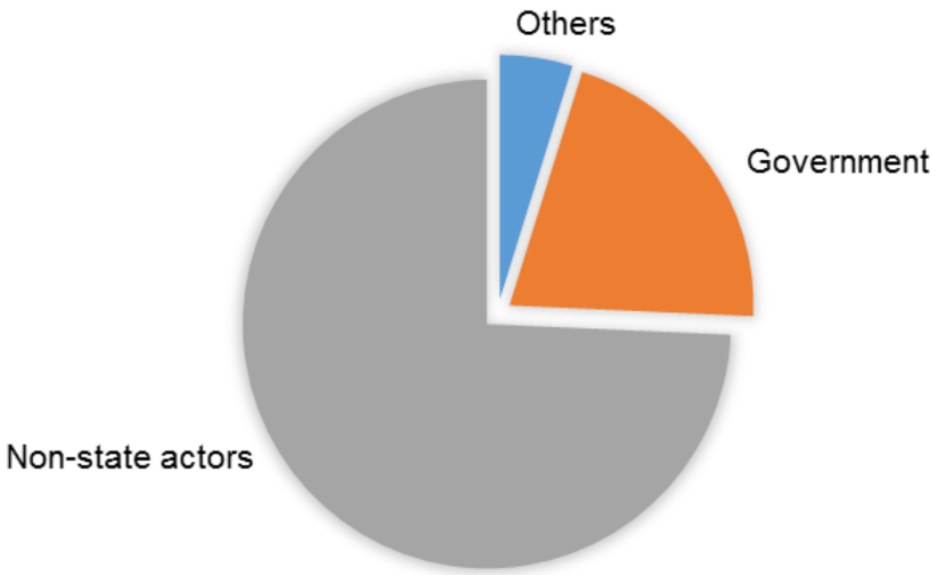

Figure 3:2: *Distribution of climate-related development aid to Malawi, 2013-2014, by delivery channel. Data source: OECD (2016)*

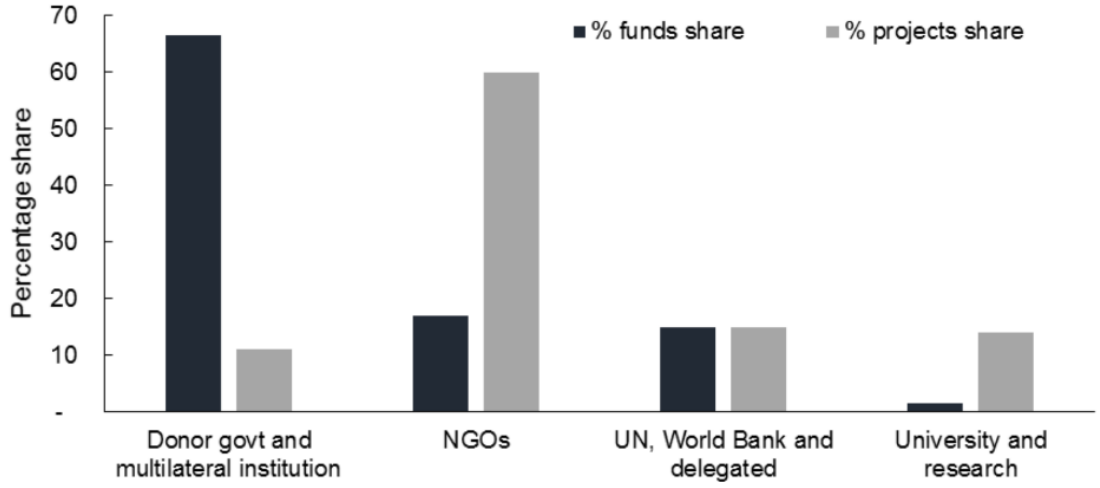

Figure 3:3 *Percentage share of projects (N=155) and funds (US$464,609,999) among non-state actors.*
Data source: OECD (2016)

But what primarily motivates NGOs to undertake DRR work? The executive director of a local NGO that champions DRR summarised the most common reasons:

> *NGOs like Centre for Environmental Policy and Advocacy are driven by the understanding that DRR is more sustainable as it potentially contributes towards resilience building; DRR is cost effective in the long term although the short-term costs are enormous; DRR builds a foundation for less need for response in future; and moreover, often, response reduces the human dignity.*

Major disasters also act as another incentive for NGOs to mobilise resources and provide humanitarian aid. Most NGOs, as also observed by Freeman and Tobin (2011) in Niger, do not respond to small-scale disasters. In the words of a government official: "*When a major disaster occurs, you will see most of them coming to government asking it to declare a state of disaster so that they can mobilise resources*"

What are seen as incentives for NGOs are sometimes the disincentives for government. Key disincentives to disaster risk governance efforts in Malawi include inadequate financial and human resource and capacity challenges both at central and local levels. A common challenge mentioned was that government allocates inadequate resources in the national budget that cannot be used for any meaningful DRM work. For instance, excluding ad hoc resources for disaster response, DoDMA had an annual budget allocation of only US$108,000 (MK78 million) in 2014/2015, US$125,000 (MK90.75 million) in 2015/2016 and US$139,000 (MK99.95 million) in 2016/2017. An NGO officer working at local level argued: "*because of lack of funding, district officers mostly go by what the NGOs that are found in the district are doing. They lack the incentives to*

spearhead government's agenda." Another NGO officer explained the disincentive towards DRR funding by government:

> *They are not prioritising risk reduction; it is not a political tool that would make someone win ….people look at the immediate things like distribution of maize….and some people even take floods as political opportunity for them to be known that they came to distribute maize…, but they forget about those long-term programmes that will reduce problems such as floods.*

An officer from DoDMA agreed that lack of resources explains the invisibility of government at local level:

> *NGOs appear to be leading implementation because of their presence at district and community level where they are implementing a number of DRR interventions in support of councils. The inability of DoDMA to provide financial resources to the districts for the coordination of DRM activities at district level makes the department not be very visible at community level. Communities then interact more with NGOs in DRR activities.*

Capacity challenges at local level mirror the national level. The national office for DRM has two sections (disaster risk reduction and disaster response and recovery), manned by eleven technical officers. Some key informants cited this as affecting operations. While most are satisfied with competencies, a few raised concerns relating to bureaucracy and dedication to direct disaster risk governance:

> *Oftentimes, when a national level staff comes down to the ground to interface with people for advice, the advice is never adequate. It appears people come down to make their allowances and not to work as expected. This does not mean they cannot work or they do not have the capacity but there is a laissez-faire attitude in them. Oftentimes, they do not become useful.*

3.3.3 Accountability and effectiveness

Since network governance entails that government is not involved in the delivery of public services, the legitimacy of government will depend on how it properly coordinates the partners and ensures that they are accountable (Page, 2004; Goldsmith and William, 2004). Networks involve coordinating several actors which can raise coordination, accountability and enforcement challenges (Innes and Booher, 2002; Moynihan, 2009; Egan and Tischler, 2010). While most council officials cited lack of resources as a common issue affecting disaster risk governance at local authority level, it was noted that capacity to adequately utilise and account for resources was also a major challenge. Most respondents at national, local government and community levels cited corruption and abuse of resources at the local authority level as a threat to DRM decentralisation, which

agrees with findings of previous studies on decentralisation in Malawi (Tambulasi and Kayuni, 2007; O'Neil et al., 2014; Chiweza, 2015). It was reported during discussions with central government officials that on two occasions in 2015 and 2016, DoDMA disbursed funds to some councils through a UNDP-funded project. The resources were meant for coordination and disaster assessments and were to be used over a three-month period. However, after eight months, only two out of 17 councils that received the funds had submitted liquidation reports to account for utilisation of the funds and some had not even used the resources.

A prominent government-led programme at local level is a donor-funded local development fund that supports local level sub-projects using public works arrangements. A community member can work up to 24 days in a cycle and be paid about US$0.84 a day. One of the aims of the fourth phase of the fund was to cushion against the impact of disasters such as the 2015 floods and 2016 drought. A 2015/2016 audit report of the fund revealed several cases of fund abuse by councillors, council staff and committees managing the sub-projects. According to officials from the fund secretariat, the issues included cases where ghost projects were created by council staff in collusion with local structures; failure to liquidate funds; councillors and local committees failing to furnish a list of beneficiaries; sidestepping communities in beneficiary selection; sub-projects that were approved at council level being changed on the ground; working on the same project several times; disregard of procurement procedures, and; collusion between council account staff and local committees to divert wages. The measures taken to deal with these would affect communities as according to an officer from the fund's secretariat:

> *Resources for public works programme will not be transferred to councils that have not liquidated their funds. So far, only 14 councils out of the 35 have liquidated and resources will only be given to these in the next cycle.*

Stakeholder groups that have an interest in ensuring that the needs of the community are met take the oversight role over resource utilisation (Provan and Milward, 2001). One such group are local councillors and MPs. However, in the case of Malawi, these very same people are also leading in resource abuse and corrupt practices at local level. Respondents cited numerous cases where councillors or members of parliament disregarded or dissolved established community structures for disaster risk governance; diverted recovery funding from one area to another; presented developmental issues as disasters so as to benefit from humanitarian finance; added names of relations or supporters to lists of beneficiaries when they were not affected; or produced parallel lists

of affected people to benefit from relief supplies. In a number of cases, councillors and MPs competed to control or be seen to be in control of relief supplies.

The findings conclusively contradict previous assertions that absence of local councillors was paralysing the governance of local councils (Kayuni and Tambulasi, 2011; Tambulasi, 2011; Chasukwa and Chinsinga, 2013). What comes out clear is that local councillors and MPs do provide oversight role, but this is usually during disasters and often done to ensure that relief items go to their areas. When they raise concerns about corruption, it is often because they have not benefitted. One commonly cited positive outcome from the January 2015 floods for disaster risk governance was the 'window of opportunity' (Penning-Rowsell et al., 2006) it created for the speedy adoption of the national DRM policy. However, the floods also led to the creation of camps in almost all the affected districts. Local councillors and MPs in one district took advantage and created fake camps and requested council officials to supply them with relief items so that they could gain political mileage with communities.

While council officials can overrule some actions by politicians, they indicated that this is difficult in politically connected areas where the incumbent belongs to a ruling party or is a senior figure.

> *This is worse when that MP is a minister and tries to tell you how certain things should be done… They also act in a manner as if they are the ones providing aid and try to prevent provision of aid to political party opponents* (Interview with district council official).

On the part of NGOs, accountability remains another contentious issue. Matlin (2001) and Batley and Rose (2011) have also argued that NGO accountability may be absent at times but may also be questionable as they have to reconcile with the various stakeholders they have to be accountable to and who give them their legitimacy. In the end, this may also affect how they relate to government. Government officials indicated that they have limited information on what some NGOs are doing on the ground as very few report on their operations. Section 22 of the NGO Act requires NGOs to submit to the Registrar audited annual financial reports and activities reports. Most NGOs have ignored this requirement. In 2016, the media covered a story that revealed that up to 90% of resources NGOs received in 2015/2016 were not accounted for (Khunga, 2016). In response, CONGOMA issued a statement refuting the claims, arguing that NGOs' failure to report to government does not mean they are not accountable as they submit their reports to donors (CONGOMA, 2016).

A key challenge with NGOs cited by key informants is that their primary interest is on mobilising resources to sustain themselves. As a result, they sometimes focus on showing results that would please their donors and attract more funding than addressing the actual needs of communities. In the words of one respondent:

> *Some NGOs would want to implement activities which donors would want just to please them but cannot have impact or reduce risks on communities and this ends up draining resources as objectives are not achieved.*

Another respondent from the academia wondered:

> *There are just so many NGOs on the ground, but with little results to show. If these NGOs are really doing something on the ground, we would have seen a reduction in disasters. However, floods are happening every year and food insecurity is now a norm.*

However, networks' effectiveness is also assessed by how individual members of the network benefit from the process. Individual member survival and success is also key to the survival and success of the network as a whole (Provan and Milward, 2001). Most NGOs said, while their main aim is to reduce disaster risks, they also join networks with the question 'what's in it for us?'

While Izumi and Shaw (2012b) have argued that NGOs are important players in countries that are not disaster prone, this does not seem to be true at sub-national and community levels. Almost all the NGOs undertaking adaptation or DRM functions in Malawi are concentrated in districts that are considered disaster prone. As a result, not all communities benefit from NGO or government's DRM work. Even within disaster prone areas, some areas receive more attention than others. For instance, Rumphi district had just one NGO active in DRM, Nkhatabay had none, while Nsanje had about ten, yet all three are classified as disaster prone districts.

Some NGOs felt government is not doing enough on its side to coordinate the activities of the NGOs, and this could be contributing to the limited impact at community level. By nature, governments are bureaucratic and hierarchical entities and managing a network governance system requires reconciling these two positions, which calls for alternative management approaches (Goldsmith and William, 2004). For government to monitor humanitarian response programmes being implemented by non-state actors on its behalf, it mostly relies on funding from them, which in recent times has not been forthcoming. An officer from an NGO implementing CBDRM projects decried government's lack of leadership in DRM and its absence that is jeopardising risk reduction efforts:

> *Government has not come out clearly, the policies are not there and it's like the government is begging people …nobody is decisive enough to say that this is what we are really going to do. And because government is not coming out clearly, it leaves communities to decide whether to remain there and risk their lives or to relocate upland….that is the greatest challenge….government doesn't have the muscle.*

Sustainability of NGOs interventions was another challenge that was cited by a number of government officials and communities. Most NGO support is through short-term projects and once the project comes to an end, it becomes a challenge for communities to sustain the interventions. Some support has created relief dependency syndrome, where households continuously rely on humanitarian aid or other forms of social protection. When asked about their major worries, most people at community level cited cessation of humanitarian support from NGOs.

3.4 Implications for policy and practice and conclusion

So, does Malawi's DRM system fit a 'hollow state'? Yes, it could, but perhaps not in absolute terms. Its overreliance on NGOs in the delivery of DRM services makes it so. Yet, government has also been directly involved in delivering DRM services, albeit marginally. Particularly in the context of a least developed country where government finances are thin, this hollowness of the state cannot be considered a shortcoming, but is a strategic manoeuvre that ensures that communities still access DRM services.

This study sought to analyse the disaster risk governance system in Malawi to understand how it is contributing to either positive or negative DRM outcomes, or both. In answering this it began by showing that disaster risk governance in Malawi can be seen at three scales: central government, local government and community. Often, the central government cannot reach the community without going through local government and NGOs. Local government, in turn, needs NGOs, local elites and other institutions to reach the community. The success of NGOs also hinges on the cooperation and support they get from government. Local councillors and MPs are considered the legitimate representatives of communities in government. Collaboration among actors and institutions is, consequently, unavoidable and this is typical of multilevel and network governance systems.

However, this paper has demonstrated how the incentives and disincentives present themselves to a network of actors and institutions, and how they react. Presently, disaster risk and adaptation finance can be seen as both a blessing and a curse. In part, the

results suggest that it is largely how the actors and institutions individually and collectively position themselves vis-à-vis the incentives that can explain whether disaster risks facing developing countries in Sub-Saharan Africa and beyond will be reduced. There are three important conclusions to be drawn from these findings.

First, while this paper does not argue that decentralisation of disaster risk governance is irrelevant, it questions policies that are championing devolution of functions without considering the derelict structure of the local governance system. Devolution of disaster risk governance would mean that in times of disasters, a lot of resources would be channelled through the councils for response. There is a disconnect at the decentralised scale of governance, where resources are being captured by the wrong people. This suggests that it is actors and institutions that are given the mandate to manage DRM and adaptation finance that could be the major stumbling block. Some of the resources made available through NGOs, central government and other channels are often abused or not accounted for, not just by government's local council officials, but also elected politicians who are supposed to be safeguarding the resources. The system cannot be said to have been created by those working in it, but they too adopt a business-as-usual approach and fail to bring it on course. The optimum scenario with decentralised disaster risk governance is where local governments are capacitated to lead implementation of interventions, with central government and NGOs only providing support. Strong local capacity is a prerequisite to DRM decentralisation (Scott and Tarazona, 2011). Without addressing local government shortfalls, rushing into decentralising DRM functions and attendant resources could be another major disaster in the making.

Secondly, and related to the first point, the evidence presented in this paper and from other sources (eg. Malakar, 2012) show that most politicians look to the next election and will utilise every opportunity presented to them to canvass for votes. Some of them get elected without a clear understanding of what disaster risk governance entails, other than that it provides political incentives. However, politicians also hold important positions in the allocation of national and local resources and are responsible for passing laws. Grants and loans for disaster finance from bodies such as the World Bank require parliamentary approval. Some of them are cabinet ministers who approve policies. They can, therefore, not be completely isolated from disaster risk governance systems. Scholars such as Penning-Rowsell and colleagues (2006) have already argued that the occurrence of a major disaster presents a window of opportunity for policy adoption or change. As this paper has also shown, this is one time when politicians want their presence to be felt

and DRM actors can capitalise on it. Already, there is evidence in Malawi that cabinet's approval of the DRM policy in February 2015 was largely a reaction to the devastating floods that occurred a month earlier. In line with the disaster risk governance priority in the Sendai Framework, positive collaboration with politicians should provide opportunities to lobby for adoption of disaster risk reduction policies and legislation as well as increased disaster risk financing. These collaborative efforts should also extend to building their capacity.

Finally, the study has also shown that presence of a strong network of NGOs offers some hope in reducing vulnerability to disasters. Where government is incapacitated and where donors prefer channelling their resources through non-state actors, NGOs will flourish and may remain the primary conduit for delivery of disaster risk and adaptation finance and services. As Batley and Rose (2011) also argue, in the current disaster risk governance setup in Malawi, NGO networks have the upper hand in that they have forged both vertical and horizontal relationships with the state, donors and communities, influencing both policy and practice, largely without losing their autonomy. In addition, a number of NGOs in Malawi are international, which means that practices that are successful in other countries and regions are being introduced in the country and adapted to suit the local context.

But this too calls for caution. The evidence presented in this paper suggests that government's leadership and active presence is also critical. While this could be defeating a core requirement of network governance, but where government's presence is not being felt communities can choose to ignore its policies. The challenge with NGOs is that their support and presence in communities is largely short-term. Where communities largely depend on NGO support for disaster resilience as observed in this study and also by Allen (2006), the departure of an NGO from an area can have devastating effects. In addition, NGOs are concentrated in certain geographical areas, leaving other communities unattended. They also focus on major disasters and have broader accountability challenges. These, therefore, call for governments not just to be active in policy formulation, but also to be seen to be active in coordinating actors. Achieving this does not just require adequate financial resources but also calls for DRM managers that understand and can wade through the complexities presented by a network of actors with divergent interests and capacities.

CHAPTER 4 : Barriers or enablers? Chiefs, elite capture, disasters and resettlement in rural Malawi - Paper 2

Abstract

For most low-income countries, chiefs are at the centre of household and community development efforts, including disaster risk reduction and climate change adaptation. Yet, limited attention has been paid by scholars to understand the institution of chieftaincy and its role in the management of adaptation or disaster risk reduction. This paper uses a micro-ethnographic study conducted in two predominantly-rural districts in Malawi to discuss two different manifestations of elite control. In the first case, a resettlement programme was implemented where chiefs were co-opted and took the lead, while in the second case, a food insecurity response programme was designed to exclude chiefs. The study finds that neither co-opting nor countering chiefs prevents elite capture. It finds the majority of chiefs oscillating between malevolent and benevolent capture. The findings call upon states to pay attention to political and cultural dimensions of rural life when designing disaster risk reduction and adaptation programmes.

Keywords: *Chiefs, resettlement, disaster risk reduction, elite capture, Malawi*

4.1 Introduction

> *Therefore, we as Group Village Heads and Village Heads do hereby sign this agreement to inform you that we will start relocating and we authorise Traditional Authority Mlolo and the District Commissioner for Nsanje to make sure that no one among us refuses to relocate*[3].

In February 2012, the Government of Malawi through the Department of Disaster Management Affairs (DoDMA) and Nsanje District Council signed an agreement with four Group Village Heads (GVHs) and their respective Village Heads under Traditional Authority (TA) Mlolo in the Lower Shire Valley district of Nsanje; the TA and the chairperson of the Area Development Committee signed as witnesses. Among others, the agreement stipulated that the chiefs and their subjects agreed to relocate to upper land to escape the impacts of floods and gave powers to government to ensure that everyone adheres to the agreement. Government on its part pledged to provide the communities with social amenities in the resettlement area. In the end, only one of the four GVHs managed to relocate, and not fully, despite the fact that in the agreement they had all signed to move out of their areas. In January 2015, Malawi faced another serious wave of floods, following which government decided to resettle some of the affected population from the two most affected districts of Nsanje and Chikwawa. Following droughts in 2015-2016, about 90% of the population in the two districts required food aid to survive.

It is recognised that climate change adaptation and disaster risk reduction should not just be technical top-down processes but should be taken as social processes occurring within a socio-political environment. This requires more attention to be paid to the community level where the impacts are felt most (Ayers and Forsyth, 2009; McNamara and Buggy, 2016). This has led to mushrooming of approaches that focus on local communities. A number of studies have been published on community-based DRR and CCA. However, most of them tend to focus on communities as entities, collective action, participatory approaches, indigenous knowledge systems and local committees (Shaw, 2012; Forsyth 2013).

Various fields have recognised the function and authority of traditional leadership systems in low-income countries, particularly in the context of democracy and community development (see, for instance, van Rouveroy van Nieuwaal, 1996; Ntsebeza

[3] Excerpt from a resettlement agreement signed between government and chiefs from Traditional Authority Mlolo in Nsanje in February 2012, accessed from the Department of Disaster Management Affairs (translated from local language by author).

2004; Williams, 2004; Logan, 2009; Eggen, 2011; Arnall et al., 2013b; Goodfellow and Lindemann, 2013; Baldwin, 2014). Arnall et al. (2013b) argue that understanding the functioning of elites is important for development actors as it provides insight on how best to work with them in the delivery of public goods and services. However, not much attention has been paid to understanding how chiefs shape the delivery of CCA or DRR programmes in rural areas. Takasaki (2011a, b) looked at elite capture of food aid in Fiji, while Artur and Hilhorst (2014) briefly talked of how government negotiated with chiefs for resettlement land in Mozambique.

This study was carried out to provide a more comprehensive picture and contribute towards broadening knowledge. It uses case studies from two high-risk districts in Malawi to assess the role of chiefs in DRR and CCA. The study is based on two parallel programmes, one on resettlement and the second one on disaster relief. These two have been selected because they show different forms of elite involvement in DRR and CCA. The resettlement case shows a 'co-opt elite' or 'elite control' approach (Mansuri and Rao, 2004; Dasgupta and Beard, 2007), where chiefs are at the centre of the process. The food insecurity response programme, on the other hand, shows a 'counter-elite' approach (Wong, 2010), where deliberate strategies were put in place to exclude chiefs. In addition, resettlement and humanitarian aid represent two dimensions of disaster risk management. The former is an example of a mitigation or prevention measure while the latter represents disaster response.

The study primarily aims at answering the question: *How do traditional elites positively or negatively influence community-level delivery of DRR or CCA practices in rural Malawi?* The following subsidiary questions further guide the study: What form of implementation do DRR and CCA programmes, such as resettlement and humanitarian relief, take at local level? What role do chiefs play in DRR and CCA, particularly in resettlement and humanitarian response? How does the central and local government relate with local elites in DRR and adaptation? How do communities use collective action in decisions related to DRR and CCA? What form does elite capture take in adaptation or DRR at community level?

Two themes stand out from the study: *elite resistance* where there is elite co-option or control and *elite capture* where there is elite exclusion. The findings show that whether elites are co-opted or excluded from DRR and CCA programmes, they can still capture resources. Furthermore, where DRR and CCA measures pose legitimate threats to the autonomy and survival of chiefs, resistance is inevitable. The rest of the paper is

organised into four main sections. The following section sets out the theoretical underpinnings for the study focusing on elite capture, chieftaincy, DRR, CCA and resettlement. This is followed by the methodological section, which also provides contextual aspects of the study sites. The third section presents the findings and discusses these findings within the context of CCA, DRR, elite capture and chieftaincy literature. The last section provides a summary of the key findings of the paper and concludes the discussion.

4.2 Rural governance logic and adaptation

4.2.1 Elite capture, chiefs and rural life

A key theme for this study centres on control and associated capture of DRR and CCA interventions at the village level by local elites, primarily chiefs. Arnall et al. (2013b) define elites as "groups of persons or a member of such a group with superior political and economic status relative to others in their social cluster." (p. 306). Though the term can be used to refer to different powerful actors (Wong, 2013), the use of 'elite' for this paper refers to chiefs. Elite capture occurs when these powerful individuals take control or alter the delivery of public goods and services usually at the expense of others (Araujo et al., 2008). Often, elites are in the minority.

Elite capture is not always synonymous with negative intentions or outcomes, as it can also be done for the benefit of the common good (Rao and Ibanez, 2005). In a study in Fiji, Takasaki (2011a) found that traditional leaders share relief food with clan members or the whole village to maintain reputation and good relationship with the community as the food aid is usually inadequate. Scholars, therefore, distinguish between malevolent and benevolent elite capture. The former occurs when the intention is for the common good, while the latter is done to meet personal needs of the elites (Mansuri and Rao, 2004; Rao and Ibanez, 2005; Dasgupta and Beard, 2007; Takasaki, 2011b; Arnall et al., 2013b).

Two schools of thought have emerged on how to deal with elite capture: 'co-op-elite' or 'elite inclusion' on one hand and 'counter-elite' or 'elite exclusion' on the other. Counter-elites assumes that elites are bad and they should not oversee or be involved in the delivery of public goods and services. It promotes the empowerment of citizens so that they are at the centre of decision-making processes and are able to resist the influence

of elites (Lewis and Hossain, 2008; Wong, 2010, 2013). The co-opt-elite position recognises that not all elites are bad and should be part of the process. It holds that elites are an important part of community life and wellbeing and mostly perform their functions for the benefit of the community (Mansuri and Rao, 2004). However, Wong (2010, 2013) argues that the two approaches are not mutually exclusive as elites can be co-opted and challenged within the same context. Writing in the context of community development in Indonesia, Dasgupta and Beard (2007) differentiated between elite capture and elite control, where in several cases elites controlled development projects but did so for the benefit of the community.

The term 'community' has been used in different ways for different purposes. Platteau and Abraham (2002, p. 107f) define a community institution as "a group small enough to allow good circulation of information among its members who interact more or less continuously over infinite or indeterminate periods of time." Along these lines, the use of community in this paper refers to a group of people existing within a defined administrative unit. In the case of Malawi, this unit can be a village, a group village headman area or a traditional authority area governed by a village headman or woman, group village headman or woman and a traditional authority, respectively.

Several scholars have observed and documented the ability of chiefs to adapt to changing socio-political environments, thereby resisting attempts to abolish their authority (Fisiy, 1995; Ray and van Rouveroy van Nieuwaal, 1996; Logan, 2009; Baldwin, 2014; Manyena, 2014). Manyena (2014) portrays this resilience as an important illustration that can aid disaster resilience. The history and 'resilience' of chieftaincy and their influence in state affairs in Malawi dates back to British colonial rule. Over the years, their role has been both weakened and strengthened. For instance, in 1953, their powers were reduced with the introduction of district councils, where chiefs were restricted to performing traditional functions under the control of district commissioners (Kaunda, 1999; Chiweza, 2007). Although during the one-party rule after independence the party was more powerful than chiefs, they still played central role in development committees at district, area and village level (Kaunda, 1999; Chinsinga, 2006). Despite further reduction of their formal roles with the coming of multi-party democracy in 1994, chiefs continue to be "in charge of practically all local matters" in Malawi, which they control within the limits of neo-patrimonial domination (Eggen, 2011, p. 320).

The politics of local-central relation and the commitment of central government largely determine the development interventions that can be implemented in an area

(Crook, 2003). The salience of chiefs lies in their role as brokers for local and central government at village level. Chiefs approve and call for meetings in the village, mobilise labour and contributions for any kind of development intervention and maintain registers of citizens on which government and other players rely for their programmes. Access to most government's resources is dependent on chiefs (Chinsinga, 2006; Eggen, 2011). Some scholars have, however, questioned the continued existence and relevance of chiefs and have called for its abandonment or reconstitution due to its anachronism and despotic tendencies (Mamdan, 1996; Ntsebeza 2004).

4.2.2 Adaptation, DRR, resettlement and chiefs

Scholars have recognised the need to consider individual responses to disaster risks within the social, cultural, political and historical context within which they adjust to the threats or impacts of natural hazards (Zaman, 1989; Oliver-Smith, 1996; Scudder and Colson, 1982). This context deserves more attention in DRR and CCA as it is the one that defines and shapes human vulnerability (Comfort et al., 1999; Zaman, 1999; Adger et al., 2003; Wisner et al., 2004; Thomalla et al., 2006; Lei and Wang, 2014; Mechler and Bouwer, 2015; Nelson et al., 2016). The level of access to appropriate public goods and services and effective governance of resources also shape DRR and CCA (Sharma et al., 2014).

Individuals can make CCA and DRR decisions on their own or they can be planned and implemented by external actors. When external actors drive such processes, they can privilege some people against others, producing winners and losers (Adger, 2003). Often, people use their social capital to take collective action to address the ills they face, or to demand and access public goods. Trust-based collective action and cooperation, emanating from the value of relationships, are key elements of social capital. Social capital play important roles in CCA and DRR at local level, facilitated through leadership structures and incentives (Adger, 2003; Paul et al., 2016).

In DRR or adaptation context, resettlement is often considered as a measure of the last resort, when staying poses more risk than moving, and where there are no alternative mitigation or adaptation measures (Correa et al., 2011; de Sherbinin et al., 2011; Vlaeminck et al., 2016). People can be resettled because they have been displaced by direct impacts of climate change such as disasters, or they could be resettled as a preventive measure from areas that are at risk of disasters. People can also be moved simply because their livelihoods can no longer be sustained in the face of disasters or

climate change (Oliver-Smith, 1994; Ferris, 2011b; de Sherbinin et al., 2010; Barnett and O'Neill, 2012).

Several studies from both development-forced resettlement and climate or disaster-induced resettlement show numerous cases where resettlement has produced negative outcomes (Scudder, 2005; Patt and Schroter, 2008; Correa, 2011; Ferris, 2011b; Oliver-Smith & de Sherbinin, 2014; Oliver-Smith, 2016). These range from changing livelihoods practices, leadership conflicts, conflicts with host communities, social disarticulation and a host of other social, cultural and psychological effects (Cernea, 2000; Arnall et al., 2013a; Arnall, 2014; Scudder and Colson, 1982). Oliver-Smith (1991) argues that resettlement can create a cultural and physical crisis, leading to a permanent dependency syndrome. Those resettling thus mostly end up as losers. In a study of 44 dam-induced displacement and resettlement projects, Scudder (2005) found that only three projects led to improved living standards, five restored living standards of the majority while the remaining 36 made the majority worse off. Scholars from both DRR and CCA have argued against promoting technical fixes such as population resettlement as solutions to reduce disaster risks or other negative effect of climate change (Zaman, 1999; Dwivedi, 2002; Wisner et al., 2004; Arnall, 2014; Kita, 2017).)

Oliver-Smith (1994, p. 198) argues that resettlement is "fundamentally a political" exercise, where power is at the centre of the process. In several cases, states have used the urgency of climate change or disasters to introduce policies aimed at meeting political objectives than addressing disasters. These include resettling people to consolidate the population dispersed across several islands for ease of administration in the Maldives (Kothari, 2014); resettling communities to intervene in rural lives through creation of new villages in floodplains in Mozambique (Wisner, 1979; Kyed and Buur, 2006) and implementing resettlement schemes for purposes of detribalization in Bangladesh (Zaman, 1991).

However, this does not mean that those being resettled cannot resist. Resistance to resettlement is considered normal and inevitable, which can sometimes be protracted (Cernea, 1988; Oliver-Smith, 1994, 1996). In India, government policies and regulations aimed at resettling communities away from coastal zones met resistance from the fishing population in 2008 and were not finalized until 2011 after making several amendments (Bavinck et al., 2014). In some cases, resistance can take violent form between resettlers and the host, as reported by Zaman (1991) in Bangladesh. Where resistance to resettlement appears within a community, local elites usually lead the

movement by speaking out against resettlement. In most African countries, chiefs' control over customary land and the privileged positions they hold in the community mean that the state has to co-opt them so that they support the process (Nachowitz, 1988; Artur and Hilhorst, 2014). The power asymmetry at local level means that elites are more capable of expressing their needs and negotiating better deals out of the resettlement process (Oliver-Smith, 1994).

4.3 Methodology and study location

4.3.1 Data collection

Data were primarily collected through multi-sited ethnography involving focus groups, key informant interviews and participant observations in Nsanje and Chikwawa districts between July 2015 and August 2016. The use of an anthropological approach in understanding the intricacies of the power relationships existing in disaster risk reduction is particularly relevant to this study. According to Zaman (1999) and Oliver-Smith (1996), anthropological lens allow researchers to immerse in the community and try to understand cultural, social and political roots that define disasters more deeply by observing, probing and documenting events. The approach was chosen for this study particularly because it was looking at the socio-political dimensions of DRR and CCA, most of which tend to be hidden and difficult to be unearthed using traditional quantitative approaches or mere interviews. Ethnographic approaches have shaped research in disaster risk reduction, including in displacement and resettlement associated with development and disasters (Oliver-Smith, 2016).

Nine traditional authorities of Mlolo, Mbenje, Nyachikadza, Malemia and Ngabu in Nsanje and Makhuwira, Ngabu, Ngowe, and Kasisi in Chikwawa were covered. Data were also collected from key informants at national level in Lilongwe, the location of central government offices. Participants included chiefs, community members, government officials, non-governmental organisations, UN and other development agencies. A total of 53 chiefs, 20 practitioners and 15 community members were interviewed from the two districts either individually or as groups (table 1). In addition, the study involved observing local DRR and CCA events where chiefs were present. Review of relevant local and national documents and reports further complemented the data.

Table 4-1 List of individual and group interviews conducted by type of research participant

Method	**Government (central and local)**	**Non-state actors:**	**Chiefs**	**Community members:**	**Total**
Key informant individual interviews	12	8	34	-	54
Group interviews	-	-	5 (19 chiefs, group size 3-5)	5 (15 people, 3 per group)	10 (34 people)

Note: interviews were held with individuals as well as groups of individuals within communities or working places for key informants and central and local government levels.

Questions covered in the interviews and discussions focused on the role of chiefs in DRR and adaptation, perceptions on resettlement, perceptions on role of chiefs in resettlement and food aid and the relationships between government, chiefs and local communities.

The study also used dataset for Malawi from the 2014-2015 Afrobarometer Survey to obtain contextual information on citizen perception on leaders. The survey is periodically conducted in 35 African countries as a nationally representative random survey and focuses on democracy, governance, economic conditions, and other related issues.

4.3.2 Description of study sites and context

Nsanje and Chikhwawa are neighbouring districts, located in the Lower Shire Valley of southern Malawi, with a population of 295,900 and 566,283, respectively. Both districts are predominantly rural-based, with 98% of the population in Chikwawa and 92% in Nsanje living in rural areas. Nsanje and Chikwawa also have the highest national illiteracy rates, with 45.9 and 44.4% of the population, respectively, having never attended school. Livelihoods are agro-based, where food crops, cotton and livestock are the main sources of income, and 97% of the population grow their own staple food (NSO, 2009, 2012a). Malawi's Hazard and Vulnerability Atlas produced by government shows that the Lower Shire Valley, lying below 100 metres above sea level, is the most highly vulnerable area to natural hazards in Malawi (DoDMA, 2015). Floods and droughts are the two most common hazards. Most of the recent major disasters that have led to a declaration of a state of disaster have occurred in, or affected the Lower Shire.

Heavy rains in January 2012 led to the two biggest rivers in the Lower Shire, Ruo and Shire, bursting their banks and causing floods in Traditional Authority Mlolo in Nsanje district that was declared a state of disaster. Floods in January 2015 led to the declaration of a state of disaster in 15 of Malawi's 28 districts. Nsanje and Chikwawa were, respectively, the first and second most affected, forming 31% of the total damage and losses (GoM, 2015a). In both the 2012 and the 2015 floods, government opted for resettling people from high-risk areas as a long-term DRR solution. In 2016, just like a number of other Southern African countries, Malawi was declared to be in a state of disaster due to food insecurity resulting from drought. Nsanje and Chikwawa were the most affected, with a Malawi Vulnerability Assessment Committee (MVAC) report indicating that around 90% of the total population in each of the districts would require food aid (MVAC, 2016).

Malawi's Chiefs Act of 1967 makes provisions for the "recognition, appointment and functions" of chiefs, and introduces a hierarchy of chieftaincy. A district is composed of numerous Traditional Authority (TA) areas. Each TA area is governed by a Traditional Authority and is made up of a number of 'Group Village Headman' (GVH) areas. Some TAs get promoted to Senior and Paramount Chiefs, where they govern other TAs. A GVH area is a collection of villages and is headed by a 'Group Village Headman.' The smallest administrative unit is a village, which is a collection of households and is led by a 'Village Headman' (VH). The power to appoint Paramount Chief, Senior Chief or TA rests with the president, while the GVH and the VH are appointed by the chief or sub-chief. Appointments are based on a hereditary system. The most recent official records provided by the two councils show that Nsanje has nine TAs, 98 GVHs and 1, 389 VHs, while Chikwawa has 11 TAs, 83 GVHs and 597 VHs[4].

Data from the Afrobarometer survey show that local people view chiefs more favourably compared to government officials and elected politicians. 79% at national level and 89% from Chikwawa approve or strongly approve the way chiefs have performed their duties in the previous twelve months, as compared to 33% (46% for Chikwawa) and 38% (43% for Chikwawa) for MPs and president, respectively. Chiefs are contacted most by communities whenever they have problems or would like to express

[4] These figures are based on records provided by the two district councils. There are several non-gazetted villages in both districts. Although these are not recognised by government, they are considered as villages at the local level and government is updating the list to include some of these villages. The figures presented provide a picture basing on available official records but the actual numbers are likely to be higher.

their opinion over an issue, as compared to government officials, their MP or party officials. Only about 30% of the national population and 28% in Chikwawa consider most or all chiefs to be corrupt, while government officials are considered the most corrupt.

4.4 Results and discussion

4.4.1 Chiefs, delivery of adaptation and DRR services and land

For delivery of CCA and DRR services at community level, chiefs hold an important position. The majority of DRR and CCA work in rural areas rely on measures that require the use of assets that are controlled by or through chiefs, such as land. Most officials from government and NGOs interviewed acknowledged that without chiefs, their DRR or CCA work at community level would be challenging. Like most other low-income countries (Benson et al., 2001; Allen, 2006; Jones et al., 2016), NGOs implement the majority of DRR and CCA interventions in Malawi (Kita, in press). Both the resettlement and humanitarian response to food insecurity in Nsanje and Chikwawa are being driven by NGOs. With access to local and central government, chiefs can negotiate with government to promote DRR and CCA practices in rural communities under their authority. So, in any DRR or adaptation programme, chiefs are considered instrumental to its implementation and eventual success or failure. However, chiefs have to be cautious of what they accept, as confirmed by one senior chief:

> *In most cases, these NGOs and government pass through me as the TA and then I send across messages to all the GVHs under my jurisdiction. As the TA, I always implement what my subjects have agreed on, but not what has been brought by the outsiders because I don't know them.*

As evidence from Ethiopia (Pankhurst, 1991), Mozambique (Wisner, 1979; Arnall, 2014), Bangladesh (Zaman, 1991) and the Maldives (Kothari, 2014) show, and as also argued by Oliver-Smith (1994), resettlement remains a highly politicised issue. Chiefs control of customary land in rural areas in Malawi largely explains their relevance to resettlement. Chiefs are referred to by the title '*gogochalo'*, which means custodian or owner of land (Chinsinga, 2006). In rural areas, livelihoods of up to 94% of the population depend on agriculture (NSO, 2012a). Inadequate or unsuitable land is considered a major factor leading to resettlement failure (Zaman, 1989; Cernea, 1997, 2000; Ferris, 2012; Oliver-Smith and de Sherbinin, 2014). Eventually, resettlement in Malawi is becoming a politicised issue centring on land. Even where individuals choose to resettle on their own

without their chief, they still have to go through a chief in the destination area to access land.

Unlike in Mozambique where government took a leading role in negotiating with chiefs to allocate idle land to those resettling (Artur and Hilhorst, 2014), in Malawi, government has delegated the negotiations to senior chiefs. According to a senior officer at Nsanje district council: "*what we requested as a council through the TA was that they* (chiefs) *sit down and assess their area and maybe allocate a portion where they can accommodate their friends from the flood prone areas."* This strategy is largely failing and some chiefs feel government should shoulder the responsibility than pushing it to them.

On the other side, for a party in power, resettlement can cost votes. Apart from its lack of control over customary land, most people interviewed felt government is taking a backseat to insure itself against political ramifications if resettlement fails. Those who have refused to move and feel neglected are using the political language to reason with government: "*If they don't support us, then they should also not come here tomorrow seeking our votes*," declared a chief from Chikwawa in an interview. Local politicians are caught between supporting government and siding with the divided communities. Most of them are being forced to side with the source of votes. In one example, a senior Member of Parliament from one of the areas where people are being resettled wrote to government reminding it to fulfil promises it made to build dykes and other protective structures so that the people adapt in situ. These are giving determination to local chiefs who are against resettlement. The following section provides some evidence of why chiefs are resisting.

4.4.2 Resettlement, chiefs' autonomy and survival

While government regards chiefs as key players in successful resettlement, they may also be the major losers from resettlement. It was observed that this is especially the case when communities are resettled within the administrative area of another chief. During a national commemoration of the International Day for Disaster Reduction in October 2015 that was held in Chikwawa, the most senior chief from the two districts informed government officials that they should forget about his subjects in Nsanje and Chikwawa resettling. The remarks were made in the presence of a cabinet minister, development agencies, NGOs, other chiefs, communities and other senior government officials.

Some senior chiefs threaten lower chiefs that they would be dethroned if they move to a different TA. In Malawi, gazetted chiefs are remunerated and loss of authority entails loss of income source, among several other losses. However, finding idle land within the same TA that can cater for a whole GVH, where some have up to 50 villages, is a challenge that was cited by a number of chiefs and communities who have not resettled. Since communities usually follow their chiefs, this practice of threatening lower chiefs with dethronement is putting communities at further risk as they are forced to relocate to areas within their TA that are risky. One chief in Chikwawa found land that was located in another district and TA. The TA under whom this chief falls informed him that if he moves, then he would be dethroned. They then resettled within the same TA in an area that was prone to floods.

Most of the national and district level officials interviewed cited fear of losing authority as the main reason behind chiefs' reluctance to support resettlement. However, some dispute this narrative, arguing it is just being used as an excuse. One officer from an NGO that is supporting the resettlement process in Nsanje district said:

> *In most of the communities that we have engaged and resettled, they (chiefs) have not lost their leadership… Those things people just create as a way of resisting the call so that they are putting that as a critical issue that I will lose my chieftaincy. Yet, with adequate engagement with the TAs and the local leaders, these local chiefs are provided space* (and) *wherever they go, they will maintain their positions.*

These sentiments were supported by one senior chief from the same district in a separate interview. The chief claimed he could not entertain a chief who makes decisions that put the community at risk, such as refusing to resettle:

> *What happens at the end of the day is that I as a senior chief have to override whatever decision that is negative that could come from a chief…. If the chief still insists, then we can remove them and take somebody else.*

Indeed, other than dethronement threats, none of the chiefs that have resettled outside their TAs or GVHs lost their authority.

When resisting resettlement, those who do so often have their own personal interests that they aim to achieve (Oliver-Smith, 1994). Resistance against resettlement goes beyond mere fear of losing authority. A critical concern centres on autonomy of chiefs. In all the resettlement sites where the study was conducted, resettled communities have been allocated land within existing villages. The Director of Planning and Development for Chikwawa cited this as a major challenge: "*as a chief, you have a lot of autonomy and for you to move to another chief's area brings a lot of challenges*." In most

cases, the chiefs have maintained their authority but governing within the jurisdiction of another chief, hence weakening their power. The issues are further complicated in cases where a GVH from one TA settles in the area of another TA. Since GVHs report to TAs, this means he or she has to travel to the old TA whenever he has issues to report or raise.

Where people have resettled, these have mostly been partial and chiefs claimed their authority has been undermined as their subjects are located in different areas. For instance, a GVH from TA Mlolo in Nsanje has settled in TA Mbenje with 17 of his 22 villages. This brings governance challenges as they have to move between two or more sites to administer their areas. A resettled chief in Chikwawa summed up the challenge:

> *A village is not just a piece of land. Our authority is based on presence of people that we govern. If people are scattered, governing them becomes a challenge and we lose our power. There are times when it is difficult for us as chiefs to point at a village that we are responsible for.*

4.4.3 Agency and resistance to resettlement

While the majority of chiefs are refusing to resettle, some communities have shown that they are not just passive followers of their local leaders. Some chiefs too are breaking ties with their senior chiefs. This agency, mostly demonstrated through collective action, is both positive and negative: in some cases it has been done for resettlement while in other cases it has been used to prevent resettlement. A GVH in Chikwawa faced rebellion from some of his subjects who ignored his declaration that his VHs and people would not relocate to another TA. One person from within the community mobilised people from several villages, moved without their chiefs, found land on their own and resettled in another TA. This community is now being touted as a model resettlement village, with no village head, though they look to the man who led them as their de facto chief. Oliver-Smith (1994) has also demonstrated that where leaders tend to disagree with communities on resettlement, new leadership may emerge within the community.

The VH for this area claimed he failed to accompany them for fear of dethronement. The GVH himself, who has more than nine villages and who had initially opposed the resettlement, later decided to relocate to another GVH's area with only six villages. Other village heads still refused to move. Apart from the agency of the community members, this case further illustrates the GVH's self-interest, mostly acting for his own good (Wong, 2010; Overbeck and Droutman, 2013). In an earlier interview, the GHV had indicated that his TA had provided him with land to resettle but some people

had refused to move with him. Eight months later, the same chief claimed he had no land to move to and had to be accommodated within another GVH in the same TA. The GVH's area was split into three: one that relocated without the GVH in 2015, another one that resettled with the GVH in 2016 and the third one that has refused to move.

In another demonstration of agency and collective action used to resist resettlement at the level of lower chiefs, three GVHs from Nsanje resettled but most of their village heads and subjects refused to follow them. In one GVH that had 14 villages, only 3 resettled. The negative aspect of agency can also be seen in conflicts among the resettled people as well as with their hosts. In most cases, chiefs get resettlement land from individuals, who offer it on the understanding that those who occupy it would surrender an equivalent portion in the floodplains. In one village in Chikwawa, the village headman negotiated with host chiefs and the two sides agreed to exchange land. However, after resettling, some community members who had benefited from the arrangement refused to let their land go. In this instance, while the chief demonstrated strong moral identity and acted for the common good (DeCelles et al., 2012; Overbeck and Droutman, 2013; Sturm and Antonakis, 2015), the actions of a few people threatened the whole resettlement process.

4.4.4 Chiefs, elite capture and disaster relief

The food insecurity humanitarian response programme provides different dimensions of chiefs' role in DRR and CCA. Unlike resettlement, government did not delegate provision of drought relief aid to chiefs. The response programme was implemented in form of either food aid or cash transfers through non-governmental organisations operating under the umbrella of the United Nations World Food Programme and a consortium of international NGOs. Selection of beneficiaries was done through community-based targeting systems that involved open meetings where the most vulnerable households were identified as per each village's quota. In each community, committees were set up that provided support during implementation. So, the design of the whole programme was meant to divest of chiefs' influence. Use of local committees is a common approach that NGOs and government put in place to control the influence of elites and promote community participation.

However, chiefs have been adept at circumventing these established structures. Mere presence of statutes or control mechanisms is not effective in controlling elite

capture (Bingen et al., 2003; Arnall et al., 2013b). The committees informally reported to chiefs, and formally to local government officials and implementing NGOs. Chiefs were able to control election of members into such committees. Putting cronies or relatives in committees is a common strategy used by local elites to influence the decisions they make (Rao and Ibanez, 2005; Buggy and McNamara, 2016). These social manifestations further mirror the broader governance systems that promote cronyism, neopatrimonialism and corruption.

Beneficiary selection was done through community-based targeting systems where those to receive aid were identified through community meetings. Through such collective action mechanisms, it was assumed that the influence of chiefs would further be reduced. Takasaki (2011b) also argued that proper targeting can reduce elite capture. In praxis, even where targeting uses the best approaches such as community-targeting in this case, chiefs have found ways to covertly exert influence in the processes. There is additional evidence showing that community-targeting systems are not fool-proof and they have ended up benefitting the wrong people (Conning and Kevane, 2002; Paxson and Chady, 2002; Mansuri and Rao, 2004).

Often, those targeted represent a small proportion of the total vulnerable population in a village. For 2015/2016, reports showed that only 39% and 45% were targeted in Nsanje and Chikwawa, respectively. It was often felt incumbent upon the chief to ensure that everyone benefits equally. Hence, the chief saw to it that those receiving aid shared with those that did not. In a typical sharing case, a beneficiary would receive food items or cash, then that would be surrendered to the chief. The chief would convene a village meeting where the cash or food would be redistributed to the rest of the village members. In some cases, every household receiving relief aid was assigned one or two other households and they would do the sharing among themselves at an agreed time and place.

These arrangements happen without the ‘knowledge’ of the implementing NGOs or local government officials and are allegedly approved and supported by the whole village. During interviews, chiefs indicated that they are forced to share the relief items to prevent conflicts in the community. Sharing is also done to make sure that development programmes are not shunned by those not benefiting from the aid. Sharing is thus used as an incentive for members of a village to participate in development work, but also to bring community cohesion. Sharing of resources is a common element of community life and elites who do so are considered highly by society (Platteau & Abraham, 2002). This type

of benevolent capture also tends to strengthen the authority of local elites over the community (Rao and Ibanez, 2005; Takasaki, 2011a).

This form of elite capture can also be seen as manifestation of broader societal and cultural dimensions of resilience that define the choices and decisions that chiefs make. Sharing remains embedded in the culture and is a moral responsibility. In the words of one community member during focus groups in Nsanje:

> *In our culture, it is immoral for you to be eating when your neighbour is sleeping on an empty stomach. When government brings relief aid just for a few, chiefs are forced to share with the rest of us. But sometimes people share on their own with family members and friends.*

Rather than equating this form of elite capture with malignancy, even when it is benevolent, this seems to be malevolence by design, stemming from the state's incapacity to direct DRR and CCA efforts at community level. The overarching institutional framework acquiesces to and appear to have institutionalised the capture. For instance, all evaluation reports for the food aid programme from 2012 to 2015 have reported on the sharing, yet no deliberate policies have been adopted to curb this.

Other than benevolent capture 'sanctioned' by the community, there were also elements of malevolent capture where the chiefs benefitted as individuals. As leaders and symbols of resilience, chiefs are rarely included in beneficiary lists. They thus demanded that beneficiaries set aside for them a portion of what they received, which was taken as a token of appreciation for being registered into the programme. In other cases, chiefs influenced the inclusion of households that were not entitled who later shared the cash or food with them. In some villages in Chikwawa, chiefs were collecting a quarter of the total cash that beneficiaries were receiving. For those that refused, ration cards that the beneficiaries used to get the cash were confiscated. Similar cases were reported in Nsanje where, in addition to collecting cash from beneficiaries, some chiefs were demanding kickbacks from community members for them to be registered as beneficiaries under the programme. Since the most vulnerable could not afford bribes, undeserving households ended up benefitting. It is not uncommon for local leaders to strategically position themselves in adaptation and opt for personal gains at the expense of community well-being. In Brazil, for instance, efforts to mitigate drought ended up strengthening the authority of local elites (Finan and Nelson, 2009).

Due to the level of authority they wield in rural areas and their position as power brokers for politicians, such malpractices are rarely reported by communities, or admonished by local government officials. Malevolent elite capture becomes particularly

prevalent where the population is poor or less powerful, and hence less able to resist (Araujo et al., 2008). Those affected are afraid to report for fear of being left out in subsequent programmes or receiving other forms of reprisal. In September 2016, a number of families were evicted from their villages in Nsanje by a GVH for granting media interviews where they reported on local leaders' corrupt practices in relation to relief aid (Guta, 2016). During one community meeting, a chief and some community members brought a case to the attention of a district council officer. A camp coordination committee chairlady was being accused of favouritism in registering people to benefit from relief aid. The lady defended herself and revealed she had been illicitly providing relief items to the chief, but because of her refusal to continue doing so, the chief was not amused, hence the accusations. The chief still proceeded to remove the chairlady from her position. The threat of expulsion, or actual expulsion, from the village is a common strategy used by chiefs to instil fear and reverence among community members, as also observed by Platteau and Abraham (2002) in Guinea-Bissau.

Despite the positive communal aspects that come out of it, elite capture of humanitarian relief defeats the whole purpose of such programmes. This is regardless of whether it is benevolent or malevolent, 'sanctioned' by the whole village or not. In the words of a beneficiary from Nsanje:

> *When I get a bag* (50 kg of maize)*, I share with two other families. Instead of using it for a month, it lasts me for just a week or so and I have nothing to eat. But there is nothing I can do, lest I lose out completely*.

Paul et al. (2016) made similar observations in their study in Ethiopia where they noted that social capital did not always bring positive adaptation results, leading to maladaptation for certain groups of people. The findings also counter Dasgupta and Beard (2007) argument that having capacity for collective action within the community can control elite capture. In this case, elite capture is sanctioned through collective action. In the end, those entitled get portions that fail to meet their monthly food requirements, thereby furthering their vulnerability.

4.5 Implications and conclusion

This study sought to understand the role of chiefs in DRR and CCA through two programmes that presented different typologies of elite control or capture. In the case of humanitarian aid, chiefs were excluded to counter elite capture, while the resettlement process co-opted them and chiefs had control of the process. Several scholars outside

DRR and CCA have theorised on benevolent and malevolent elite capture. These forms are often considered as dichotomies, where the latter is taken as the worst form of capture. Evidence coming from this study suggests that such ascriptions are subjective and, mostly, social constructions. These two are also not mutually exclusive. What government and NGOs see as malevolent capture is considered benevolent by communities. Whether elites are co-opted or excluded, both malevolent and benevolent capture may still occur. Even when considered in absolute terms, it is difficult to find a chief who can remain malevolent or benevolent throughout and survive. The majority, to borrow from Brooks et al. (2016), are 'in-betweeners', oscillating between malevolent and benevolent capture, or combining the two. For chiefs operating within a neopatrimonial system (deGrassi, 2008; Arnall et al., 2013b), it is all about personal survival, community well-being and cohesion.

While there are indications on the ground that some chiefs are influencing positive outcomes, there is also evidence showing that there are hidden elements within the institution of chieftaincy that could affect DRR and CCA. The findings confirm that adaptation or DRR at the local level, including resettlement, cannot be framed as occurring in an enclosed space where technical solutions are provided to address the biophysical consequences of climate change and disasters. DRR and CCA happen within the ambit of everyday life and challenges, some of which are not related to climate change or disaster risk (Oliver-Smith, 1991; Adger et al., 2005; Oliver-Smith and de Sherbinin, 2014; Toole et al., 2016). Implementation of DRR or CCA measures, therefore, requires consideration of such everyday practices and the context within which they occur.

But what is the role of the state in all this? What comes out is that the absence of government on the ground, its assumptions and contradictions explain most of the challenges at community level. In the present setup in Malawi where NGOs are leading CCA and DRR at community level (Kita, in press), government's absence is disincentivising the whole resettlement process, while providing incentives for elite capture of humanitarian aid. Government is portraying itself as not supportive of its own policies. This, in turn, is encouraging some chiefs to subvert the processes for their own personal benefit. Chiefs are being given the option of cherry-picking the DRR or CCA policies to support. While government could be avoiding the resettlement process for political reasons, such line of thinking fails to explain its inactiveness in the humanitarian response programme.

In the context of resettlement, sentiments from the ground suggest that government's position is being made on a narrow and mistaken assumption that resettlement is about provision of land. Since chiefs control land, letting chiefs lead the process would yield the expected results. However, resettlement also involves provision of social amenities, actual settlement of people and sustenance of livelihoods, all of which require government's support. Furthermore, whether for DRR, CCA or development purposes, resettlement remains a highly political issue (Nachowitz, 1988; Oliver-Smith, 1994; Artur and Hilhorst, 2014). The evidence presented in the paper of a senior chief who publicly told a cabinet minister that he would not allow his chiefs and subjects to follow government's resettlement policy attest to this.

There is abundant evidence from the literature showing that chiefs have resisted attempts by states to reduce their powers or abolish the institution of chieftaincy (Fisiy, 1995; Ray and van Rouveroy van Nieuwaal, 1996; Kaunda, 1999; Logan, 2009; Baldwin, 2014). In this case, resettlement epitomises such threats. The resistance from chiefs ought to have been anticipated by government and factored into the design of the resettlement programme. The co-option of chiefs does not seem to help much. Manyena (2014) has demonstrated the utility of chiefs in disaster studies, particularly in their show of resilience. However, what this study has presented brings in a different dimension, where efforts to build 'disaster resilience' are threatening this 'resilience' of chiefs. Resettlement thus poses legitimate threats to the existence of local structures and systems that have brought communities together.

Failure by the formal institutional structure to recognise these local specificities makes chiefs look like impediments, yet they are key to successful DRR and CCA at community level. Unlike Mamdani (1996), this paper does not call for the abolition of chieftaincy. Nor does it agree with those calling for countering the elites so that they should not be excluded from CCA or DRR. Despite considering chiefs as corrupt, the Afrobarometer data and local-level interviews show that rural communities still trust and value them more than government or their elected political representatives. While some individuals are able to organise themselves without their traditional leaders and take actions that protect them from disasters, most rural communities in Africa and other low-income countries remain attached to their local institutions. Indeed, chiefs will remain an essential element of rural life, playing important roles in enhancing stability and government legitimacy (Goodfellow and Lindemann, 2013).

This study, therefore, agrees with Boege (2011) who argued in the context of the South Pacific that, for most rural communities, chiefs continue holding keys to disaster and climate change resilience. They are more of enablers than barriers and should be positively engaged in the management of climate change and disaster risks. The evidence presented in this paper shows that elite capture is more about personalities and the socio-political environment than the mere position of being an elite. A balance should be struck between accommodating the traditional leadership system and preventing chief's negative influence in DRR and CCA. Additional studies could provide further insights on how chiefs can be positively engaged without jeopardising the goals of DRR and CCA.

CHAPTER 5 : On the fringes of adaptation: climate change, floods, risk perception and household resettlement in Malawi - Paper 3

Abstract

When people who occupy places that are exposed to floods are provided with the option of relocating to safer places, many opt to remain in high-risk areas than move, or return after relocating. This paper applies a theoretical framework grounded in social-psychological and socio-economic factors to understand why some households resettle while others stay. Applying the protection motivation theory, the study finds that those that feel that resettlement will only protect them from floods but not drought or other hazards are less likely to resettle. Although socio-economic factors are found to be weaker predictors of resettlement outcomes compared to socio-psychological ones, the study shows that those with high income are less likely to resettle and thus remain 'trapped' in risky areas. These findings demonstrate some of the challenges that vulnerable households in low-income countries face as they adapt to climate change, within the context of equally demanding livelihood needs. The study, conducted through a mixed methods design in rural Malawi, also demonstrates the need to pay more attention to social-psychological factors when designing and implementing adaptation and disaster risk reduction policies. By demonstrating that both those moving and those who stay are mostly coping or maladapting rather than adapting, the findings challenge the commonly promoted short-term mechanical fixes. Rather, they point to the need for policy options that are more encompassing and promote sustainable adaptation and disaster risk reduction.

Keywords: *resettlement; Malawi; risk perception; climate change; floods; disasters*

5.1 Introduction

People living in the same community, exposed to similar natural hazards and with similar levels of vulnerability can take different trajectories in responding to risk. Some people can take protective action, others do nothing while some can take maladaptive pathways. Several adaptation or disaster risk reduction options can be available and one such option being promoted to reduce flood risks is resettlement. In the context of climate change adaptation, resettlement is often evoked when limits to adaptation have been reached. Dow et al. (2013) define limits to adaptation as "a point at which an actor can no longer secure valued objectives from intolerable risk through adaptive action" (p. 306). Adaptation limits are particularly important for policy makers as they assist in recognising that current adaptation practices will fail, or are failing, hence necessitating new or transformational forms of adapting (Dow et al., 2013; Huq et al., 2013; Preston et al., 2013; Felgenhauer, 2015). Yet, even when such limits have been reached, some people choose to stay in high-risk areas rather than move. This study asks why that could be the case.

The protection motivation theory from social psychology provides an important framework within which to understand how people make decisions on what risk reduction measures to adopt (Rogers, 1975; Grothmann and Patt, 2005; Bubeck et al., 2012). Although socio-economic factors such as age, income, education, home ownership, sex and household size can also act as barriers to adopting protective behaviours, several studies have shown that they mediate risk perception and influence adoption of protective behaviours against hazards (Thieken et al., 2007; Patt and Schroter, 2008; Lindell and Hwang, 2008; Solberg et al., 2010; Kreibich, 2011; Botzen et al., 2012; Bubeck et al., 2012; Saroar and Routray, 2012; Poussin et al., 2014). The literature on risk analysis suggests that social-psychological factors such as perceptions and beliefs are better predictors of protective behaviours and intentions than socio-economic ones (Lin et al., 2008; Grothmann and Patt, 2005).

While several studies have been done to assess the influence of social-psychological factors in adopting hazard protective behaviours, the focus has largely been on structural measures and insurance, with resettlement mostly neglected. Using a mixed methods design, this study primarily examined how households living in high climate risk rural areas perceive resettlement as an adaptation measure to climate change and climate variability and how that perception influences decisions to resettle or stay. The study was

conducted in Malawi, Sub-Saharan Africa, among a population that was affected back-to-back by severe floods in 2015 and drought in 2016, both of which were declared national disasters. The study was carried out at a time when a voluntary, largely non-assisted resettlement process was underway. Since resettlement was already underway, the study assessed both manifestations of resettlement behaviour and intentions to resettle. The study was further guided by the following specific subsidiary questions: How do households and communities living in high-risk areas perceive present and future climatic risks? What objective evidence is present to substantiate these perceptions? How do individuals perceive their vulnerability and adaptive capacity? What adaptation and coping strategies are adopted by households and communities? How do households perceive resettlement as an adaptation or DRR measure? To what extent do such perceptions influence decisions to resettle or stay?

The rest of the paper is divided into five main sections. The first section reviews key theories and studies in the field, which is followed by the methodological section. The third section presents the results of the study, and then discusses these findings in the fourth section. The last section concludes the key arguments.

5.1.1 Risk and coping appraisal: protection motivation theory

Originally developed by Rogers (1975, 1983) to understand how fear appeals and persuasions could affect behaviour, the protection motivation theory (PMT) is based on a cognitive appraisal process of a threat that is likely to happen and would cause harm when it happens. To prevent the threat from happening, or from being harmed when it does occur, one has to take protective action. The theory differentiates between two major perceptual processes for protection motivation: threat appraisal or risk perception and coping or adaptation appraisal. The two processes have to be initiated by some source of information such as experience with a flood, or warnings about a flood event. Threat appraisal involves two cognitive processes: assessing the likelihood of the threat occurring, called *perceived probability/likelihood,* and how severe the impact would be when the threat occurs, called *perceived severity/consequences.*

Coping appraisal follows threat appraisal and is done when a certain level of threat appraisal is reached. When doing *coping appraisal*, an individual first assesses whether taking the action would be effective in protecting himself or herself and

important others, referred to as *response*[5] *efficacy*. Secondly, a person has to assess his or her ability to actually undertake the protective measure, called *self-efficacy.* Related to this, an individual will have to assess the cost of such actions - called *response cost* - which can affect the likelihood of undertaking adaptive action (Rogers, 1983; Prentice-Dunn and Rogers, 1986; Rogers and Prentice-Dunn, 1997; Grothmann and Patt, 2005; Grothmann and Reusswig, 2006; Kellens et al., 2013).

From the two appraisal processes, a person can decide whether to take adaptive action (*protective action*) or not (*non-protective action*). Protective decisions can be in the form of adopting a positive behaviour, stopping a negative behaviour or not adopting a negative behaviour. Those that make a decision to protect themselves will only form behavioural intentions, called *protection motivation* or *adaptation intentions*. Due to unanticipated *barriers,* they may not take the actual behaviour even after high risk and coping appraisals have been reached. Individuals would mostly feel not capable of protecting themselves if either they feel the available adaptive option is ineffective in protecting them or they are unable to perform the action (Prentice-Dunn and Rogers, 1986; Rogers and Prentice-Dunn, 1997; Grothmann and Patt, 2005; Grothmann and Reusswig, 2006).

PMT has been applied in a number of studies on disaster and climate change risk perception and behaviours (Grothmann and Patt, 2005; Grothmann and Reusswig, 2006; Zaalberg et al., 2009; Fischer and Glenk, 2011; Esham and Garforth, 2013; Reynaud et al., 2013; Dang et al., 2014; Poussin et al., 2014; de Boer et al., 2015; Truelove et al., 2015). Most studies have found limited or no influence of threat appraisal on adoption of adaptive or other precautionary behaviours (Lindell and Whitney, 2000; Grothmann and Reusswig, 2006; Thieken et al., 2007; Siegrist and Gutscher, 2008; Terpstra, 2011; Bubeck et al., 2012; Poussin et al., 2014; Truelove et al., 2015), though Reynaud et al. (2013), Esham and Garforth (2013) and Fisher and Snapp (2014) found risk perception to have significant influence on adaptation. Scholars mostly agree that coping or adaptation appraisal better predicts behaviour than threat appraisal. When the threat appraisal is high, high coping appraisal often leads to adaptive behaviours. On the other hand, low coping appraisal leads to maladaptive responses, which can include denial, wishful thinking and fatalism (Rippetoe and Rogers, 1987; Grothmann and Reusswig, 2006; Truelove et al., 2015; Bubeck et al., 2012).

[5] Grothmann and Patt's (2005) model of private proactive adaptation to climate variability and change (MPPACC) uses adaptation instead of response or coping

While experience with a disaster influences risk perception, there are variations depending on the context of the risk, such as the type of hazard, extent of damage and degree of loss from a disaster event (Grothmann and Reusswig, 2006; Lindell and Hwang, 2008; Solberg et al., 2010; Botzen et al., 2009, 2012; Bubeck et al., 2012; Lawrence et al., 2014). For those living close to rivers, the benefits of living in such locations often outweigh the impact disasters such as floods would have on them, with some considering themselves safe (Hung et al., 2007; Harvatt et al., 2011; Wachinger et al., 2013).

5.1.2 Barriers and enablers

A number of barriers have been identified to explain why people are not willing to undertake private mitigation measures to protect themselves against hazards such as floods even when their threat or coping appraisal is high. These include lack of knowledge, resources or other forms of capacity for self-protection and other institutional, socio-economic, cultural and political factors (Siegrist and Gutscher, 2008; Biesbroek et al., 2013; Wachinger et al., 2013). The role of government is important in understanding barriers as it plays key roles in creating or removing barriers to successful adaptation (Grothmann and Reusswig, 2006; Botzen at al., 2009; Biesbroek et al., 2013). Individuals with high-risk perception have been shown to take no action to protect themselves as they trust the ability of other actors such as public authorities to protect them (Grothmann and Reusswig, 2006; Botzen at al., 2009; Terpstra, 2011; Reynaud et al., 2013; Wachinger et al., 2013). However, in separate studies by Lin et al. (2008) in Taiwan and Poussin et al. (2014) in France, they found that people who had more trust in public and private institutions to protect them from hazards tended to adopt more protective behaviours.

5.1.3 Socio-economic factors

Socio-economic factors can also act either as barriers or as motivators in adopting protective behaviours, though findings have mostly been conflicting. Thieken et al. (2007) found that smaller households invested more in house protection and insurance, Kreibich (2011) found larger households to undertake more precautionary measures, while Poussin et al. (2014) observed that household size has influence only on adoption of structural mitigation measures. Similarly, while some scholars found women to have

higher risk perception and adaptive capacity than men (Lindell and Hwang, 2008; Solberg et al., 2010; Saroar and Routray, 2012; Haq and Ahmed, 2017), others found men to have higher risk acceptance levels (Ho et al., 2008; Huang et al., 2010). In other studies, Botzen et al. (2009) found neither age nor sex to have an effect on flood mitigation decisions; Poussin et al. (2014) found that older persons implemented more flood mitigation measures; Thieken et al. (2007) found that younger people took more flood precautionary actions and Solberg et al. (2010) found young people to have higher perception of seismic risk.

Several scholars (Kreibich et al., 2005; Lindell and Hwang, 2008; Botzen et al., 2009; Poussin et al., 2014) did not find any significant influence (or correlation) of income on adoption of hazard protective measures. In other studies, people with higher income were also seen to be more willing to pay for insurance or undertake hazard protective measures (Palm, 1998; Russel et al., 1995; Thieken et al., 2007; Botzen et al., 2012). Reynaud et al. (2013) found that households with low income are more willing to relocate to another village or city in response to flood risk. Several studies also found education to influence adoption of protective behaviours, with those having higher education adopting more precautionary or protective behaviours (Ho et al., 2008; Tekeli-Yesil et al., 2010; Saroar and Routray, 2012; Poussin et al., 2014).

5.1.4 Resettlement

People are often reluctant to resettle and, even when offered better housing and other 'modern' amenities, most still abandon resettlement sites (Patt and Schroter, 2008; Arnall et al., 2013; Ferris, 2015). Oliver-Smith (1991) argues that success of resettlement is not judged by the mere fact that resettled people have not resettled, but also by how the community has been restored and become self-reliant. Most cases of resettlement failure result from inadequate planning, poor choice of resettlement site, lack of community participation, failure to factor in psychological and cultural issues in resettlement design (Oliver-Smith, 1991; Patt & Schroter 2008; Oliver-Smith & de Sherbinin, 2014).

Michael Cernea's (1997, 2000) impoverishment risks and reconstruction (IRR) model for resettling displaced populations is a theoretical model that highlights the intrinsic risks that cause impoverishment through forced displacement, as well as the ways to counteract such risks. The model was originally designed for the analysis of development-induced displacement and resettlement, but it has also been used for

resettlement schemes induced by disasters (Cernea, 1997; McDowell, 2002; Bang and Few, 2012). The model has eight impoverishment components: landlessness, joblessness, homelessness, marginalisation, increased morbidity, food insecurity, loss of access to common property resources and social/community disarticulation. The IRR model classifies major losses of displacement and suggests 'mechanical' ways to prevent them through proper resettlement, by reversing the impoverishment risks: for instance, from landlessness to land-based resettlement, from joblessness to re-employment.

These mechanical prescriptions of the IRR model have been criticised for ignoring the possibility that people may not always want to be compensated with exactly what they lost (Dwivedi, 2002). Other scholars also question the model's inability to highlight the behaviour, vulnerabilities and capacities of the displaced, or how such vulnerabilities are affected by resettlement (Mugah, 2000; Scudder, 2005; Alexandrescu, 2013). Chris de Wet (2006), therefore, proposes the *inherent complexity theory* of resettlement that holds that resettlement emerges out of a complex interaction of various factors in an unpredictable manner and in ways challenging for rational planning. There are interrelated multiple factors, including cultural, social, environmental, economic, institutional and political, which are occurring within imposed spatial change as well as local level initiatives and response. The different stakeholders involved in the process, the interactions between these stakeholders and the different circumstances under which resettlement occurs add to the complexity of resettlement. De Wet (2006) argues that it is not possible to address or understand resettlement through 'technical fixes' advocated by approaches such as those of the IRR model.

5.2 Methodology

5.2.1 Study area

The Malawi Vulnerability Assessment Committee (MVAC) develops livelihood profiles for the country that are also used in assessing food security situation for purposes of humanitarian aid. MVAC has divided Malawi into 18 livelihood zones basing on the extent to which the population share food access patterns. This study was conducted in the districts of Nsanje and Chikwawa, which fall within the Lower Shire Valley Livelihood Zone. The 2015 baseline profile for this zone has four wealth groups based on maximum annual income: very poor (MK118, 150/year, approximately 161 US$), poor

(MK196, 368), middle (MK394, 927) and better off (MK1, 005, 239). Livestock ownership is a key determinant of wealth and the major source of income for better off households while the poor rely on casual labour (MVAC, 2015).

Prolonged dry spells and floods are chronic hazards in both districts. In January 2015, Malawi received the highest rainfall amount on record, which led to what are considered the worst floods ever recorded, constituting a 1 in 500-year occurrence (GoM, 2015a). 15 districts were affected in total across the country and a national state of disaster was declared. According to records accessed through the Department of Disaster Management Affairs, 74,250 people were displaced in Nsanje and 34,505 in Chikwawa, representing 22 and 10% of the total national displaced population, respectively. Of the 172 people that were declared missing, 153 were from Nsanje and 15 were from Chikwawa. Of the 104 that died from 14 districts, Nsanje had the highest number of deaths at 31, with 2 in Chikwawa. Several camps were set up to accommodate the displaced and after six months, government started decommissioning the camps. Government declared most of the affected areas unsafe and, through chiefs, encouraged people to voluntarily resettle. Those that had been displaced within their areas were also advised to relocate. Unlike most resettlement schemes where communities are relocated *en masse*, this case was based on the willingness of individual households. In addition, the majority of those resettling had to construct houses and re-establish their lives in the new sites without external support. While some people resettled, others refused and returned to, or remained in the same risky areas.

5.2.2 Data collection and analysis

Fieldwork for this study commenced in July 2015, six months after the floods at a time when most households were still in camps and was completed in June 2016 when camps had been decommissioned and the displaced had either resettled or returned. The study adopted a mixed methods design at methodological, data and theoretical levels. Data collection was done through focus group discussions (FGDs), key informant interviews, participant observations and a questionnaire survey. Disaster assessment data and other reports relating to the floods, food insecurity and resettlement process were also accessed.

The survey covered a total of 353 households, 176 from Chikwawa and 177 from Nsanje. 24 villages were covered, 14 villages in Nsanje and 10 in Chikwawa (see Figure 5:1). In each village, research assistants conducted random face-to-face interviews with

the head of the house or spouse at each of the third house. All respondents to the survey had been affected by the 2015 floods. Due to low literacy levels, the questionnaire was translated into the local language and read out to the respondent.

In addition to the questionnaire survey, 30 focus groups were conducted in 15 villages. While the majority of focus groups were mixed (n = 12), a number of them were conducted separately with women (n = 6), men (n = 6), youth (n = 4) and elderly (n = 2). Participants were ordinary community members randomly selected from the villages through gatekeepers. Key informants interviews (KII) were also conducted with members of local committees responsible for disaster risk management, development and other aspects of rural life and livelihood. Questions and discussion topics for qualitative data were organised along the same themes as the questionnaire.

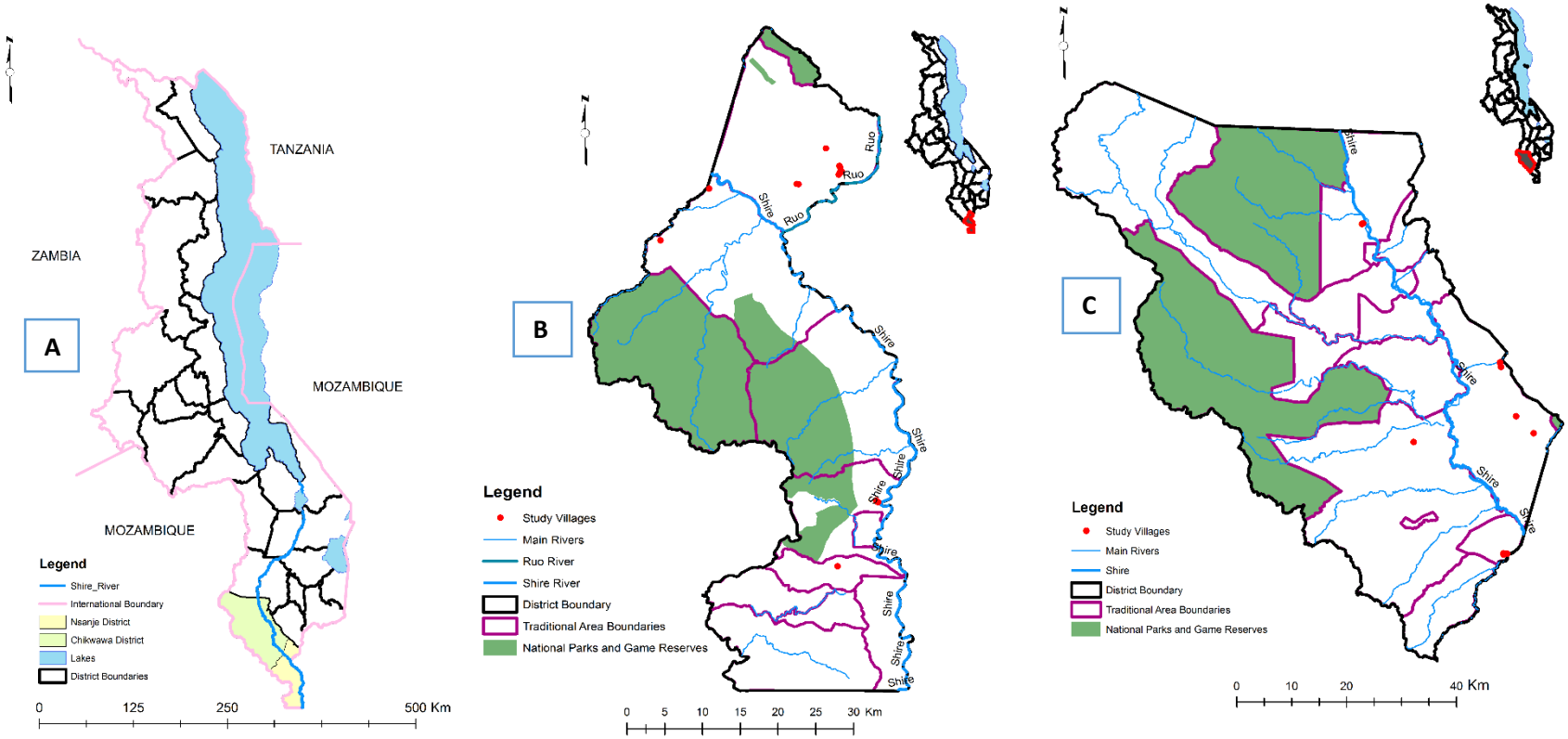

***Figure 5:1 A**: Map of Malawi showing location of Nsanje and Chikwawa districts, **B**: Map of Nsanje showing location of study villages and major rivers, **C**: Map of Chikwawa showing location of study villages and major rivers*

Source: author and Gumbi Gumbi

IBM SPSS Statistics 23 and MS Excel were used to analyse quantitative data through descriptive and inferential statistics. Due to the categorical nature of the outcome variable, binary logistic regression and Chi-square tests were used (Field, 2013). Transcribed qualitative data were merged with field notes and analysed using thematic and constant comparison analysis (Charmaz, 2003; Ryan and Bernard, 2003; Braun and Clarke, 2005; Leech and Onwuegbuzie, 2007; Onwuegbuzie et al., 2009).

5.2.3 Key variables for regression analysis

Resettlement status was the main outcome variable and was a self-reported measure where one had to indicate whether they have resettled or not. Households were also asked to select three common effects of resettlement that they were experiencing, observing or expecting among the eight outcomes of the IRR model.

Socio-economic variables were largely well represented across respondents, and the key ones of interest to the study were age, marital status, monthly income, education level, housing type and household size.

Risk perception (threat appraisal) was measured by asking three questions scored on a 5-point Likert-type scale, one on perceived probability (there is likelihood of having floods similar to the January 2015 one in the next five years) and two on perceived consequence (when disasters occur, those that matter most to me and I will likely be affected, and; to what extent do you consider climate variability and change a threat to your lives and livelihoods?). *Coping appraisal* was measured through two questions on *response efficacy* (resettlement will protect me and my family from future harm of floods and other impacts of climate variability and change and; how important is resettlement as a measure to adapt to floods and other impacts of climate variability and change?) and one on *self-efficacy* (I have the capacity to resettle on my own).

5.3 Results

5.3.1 Descriptive statistics: livelihood and demographic profile of respondents

The only kind of employment available to the majority of households is casual work (*ganyu*), which is predominantly agro-based. *Ganyu* was also the main source of livelihood (55%) followed by farming (27%) and businesses (9%). The majority cannot

afford fertiliser (37 % said they do not use fertiliser, 24% always, 24% occasionally and 15% rarely). Farming is largely dependent on rainfall or riverbank cultivation, with 58 % indicating they do not use any irrigation. In terms of fuel for cooking, they all rely on forest products, with 94.32% relying on wood, 3.13 on charcoal and 2.27 on straw.

In terms of highest level of education, 48% indicated primary school, 45% had never gone to school and 7% had gone up to secondary school. 70% indicated they do not read newspapers at all, 48% indicated they do not listen to the radio and 92% indicated they never watch television. Only 6% had access to tap water, while 87% relied on boreholes. The majority of households have a monthly income of between US$ 1.37 and US$ 6.88 (55%). 65% of respondents were female, 71% were married with household sizes averaging (mode) 5. The mode age of respondents was 35 and 91% lived in houses they owned, and the majority of those houses were traditional (60 %).

5.3.2 Socio-economic model

While, overall, a binomial logistic regression model with the socio-economic variables of income, education, age, household size and gender (forced enter) is not a significant predictor of resettlement outcomes, a backward step-wise (conditional elimination) regression shows a model with income, gender and age to be a significant predictor (overall results not shown in this paper) ($\chi^2 = 22.15$, df. 8, $p < .05$) (Table 5-1). However, only income and gender show significant regression coefficient (B) scores in the model with $p<.05$, with gender being weaker than income. The model also explains about 10% (Nagelkerke R^2) of the variance in resettlement outcomes. Before the tests were done, assumptions of linearity, multicollinearity and independence of errors were done, while also assessing the robustness of the tests.

Table 5-1 *Logistic regression output for key socio-economic predictors of resettlement*

Variable	Categories	B	S.E.	Wald	df	Exp(B)
Income per month	Very poor	-.941	.373	6.375*	1	.390
Age	16-25			11.814	6	
	26-35	-.658	.424	2.412	1	.518
	36-45	-.547	.456	1.441	1	.579
	46-55	-.895	.504	3.157	1	.409
	56-65	.370	.601	.380	1	1.448

	66-75	.519	.595	.762	1	1.681
	75 and above	-.897	.598	2.252	1	.408
Gender	Male	-.664	.302	4.840*	1	.515

*p<0.05

***Note**: Monthly income was measured across six scales which were later collapsed into two scales during analysis as some scales had very few cases. The data was, therefore, recoded into two categorical variables in line with the national wealth ranking categories for the area: 0 for very poor (MK10,000 and below/month) and 1 for poor and above (above MK10,000/month). Gender was a dummy variable, with 0 representing 'male' and 1 representing 'female.' Age was provided as actual, but was recoded into categorical variables. The b represents the constant for the log equation. The Wald ratio is used to determine if a predictor's b coefficient is significantly different from zero or not: if it is different from zero, then it has a significant contribution to the outcome's prediction. The odds ratio (Exp(B)) is an indicator for the odds that an outcome will occur given a particular change in the predictor. It differs from the b coefficient because it does not require a logarithmic transformation (Field, 2013).*

Chi-square tests results show significant differences only in the monthly income variable between households that have resettled and those that have not (χ^2=4.87, df. 1, p=.027). 19.5% of those resettled fall in the group of poor and above (i.e. monthly income not more than MK10,000)[6] against 10.3% for the resettled. No significant difference is found in education (χ^2 = .70, df. 2, p = .7), age (χ^2 = 9.25, df. 6, p = .16), household size (χ^2 = 2.19, df. 3, p = .55) or gender (χ^2 = .67, d.f. 1, p = .41) between those that have resettled and those that have not. Since 'very poor' income category is the reference variable, the negative sign in the regression coefficient (B) for income suggests that the likelihood of resettling decreases as the level of income increases from 'very poor' to 'poor and above.' Similarly, females are less likely to resettle than males, though this should be interpreted with caution as the Chi-square test finds no significant difference between the two groups along gender lines.

One key indicator of wealth within the Lower Shire Valley livelihood zone is livestock ownership (MVAC 2015), and 51% of those not resettled own livestock, against 24% resettled (χ^2(1)=23.11, p<.001). During focus groups, it was reported that those that have more wealth own more assets and require large pieces of resettlement land, which is not available. Several people who had resettled but owned livestock such as cattle returned because the land allocated to them was inadequate.

[6] Approximately 14 US$, http://www.fxexchangerate.com/ as of 10 January 2017

5.3.3 Social-psychological pathway

5.3.3.1 Risk appraisal

A binary logistic regression model for the risk appraisal variables shows that the model is not a statistically significant predictor of resettlement outcomes (χ^2=18.26, df 20 p=.57). To check if removing some of the variables may increase the predictive power of the model, a backward (conditional elimination) logistic model is fit to the variables. Test results show that removing any of the variables would not change the model's prediction. Chi-square tests also show no statistically significant differences in risk appraisal between households that have resettled and those that have not. Both groups strongly agree that the likelihood of having floods similar to those experienced in 2015 is high (χ^2=6.10, df 6, p= .41), that when floods occur they would greatly affect them and those that matter to them (χ^2=6.45, df 6, p=.38), that the 2015 floods were the worst experienced in their lives (χ^2=1.51, df 4, p=.83) and that climate change is a great threat to their lives and livelihoods (χ^2=1.87, df 4, p= .76).

5.3.3.2 Coping appraisal

For coping appraisal, in the first step a backward stepwise (conditional) logistic regression model is run with the two variables on response efficacy ('r*esettlement will protect me and my family from future harm of climate variability and change impacts'* and '*how important is resettlement as a measure to adapt to climate variability and change to you?)* and one variable on self-efficacy (*I have the capacity to resettle on my own*). The model output shows that removing the self-efficacy variable will have no statistically significant effect to the model. As such, the model is only run with the two response efficacy variables and the overall model is a statistically significant predictor of resettlement outcomes (χ^2 = 50.13, df 10, p<.001) (Table 5-2). The model can explain twice as much of the variance in resettlement outcomes as explained by the social-economic model, predicting about 21% (Nagelkerke R^2).

Table 5-2 *Logistic regression output for key coping appraisal predictors of resettlement*

Variable	Categories	B	Wald	Df	Exp(B)

How important is resettlement as adaptation	Not at all		10.324*	4	
	A bit	-.004	.000	1	.996
	Moderately	.588	1.840	1	1.800
	Significantly	.824	3.177	1	2.281
	Very much	1.578	5.992*	1	4.844
Resettling will protect me and my family against climate change impacts	Strongly agree		24.597***	6	
	Agree	-1.209	6.715*	1	.299
	Slightly agree	-1.777	12.713***	1	.169
	Neither agree nor disagree	-1.188	5.273*	1	.305
	Slightly disagree	-.665	.572	1	.514
	Disagree	-2.387	18.881***	1	.092
	Strongly disagree	-1.962	11.070**	1	.141

*p<0.05; **p<0.01; ***p<0.001

***Note**: the variable 'how important is resettlement as adaptation' is measured along five scales from 1-5, with 1 being 'not at all' and 5 being 'very much,' while the variable 'resettling will protect me and my family against climate change impacts' is measured along 7-point scale, with 1 being 'strongly disagree' and 7 being 'strongly disagree.'*

Further Chi-square tests were done on the coping appraisal variables to check the level of association between those resettled and those not, which revealed statistically significant differences between the two groups. There are more people within those that have stayed who strongly feel that resettlement will not protect them and their families from the impacts of climate change and climate variability (χ^2=35.64, df 6, p<.001). Similarly, more of those that have not resettled feel resettlement is not an important adaptation measure to climate change and climate variability (χ^2=21.65, df 4, p<.001). However, both groups have high self-efficacy, indicating that they both feel they have the capacity to resettle on their own (χ^2=10.40, df 6, p=.11). The high self-efficacy can also be confirmed in terms of how the population resettled. Only 10% said they had resettled with the support of external actors, while the rest had either resettled as individuals on their own (29%) or with other community members without external assistance (61%). There are also significant differences between the two groups in how their experience

with the 2015 floods has affected their perception of resettlement. The resettled mostly indicated it has while those not resettled said it has not (χ^2=14.62, p<.01).

It was revealed during focus groups and interviews with key informants that the cost of resettling is seen to be high, as it only addresses one hazard, which is not considered as the most severe. Such intervening factors at household level are mostly associated with food security, which was also linked to access to land. The majority of those resettling have to leave low-lying areas that provide them with fertile cultivable land, and relocate to upper-land, usually in hilly or unproductive areas. A focus group participant stated:

> *Yes, the places we stay do flood. But our lives depend on agriculture and these places are like our gold-mines, where we get our food. If we move upland, where are we going to be getting food? ...Moreover, the land is not adequate up there.*

Asked what the main effect of climate change and variability is, 55.5% mentioned drought while 33% mentioned floods, with no statistically significant differences between the groups. However, when asked what the major disaster is, there were significant differences (χ^2 = 9.50, df. 2, p < .01): the majority of those that have resettled mentioned floods (48.3%), while those that have not resettled indicated drought (52.8%). Even among the resettled, challenges in accessing their farmlands was a common issue. In one of the resettled communities, when asked what kind of external support they require most, bicycles were considered a priority: they indicated that bicycles would be used to travel to and from the low-lying areas to cultivate their land. The average distance between resettlement location and previous homes where the gardens are is 10 km (self-reported and may be highly speculative). Most households have resettled within the same traditional authority.

A compilation of data from MVAC reports and Malawi's national disaster profile shows that between 2005 and 2016, 2.9 million people were cumulatively affected by food insecurity in the two districts, while floods only affected about 0.4 million people (2005 is chosen as a reference point as it is when MVAC started conducting food security assessments). Figure 5:2 A and B show the percentage of population in each of the two districts affected by floods and drought between 2005 and 2016. The figures also show that the two districts have had cases of food insecurity every year since 2005 while floods have occurred in 5 and 8 of the 12 years for Chikwawa and Nsanje, respectively.

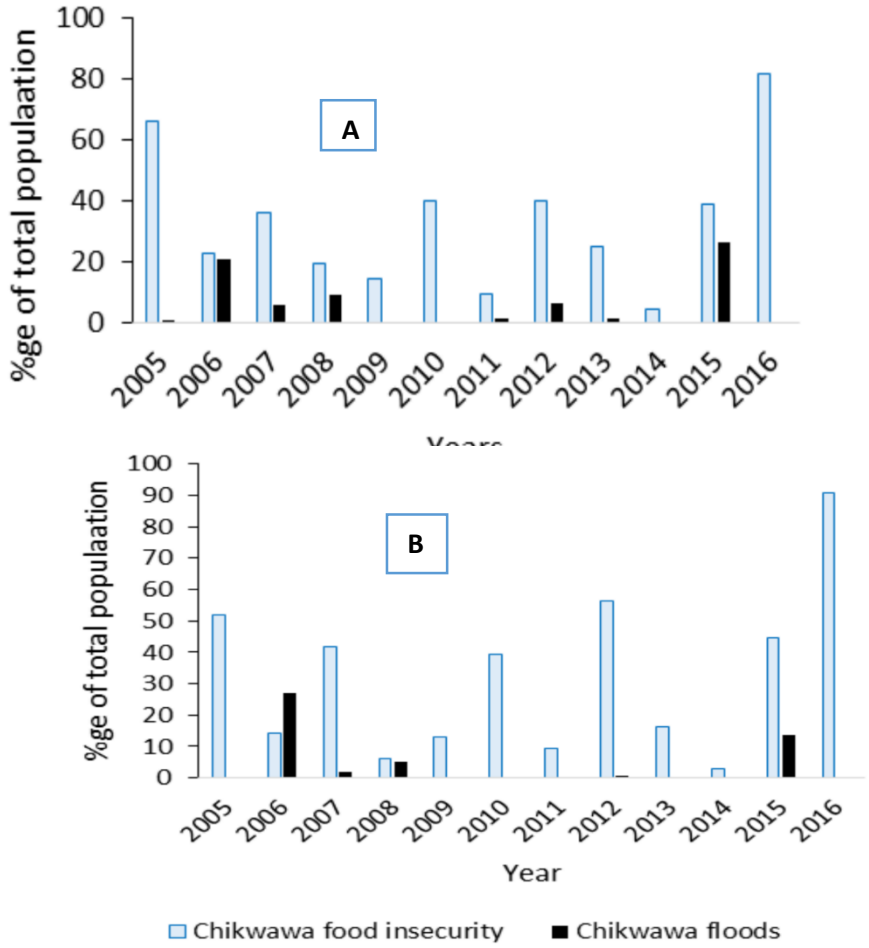

Figure 5:2 *(A & B) Floods and food insecurity affected people for Nsanje (a) and Chikwawa (b), 2005-2016*

It should be mentioned that food insecurity is not always due to drought or dry spells alone, and in some cases floods can also contribute to food insecurity by damaging crops. For instance, during the 2015/2016 agricultural season, the MVAC report showed that 31% of the food insecurity situation was as a result of floods and hailstorms, with dry spells accounting for 69%. However, it is often droughts or dry spells that are associated with food insecurity, and 2015/2016 was a period when Malawi witnessed its worst floods on record.

5.3.4 Impoverishment risks?

The majority of respondents felt resettlement would not result in any of the IRR impoverishment risk outcomes, except for food insecurity. Overall, responses did not significantly differ between those that have resettled and those that have not, except for one factor, homelessness. Slightly more of those resettled felt resettlement would cause

homelessness and the difference was statistically significant (χ^2 (1) = 3.93, p<.05). However, overall, there were still more who felt resettlement would not result in homelessness than those who did in either group. Responses are illustrated in *Figure 5:3*.

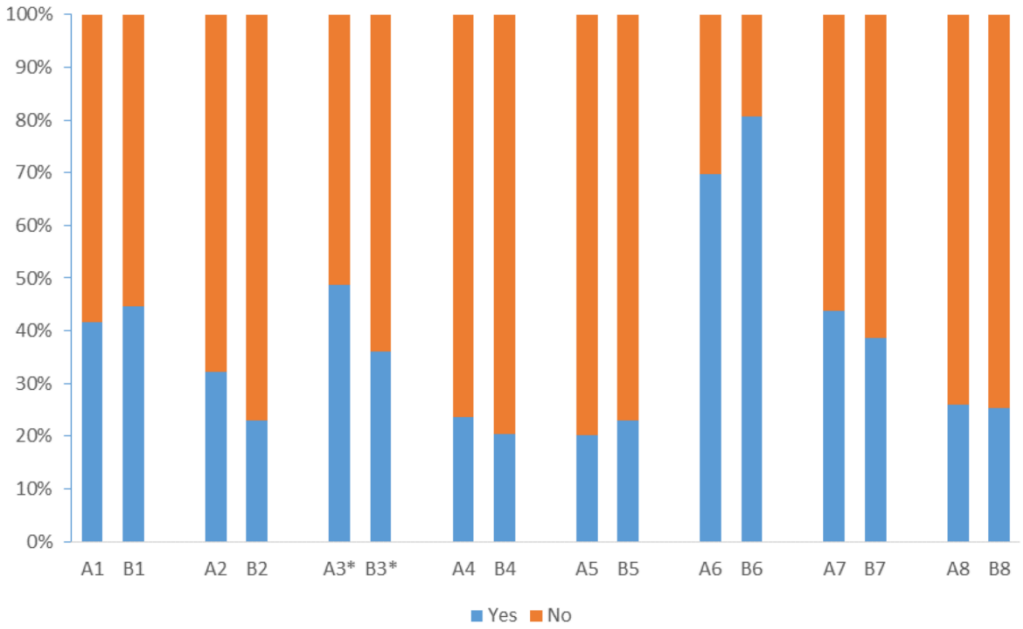

Figure 5:3 *Responses to question on whether resettlement is resulting or would result in any of the IRR outcomes (A: resettled, B: not resettled. 1: Resettlement causes landlessness, 2: Resettlement causes joblessness, 3: Resettlement causes homelessness, 4: Resettlement causes marginalisation, 5: Resettlement causes increased morbidity, 6: Resettlement causes food insecurity, 7: Resettlement causes loss of access to common property resources, 8: Resettlement causes social/community disarticulation)*

*Difference between A and B significant at .05 level

61.4% of those resettled indicated that the land they have been provided is smaller than their previous land. Landlessness was particularly seen as a key issue among FGD participants as their livelihoods are land-based. For those that had resettled, the majority of them indicated that access to some social services, especially schools, markets and hospitals had improved with the resettlement process, though the majority still stated that access to hospital was a challenge in both old and new places. 40% said access to potable water was better at new place while 50% said they had similar access in both places. However, for farmland, 91% stated the old place was better.

5.3.5 Flood experience, adaptation and barriers

When asked what they felt to have been the main cause of the floods, 80% mentioned climate change, 68% acts of God and 60% attributed the floods to human activity

(respondents could select more than one option). While the majority view resettlement as an adaptation, rather than maladaptation, it does not appear even among the common choices of adaptation or coping measures that households adopt. *Ganyu* comes first (mentioned by 83.7%), followed by changing eating habits (22.2%), food aid (21%), irrigation (13.4%) and tree planting (11.4%). Only 0.6% mentioned resettlement. A major concern raised in almost all focus groups and interviews was that climate change and variability is causing frequent and prolonged dry spells that result into dry farmlands and hence reducing opportunities for *ganyu.* Apart from changing eating habits, other maladaptive responses from the questionnaire, focus groups and key-informant interviews included selling household assets and tree felling for firewood. Others are taking no adaptation measure at all. Changing eating habits, which was also mentioned in all focus groups was mainly in form of eating less nutritious and non-traditional foodstuffs such as *nyika* (a type of tuberous waterlily) and reducing number of meals taken in a day.

During focus groups and KII, one factor that was provided as to why people are not resettling or are returning after resettling was on trust in public protection. For instance, most communities who are refusing to resettle in the east bank area of Nsanje believe that government will soon construct dykes on the problematic rivers to protect them, that it will construct a tarmac road passing through their area and that the damaged railway would be repaired. However, while government has plans to retrain one of the rivers that changed its course, none of the others is correct. Actually, in one community where the majority have refused to resettle and had been told that their school and hospital are being relocated to the new settlement site, communities still believed that this would not happen, yet the process of relocating the structures had already commenced.

5.4 Discussion

5.4.1 Beyond mechanical fixes in adaptation and disaster risk reduction

These results generally support and add additional insights to previous findings that point to the importance of social-psychological factors in predicting adoption and success of adaptation or DRR practices (Lin et al., 2008; Grothmann and Patt, 2005; Blennow et al., 2012). Often, these factors are indicators of other social, cultural and political conundrums that define and shape human vulnerability. However, most national

adaptation and disaster risk reduction policies largely ignore these and continue focusing on technical fixes (Weisner et al., 2004; Oliver-Smith, 2016). The results further attest that the assumption that a population that has faced a severe disaster would automatically opt for resettlement remains flawed.

Both households who adopt resettlement as an adaptive behaviour and those that do not have high flood risk perception. The findings show that, independently, high threat appraisal does not lead to resettlement but it is response appraisal that can explain whether households resettle or not. The study further shows that within response appraisal, self-efficacy is less important than response efficacy: if individuals feel that an adaptation behaviour is not important or that it will not protect them, they will be unwilling to take that measure, even when their self-efficacy is high. This agrees with what Patt and Schroter (2008) found in their study of a failed resettlement scheme in Mozambique that showed farmers abandoning resettlement sites because they felt the measure was ineffective.

While threat appraisal, including experience with floods, may not predict resettlement, the study still finds it to be an essential moderating factor for adoption of protective behaviour and greatly influences coping appraisal. These results show that the majority of both those that have resettled and those that have not feel the likelihood of having floods similar to those they had faced in the next five years was high. In this context, the findings agree with Adelekan and Asiyanbi (2016) but do not support Scolobig et al. (2012) and Patt and Schroter (2008) who found that the majority of flood affected people and farmers felt the likelihood of experiencing similar severe floods in the future was low. The findings also suggest that it is not just the type of hazard in itself, but also the magnitude of impact that can determine adoption of protective behaviours that are often hard to accomplish. This supports other findings on flood risk and adoption of protective behaviours (Grothmann and Reusswig, 2006).

Socio-economic factors such as age, education and household size do not predict resettlement, apart from gender and income. While several scholars have found no influence of income on adoption of other forms of protective measures (Kreibich et al., 2005; Botzen et al., 2009; Poussin et al., 2014), or found a positive influence (Russel et al., 1995; Palm, 1998; Thieken et al., 2007; Botzen et al., 2012), these results show income to be important for resettlement. However, income works by discouraging it. Reynaud et al. (2013) found similar results in their experimental study in Vietnam on behavioural intentions and suggested this to be the case as wealthier households are more

able to protect themselves. However, departing from this explanation from Reynaud and colleagues, the reasons here are linked to the pocket of land available in resettlement sites, which is not adequate to accommodate assets of the wealthier ones. Qualitative evidence presented show that some households with livestock who resettled returned due to this. The Foresight report on migration and global environmental change also held that the poor are less likely to move and more likely to remain trapped. However, this confounding finding that the wealthier ones are the less likely to resettle seems to provide another alternative to the position propagated by the Foresight report (2011). In this context, those with more resources are more likely to be 'trapped.'

5.4.2 Is resettling adapting or maladapting?

One question from these findings centres on whether resettlement should be considered as an adaptation, a failure to adapt, or even a threat to adaptation. Shift in livelihood strategies can impact household wellbeing following resettlement (Rogers and Xue, 2015). In agro-based livelihoods in low-income countries where resettling to avoid floods pose drought threats, it becomes challenging to categorised households that are refusing to resettle as having failed to adapt. A study by Fisher and Snapp (2014) also shows that households are more worried about drought than floods. Especially in cases where the severity of potential hazard impact is the same or similar across multiple hazards, when making decisions to adopt certain behaviours to protect themselves, households also weigh which hazards pose the greater threat.

While most farmers may view floods as harmful, its effect is considered less harmful and short-term as compared to drought. Although rainfall data do not show evidence of decline during wet-seasons, winter rainfall amounts are declining and some narrative of past severe flooding events is confirmed by objective evidence. In Malawi, floods are only experienced during part of the rainy season and the frequency and magnitude varies from year to year. Drought impacts can be long-term. In addition, most farmers who face the most severe impacts of floods are those that occupy floodplains. These farmers are attached to these places as their livelihoods are agro-based, where they do winter cropping using residual moisture and rich soils left by receding flood water. So, if they feel that resettlement will protect them from floods but increase food insecurity, they may choose not to resettle. In this context and in line with current understanding of maladaptation (Barnett and O'Neill, 2010; Juhola et al., 2016), where the action is

addressing one risk while increasing vulnerability to another equally important threat, the resettlement process can be considered as a maladaptive action.

Does this mean that all those resettling consider drought a lesser evil? The evidence does not show so. Focus groups and key informant interviews revealed that some of those that have resettled were forced to do so as their homes were obliterated. The land where they had constructed their homes was replaced by new river channels or buried under sand and debris. The fact that less than 1% mentioned resettlement as an adaptation measure they are practicing, including those that have resettled, also shows the value that households place on it.

5.4.3 Resettlement and adaptation complexity

Cernea (1997, 2000) argues that, when not planned or executed properly, resettlement can have multiple negative outcomes on the resettled households. The expectation is that most of those resettled would report these negative outcomes as what they were observing or experiencing; those that have not resettled would also have been mentioning these factors as being disincentives to resettlement. However, this is not the case, except for food insecurity. It is also difficult to see such variations in a population that was already experiencing the negative outcomes prior to the resettlement process. Even food insecurity, which was mentioned by the majority as the only significant negative outcome and a possible disincentive to resettlement, is a chronic disaster in the community having occurred each year between 2005 and 2016. Resettled households cited facing similar challenges they used to experience in their original places. In fact, several seemed to suggest that the new place offered better access to services. The IRR outcomes could be context-dependent: for instance, in a community where the majority are not employed, it would not make sense to suggest that resettlement would lead to joblessness.

While social-psychological variables are better predictors of resettlement than socio-economic ones, overall both are still weak predictors. The social-psychological model in itself accounts for about 21% of the variance in resettlement outcomes, meaning that the model cannot explain about 79%. Agreeing with de Wet's (2006) inherent complexity theory, resettlement associated with climate change in low-income countries present more complex challenges whose outcomes cannot be fully understood through a mechanical tick-a-box prescription.

A major challenge with both the resettled and non-resettled households is their low adaptive capacity. Most of them demonstrate characteristics that increase vulnerability and exposure to hazards: traditional houses with low elevation; low levels of education; low levels of income; no employment opportunities; predominant reliance on external support (food aid, fertiliser and seeds subsidies); limited access to social services; over-reliant on agro-based livelihoods; compounded by location in the most hazardous areas. What they indicate as adaptive measures are mostly coping measures (*ganyu*, food aid, changing eating habits) and some are maladaptive. Some of the measures like *ganyu* have traditionally been used as means of supporting livelihoods (MVAC, 2015). In fact, since *ganyu* is mostly agro-based, most communities mentioned that labour opportunities are becoming scarce due to climate variability and change, which has made the fields dry. Under such harsh conditions, some have chosen to live in denial and wishful thinking, hoping that government will do something to address the risks they are exposed to, even when evidence is showing the opposite. Previous studies have already shown the negative effect reliance on public adaptation can have on private adaptation (Grothmann and Patt, 2005; Lawrence et al., 2014).

5.5 Conclusion

Climate change and variability is just one of the key challenges poor communities have to deal with in their lives. It may even not be the most prominent challenge, and since they are less likely to deal with it on their own, maladapting, wishful thinking, denial and fatalism may be the most convenient course of action. The expectation is that people exposed to multiple hazards would have heightened risk perception and therefore adopt more precautionary measures. This study does find very high risk perception, but that has limited effects on resettlement decisions. With high levels of poverty, and livelihoods that are being eroded by climate change and variability, to them, the choices that they are making may not really matter whether they are adaptive or maladaptive. As McGee and colleagues (2009) have argued, disaster managers should not assume that the mere fact that a population has been heavily impacted by a disaster would lead to automatic adoption of protective measures they are championing.

This study also confirms that resettlement, at least for disaster and climate change-induced one, and in the context of low-income countries like Malawi, is a complex process that cannot be understood merely by looking at linear outcomes. Rather than

considering socio-economic and social-psychological factors as dichotomies, it is important to consider how they influence each other. Some of those that are refusing to resettle may be better off financially, but they are not practising better protective measures than those who have resettled. The assumption that people who are being resettled, or are resettling have had better lives and livelihoods prior to the resettlement ignores thousands of households in least developed countries whose livelihoods are on the margins, even before being resettled. Moving them may either be a breaking point or may be a stepping stone to reconfigure their lives and livelihoods. Of course, central to resettlement should be improving the lives and livelihoods of those being resettled. However, while diversification of livelihoods is possible in some context, the Malawi case presents very limited options for the households, the majority of whom continue relying on agriculture. How to address such quandaries ought to take centre stage in the global and national policy debates on adaptation to climate change and variability and its sister disaster risk reduction. This also calls for considering how social-psychological and other cultural factors can buttress the design and implementation of such policies.

CHAPTER 6 : Urban vulnerability, disaster risk reduction and resettlement in Mzuzu city, Malawi - Paper 4

Abstract

For most developing countries at risk of disasters and climate change, adopting structural measures to reduce disaster risks remain a challenge. This paper presents findings of a study conducted through a mixed methods design in a flood risk city in Malawi, Sub-Saharan Africa. The study assesses the city's vulnerability to floods and actions being taken to reduce the risks. It then investigates how resettlement is being promoted as one such risk reduction measure. The study finds multiple vulnerability factors, including unsafe construction practices, poor drainage systems, unregulated solid waste disposal, institutional incapacity, inadequacy of land, settlements in high-risk areas, deforestation, siltation of rivers and national disaster risk reduction policies that neglect urban areas. However, efforts to tackle underlying causes of vulnerability are wanting. One positive programme is a slum upgrading pilot project implemented by non-state actors that also lacks government support. In the case of resettlement, its planning and execution is fraught with multiple challenges emanating from haphazard planning and lack of community participation. The paper argues that the emphasis on resettlement is obscuring the key drivers of vulnerability, while simultaneously exposing both resettled and those left behind to further risks. It, therefore, calls for caution when planning and implementing disaster risk reduction policies that have the potential to create new forms of vulnerability to hazards or exacerbate them.

Keywords: *resettlement, disaster risk reduction, urban resilience, Malawi, Mzuzu, climate change adaptation*

6.1 Introduction

Prohibitive land markets and high levels of poverty force large numbers of rural-urban migrants to occupy informal settlements, which are often the only places they can afford (Miles et al., 2012; Isunju et al., 2016). Most informal settlements are located in areas prone to multiple hazards, often in land that is ignored by the rich because of its susceptibility to disasters such as floods, earthquakes, landslides and fire (Tipple, 2006; Bull-Kamanga et al., 2003; Moser, et al., 2010; Baker, 2012; Castro et al., 2015). Vulnerability of most urban poor to natural disasters is, therefore, attached to the places they occupy: those with adequate resources are able to acquire better land that is safer from hazards. People living in informal settlements tend to occupy sub-standard houses that are close to one another and that disturb natural drainage systems and waterways (Wisner et al., 2004; Tanner et al., 2009).

A number of additional factors have been identified as major drivers of risk in cities and other urban areas. Population concentration, developmental densities, unplanned urbanisation and regulatory shortfalls all put urban areas at great risk (Wisner et al., 2004; Wamsler et al., 2013; Johnson and Blackburn, 2014; Malalgoda, 2014). Some of these can be manifested through physical aspects such as the informal nature and type of construction prevalent in urban areas. In addition, the social facet can be affected where communal networks and kinships that are strong in rural areas can become weaker (Sharma et al., 2015). Lack of authority and well-qualified personnel to enforce regulations in urban areas also contribute to hazards vulnerability through unsafe settlement and construction practices (Green, 2008). Surjan and colleagues (2015) add that failure to ensure proper construction in cities is due to prevalence of an informal untrained construction sector and limited awareness by the citizenry on building bylaws. A number of DRR measures are being promoted in urban areas, including population resettlement from high-risk areas **(**Correa, 2011; Chen et al., 2017; Arnall et al., 2013a; Ferris, 2011, 2012).

The aim of this study was to investigate the level of vulnerability to flood risk and how resettlement is being used to reduce flood risk in Mzuzu city, Malawi. In April 2016, the city of Mzuzu experienced the worst floods ever recorded since its establishment. 15 settlements were affected, 19,000 people were displaced, seven people died and seven camps were set up to accommodate the displaced. The flood effects were mostly felt in informal settlements. Following the disaster, the city decided to implement a resettlement

programme as a long-term risk reduction measure targeting some of those whose houses had collapsed or were badly damaged. While previous empirical studies have tended to focus on resettlement processes that have already been completed, mostly within rural settings, this study contributes to the literature by primarily presenting the intricacies that go into the planning of a resettlement scheme within an urban setting in a low-income country.

To achieve this, the study asks: What are the key vulnerability factors to flood risks in the city? To what extent is urban DRR considered a priority by the city and the national DRM architecture? How and why is resettlement used as a risk reduction measure in the city? What other DRR strategies are being used and how effective are they? The rest of the paper is organised into five key sections: the first section introduces the study's analytical framework before reviewing the literature on urban risk and resettlement. This is followed by the methodology section. The third section presents the study's results and then discusses these findings in the fourth section. The last section concludes the paper.

6.1.1 Analytical framework

The study adopts an analytical framework based on the pressure and release (PAR) model in understanding the broader vulnerability factors to floods and related risk reduction efforts. The PAR model was initially developed by Blaikie et al. (1994) and revised by Wisner et al. (2004) and has since been widely used in disaster risk reduction studies (e.g. Asgary and Halim, 2011; Manyena, 2012; Nirupama, 2012; Arnall, 2015; Islam and Lim, 2015; Oliver-Smith, 2016). Central to the model is its demonstration that disasters do not simply result from hazards, but occur when a hazard meets a vulnerable population, creating some kind of pressure. Reducing disaster risks, therefore, requires releasing the pressure, which demands consideration of both the hazard and vulnerability. The relevance of the model to this study is twofold. As argued by Manyena (2012), the utility of the PAR model lies in providing a framework that can be used to analyse the hazard and vulnerability context contributing to disaster occurrence. In addition, the model can assist in understanding whether the measures being adopted are actually reducing disaster risks or not.

According to Wisner et al. (2004) and Adger (2006), vulnerability to disasters has multiple and interconnected causes, which can be physical, social, economic, political or

environmental. The PAR model posits that vulnerability is embedded within the social structure and progresses from *root* or *underlying causes*, *dynamic pressures* and *unsafe conditions*. Root causes can include climate change, lack of regulations to control unsafe practices, failure by government to enforce its regulations, gender relations and limited access to resources. Dynamic pressures result from the root causes and can be structures or processes such as social networks, lack of local institutions, rapid urbanisation, deforestation, leadership and governance systems or religion. Unsafe conditions are linked to dynamic pressures and include location in high-risk areas, residing in unsafe buildings and low income.

6.1.2 Urban vulnerability and disaster risk reduction

A city's vulnerability to disaster risk is multi-faceted. Addressing urban risks requires looking at the various core components and functions of a city that can be at the centre of vulnerability, including urban planning, public service delivery, disaster risk management (DRM), governance, safety and crime (Wamsler et al., 2013; Surjan et al., 2015). Since these often fall under different departments within a city, coordination among players working within the different sectors is crucial. It also implies that dealing with urban risks requires presence of professionals not just in city planning or governance but also in disaster risk reduction, climate change adaptation and related areas. These would spearhead and coordinate resilience building efforts. Their absence tend to push disaster risk reduction or climate adaptation to the periphery: unlike DRM specialists, urban planners and managers tend to concentrate more on routine risks (Bull-Kamanga et al., 2003).

The complexity and interactions of urban systems also make it difficult to isolate specific impacts to sectors that climate change and climate variability would have, which calls for holistic risk reduction approaches that are not only multi-faceted but also synergistic (Carter et al., 2015). Scholars have argued that addressing disaster risks requires a comprehensive approach that looks at all risk influencing factors from a developmental perspective, which are hazards, vulnerability and weaknesses in response and recovery systems (Wisner et al., 2004; Adger, 2006; Manyena, 2012; Wamsler et al., 2013; Islam and Lim, 2015). Reduction of urban vulnerability to disaster risks is, therefore, not just about building stronger structures, but involves the whole city fabric (Godschalk, 2003). Johnson and Blackburn (2014) have identified four common activities

that are critical to ensuring urban resilience to disasters such as floods: setting up urban institutional structures responsible for disaster risk reduction, integrating disaster risk reduction into urban planning regulations, building physical flood mitigation structures and enhancing awareness, education and training programmes. In addition, presence of proper drainage systems, strong emergency response systems, well-designed buildings and strong regulatory and enforcement systems are important elements of urban resilience (Desouza and Flanery, 2013).

6.1.3 Resettlement as disaster risk reduction

Where people have settled in high-risk areas such as wetlands, resettlement from such places could be a means to reduce disaster risks (Correa, 2011). In most cases, resettlement is voluntary and assisted, involving a number of stakeholders and incentive mechanisms (de Sherbinin et al., 2011). For an involuntary resettlement process to succeed, some people ought to volunteer to participate (Hammond, 2008).

The literature on resettlement shows variations in resettlement adoption and success, with a preponderance of failures. While resettlement can provide opportunities for affected households to improve their livelihoods (Oliver-Smith and de Sherbinin, 2014), it has often been found that households face numerous challenges as they reconstruct their livelihoods following resettlement (Arnall et al., 2013a; Chen et al., 2017; Mavhura et al., 2017). A number of factors in the design, construction, implementation and delivery of resettlement programmes contribute to its success or failure. Studies have shown that the willingness to resettle and resettlement success increases with the amount of compensation, settlement destination, level of participation by those being resettled and size of land offered to households (Carmona and Correa, 2011; Correa et al., 2011; Arnall et al., 2013a; Artur and Hilhorst, 2014; Vlaeminck et al., 2016; Chen et al., 2017). Long-term sustainability of resettled communities require, among others; productive livelihoods, building community cohesion, provision of opportunities for employment and easy access to infrastructure and social services (Keraminiyage & Piyatadsananon, 2013; Usamah & Hyaden, 2012).

Michael Cernea (1997, 2000) argues that resettlement should be properly planned and implemented as experience has shown that if not planned and implemented well, the consequences on those displaced are devastating. His impoverishment risks and reconstruction model for resettling displaced populations posit that poorly planned

resettlement can lead to landlessness, joblessness, homelessness, marginalisation, increased morbidity, food insecurity, loss of access to common property resources and social or community disarticulation. It has, therefore, been argued by scholars and practitioners that resettlement should be considered as a measure of the last resort (Ferris, 2011, 2012; Oliver-Smith and de Sherbinin, 2014).

Where resettlement is nevertheless considered as an option for disaster risk reduction or climate change adaptation, it should be accompanied by appropriate policy changes to curb return to the risky areas (Correa et al., 2011). Regulating the reclaimed land is crucial as evidence shows that without proper regulation, people will return and occupy the same areas (Bowman and Henquinet, 2015). This, therefore, calls for proper planning, rehabilitation and management of the land that has been reclaimed, with necessary monitoring mechanisms in place. Carmona and Correa (2011) cite examples of policy options used in Latin America, which included: development of regulations banning settlements in risky areas in Argentine, Colombia and Guatemala; prohibition of investments in risky areas in Guatemala, and; turning the land into public investments such as public green zones in Argentina, ecological park in Colombia and stream canalisation and road projects in Brazil. Evidence further suggests that the choice of policy options should be carefully selected and contextualised as some may have little effect. In Mozambique, for instance, government prohibited the provision of social services in the reclaimed area to discourage reoccupation after resettlement. However, some people who had voluntarily relocated still returned to the areas (Artur and Hilhorst, 2014).

6.2 Methodology and study location

6.2.1 Study site

Mzuzu city is located in the northern part of Malawi, sub-Saharan Africa. It lies on the border between Mzimba and Nkhatabay districts and covers an area of 143.8 km^2. It is divided into 15 administrative wards and its 2017 population was estimated at 254,891 (NSO, 2008). It was established in the 1940s as a centre for tung oil production by the colonial government. In mid-1950s, the global price for tung oil slumped, which led to production cuts at the estate. Consequently, a number of buildings and other structures became obsolete and were offered to government. This led to the establishment of a

regional administrative centre for the north (Haskard, 2005; Williams, 1969). In 1980, Mzuzu became a municipality and five years later it became the third city in Malawi. More than 60% of the population in the city live in informal settlements (UN-HABITAT, 2011).

Mzuzu receives around 1,200 mm of rainfall annually and has experienced flash floods almost every year over the past decade, with the most serious flooding events recorded in 1991 and 2016. Inter-annual rainfall variability over the city is very common (Figure 6:1), though no statistically significant trend can be observed over the period 1971 to 2015. Combination of hilly and low-lying areas in the city provide multiple risks. 75% of the available land in the city is customary land, with only 15% being public (UN-HABITAT, 2011).

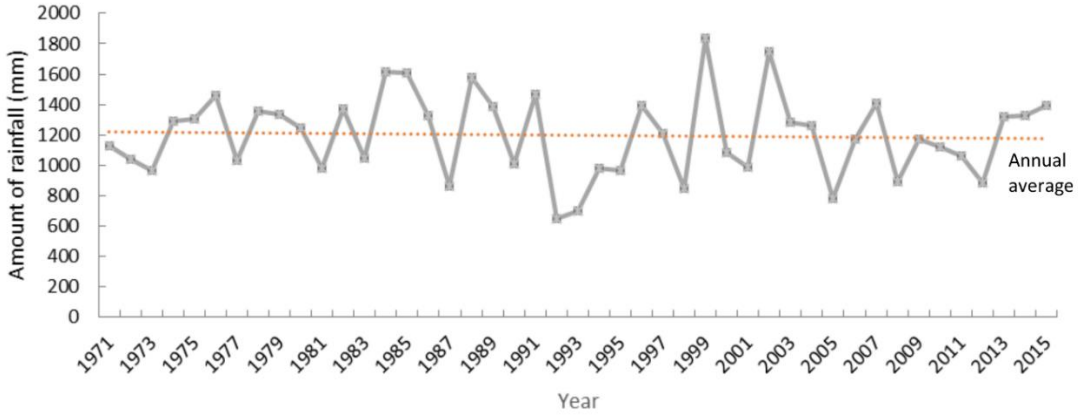

Figure 6:1*: Annual rainfall variability for Mzuzu city, Malawi, 1971-2015*

Masasa and Mchengautuwa wards (Figure 6:2) were selected as sites for focus groups, semi-structured interviews and observation because they had the largest number of people affected by the April 2016 floods. Five of the seven people that died as a result of the disaster were from Masasa ward. Masasa also accounted for the largest proportion of households to be resettled. According to city records, both sites are divided into east and west, with the former having a population of 18,400, while the later has 17,984. Both sites are informal settlements and are particularly prone to floods and mudslides. As informal settlements, both are characterised by high population densities, exposure to multiple hazards, poor road networks, poor drainage systems, high levels of poverty, absence of solid waste collection services and limited access to potable water and electricity. The

study also discusses a slum upgrading project implemented in Salisburyline, another informal settlement that was also affected by the 2016 floods.

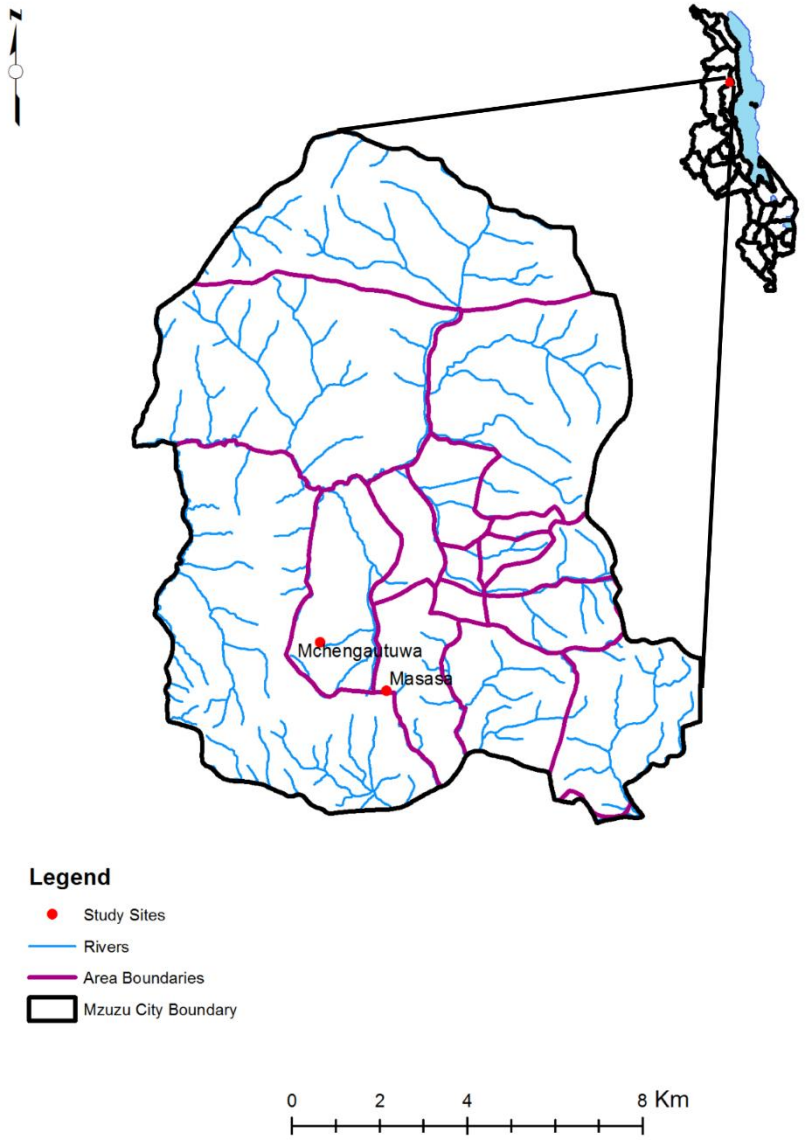

Figure 6:2 *Location of Mzuzu city and study sites in Malawi*
Source: author and Gumbi Gumbi

6.2.2 Methodology

This study uses a mixed methods design, combining qualitative and quantitative approaches. Primary data were collected through focus groups, semi-structured interviews, participant observation, document analysis and use of secondary datasets from the third integrated household survey (IHS3). Four focus groups were conducted in two informal settlements in Mzuzu city - Masasa and Mchengautuwa – with displaced people. Each focus group had between eight and 11 participants with a mixture of men and women and lasted about one and half hours. In addition, semi-structured interviews were

conducted with key informants who included three local leaders and three disaster management committee members from Masasa and Mchengautwa, six Mzuzu city council officials, 20 officers from central government, 11 from local government, 19 from local and international non-governmental organisations (NGOs), seven from development partners and six from academia.

Most of the data collection was conducted between May and August 2016. Respondents were purposively selected: at local level, these were those who were directly affected by the floods. City officials and other key informants at city and national level were those with disaster risk reduction or closely related responsibilities. The interviews and focus groups focused on experiences with flood disasters; vulnerability and factors increasing vulnerability of the population; current disaster risk reduction policies and practices; key actors and their role in building disaster resilience, and challenges in risk reduction efforts. On resettlement, questions dwelt on the planning process, challenges being experienced, expectations and perceptions of communities on resettlement.

Information was also gathered through participation in meetings and field activities related to disaster risk reduction and response. Physical observation of the settlement patterns, livelihood practices and risk factors within informal settlements was also done in Mzuzu city through transect walks. During the transect walks, informal interviews with some of the community members encountered were also conducted. The study also used survey data accessed from the National Statistical Office (NSO) from the third integrated household survey, conducted between 2010 and 2011 across the country. The IHS is a national survey that is conducted every five years across Malawi to assess key aspects of household welfare. The survey focused on key areas of poverty and income, household enterprise, assets and consumption, agriculture, food security, stresses and shocks, housing and environment, education, health and other household socio-economic activities. It used a stratified two-stage sampling technique, where the first stage involved selection of enumeration areas using probability proportionate to size for each district. In the second stage, the list of households in each selected enumeration area was used as the sample frame, from which respondents were selected using systematic random sampling. The IHS3 interviewed 384 households in Mzuzu city (NSO, 2012b).

A number of national and city policy, regulatory and operational frameworks were also reviewed. The documents selected were those that had direct relevance to the research questions and included the national policies on disaster risk management and climate change, Mzuzu city's urban plan and its draft disaster risk management plan, draft

national urban policy, national disaster profile, project reports from NGOs, minutes of meetings and reports related to the flood disaster and resettlement. The Department of Climate Change and Meteorological Services provided the rainfall data used in the study.

Quantitative data were analysed using IBM SPSS Statistics 23 and MS Excel to produce descriptive statistics and graphs. Transcribed qualitative data from focus groups and interviews were merged with field notes and analysed using thematic and constant comparison analysis (Charmaz, 2003; Braun and Clarke, 2005; Onwuegbuzie et al., 2009; Bryman, 2016). The use of multiple categories of research participants to look at the same or very similar issues necessitated these analysis approaches for qualitative data.

6.3 Results

6.3.1 Hazards and vulnerability

During interviews and focus groups in Masasa, Mchengautuwa and with other key informants, floods, drought, mudslides, environmental degradation and disease outbreaks were cited as the major hazards faced by people in the city. The survey data shows that high food prices, high cost of agriculture inputs and illness of a household member are the most predominant shocks in the communities (Figure 6:3). While floods and drought may not be considered as common shocks that communities experience from the IHS3 data, most of the challenges cited during the survey, such as high food prices, are often linked to drought and floods in the Malawi context.

***Figure 6:3**: Common shocks experienced in the last 12 months in Mzuzu city according to the IHS3*

Two closely related vulnerability factors commonly cited by key informants and focus group participants were poverty and the settlements occupied. The majority of the

population in Mzuzu are migrants who live in 12 informal settlements spread across the city. City officials said they consider informal settlements illegal and provision of social services is limited. The survey data shows that 56.9% of the population in Mzuzu city live in permanent houses, 21.6% in semi-permanent and 21.6% in traditional housing units[7]. Most of the semi-permanent and permanent houses are located in informal settlements. The survey data also shows that 50% of the population live in rented houses, while 43% live in houses they own. Physical observations during transect walks in Masasa and Mchengautuwa revealed several 'unsafe conditions' in construction practices, with several houses of poor quality, overcrowded and haphazardly located in high-risk areas such as on hillsides prone to mudslides and on the edges of rivers and swamps.

Most of those who occupy informal settlements come from rural areas (Figure 6:4). Economic factors drive most of the migrants into the city, with the top three reasons for migrating being: looking for work (24.2%), starting new job or business (23.2%) and returning from work elsewhere (19.8%). Asked why they settle in such high-risk areas, most claimed they cannot afford planned low-density locations, where land or rent costs are exorbitant. Some choose to live in denial and underplay the threat of disasters, feeling safe where they are. In the words of one community leader in Mchengautuwa:

> *Every day we wake up we see the city, and we have been close to it all our lives. We face minor disasters every year but survive. Our houses were affected this year because the rains fell continuously for two weeks, which has not happened before. We are safe where we are.*

[7] *Permanent structure*: A permanent structure is one having a roof made of iron sheets, tiles, concrete or asbestos, and walls made of burnt bricks, concrete or stones. *Semi-permanent structure*: Semi-permanent is the term used here for a mix of permanent and traditional building materials. *Traditional structure*: Traditional structures are those made from traditional housing construction materials. These materials are taken from common natural resources – unfired mud brick, grass thatching for roofs, rough poles for roof beams (NSO, 2010).

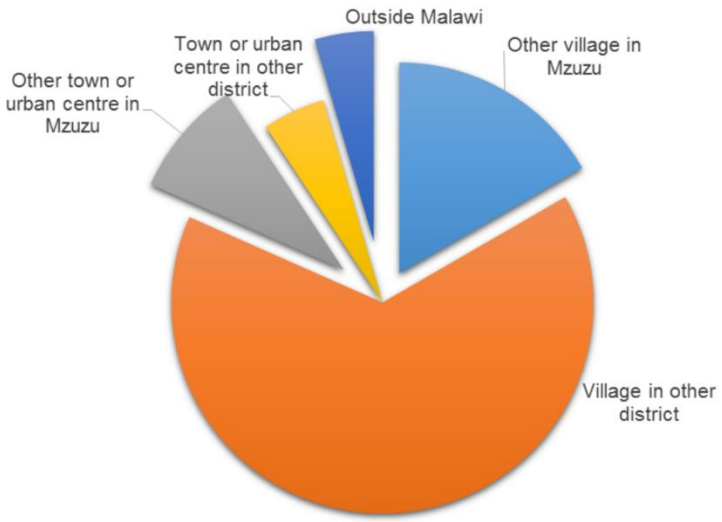

***Figure 6:4**: Origin of Mzuzu city residents as per the IHS3 data*

Several key informants mentioned deficiencies in planning and enforcement of the city's regulations as root causes of flood disasters. Although some bye-laws on how land can be used and disposed of are in place, these, apart from being outdated, are rarely enforced. Building inspectors are present in the city but city officials cited inadequate numbers and limited resources as main reasons for failing to regulate settlements and construction in the city. Several key informants felt the city council is to blame for the large numbers of informal settlements. In the words of one city official:

> *I believe the city had little control over the people in the beginning and people were free to choose where to live without considering what might happen to them in the future. Had it been the city was in full control at the beginning, we would not be talking of these things at this point in time.*

However, the Chief Executive Officer (CEO) for the city argued the council is not to blame for the proliferation of informal settlements and pushed the blame to local leaders and democracy:

> *The city never allowed people to settle in risky areas. However, change of political dimension from single party to multiparty democracy led to free-for-all land sharing in the cities of Malawi, including Mzuzu. Another factor is the continued existence of traditional leaders who are still allocating land in the city.*

Conflicts over land with local leaders within the city and also from the neighbouring districts are common, where most of the land is customary. Customary land is controlled by local leaders, which poses challenges to the city. The city has a committee in place that is responsible for land allocation and regulating developments. However, conflicts are common between the committee and local leaders in the allocation and utilisation of the land. City officials claimed there have been several cases where local leaders have sold land that belongs to the city. In extreme cases, these conflicts have

culminated in destruction of structures constructed by the city in places local leaders argue are theirs. Several key informants cited the city's location between two districts as contributing to these conflicts and also hampering its efforts to reduce disaster risks.

Another vulnerability factor to floods stems from uncollected household, market and other solid waste which block the already inadequate drainage channels. In some cases, waste is dumped in rivers and streams within the settlements, thereby affecting the flow of water in times of rains and leading to floods. During transect walks in Masasa and Mchengautuwa, solid waste could be seen dumped in drainages, close to homes and markets and in rivers and streams. In addition, the survey data shows that 90% of the population in the city rely on forest solid products (firewood and charcoal) as fuel for cooking, with only 9.9% using electricity. Key informants cited this over-reliance on forest products to have largely contributed to the deforestation of Kaning'ina, the largest forest in the city. This, in turn, has led to siltation of rivers and eventual flooding during rainy seasons.

6.3.2 Disaster risk reduction efforts and challenges

City officials and other key informants mentioned a number of policy and practical challenges affecting disaster risk reduction efforts. While the city recognises that it is exposed to multiple hazards, efforts to reduce disaster risks are limited. The mayor for the city stated that challenges in reducing disaster risks range from inadequate financial resources to institutional challenges. He acknowledged that in view of climate change and frequent occurrence of disasters, the city has to change its mindset and start mainstreaming climate change and disaster risk reduction in its plans. In the words of the head of one NGO:

> *Major threats include conceptual challenges as disasters have often been response driven – so DRR requires considerable changes in thinking; and financial challenges - allocating scarce resources from development budgets for the realisation of DRR can be quite a challenge, given the many competing demands we have.*

The city does not have any disaster risk management or adaptation plan or strategy. A disaster risk management plan drafted in 2014 was still not finalised by early 2017.

Focus group participants and key informants highlighted the lack of support from central government and NGOs to urban areas in disaster risk reduction or adaptation. This, as argued by a city official, makes the urban poor face the consequences of shocks

and stresses on their own. The survey data shows that most households (46%) rely on own savings to respond to the shocks they face, while 11% get support from relatives and friends. Up to 38% do nothing when shocks strike, while only 1% get help from government. In Malawi, the urban poor are often not included in safety nets and government's food insecurity response programmes on the presumption that urban areas are 'better off'. The methodology used by the Malawi Vulnerability Assessment Committee, which conducts annual assessment of food insecurity to identify households that would require food aid, does not include urban areas.

Concentration on rural areas by central government and other players also means that urban managers are ill-prepared for disaster risk management not just in terms of technical capacity but also in coordination structures at different scales. Mzuzu city does not have any officer employed for disaster risk management purposes. Instead, an officer who is a public health worker acts as a desk officer. The city level disaster risk management committee has been dormant and only became active when the 2016 floods struck. Below the city level, such committees do not exist. In both Masasa and Mchengautuwa, committees that had been set up to coordinate camps at the time of the floods were still active post-displacement. The national tools used for disaster assessment are also skewed towards rural areas. City officials and NGOs indicated that they had challenges to adapt the tools to the urban context during the 2016 floods and ended up not capturing some indicators. Responding to a question on why urban areas have been ignored, a senior government officer from the Department of Disaster Management Affairs (DoDMA) said:

> *Urban areas had been neglected for a long time because the view, based on disaster trends, had been that disasters occur in rural areas… Lately, we have seen an increased occurrence of disasters such as floods in urban areas. It is because of this trend that DoDMA has started focusing on building capacity of urban councils in DRM. There is need for urban councils to acquire knowledge in disaster prevention, mitigation, preparedness, response as well as recovery. There is also need to establish DRM structures in the urban areas so that they can assist in the coordination of DRM activities.*

But what risk reduction efforts are underway in the city? The city's CEO and mayor cited rehabilitation of drainage systems, fund-raising campaigns towards disaster risk reduction activities, reforestation and plans to relocate some households from high-risk areas as some of the activities the city is undertaking to reduce disaster risks. In reaction to the 2016 floods, central government officials and NGOs also indicated they plan to implement several DRR activities in the city. These include establishing local

DRM committees in the wards, recruitment of full-time DRM officer, training of city officials in DRM and finalising the city's DRM plan.

There are other alternative pathways to resilience building being explored in other informal settlements within the city by non-state actors from a developmental perspective. These are being done without government's financial support. For instance, the United Nations Human Settlement Programme (UN-HABITAT) partnered with a local NGO and other players to implement a pilot participatory slum upgrading project in Salisburyline, one of the informal settlements. Salisburyline was one of the most affected settlements by the 2016 floods. It is located on the lower part of the city, where most of the drainage systems and natural gullies from upper areas drain. As an informal settlement, the city does not offer waste collection services. The pilot project, therefore, aimed at addressing these challenges. It has already improved the drainage system, in addition to providing other social amenities. For instance, communities have formed groups that collect waste from households and markets and convert them into composite manure, which they also sell. This has enhanced income generation and agricultural production, improved the sanitation and drainage systems in the area and reduced flood risk. It was observed during transect walks in Salisburyline that it had a more organised solid waste disposal arrangement, with littering controlled as compared to Masasa and Mchengautuwa.

6.3.3 Reducing disaster risks through voluntary resettlement

As one way of reducing flood disaster risks, a voluntary resettlement programme is being implemented by the city council. Though considered as a long-term preventive measure, the 2016 floods appear to be the major driving force behind the city's decision. The city has identified the most at-risk household from those displaced by the floods. Each of the selected household is being offered a plot of land and the household would have to find its own means of constructing houses at the new site.

There are a number of issues that the city council and communities are grappling with in the planning and execution of the resettlement programme. One of the most prominent challenges is that the city does not 'own' any idle land, yet those that are to resettle expect the city to provide them with land. When the city wants land for development, it applies to the Department of Lands. The city has negotiated with the Department of Lands and has been allocated land for the resettlement of about 1000

households. Communities and other key informants consider the figure to be inadequate compared to those that should be resettled.

Another issue concerns renters, who are estimated to account for around 50% of the displaced. City officials indicated that renters are not going to benefit from the resettlement programme. They argue that renters do not own the land or houses they occupy and have the option of finding houses to rent elsewhere. Some of the renters informally interviewed felt side-lined by government and argued that they had taken the risk to rent houses in disaster-prone areas because they had no other alternatives. It was observed during data collection that most renters occupied dilapidated houses.

Using a flood displaced household as the unit in determining who to resettle is bringing other complexities. Some landlords own and let out more than one house. In some instances, the landlord does not stay in the same community or city. The size of plot is also not uniform. The city argues there could also be a group of people that own several houses but only one or two were affected. With the city's plan to only allocate one plot per household, some landlords expressed reluctance to move. On the other hand, the city also fears that such landlords may accept a new plot in the new location but continue reconstruction in the old area. In addition, not all houses were affected, or equally affected by the floods. The city indicates that it is not implementing a wholesale resettlement programme and those whose houses were affected but their land 'looks good' are being advised to reconstruct in the same location.

Discussions with community members and city officials revealed that two camps have emerged among the population, with some willing and others not interested in resettling. Paradoxically, city officials claimed they are receiving death threats from both camps. Those with established assets and businesses appear more unwilling to move. Most of the affected households are involved in informal small-scale businesses and they trade within or close to their communities. The household survey shows that 29% of the households in the city own some form of non-agriculture business enterprise, with the majority of the businesses (95%) selling produce directly to consumers. 43% of these are trading in the local marketplaces while 28% do their businesses within their homestead. Resettling away would mean that they re-establish their enterprises in new markets, which most claimed is a challenge. In the words of a small-scale businessman interviewed during transect walks: "I do my business mostly with people I know or from within my area. If I move away, it will take time to find customers and I will suffer."

To demonstrate their unwillingness to move, some of those targeted for resettlement were observed reconstructing in the same risky areas, using the same designs and without regard to building back better or safer. Some house owners, with no technical skills in construction, were observed working on their houses. One house owner interviewed in Masasa said:

> *We have been staying in camps and now that am back home, what I need most is a roof over my head and that of my family. I don't have money to pay anyone to build for me. I can also not wait for government as they take long to assist or will never come at all.*

Those calling for speedy allocation of land are accusing the city of holding ulterior motives, arguing city officials want to allocate the land to themselves or their friends. Other city officials suspect that some rich people and other elites are instigating the people to demand more land so that they can later buy it. A number of what communities consider deserving households have been left out, while some people have irregularly been allocated more than one plot. Participation of the displaced community in the resettlement planning was very limited, with city officials undertaking the whole process and only coming to the communities during registration. A local councillor from Masasa was quoted in the media, claiming:

> *People are surprised that the council secretariat conducted registration but did not involve anybody including block leaders from the area. Therefore, they suspect some officials from the council plan to sell the other plots which are in the name of one person* (Kalimira, 2017).

This has forced some people to reject the whole resettlement process. City officials feel the community's lack of resources to construct houses on their own is the reason for their unwillingness to relocate. Some participants also echoed these sentiments, arguing that since the city is not constructing houses for them or offering any form of compensation, they may end up destitute when they move.

6.4 Discussion

6.4.1 Resettle or not resettle?

For most developing countries, structural disaster mitigation measures may remain out of reach. Where protective options are limited, resettlement of population from high-risk areas could be the most convenient option. Resettlement can be an effective way of preventing future disasters as it can entirely eliminate the likelihood of a disaster.

However, as other studies have shown, when implemented arbitrarily, it can create more serious threats whose consequences could be more severe than the disasters being prevented (Oliver-Smith, 1991; Cernea, 1997, 2000; Carmona and Correa, 2011). The Mzuzu resettlement process lacks core ingredients of a successful resettlement scheme demonstrated by several studies (Correa et al., 2011; Arnall et al., 2013a; Artur and Hilhorst, 2014; Vlaeminck et al., 2016; Chen et al., 2017; Keraminiyage & Piyatadsananon, 2013; Usamah & Hyaden, 2012). For instance, by just focusing on provision of land with no other form of support, it raises questions not just about livelihood impacts but increases the likelihood that those with no resources to reconstruct would end up selling the land and get cheaper places in the same risky areas.

Since evidence from the integrated household survey shows that city residents rely more on social networks than on government, the selective resettlement arrangements may further increase levels of vulnerability. Cernea (1997, 2000) cautions planners to desist from implementing resettlement schemes that would lead to community disarticulation. Breaking down of social networks that are key to resilience will affect the overall resilience of the communities. Selective resettlement may also attract others to come and occupy the land that has been abandoned. For a city known for failing to enforce its laws and regulations, this likelihood remains high. Ignoring renters who may be equally or more vulnerable also seems retrogressive. Elsewhere, renters have been identified as among the most powerless and invisible informal settlement dwellers: they lack capacity to organise themselves and take collective action and are also most likely not to take adaptive action against climate shocks and stresses (Davis, 2006; Isunju et al., 2016).

As other scholars have argued (Carmona and Correa, 2011; Arnall et al., 2013a; Ferris, 2015; Chen et al., 2017; Mavhura et al., 2017) and like any other risk reduction measures, resettlement should not be considered as a standalone intervention that does not speak to other risk management and development strategies of a country or an area such as housing, roads, markets and utilities. For others, the need for income sustainability is often more important than that of physical protection from hazards (Tadgell et al., 2017). The reluctance to move by those running small-scale businesses attest to this. As shown by the study, some of the shocks households experience in the city are linked to income earning capacity and ability to access food. In the end, resettlement should not just be seen as a process that has moved people out of risky areas but should also be judged by how it has sustainably restored people's lives and livelihoods. Achieving this

requires full participation of the whole community in planning and decision-making. Decisions about where to resettle, when to resettle, how to resettle and what resources and opportunities would be available to those resettling for them to reconfigure their lives and livelihoods cannot just be left in the hands of authorities. Failing to involve the community can also stimulate distrust and give room to accusations of corrupt practices as is being claimed by community members in the city.

6.4.2 Are there alternatives?

While attractive, resettlement will minimally address the risks that Mzuzu city residents face. It could offer immediate and temporary mechanical fixes to floods for a few households. Vulnerability to disasters is often about the elements that individuals and societies have, such as houses, farms, levels of education, gender, age, poverty, natural resources and livelihoods (Wisner et al., 2004; Adger, 2006; Arnall, 2015). This paper has presented some of the key drivers of vulnerability to floods in the city. These include unsafe construction practices, poor drainage systems, unregulated solid waste disposal, institutional incapacity, inadequacy of land, settlements in high-risk areas, deforestation, siltation of rivers and national disaster risk reduction policies that neglect urban areas. Not only is the emphasis on resettlement failing to address these underlying drivers of vulnerability, but it is also obscuring them. Resettlement is also creating new forms of vulnerability for those being resettled and those left behind. Moreover, with 60% of Mzuzu's population living in informal settlements, the resettlement programme would cover only around 4%.

The fourth priority area in the Sendai Framework for Disaster Risk Reduction, 2015-2030, emphasises on building back better in post-disaster recovery (UN-ISDR, 2015). While it is recommended to encourage communities in high-risk areas to construct better houses or build back better after a disaster, this study has shown that it may be quixotic for most of the urban poor. Most people in informal settlements are migrants from rural villages who simply do not have the means to afford better housing on their own. Previous studies have also shown that during recovery phase, residents will often not wait for city plans to start the reconstruction phase and will reconstruct basing on their capabilities, without regard to resilience (Oliver-smith and Goldman, 1988; Wamsler, 2004; Miles et al., 2012). The evidence from Mzuzu also confirms the observation by Wamsler (2004) that those reconstructing after a disaster sometimes build in the same risky areas. Where

the reconstruction process is not guided by risk assessments or technical support, it is likely to not just reproduce the old risks but also create additional risks. In the event that a decision has been made to reconstruct in the same area after a disaster, appropriate technical and financial support should be provided to those who need to reconstruct in order to build back better and safer.

Development of legislation, building codes and urban plans that integrate disaster risk reduction is another important step in tackling the underlying causes of vulnerability. Addressing the causes of vulnerability requires a developmental approach (Wisner et al., 2004; Manyena, 2012; Islam, 2015; Oliver-Smith, 2016), hence the need to mainstream DRR across all sectors within the city. Among others, this would ensure proper settlement patterns and construction practices. However, even if relevant legislation and policies that have integrated DRR were in place, it would not automatically translate into resilient cities without being implemented or enforced. The institutional capacity of the city itself to manage risks but also enforce laws and regulations needs to be strengthened. This requires substantial investment in human capacity and other core areas. Particularly, presence of full-time personnel with disaster risk reduction or climate adaptation responsibilities is an important step.

While prohibiting settlement in risky areas may be another alternative (Tipple, 2006), this should be a priority in high-risk areas that have not yet been occupied. In the case of Mzuzu, where the majority of its citizenry already occupy hazardous places, proper planning and improvements should be made in situ to reduce disaster risks. This 'living with floods' approach has been widely promoted by UN agencies such as UN-HABITAT, NGOs and other donors in Malawi. Arnall (2015) also reported on the same in the case of Mozambique. Slum upgrading programmes like the one implemented by UN-HABITAT in the city are encouraging developments. The advantage with slum improvement programmes is that they also factor in social aspects aimed at community development (Baker, 2012). Such initiatives should also aim at promoting locally-appropriate and resilient house construction practices in areas exposed to hazards. However, programmes of this nature require strong political and institutional commitment as well as active community participation. Evidence on the ground in Malawi indicates that financial support for such initiatives from government has not been forthcoming.

As was observed in some locations in the city, sometimes residents tend to underestimate or deny their levels of vulnerability to disasters. Without any disaster

occurring, they can remain ignorant of the risks they are exposed to or choose to live in denial. Public awareness programmes on disaster risk reduction among city dwellers should also be prioritised.

6.5 Conclusion

This paper has raised a number of questions that urban areas should consider as they undertake risk reduction programmes. In the case of resettlement, these range from land shortfalls to decisions on who should actually be resettled, when and how. These questions are key to understanding resettlement complexities in urban areas in developing countries and could assist in designing better resettlement programmes. The paper has called for caution when considering risk reduction options and has argued that resettlement should remain a measure of the last resort. Forcing or enticing people to resettle when the core system is disorganised does not appear to be the best way of reducing disaster risks. Indeed, cases where resettlement has failed are more common than where it has succeeded. The Mzuzu case may just end up as another addition to the catalogue of resettlement failures. Within a system that has a tendency to take no action when people disregard its policies and laws, there is no guarantee that those being resettled would not return, or that the land left behind would not be reoccupied, or that the allocated land would not be sold.

In the face of poverty and other social ills in most developing countries, urban areas will continue offering pull factors for rural households. As this paper and other previous studies have demonstrated, most of these rural migrants end up occupying the most delicate spaces. Countries will have to make tough policy choices if the risks are to be brought to manageable levels. Allowing people to stay in unsafe informal settlements without any protection cannot be considered a logical decision. By their nature, some environments such as wetlands are supposed to be protected as they also act as natural flood controls. With the likelihood of increasing urban risk in the face of climate change and climate variability and rapid population growth, compounded by tough economic conditions, low-income countries may need to invest more in integrating disaster resilience in the normal urban planning and development processes. As the PAR model shows, the focus should be on addressing the physical, social, economic, political and human conditions that are at the centre of vulnerability to floods and other disasters.

CHAPTER 7 : Researching peers and disaster vulnerable communities: an insider perspective - Paper 5

Abstract

Conducting research among peers and communities that a researcher also serves may be both daunting and rewarding. Researching peers may make the researcher feel uncomfortable raising certain questions that are sensitive or that could be construed to be testing their competencies. This paper is inclined more towards showing that it is advantageous to be an insider, whose position can facilitate collection of information that could not have been accessed, or revealed to an outsider. The paper reports on fieldwork conducted in a low-income country in Sub-Sahara Africa as part of a doctoral study with communities affected by disasters and those that work with such communities. The paper demonstrates the complexities of conducting such type of research and provides some insights that may be useful to insiders, outsiders or 'in-betweeners' embarking on fieldwork in low-income countries and among vulnerable population struggling with manifold stresses and shocks.

Keywords: *Insider researcher, social desirability, Malawi, research ethics, peer research, gatekeepers, semi-structured interviews*

7.1 Introduction

The identity and position of a researcher can play significant roles in influencing the research process. Identities that are socially ascribed or those that are achieved can make one an insider or outsider (Ergun and Erdemir, 2010; Muhammad et al., 2015). Merton (1972, p. 21) defined insiders as "members of specified groups and collectivities, or occupants of specified social statuses" while outsiders are the 'non-members.' The insiders have some 'privileged access to particular kinds of knowledge' (Merton, 1972, p. 11). Other than identities such as sex, age, ethnicity, Mercer (2007) argues that there are other dimensions of the insider-outsider position, such as research's time and place, power relationships between researcher and those being researched, researcher's personalities as well as the research topics.

Power relationships, which are often negotiated between the researcher and participants during the research process (Parameswaran, 2001; Brooks et al., 2016) can change depending on time and context of research. This can make the outcomes of the relationships contradictory or unexpected (Brooks et al., 2016). Researchers should, therefore, not just be aware of power dynamics in research, but they should be able to negotiate them. Negotiating power dynamics also entails that researchers should aim at promoting the participation and empowerment of research participants. In this way, the two parties consider each other as equals, rather than where one is taken to hold privileged loci (Merriam et al., 2001). This is particular so with research conducted with vulnerable communities.

This paper is not a report on the findings of a research, but presents methodological reflections in conducting insider-research within a low-income country in Africa. It draws on the unique issues experienced in the course of conducting the qualitative component of a broader mixed-methods doctorate study, where focus groups, semi-structured interviews and participant observations formed the qualitative portion. Rather than dwelling on the insider-outsider debates, I focus on six key areas within the insider theme: researcher identity, social desirability, neutrality, ethics, peer research and gatekeepers. While these areas are neither mutually exclusive nor exhaustive in the context of insider research, they present different perspectives on the dynamics of qualitative insider-research. These are particularly relevant for those conducting research within their own institutions, among peers and/or with vulnerable communities that they also professionally serve. Within each aspect, I portray the challenges that I faced, or

anticipated to face, and how these were negotiated and resolved in the course of fieldwork. Rather than considering the insider researcher as wielding a 'double-edged sword' (Mercer, 2007), I mostly look at the multiple opportunities that are presented to an insider researcher and how encountered challenges were addressed. I, therefore, argue that the 'double-edged sword' could sometimes be an 'edgeless sword' working more to the benefit of the insider researcher.

The paper begins by providing a brief overview of current debates on the insider-outsider positions, before reflecting on the methodological experiences in relation to the six areas. Although this article is not a report of my research findings, to provide context for the discussion of insider-researcher issues, I will briefly summarise the nature of the research as background for the discussion to follow. In some instances, I refer to specific issues encountered in the course of conducting fieldwork to provide evidence for the arguments being made.

The broader study focused on assessing why some households with similar exposure and vulnerability to floods resettle while others do not. The study was conducted in two districts of Nsanje and Chikwawa and the city of Mzuzu in Malawi, sub-Saharan Africa. All three areas were affected by floods between 2015 and 2016, which necessitated government to implement a resettlement programme as a way of preventing future risks. Data were also collected from practitioners mostly based in Lilongwe, Malawi's capital city where the majority of government ministries and departments as well as head offices for non-governmental organisation and development partners are based. At the national level, the resettlement process was led by the Department of Disaster Management Affairs (DoDMA) in the vice president's office. I was working for DoDMA as a technical officer at the time I commenced the study. I, therefore, started my research not just familiar with the work of most actors in the field but I also knew most of the key actors. I had actively participated in the development of a number of policy and regulatory instruments that I was studying and had also worked within the local communities I was studying.

7.2 Insider, outsider or in-betweener?

Previous scholars such as Olson (1977) considered the insider and outsider positions to be mutually exclusive. Scholars now recognise that the two are best considered as a continuum, where the positions can be negotiated and renegotiated and can oscillate from one context to another (Griffith, 1998; Mullings, 1999; Kusow, 2003; Mercer, 2007;

Muhammad et al., 2015). As Mullings (1999) argue, "no individual can consistently remain an insider and few ever remain complete outsiders" (p. 340). Muhammad and colleagues (2015) add: "identity is a complex, multi-layered, and dynamic phenomenon that is both fluid and situational, yet retaining core characteristics" (p. 1047). For instance, one can be an insider because they share race or ethnicity with the research participants, but at the same time other attributes such as gender, level of education, social class and age may make them outsiders (Merriam et al., 2001).

The fact that one is a native does not automatically mean that respondents would consider him or her an insider, which also suggests that it is possible for a researcher to be an insider in a foreign place and an outsider in his or her own home area (Ergun and Erdemir, 2010). There can, therefore, also be an 'insider-outsider' or 'in-betweener' position (Brooks et al., 2016). Griffith (1998) further cautions that attributes such as race, education, gender or ethnicity do not in themselves ascribe one an insider or outsider. Instead, the political circumstances, relationships between researcher and those being studied and research practices are what determine whether one can be an insider or outsider.

Being an insider offers multiple opportunities; yet, it can also be a source of challenges. The very same attributes such as gender, ethnicity or age that may place an insider at an advantage in one context may play to his or her disadvantage in another situation (Hockey, 1993). Insiders are considered to have less challenges in getting access to research sites and the data collection process is faster than for outsiders (Mercer, 2007). Participants may be more willing to reveal issues to an insider researcher since they feel their views also reflect those of the researcher, so whatever he/she writes will also be true for the researcher as it is for the participants (Hockey, 1993). Knowledge or connection to the group being studied by insiders can help in providing richer insights and enhancing understanding and interpretation of information (Mullings, 1999; Shah, 2004).

However, being an insider can make a researcher prejudiced or ignore some issues that could be picked up by someone less familiar with research participants (Merton, 1972; Mercer, 2007). Respondents may be afraid to be judged by insider researchers and, therefore, less willing to share their information with them (Shah, 2004). Respondents who are aware of the researcher's stance may be biased in providing the information that the researcher wants to hear (Mercer, 2007). Insiders may also end up taking issues for granted with their greater familiarity (Shah, 2004), and can shy away from asking questions they feel are obvious or not important (Hockey, 1993). Being an insider can

make one avoid asking questions on sensitive topics and the shared history with respondents may influence how he or she is perceived (Mercer, 2007). Mercer (2007, p. 7), therefore, compares conducting insider research to 'wielding a double-edged sword.'

7.2.1 Researcher identity

I commenced my research wielding this seeming double-edged sword. I assumed that my identity as a researcher was critical not just in terms of methodological concerns, but the theoretical position in relation to the substantive issues being studied. The fact that I had worked with government in areas related to the study may have had an effect on my objectivity and could have biased me towards particular viewpoints. Besides, my position also held some power connotations that might have affected the type of responses offered by participants. Since I spoke the language of the people in my study areas, was familiar with the environment and had worked in the communities, I considered myself an insider. Yet, some participants at local level viewed me as a powerful outsider based on my social status and my previous position as a government official. To mitigate against these perceived challenges, the design of the study ensured triangulation at different levels of data collection. I also recruited four research assistants to assist with the data collection and conducted part of the fieldwork jointly with another doctoral student who was an outsider.

Researchers have to decide which aspects of their identity to reveal to research participants (Mullings, 1999). While it was possible to hide my identity as a government employee, in a number of instances this was not feasible. At times I conducted interviews in communities I had visited before as a government officer and some people still recognised me. Even abstract things like type of vehicle used revealed our identity: some members of the community could identify us even before alighting from our vehicle. The vehicle used had registration numbers and a visible logo that could easily be linked to my institution. It also had the name of the organisation which meant some people knew who we were. In two cases, some community members said: 'we had seen this vehicle when we were in camps,' and that could not be refuted.

In other cases, research participants may not really care about some identities of a researcher. My research was conducted in areas with high illiteracy rates. Yet, when making introductions as students, some viewed that status inferior or irrelevant. This could partly be the case in over-researched communities where they are used to

interacting with professionals and to them, a PhD has no meaning. Some did not apparently know what it meant to be a doctorate student and had to ask for clarification. Besides, my participants were individuals who had been displaced by floods and had been in camps for six months, during which they had interacted with different people. These included the head of state, international and local development partners and various other categories of people. Interacting with a student could, therefore, not be viewed as something out of the ordinary to them.

7.2.2 The challenge of social desirability

Researching about people's behaviours has its own challenges that might affect the validity and reliability of the data produced, especially in cases of self-reported behaviours. Participants also tend to judge researchers based on their social class, ethnicity, race, nationality, religious background, profession, age and gender, which may create a bond, suspicion or antagonism (Ergun and Erdemir, 2010; Shariff, 2014). Social desirability is a major threat to the kind of information that research participants are able to provide. People tend to report or associate themselves with socially desirable behaviours and hide those that are not (Bernard, 2011, 2013; Bryman, 2016). This can be worse in situations where researchers are insiders who have been, or are, also involved in the subject under study (Mercer, 2007). Bernard (2013) suggests several reasons why people are inaccurate reporters of their own behaviour, one of which being that "interviews are social encounters. People manipulate those encounters to whatever they think is their advantage" (p. 209). Edwards et al. (2005) talk of two different manifestations of such behaviour: *demand characteristics* where respondents are well-informed and would like to influence the results of the research or *self-presentation bias,* where they are just trying to present a more positive sight of their own behaviour.

As an insider researcher, I considered social desirability a major threat to the reliability and validity of the data collected from participants. Since my research looked at factors that were affecting disaster risk reduction and the majority of these were being attributed to government, some research participants could have been reluctant to open up and reveal issues. However, in the case of this study, I found most participants willing to reveal intimate or sensitive details, or malpractices when they were aware of my position as a government officer. Could social desirability had been at work? In some instances, it appeared that issues were being exaggerated, while in others it was difficult

to know the veracity of the information. I was, thus, always conscious of such likelihoods, and avoided taking the issues at their face value. With multiple participants, I was able to ask the same questions with different participants. When in doubt, I verified with at least one other source within the same community. Where issues raised were about someone's character, I checked with them to get their side. Often, the verification process revealed other pertinent details that had been omitted by the initial source(s).

As Boeije (2004) study's showed, some people may want to be present during interviews to control their self-image so that those being interviewed would be unable to present them in any negative way. Bernard (2013) calls this the *third-party-present effect*. According to Bernard (2013) and Boeije (2004), there can be social desirability in responses, or response effect when a third party is present during interviews, where interviewees can manipulate their responses so that they present themselves in a desirable way. In my case, local chiefs and other local elites often wanted to be present during focus groups. While I was mostly able to request them not to be present, in a few instances this was not possible. In one case, a local chief who had provided resettlement land for some displaced households was present during a focus group with the resettled people. Whenever someone from the resettled community raised a concern, the chief was swift in coming in and reproaching them. Since these people were seeking refuge in his area, they were constrained in what they could say and most of them ended up not saying much. This assertive *self-presentation* (Boeije, 2004; Edwards et al., 2005) by the chief was obviously being done to suppress any shortcomings from his side. Even though I had informed the chief that I was there solely as a researcher, he still wanted to present himself as 'the Good Samaritan," and impress me as a government officer. For such cases, I always re-arranged proper interviews and focus groups on a different date, where the third party was not present.

7.2.3 Neutrality

To what extent can a researcher remain neutral? When some malpractices have been discovered in the course of the research, or some pertinent issues that require urgent attention are not being addressed, what is the role of the researcher under such circumstances? Achieving neutrality throughout the research process, especially for insider researchers, may neither be desirable nor tenable (Walford, 1994; Drake, 2010). It is important for a researcher to deal with tensions that may arise in trying to differentiate

between his or her professional position and that of a researcher. Researchers may come across information critical to their organisation in the course of the research and they have to weigh whether it is best to act on the information or not while also considering how that could impact the research process (Floyd and Arthur, 2012). However, in acting upon issues, researchers should refrain from influencing the outcomes of the research itself, while maintaining objectivity.

In some areas, respondents informed me about malpractices or implementation shortfalls. The issues were being raised on the expectation that I would be able to resolve them, report to my superiors for redress, or just for my information as a researcher. However, when the issues were raised against someone else, I handled them by not confronting the concerned parties, but by raising the issues as part of the data collection process. Where I had already interviewed such people, I met them again for follow-up interviews. In all cases, despite several requests from communities, I avoided mediating or making decisions on issues raised.

Two examples illustrate this dilemma, one where a researcher can influence some action on an issue and another where he or she is limited in what can be done. These two cases illustrate the dilemma that insiders can have in the course of fieldwork. In the first case, I was informed that an officer from one of the local NGOs providing support to the displaced had fraudulently collected money from community members on the pretext that it would be used to transport relief items to the community. The concerned NGO was among those on my list of interviewees and when I met one of the NGO's managers, I raised the issue as a way of verifying the allegations without revealing the location. The manager indicated he had received reports about the issue and promised he would visit all the concerned communities to clarify and refund the money that had been fraudulently collected.

In the second case, a local chief raised an issue in the course of interviews about some of his subjects who had deserted him by resettling while he and a few households had refused to move. He claimed to have reported this to his senior chief and to government officials. The resettled group, on the other hand, accused the chief of putting their lives at risk by forcing them not to resettle. In both cases, the issues were being reported on the assumption that I would act. Both were very serious cases and in both instances, I was able to interview all the relevant parties, with different outcomes. In the first case, the concerned NGO took action to address the issue: this did not affect the outcome of my research. The second case was a local governance issue that, even as a

government officer under normal circumstances, I could not have addressed. When I talked to council officials, I was told that there was nothing the council could do as it was the council that was encouraging people to resettle.

Another struggle on the neutrality of an insider is whether to inform research participants about the true nature of certain beliefs they hold that could be facilitating certain behavioural outcomes being studied. To what extent should a researcher reveal information he or she is aware of? Mercer (2007) and Rubin and Rubin (2012) recommend that researchers should avoid the temptation of expressing their views or contradicting research participants on the issues being discussed. "It is very hard for us to remain silent when an interviewee bases his or her comments on what we know to be false or distorted information" argue Rubin and Rubin (2012, p. 84), before adding: "… but we know we need to keep quiet. An interview is not about educating or debating with the interviewee but hearing what he or she has to say."

However, for insider researchers who have been part of the policy measure being studied, this can be challenging. For instance, one observation made during interviews and focus groups was that some communities were living in denial and wishful thinking, accepting the present situation on the hope that government would do something to address the flood risk. While I was aware that these beliefs were not correct, telling the communities so could have inadvertently made some of them change their decisions and perhaps proceeded into resettling. As a government officer whose office was championing the resettlement process, that would have been the most desirable outcome. But as a researcher, I would have influenced the outcome of what I was studying.

7.2.4 Ethical dilemmas

Writing within the context of educational research, Floyd and Arthur (2012) term the ethical dilemmas faced with insider researchers as external and internal ethical engagements. External ethical engagements refer to ethical approvals that researchers seek from internal ethical review boards, while the internal is about the ethical dilemmas resulting from the interactions and dynamics existing between the researcher, participants and institutions in the course of fieldwork. The nature of this study raised some ethical issues, most of which falling within the internal ethical engagements category, or what Brooks et al. (2016, p. 2) call 'the ethics of positionality.' The ethical approval for this study was granted by the University of Sussex's Cross-Schools Research Ethics

Committee. Further approvals were provided in Malawi at national level and at district level where fieldwork was conducted.

A primary ethical concern stemmed from the fact that the research was predominantly conducted in areas where literacy levels are very low and obtaining written consent from most participants was not possible. As such, the study followed a recommendation in the UK's Economic and Social Research Council's (ESRC) Framework for Research Ethics (2015), where verbal consent was obtained by reading out the consent form and recording the process of obtaining verbal consent. In addition, for each focus group or interview conducted, and where the respondent(s) was/were unable to write, a witness signed on their behalf whenever such a literate person was present. For focus groups, there was often one person within the group who could read and/or write who signed on behalf of the group: wherever possible, at least two people were asked to sign from among focus group participants.

Studying one's institution may create other ethical pressures, such as revealing identities of informants or even removing some parts of the findings that are considered critical to the institution. For those intending to continue working with the institution after the research, they may be constrained in what they ask and report so as to maintain good relationships with colleagues or the institution (Platt, 1981; Mercer, 2007; Brooks et al., 2016). Anonymity can also be lost when one is conducting research in their own institution or among peers, especially those that one is strongly connected to (Hockey, 1993). Floyd and Arthur (2012) argue that institutional anonymity is 'meaningless for insiders' (p. 177) as the information can still be easily linked to the institution.

Different from when working within a school or NGO, there is only one government institution responsible for disaster risk management in Malawi and it could not be anonymised. I was given consent to reveal the identity of my institution: if this consent had not been provided, it would have been impossible to hide the identity, making the whole study almost meaningless. Anonymity challenges also applied for certain public figures, whose identities I could not reveal under certain circumstances as a government officer myself. This was also an individual debate, where I had to weigh the extent to which some findings that reflected negatively on some public figures could be revealed. Changing the positions of those being referenced was one strategy I used: for instance, instead of reporting that research participants said a particular 'cabinet minister did this and that' I had to rephrase it into something less familiar without skewing the meaning.

For my research outcomes, I shared initial reports with some of the institutions to ensure that the findings reflected what they had provided. While advisable, this can bring challenges of its own. The process of sharing findings with participants can be frustrating and time-consuming as responses may not be forthcoming, even from people one closely knows. In one case, I sent an email to senior local government officials to verify some of the information I reported on. I was referred from one officer to another, some of whom did not even acknowledge receiving my emails. I got a response after three months of persistent email reminders. In other cases, feedback was never provided at all.

Being an insider can be challenging where one comes across information that is important to the study but cannot be used either because consent has not been granted or because the information is classified. Some scholars recommend not revealing information that has been obtained through privileged access outside the framework of the research or without consent, though this may also depend on the purpose of the research and target audience (Griffiths, 1985; Mercer, 2007). On several occasions, I came across pertinent information through internal email communications or attendance of restricted meetings. In other cases, I had privileged access to formal communications or documents that were not in the public domain. In case of letters, for me to use such information I had to seek consent from both my institution and the authors. While in some cases this was possible, there were cases where consent was not provided by one or both parties, yet the information could have enriched my study.

7.2.5 Researching peers

Part of my research involved interviewing and observing people within the institution I work for. I also had to interview peers I have worked with from other organisations. Brooks et al. (2016) posit that respondents may be reluctant to be critical when they know that the researcher has some allegiance to the institution that is part of the study. However, in my case, this depended on the rapport that had been established in the pre-research context with peers. In her study, Mercer (2007) felt more of an insider and at ease when interviewing people she had previously socially interacted with than those she had not. Writing within the context of community-based participatory research, Muhammad et al. (2015) used a research team identity that combined people with different identities such as ethnicity and social class to limit power and positionality dynamics in fieldwork. Their reflection on the study shows that where the identity of the researcher was matched with

that of the participant(s), some challenges such as lack of trust, social distance and data access were minimised.

I found most officers that I professionally supervise and other peers very frank in their discussions on institutional challenges. In one instance, during discussions on institutional challenges affecting disaster risk governance, an NGO officer gave an example of incompetency on an issue that we both knew I had been involved in, but without referring to me. In another instance, pointing at me in the presence of another colleague, and without being confrontational, a district officer who reports to me said: "these bosses do not think of us here at the district level." While these may present rare cases, overall, the majority of respondents appeared not affected by my position in providing responses: reflexively, I may have prejudged reactions of my research participants on the basis of the literature.

Hockey (1993) argues that insiders may not be able to ask questions that they feel are very obvious or irrelevant. The issue of you 'already know' (Merriam et al., 2001, p. 410) could be challenging. For me, this was mostly evident when interviewing peers. How could I go to my superior and ask him "how do you define climate change?" or "how is climate change different from climate variability?" regardless of how I phrased the questions? Even for those not from my institution, such questions coming from me may have been construed as testing their professional competency. In one interview, instead of answering the question, one respondent told me: "you already know these issues better than I do. I should actually be the one asking you."

Platt (1981) reports of asking peers some technical questions about their work which she would later compare with official documents and judge their level of awareness. This aspect was not revealed to them and some respondents had to look up the correct answers. One of my research questions focused on policies. Respondents were being asked if they were aware of policies on climate change and disaster risk management, if they had participated in their development and if they felt the policies were effective. I took a leading role in the development one of the key policies and I knew all those that had been involved in the process. For these, I felt uncomfortable asking such 'obvious' questions when I already knew the answers. Respondents that had participated in the process might have been surprised to be asked such questions. At the same time, I felt some would be reluctant to disclose the ineffectiveness of such policies in the presence of someone who had actively been involved in their development. So, while I organised all interviews, I stayed out of some interviews. For my 'outsider' colleague,

asking such questions was easier as she was asking from the point of 'true ignorance.' It also allowed candid discussions that generated helpful responses.

7.2.6 The multiple faces of gatekeepers

Use of gatekeepers is an essential part of the research process. However, their use can be both helpful and a source of challenges. Where the researcher is able to, it is important to choose gatekeepers properly. Whether the researcher and gatekeepers knew each other before or not, or share some common attributes such as gender or age may affect their relationship in terms of reciprocity, rapport and trust (Sanghera and Thapar-Bjorkert, 2008). In my case, most village level gatekeepers were identified by the district councils. Those identified were all involved in disaster risk management issues at community level. This was advantageous as they considered me as someone who was their 'boss.' Such gatekeepers had first-hand information on the issues I was interested in, including the key people to talk to or invite to focus groups.

In some contexts, access to research sites or participants depend on the goodwill of gatekeepers as some hold powers to deny a researcher permission to conduct a study or meet certain participants. This can be so even where such gatekeepers have no legal right to control consent of individuals to participate (Wiles et al., 2005; Sanghera and Thapar-Bjorkert, 2008). Gatekeepers such as chiefs in rural areas within developing countries fall within this group. The first step in conducting research in such context is to seek permission from local leaders, even when accompanied by district-level officials or someone from the same area. Part of my research involved participant observation. On one occasion, I accompanied a team of district officials to a village for a preparatory meeting towards commemoration of the international day for disaster reduction. A senior chief of the area publicly censured our team and almost sent us back because we had not sought permission from him to conduct the preparatory activities in his area. After some other local leaders talked to him, he grudgingly allowed us to proceed. While ordinarily I would have sought such permission, on this occasion I accompanied district officials who are considered superior to the chief and who did not see the need to do so. Incidentally, this too was an important finding for my study as it revealed the power that chiefs hold at local level. On the next occasion when I returned to the same area, I made sure that that chief was my first point of contact!

There are also positive sides to working with gatekeepers. Presence of some gatekeepers and researcher's identity can make research participants reveal pertinent issues that could have remained hidden from the researcher. Whether a researcher conducts interviews in the presence of third parties such as gatekeepers or partners largely depends on the type of research approach adopted and the subjects of the research (Boeije, 2004; Rubin and Rubin, 2012). In an interesting case, I organised a focus group with some community members with my gatekeeper present. Instead of discussing the issues I had prepared, some local leaders, upon seeing my gatekeeper who was a district council officer, took advantage and said there was an issue they wanted to present to us first before we could start our focus group. The district officer asked them to put aside the issue for the time being and focus on the purpose of the meeting. However, I noted that the discussions would not be fruitful if their issue was not presented first. Besides, my research also looked at the role of local leaders in adaptation decisions. The issue itself turned out to be very relevant to my research and could possibly not have been revealed during normal focus group discussions in the absence of my gatekeeper. So, I became a participant observer. My planned focus group did not proceed and I had to rearrange it to another date, where I attended without the gatekeeper.

While having gatekeepers present during interviews can be helpful, it can also negatively affect the process of generating information (Bernard, 2013). This was common where sensitive issues were being discussed. During one focus group with chiefs who had refused to resettle, I asked why they had not followed their senior chief who had resettled. When one chief started narrating the reasons that sounded very political and interesting to my study, a few chiefs looked uncomfortable and my gatekeeper told the chief: "what you are saying is not relevant, just answer what you have been asked." Immediately, the mood changed. In previous interviews, my gatekeeper had been very helpful and had encouraged participants to open up, urging them to talk when there was silence or even paraphrasing my questions. I had taken this as a positive development, but this interjection was unexpected. I could not overrule him and bring back the issue as it was also obvious some chiefs were not comfortable with the direction the discussions were taking. In this case, I had to come back alone on a different day to talk to the chief and other key informants using interviews to understand the issue.

Gatekeepers can also take advantage of the researcher's position and make unnecessary demands when they expect some financial gains from the process. While it is recommended to pay gatekeepers for their time but also to cover meals in cases where

interviews take the whole day, using locally based ones is more convenient and less costly. When gatekeepers are from government or NGO at district level, they expect to be paid the rate they normally receive for attending workshops, which can be much higher than what a local gatekeeper would demand. In addition, where one has research assistants, each of these would require someone to be directing them within the village to avoid going outside the focus areas: so those from the district level may not be helpful.

7.3 Conclusion

This paper has reflected on the challenges and opportunities that come with conducting insider research on vulnerable communities and peers in the context of a developing country. The choice of my methodology was partly to address some of the fears I had regarding my identity and positionality, and the power attributes that came with it. However, in retrospect, some of the assumptions and fears I had in relation to my identity ended up being unfounded. Agreeing with Mercer (2007), being an insider can be compared to wielding a double-edged sword, but in some cases, as demonstrated in this paper, the sword can be, or be made to be, blunt on both edges or even edgeless. Assumptions that research participants will always be affected by the position of the researcher may lead to research designs that just end up being cumbersome than providing any easiness during fieldwork. The work rapport that insiders build with participants before the research is key in determining the success of insider research, especially in the context of peer research.

However, this does not mean it is always good to be an insider, and caution is required. This is especially pertinent when working with peers and vulnerable communities where the researcher stands in a position of authority. Social desirability remains a prominent hurdle. Insider researchers should be cautious and should gauge whether the issues being presented to them are reflections of reality, or being said in anticipation of some outcomes beneficial to them, or are being said just to please the researcher-practitioner. Considering that it is almost impossible to know how research participants will behave during fieldwork, researchers have to be vigorous when designing studies and err on the side of caution. The field of qualitative research offers several options that scholars can tap from, including the use of multiple data collection methods and using multiple participants.

CHAPTER 8 : General discussion and conclusion

8.1 Introduction

The consequences of climatic disasters such as floods can be devastating and far-reaching. Taking precautionary measures that reduce or prevent the likelihood of being impacted by floods when they occur seem to be a logical behaviour to adopt. When people who occupy places that are exposed to floods and have possibly reached their limits to adaptation are provided with the option of relocating to another safer place, one would expect them to grab the opportunity and move away as fast as they can. Yet, many people opt to remain in high-risk areas than move, while some of those who do move return after being resettled (Patt and Schroter, 2008; Arnall et al., 2013a; Artur and Hilhorst, 2014; Oliver-Smith and de Sherbinin, 2014; Ferris, 2015). Why do some people resettle while others stay?

Assessing why there are variations in adopting resettlement as an adaptation behaviour among households with similar levels of vulnerability and exposure to climatic change and variability was the main question upon which this study was designed. Central to this thesis is understanding the contexts in which different climate-related resettlement outcomes occur. In answering the main research question, a set of four key sub-questions guided the study. A mixed methods design was adopted where data collection involved focus group discussions, semi-structured interviews, participant observations, household and practitioner questionnaire survey, use of publicly-accessible primary datasets and review of key documents.

The purpose of this chapter is to present a synthesis of how this thesis has answered its research questions and how this relates to the current state of knowledge. It brings the individual papers together and demonstrates the contributions that the papers have made, individually and jointly, to knowledge in the field of adaptation and disaster risk management. The chapter also reflects on some of the limitations of the study, outlines implications of the findings for purposes of policy and practice and suggests areas requiring further studies.

8.2 Synthesis of key findings

In order to understand why some people choose to resettle while others decide to stay or return after resettling, the following four research sub-questions guided this study:

1. *How is the overarching governance system shaping disaster risk reduction and adaptation policy and practice?*
2. *How do traditional elites positively or negatively influence community-level delivery of DRR or CCA practices in rural Malawi?*
3. *How do households living in high climate risk rural areas perceive resettlement as an adaptation measure to climate change and climate variability?*
4. *How effective is the use of resettlement in addressing vulnerability to flood risks in high-risk urban areas?*

Each of these has been tackled in a manuscript of its own, while also showing linkages across the papers. The first two papers primarily focus on the governance aspects of DRM and adaptation. Paper one focuses on the overall governance system from national to district level, while paper two dwells on the local governance through traditional systems of leadership. The other two papers focus more on the resettlement decision-making processes, presenting both urban and rural perspectives. While paper three is mostly about household decision making processes, paper four also covers the resettlement planning process from the perspective of city officials. These two papers also demonstrate the distinct nature of urban and rural areas, pointing to the need for flexibility in designing resettlement and other adaptation practices. Together, the four papers present a more comprehensive picture in understanding resettlement, adaptation and DRM processes within a low-income country. Paper five does not present evidence that directly responds to any of the research questions, but is a reflexive account of the whole research process. While it makes some contribution to the methodological literature, its primary purpose in the thesis is to present a transparent account of the politics and nature of insider research.

8.2.1 Paper 1: disaster risk governance

The first manuscript looks at the overarching institutional and governance structure for adaptation and DRM across scales to understand how it structures and guides adaptation and DRM policy and practice. It responds to the first research question: *How is the overarching governance system shaping disaster risk reduction and adaptation policy*

and practice? The multi-level and network governance theory (Jones et al., 1997; Provan and Milward, 2001; Goldsmith and William, 2004; Bulkeley, 2010), as well as the governance landscape framework (Jones et al., 2016) are used to guide the paper. Paper four (chapter 6) also touches on the governance and institutional aspects, but from the urban point of view.

The chapter shows that there are multiple players in disaster risk and adaptation governance, operating across scales. Each of these contributes to adaptation and DRR success or failure. Government (central and local), NGOs (local and international) and politicians have important roles to play in the affairs of rural communities, including in adaptation and disaster risk management. Government is largely incapacitated and the majority of adaptation and disaster risk management work at the local level is done through a network of non-state actors. A few government departments are also implementing interventions at the local scale, but government's role is largely restricted to policy development and coordination. This is a common practice for most developing countries (Benson et al., 2001; Allen, 2006; Batley and Rose, 2011; Tierney, 2012; van Niekerk, 2014, 2015; Jones et al., 2016). However, the absence of government at local level has implications and is affecting adoption of policy measures on adaptation and disaster risk management. NGOs are playing crucial roles on behalf of government at the local level and communities value them highly as compared to government or any other player. However, their concentration in selected locations and thematic areas and their focus on short-term projects is jeopardising successful adaptation and disaster risk management.

At the local government level, the thesis questions the level of preparedness within the local government architecture. Several challenges in the local governance system that threaten DRM decentralisation have been presented. Elected politicians are key in the passing of relevant legislation and policies and in the allocation of resources from the national budget towards adaptation and disaster risk management efforts. They also represent the views of communities at various levels. This calls for collaboration. However, in most cases the interest of politicians is on meeting personal agenda and they have tended to capture resources meant for adaptation or disaster risk management for political goals. The findings generally support other studies on resource capture by politicians (Scott and Tarazona, 2011; Blackburn, 2014; Parthasarathy, 2016).

Local government officers themselves are also at the centre of resource misuse and abuse. Ironically, a number of actors are calling for the speedy decentralisation of

disaster risk governance in the country. The paper cautions against blind devolution of disaster risk management functions without addressing the challenges within the local government system. Already several studies conducted in developing countries where decentralisation of disaster risk governance has been carried out have shown that it has not achieved the intended goals (Manyena, 2006; Mustafa and Wrathall, 2011; Scott and Tarazona, 2011; Djalante and Thomalla, 2012; Bang, 2014; Garschagen, 2016; Marks and Lebel, 2016). The findings suggest that effective adaptation and disaster risk management at sub-national level requires building strong institutional capacity. When those entrusted with the delivery and coordination of adaptation and disaster risk management policies are themselves a threat, implementation of interventions will remain a challenge. These could partly explain the dismal impact that the investment in adaptation and disaster risk reduction is yielding in Malawi and across similar countries.

8.2.2 Paper 2: chiefs, elite capture, disaster risk reduction and adaptation

The second paper (chapter 4) continues with the governance narrative, but specifically focuses on traditional leadership systems existing at the local level. Chiefs are generally seen to play central roles in the lives and livelihoods of rural communities. The evidence presented in the paper confirms that they act as bridges between communities and government. In the case of Nsanje and Chikwawa, chiefs have been entrusted with leading the resettlement process at the local level. To further demonstrate their relevance in DRM and adaptation, the paper also uses evidence from a humanitarian response programme aimed at addressing food insecurity in Chikwawa and Nsanje. Unlike in the resettlement case, the response programme is designed to limit the influence of chiefs. These two represent different manifestations of mechanisms used to address elite capture (Mansuri and Rao, 2004; Lewis and Hossain, 2008; Wong, 2010, 2013). The resettlement case demonstrates a ‘co-opt-elite’ approach while the response programme shows a ‘counter-elite’ strategy.

Through their control over land, chiefs hold the keys to unlocking critical challenges affecting the resettlement process. This largely explains why government has delegated the whole resettlement process to them. The use of chiefs for resettlement purpose was also adopted by government in Mozambique (Artur and Hilhorst, 2014). In the Mozambican case, there were incentives that were provided in form of better houses and other social amenities and the chiefs captured the best of these. No incentives have

been provided in the Malawi case. While seen as an effective way of reaching the community by government, overreliance on chiefs in resettlement poses challenges detrimental to successful adaptation and DRR. Because resettlement threatens their power base and legitimacy, some chiefs are covertly or overtly sabotaging the process.

For the humanitarian aid, most chiefs, just as was noted with local politicians, are capturing the resources meant for food insecure households. Despite having local committees to coordinate the response, chiefs have positioned themselves so that they still find a way of benefitting from the aid. Similar to what Takasaki (2011b) found in Fiji, the capture is both malevolent and benevolent, where in some cases they do so for their personal benefit while in other cases the whole community benefits from the capture. In either case, the chief benefits the most since the communal sharing strengthens their control and power. The study concludes that chiefs remain important in the lives and livelihoods of rural communities and does not argue that they should be excluded from the DRR or CCA system. In this way it agrees with other scholars who have argued against adopting 'counter-elite' approaches (Mansuri and Rao, 2004; Wong, 2010, 2013). Rather, what is required is to identify alternative pathways through which they can be productively engaged in adaptation and DRR programmes.

8.2.3 Paper 3: risk perception and household resettlement decision-making process

The third paper focuses on the household resettlement decision-making process and responds to the third research question: *How do households living in high climate risk rural areas perceive resettlement as an adaptation measure to climate change and climate variability?* The paper demonstrates that households living in high-risk areas are aware of the risks they are exposed to. Both households that have resettled and those that have stayed have recently experienced severe climate-related shocks and stresses, particularly floods and drought. They both consider the likelihood of having similar events in the future as high and the consequences as severe. These findings on flood risk perception generally agree with Adelekan and Asiyanbi (2016), though they differ from findings of Scolobig et al. (2012) and Patt and Schroter (2008), who found perceptions on likelihood of severe flood events low.

However, most of them are unable to take any meaningful private protective action against such risks: the majority of them are coping with the risks rather than

adapting. Measures such as *ganyu*, changing eating habits or selling household assets only cushion households in times of disasters, but do not prevent or mitigate the risk. Moreover, these measures are also being taken to address other daily livelihood challenges, including poverty, other than just those instigated by climate change or variability.

Both qualitative and quantitative evidence show that higher income is associated with lower likelihood of resettling. These findings do not support previous studies that have either found that higher income has no influence on adoption of risk reduction behaviour (Kreibich et al., 2005; Botzen et al., 2009; Poussin et al., 2014) or that it has a positive influence (Russel et al., 1995; Palm, 1998; Thieken et al., 2007; Botzen et al., 2012; Foresight, 2012). Qualitative data further complement this finding by providing evidence where households with more assets, including livestock, are unwilling to resettle as the land allocated in resettlement sites is inadequate. This explanation differs from that provided by Reynaud et al. (2013) in their experimental study in Vietnam. While the study also found higher income to reduce likelihood of moving, the authors concluded that households with more income are unwilling to move because they have capacity to protect themselves.

Being female is also seen to be associated with less likelihood of resettling. However, this is only true when income and age are controlled and there are no significant differences between those that have resettled and those that have stayed. An important finding in relation to the social-psychological protection motivation theory is that response efficacy appears to be more important in resettlement decisions than self-efficacy. Response efficacy is also a stronger predictor than the socio-economic variables. Whether households feel they are capable of resettling or not seems to be less important than the effectiveness of the measure in protecting them from the impacts of climate variability and change. In making resettlement decisions, individuals, households and communities do not assess just the risk posed by one hazard such as floods but they factor in other hazards such as droughts. The final decision is based on which of the hazards poses the greater threat to their lives and livelihoods. The findings support previous studies that have shown socio-economic variables to be less effective in determining adoption of hazard protective behaviours as compared to social-psychological ones (Lin et al., 2008; Grothmann and Patt, 2005).

The fact that some households who also face threats of drought have resettled does not signify that they consider drought less significant. A number of them resettled because

they had no other option: following displacement caused by the floods, their houses were demolished and in most cases replaced by new river channels. It was, therefore, impractical for them to go back to their old places as there was no place.

8.2.4 Paper 4: urban vulnerability and resettlement

The fourth paper presents an urban perspective of vulnerability, DRR and resettlement and is linked to the fourth research question: *How effective is the use of resettlement in addressing vulnerability to flood risks in high-risk urban areas?* It focuses on household perception of resettlement, the decisions that they make and how the urban governance system shapes vulnerability, adaptation and DRR practice. This component of the PhD study is guided by the disaster pressure and release model (Blaike et al., 1994; Wisner et al., 2004).

The paper finds that efforts to reduce disaster risk in the city are wanting and notes a number of shortfalls in the resettlement planning and execution. The shortfalls include lack of community consultations and participation, inadequacy of land, targeting failures, lack of compensation packages to those being resettled, and general lack of policy measures to prevent people settling in the reclaimed land. The majority of these factors have already been identified as common causes of resettlement failure (Carmona and Correa, 2011; Correa et al., 2011; Arnall et al., 2013a; Artur and Hilhorst, 2014; Vlaeminck et al., 2016; Chen et al., 2017). In the case of the city, these largely emanate from capacity challenges for DRR and adaptation within the urban governance system itself. The paper also argues that efforts to resettle people could yield short-term benefits, while leaving the main causes of vulnerability and exposure to hazards unmitigated.

Unlike in the rural context as presented by the other two papers (papers two and three), city officials are directly involved in the resettlement process. The council is even accused of ignoring other key players in the process. In urban areas, government has more control over land than is the case with customary land in rural areas. For the urban poor dwellers, the options are more limited as the land market is prohibitive and most of them are renters who do not have resources to find better places elsewhere. The different land tenure systems between urban and rural areas largely explains why the city council is very active in the resettlement process while the rural districts have left the whole process in the hands of the chiefs, who control land.

8.2.5 Paper 5: methodological reflection

Paper five differs from the four core empirical papers (chapters three to six) in that it does not present research findings, but reflects on the process of collecting data, with emphasis on the qualitative aspect. The paper discusses some of the challenges and opportunities encountered in the course of fieldwork as an insider researcher. It also reflects on how the challenges were mitigated or addressed. Primarily, it focuses on six key elements: researcher identity, social desirability, neutrality, ethics, peer research and gatekeepers. While agreeing with previous scholars (eg. Mercer, 2007) that the insider identity can pose some challenges, the key conclusion of the paper is that it offers more benefits than threats.

While I mostly considered myself an insider researcher, there were instances where I was an outsider. Such oscillations resonate with the current thinking on insider-outsider 'dichotomies' (Griffith, 1998; Mullings, 1999; Kusow, 2003; Mercer, 2007; Ergun and Erdemir, 2010; Muhammad et al., 2015; Brooks et al., 2016). As an insider researcher, I had challenges hiding my identity in places where I had previously interacted with the research participants as a government officer. My identity as a researcher brought both positive and negative elements, including cases where participants assumed I would address their concerns as a government officer. This also connects with social desirability.

The question of social desirability arises where participants provide information that they feel the researcher wants to hear or where they avoid presenting themselves in a way that is not socially desirable (Bernard, 2011, 2013; Bryman, 2016). The use of multiple participants limited the level of social desirability as information was verified with other sources. Just like Mercer (2007) and Rubin and Rubin (2012), remaining neutral and avoiding expressing my own thoughts on issues was paramount to avoid affecting the outcome of the study. In some instances, participants held views that were apparently false but as a researcher, I could not dispute them. Achieving neutrality also meant that I could not offer solutions to any challenges communities expressed. In a few instances, some malpractices were inadvertently addressed when I raised such issues with other key informants as part of the data collection process.

A number of ethical issues were also encountered in the course of the study. The key ones included the use of information obtained through privileged access, maintaining anonymity of institutions and participants and obtaining written consent in cases where participants could neither read nor write. Most of the fears I had with researching peers

such as limiting their freedom to express themselves did not materialise. Nevertheless, I mostly followed recommendations by other scholar to use investigator triangulation (Denzin, 1970; Thurston et al., 2008; Archibald, 2015). On several occasions, interviews with peers were led by another PhD student with whom I jointly did part of my fieldwork. This was particularly important to reduce instances where I felt uncomfortable asking some 'obvious' questions or questions where respondents would feel like I was testing their professional knowledge, an experience similar to what Platt (1981) faced. Gatekeepers too were found to be multifaceted. In some cases they assisted in making the fieldwork smooth, while in others they were the source of fieldwork challenges.

The choice of a mixed methods design provided the best approach to address the research questions. However, the design was also meant to assist in mitigating the challenges associated with the position of insider researcher. In adopting a mixed methods design, the study further achieved triangulation at different levels. To the greatest extent possible, the study design was able to limit the challenges posed by the insider researcher position. Methodologically, this PhD study has presented a unique perspective to understanding resettlement as it studied a process that was naturally occurring at the time of study from multiple angles and using a mix of methods. Additionally, while most studies have been done with a single set of population, mostly focusing on those that have resettled, or those that have returned, this study looked at both groups. Within the same broader study, both urban and rural areas have been studied, thereby providing a richer and more comprehensive perspective.

8.3 Peculiarity of resettlement as an adaptation measure

The first part of the title of this thesis raise an important question (adapting or maladapting?) that is meant to be interpreted in two different ways. In the first case, it questioned whether, and how, households and communities in the study sites are adapting or maladapting to climate change and climate variability. Within the same question, there is an implicit interrogation of whether resettlement can be considered as adaptation or maladaptation.

Due to its nature and consequences, most scholars have recommended that resettlement should be used as a measure of the last resort, often when adaptation limits have been reached (Oliver-Smith, 1991; Ferris, 2011b; Oliver-Smith and de Sherbinin, 2014). The transformational nature of resettlement presents its own peculiarities that are

distinct from the more traditional adaptation or DRR measures. This could also, in part, explain the findings this study presents that run counter to what other studies have found on other risk reduction measures. In the majority of these studies, income has either been associated with adoption of protective measures (Russel et al., 1995; Palm, 1998; Thieken et al., 2007; Botzen et al., 2012) or has been found to have no significant effect (Botzen et al., 2009; Poussin et al. 2014; Kloss and Baumert, 2015). This study finds higher income to reduce resettlement likelihood. Similarly, previous studies have shown that gender (Ho et al., 2008; Huang et al., 2010; Solberg et al. 2010; Botzen et al., 2012), age (Thieken et al., 2007; Solberg et al. 2010; Poussin et al. 2014), education (Ho et al., 2008; Takeli-Yesil et al., 2010; Arnaud et al., 2013; Poussin et al. 2014) and household size (Kreibich, 2011) influence risk perception and adoption of protective behaviours. This study fails to identify any relationship between most of these socio-economic factors (other than income and, with a weaker effect, gender) and resettlement outcomes.

In the same vein, while the findings of this study generally support previous studies on risk perception and adoption of positive protective behaviours by showing that threat appraisal does not lead to adoption of protective behaviours in itself (Lindell and Whitney, 2000; Grothmann and Reusswig, 2006; Thieken et al., 2007; Siegrist and Gutscher, 2008; Terpstra, 2011; Bubeck et al., 2012; Poussin et al., 2014; Truelove et al., 2015), this study does not fully support other findings by the majority of these studies. Yes, the study supports previous findings that response appraisal is key in determining adaptation behaviour. Where it differs with other studies is in finding self-efficacy to be less important than response efficacy in resettlement decisions.

So, in the context of climate change and disasters, is resettlement an adaptation measure or a maladaptation? Are households adapting or maladapting? In section 1.6, a definition of maladaptation as presented by Juhola et al. (2016) was provided as “a result of an intentional adaptation policy or measure directly increasing vulnerability for the targeted and/or external actor(s), and/or eroding preconditions for sustainable development by indirectly increasing society’s vulnerability” (p. 139). Juhola et al. (2016) further provided three different types of maladaptation, one of which was rebounding vulnerability. In rebounding vulnerability, an adaptation action taken by actors also increases their own vulnerability to future impacts. From these perspectives, and in line with the findings of this study, in as far as resettlement protects the population from the impacts of climate change and climate variability such as floods, it is an adaptation. But when, at the same time, resettlement “is directly increasing vulnerability for the targeted”

(Juhola et al., 2016, p. 139) people to other hazards such as drought, it ought to be considered a maladaptation. This shows that although resettlement is considered an adaptation measure, it may not always be isomorphic with adaptation.

On the other hand, the study has also presented evidence of other maladaptive measures being adopted by households. This is typical of people who have reached adaptation limits and are not receiving much support to adapt. At household level, doing nothing, changing eating habits and selling assets are all maladaptive actions. These actions are putting the households at further risk of shocks and stresses. The other measures such as reliant on food aid and *ganyu* are forms of coping rather than adaptation. Tree planting and irrigation are the only major adaptation measures being practised. To respond to the other question raised in the thesis title: the evidence presented by this study shows that most households in the study areas are either coping with or maladapting to the effects of climate change and variability. Adaptation practices are limited.

8.4 Overall contribution to knowledge

There are a number of ways in which this study contributes to knowledge in adaptation, disaster risk management and resettlement. These can be linked to individual manuscripts but also jointly. In the first case, while there have been a number of studies that have looked at the governance of disaster risk and adaptation, empirical studies on the role of chiefs in adaptation are lacking. There are a number of publications in fields such as public administration that have discussed the role of chiefs in relation to delivery of public goods and democracy that have shown that in most rural communities in developing countries, chiefs are at the centre of rural lives and livelihoods. Yet, this has been an understudied area in relation not just to resettlement but to adaptation and disaster risk management in general.

A review of literature finds a few studied that have mentioned the role of chiefs or local elites in passing or as a mere illustration of resilience (e.g. Takasaki, 2011a, b; Artur and Hilhorst, 2014; Manyena, 2014; Arnall et al., 2013a). The lack of studies is surprising considering the mushrooming of community-based adaptation and DRM practices (Allen, 2006; Izumi and Shaw, 2012b). This thesis presents one of the first detailed studies that has taken a critical trajectory to understand the role of chiefs in climate change adaptation and disaster risk management. In the first case, the thesis has shown that whether elites are co-opted or excluded from DRR and CCA programmes,

they can still capture resources. Evidence presented also indicate that where DRR and CCA strategies pose legitimate threats to the autonomy and survival of chiefs, resistance is inevitable.

Still on the governance side, this thesis has presented challenges with decentralised governance of disaster risk reduction and adaptation. It has shown how adaptation or disaster risk management resources are being captured at the sub-national level by those entrusted with managing the resources or those who are supposed to provide checks and balances. The thesis, therefore, cautions against advocating for speedy devolution of functions and resources to local governments before shortfalls in the system are addressed. In this context, and in relation to adaptation and disaster risk governance, this thesis shows that the key actors that are entrusted with adaptation and disaster risk management functions are acting as barriers to successful adaptation.

Patt and Schroter (2008) looked at the perceptual aspects of resettlement where one of the study's conclusions was that resettlement failed due to differences in perception of risk between policy makers and farmers. This study takes a different direction and provides variations in risk perception between households that have resettled and those that have not. It also demonstrates that social-psychological factors are more important in household resettlement decisions than socio-economic ones. This demonstrates the utility of the protection motivation theory in understanding resettlement decisions.

The primary aim of any adaptation or DRR measure is to reduce vulnerability to current and future impacts. This thesis questions whether resettlement is actually reducing vulnerability, worsening it or creating new forms of vulnerability. While those resettled may feel safer to floods, they remain at high risk of being impacted by other hazards such as drought. In both the rural and urban context, the thesis also shows that the focus on resettlement is hiding some of the key drivers of vulnerability. Addressing the underlying causes of vulnerability ought to be the focus of any adaptation or DRR policy measures in the first place.

The PhD study also applied the IRR model and the inherent complexity theory to understand the resettlement processes. While it finds some elements of the IRR model relevant to the study, the majority of the impoverishment risks do not apply to the context. This suggests that the use of the model in the design of resettlement programmes associated with climate change or disasters ought to be selective and pay more attention to the impoverishment risks that would apply to that particular context. Additionally, building on Dwivedi (2002) and in agreement with the inherent complexity theory

proposed by Chris de Wet (2006), adopting mechanical or technical fixes to resettlement processes and outcomes may not work. The study provides further insights on the inherent complexity theory by demonstrating the complex nature of resettlement decisions. This complexity lies in the multiple actors involved in the process, the multiple factors one has to consider when deciding to resettle and the circumstances and players that tend to incentivise or disincentivise the decision-making process.

These also generally agree with the position held by the Foresight report (2011) that human mobility is a complex process, driven by a plethora of factors and that manifest itself in multiple ways. However, the findings also provide an additional perspective to the notion of 'trapped population,' building on the Foresight position which associated the trapped population with poverty. Where land in resettlement destinations is inadequate, this thesis shows that it is those that are wealthier that are more likely to be 'trapped.'

8.5 Implications for policy and practice

As an insider researcher who commenced this journey largely driven by professional challenges encountered in implementing adaptation and disaster risk management policies and plans, it is important to highlight what implications these findings have for policy makers and practitioners. In the first case, the findings agree with other previous scholars (Oliver-Smith and de Sherbinin, 2014; Correa, 2011; Ferris, 2011b) on the need for proper planning for resettlement and adaptation programmes. In the present case, where no clear policy guidelines or even a resettlement plan are present, it is more the case of planning to fail.

The findings also call for self-reflection among policy makers and practitioners. These key actors ought to ask themselves important questions such as how their action or inaction is affecting adaptation or disaster risk management. The findings of this study suggest that policy makers and practitioners can be a barrier to successful adaptation and disaster risk governance. Resettlement requires adequate resources and the active participation of those being resettled in its planning and implementation. Evidence from where it has been successful has demonstrated that those being resettled will need some form of compensation or package to re-establish their lives and livelihoods (Correa, 2011; Correa et al., 2011). Government's presence is also crucial for resettlement to succeed. In the context of the rural districts, government should not just lead the process, but should

be seen and felt to be leading the whole process. It is surprising that several malpractices and issues happening in the field were being brought to the attention of both local and central government for the first time through this study. The study has reported several challenges that arose due to assigning the whole process in the hands of chiefs in the rural context. It has also reported, in the urban context, several institutional weaknesses hampering adaptation and DRR. The study does not recommend that chiefs, NGOs or even politicians should be ignored in adaptation or disaster risk management programmes: the missing link is a strong institutional arrangement that properly coordinates all actors.

Of relevance also is recognising that adaptation decisions cannot be implemented in the same manner across localities. With rise in shared knowledge, evidence-based planning and sharing of best practices among practitioners, it is important to consider contextual factors when introducing adaptation measures that have worked in one area into another location (Grothmann and Reusswig, 2006; Adger et al., 2009; Botzen at al., 2009; Biesbroek et al., 2013). The thesis brings together rural and urban perspectives of resettlement within a single PhD study and provides some issues that are peculiar to one context. For instance, there are differences in land regimes between urban and rural areas. There are also differences in the proportion of renters and landlords as well as differences in livelihood practices. These call for adaptive adaptation. It also requires that resettlement planning and execution should speak to other risk management and development plans for it to be effective.

A common challenge with resettlement among policy makers is to consider it as a panacea to the threats posed by climatic shocks and stresses such as floods. It is, thus, assumed that households whose lives and livelihoods are impacted or threatened by floods will just accept to relocate to ‘safer’ places. This is particularly felt so where households and communities have reached their limits to adaptation. This environmental deterministic misconception explains, in part, why resettlement schemes continue to fail from country to country. What is important for adaptation and DRR is that practitioners, policy makers and other stakeholders should recognise that adaptation decisions and processes are not simple. While it may completely eliminate the risk of being affected by floods, resettlement poses other risks. These threats could be more pertinent, with their impact lasting longer than what resettlement could address. In most cases, resettlement may not be the best, even the right, option to promote. In cases where there are multiple hazards that communities are exposed to, there is need to factor in all of these threats

when deciding on what countermeasures to implement, rather than just focusing on addressing one hazard. As demonstrated through this study, people sometimes do not just want to move and whatever form of incentives that may be offered will not make them change their minds. This also ought to be acknowledged and factored into the planning of voluntary resettlement processes.

8.6 Study limitations

There are a number of limitations that should be considered when interpreting the findings of this PhD study. One major challenge with this study was its failure to access some areas where resettled households originated from and where households who refused to resettle or had returned after resettling were located. Although the study still managed to sample a sufficiently large number of this category of respondents from the areas that were accessible, failure to reach some areas might have had some effects on the data. These inaccessible areas are apparently more exposed to flood risk and could, perhaps, have provided richer information.

Secondly, the fact that the study was multi-sited, carried out in four primary districts (Nsanje, Chikwawa, Lilongwe and Mzuzu) and several local locations meant that time was spent moving between sites and some issues happening in other sites within this time could have been missed. Perhaps concentrating on fewer areas might have provided richer information, though this approach was not adopted as it would have meant focusing only on one population category. Adopting this approach also had the potential to greatly reduce the sample size, which would have affected key assumptions of the quantitative approach. Nevertheless, the results are presented cognizant of this limitation.

The allocated time for fieldwork, while adequate to collect data, was not enough to observe the resettlement process fully. The study commenced at the time before most of the displaced had resettled for Nsanje and Chikwawa and soon after the floods disaster for Mzuzu. It was completed when the displaced had returned to their homes or resettled for Nsanje and Chikwawa and when they had returned, awaiting to be resettled for Mzuzu. For Nsanje and Chikwawa, the household findings were based on actual manifestation of the behaviour (i.e. whether one had resettled, not resettled or returned) while for Mzuzu it was largely on behavioural intentions. However, had the study covered a longer period, it could have observed how these behavioural intentions came out for Mzuzu. For Nsanje and Chikwawa, it could also have observed whether those that had resettled continued

staying in the new sites or returned and if those that had not resettled eventually resettled. In praxis and for most research purposes, this may be unattainable but it provides a potential area for post-doctoral research.

Studying one's organisation or peers can raise questions of subjectivity. The fact that I was studying policy decisions most of which I took part in formulating, may also have biased me towards certain viewpoints. As argued by other scholars (Walford, 1994; Drake, 2010), even for outsider researchers, it is impossible to remain neutral during the whole research process. Morgan (2007) has argued that complete subjectivity or objectivity in a research context is not possible. This should be more so for an insider researcher. However, as reflected in chapter 8, most of the challenges that I anticipated as an insider researcher either did not materialise or were mitigated through the research design that was adopted.

Finally, the context within which this study was conducted at community level should be factored in when trying to interpret the findings in a broader perspective. The study population is largely disadvantaged: predominantly poor with most living below the poverty line and with very low levels of education. These socio-economic factors should be considered when interpreting the findings of this thesis. They may not apply for wealthier nations, or where the population is more educated. This limitation also points to other directions that scholars can take to assess if similar results can be obtained in a different context.

8.7 Recommendations for further research

There are two theories of resettlement that have not been tested by this research either because they do not apply in the context of this study or require resettlement processes that have taken place over longer time periods for them to apply. These are the resettlement stage theory of Scudder and Colson (1982), modified by Scudder (2005) and the p*sycho-socio-culture theory of disruptions of involuntary displacement* of Downing & Garcia-Downing (2009). Just like the inherent complexity theory and the *impoverishment risks and reconstruction model for resettling displaced populations*, these two theories were developed for development-forced displacement and resettlement programmes. Empirical evidence to support these theories, or apply them in the context of disaster or climate-induced displacement and resettlement is currently lacking. Even within DFDR, only the IRR model has been widely applied. For resettlement processes

where it would apply, it may be interesting to see how climate-induced resettlement may lead to the cultural disruptions proposed by Downing & Garcia-Downing (2009). Similarly, scholarly understanding of the resettlement process would be enhanced if empirical evidence could be presented for disaster or climate-induced resettlement processes that go through all the stages up to the handover stage as proposed by Scudder and Colson (1982) and Scudder (2005).

In addition, the gender dimensions of resettlement have not received attention in the literature. This study also failed to look into this aspect. Other studies have shown how women are particularly affected by climate change, and how they struggle to adapt (Terry, 2009; Babugula et al., 2010; Chipeta, 2010; Kakota et al., 2011). Assessing how the resettlement process affects men and women separately and the contributions they each make to resettlement decisions could enrich the field.

As other studies have shown (Patt and Schroter, 2008; Arnall, 2014; Artur & Hilhorst, 2014), and as also demonstrated by this study, some resettled households choose to adopt two lives, especially in the context of flood-induced resettlement. These have homes in both the low-lying areas and the resettlement sites. While this kind of life is being promoted even by governments such as in Mozambique (Patt & Schroter, 2008; Artur & Hilhorst, 2014), it is important to comprehensively examine the wider implications of leading such mobile lifestyles, especially for those whose lives and livelihoods are already on the margins.

8.8 Conclusion

So, faced with severe floods and given the option of resettling to higher ground, why do some people resettle while others choose to stay? This PhD study, through empirical work carried out through a mixed methods design in Malawi, shows that there are multiple explanations. The study demonstrates that both the structure and the agency of individuals is key to explaining resettlement outcomes. While focusing on individuals is important, by going beyond the individual, this study has demonstrated that getting to the bottom of how decisions are made also requires consideration of the context. Where people strongly feel resettlement will protect them from the negative consequences of climate change and variability such as floods, they may resettle. Powerful actors within societies such as chiefs can act both as impetus and hindrance to resettlement. Pertinently, the people entrusted with adaptation or disaster risk governance functions inside and outside

government may pose the greatest threat to successful adaptation or management of disaster risks. The study also shows that urban areas offer their own peculiar challenges that ought to be understood and considered when implementing policy measures that have worked in rural areas. The findings provide insights that are important not just for academic purposes, but also in designing adaptation and DRR policies and programmes, especially for developing countries, where the risks are high but adaptive capacities remain low.

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ANNEXES

Annex 1: Household questionnaire

Ref No:		Researcher initials:		Coordinates:	
		District :		Date:	
		Village :		Time:	

NOTE: Before commencing inform participant of project and what the questionnaire involves (use information sheet and consent form)!

1. Basic Information

Name: _____

Sex: Male ☐ Female ☐

Age (estimation, or DOB to the closest year): _____

1	**How long have you been living in [Village Name]?**		Always (proceed to q3) Years?(record number of years)			
2	**If you haven't always lived here, why did you move to [Village Name]?**					
3	**Which of the following categories do you fall under?**					
	Resettled (1) ☐	Planning to resettle (2) ☐	Refuse to resettle (3) ☐	Returned (4) ☐	Not displaced (5) ☐	

1.1. Household and Land Characteristics

4	**Does your household have any land?** (please state number of plots in each category. For non-agricultural land please state its use (e.g. dwelling, commercial land, market area)			Agricultural Non-agricultural				
4a	**Total land size**:			**Total Agricultural Land** (if different):				
5	**How would you describe the tenure of this land?**							
	Freehold (privately owned) (1) ☐	Leasehold (2) ☐		Customary (3) ☐		Other (please specify) (4) ☐		
5a	**Was your land acquired through the patrilineal or matrilineal system?**							
	Patrilineal (1) ☐	Matrilineal (2) ☐		Don't know (3) ☐		Other (please specify) (4) ☐		
5b	**Is the land registered in any household members' name?**							
	Yes (your name)(1) ☐	Yes (partners name H/W) (2) ☐		Not registered (3) ☐		Other (please specify) (4) ☐		
6	**Observations on type of household**							
	Permanent (iron, tiles, concrete, brick, stone) (1) ☐	Semi-permanent (mix of permanent & traditional) (2) ☐		Traditional (unfired mud bricks, thatching) (3) ☐		Temporary (tent) (4) ☐		
7	**House ownership**							
	Owned by occupants (1) ☐	Rented (2) ☐		Rented (but not by you) (3) ☐		Living in communal housing (4) ☐		
8	**How many rooms does your house have?**							
9	**What type of fuel does your household use for cooking?**							
	Electricity (1) ☐	Natural gas (2) ☐	Liquefied petroleum gas (3) ☐	Kerosene (4) ☐	Charcoal (5) ☐	Wood (6) ☐	Straw (7) ☐	Agri crop (8) ☐	Animal Dung (9)☐

10	**Where is the cooking usually done?**			
	In the house (1) ☐	In a separate building (2) ☐	Outdoors (3) ☐	Other (please specify) (4) ☐
11	**What is the main source of drinking water for members of your household?**			
11a	**Where is this water source located?**			
	In own dwelling (1) ☐	In own yard/plot (2) ☐	Elsewhere (3) ☐	
11 b	**Is the water at this source always available?**			
	Yes, always (1) ☐	No, occasionally there is no water (2) ☐	No, regularly there is no water (3) ☐	

12	**Does your household have any of the following?** (please tick appropriately)						
	Electricity (1) ☐	Radio (2) ☐	Telephone (3) ☐	Computer (4) ☐	Refrigerator (5) ☐	Other household assets (please specify) (6) ☐	
	Does anyone in your house own any of the following? (please tick appropriately and state owner)						
	Watch(1) ☐	Mobile (2) ☐	Bicycle (3) ☐	Motorbike (4) ☐	Oxcart (5) ☐	Car/Truck (6) ☐	Other (specify) (7)

13	**Does any member of your household have a bank account?** (If yes, please state who)	Yes (1) ☐	No (if no, proceed to q14) ☐(2)
14	**Does your household own any livestock?**	Yes (1) ☐	No (if no, proceed to q15) ☐(2)

14a	**If yes, please tick & state the number of each animal?**				
	Cows or bulls (1) ☐	Horse/donkey (2) ☐	Goats (3) ☐	Sheep (4) ☐	Chicken(poultry) (4) ☐

1.2. Access to services

15 **Of the following services, what ones are accessible in your current place and original place?** If you have not moved, only indicate presence in your present community

	1. Old (present)	2. New	3. Both	4. Neither
1. School				
2. Market				
3. Farmland				
4. Hospital				
5. Potable water				

1.3. Education & Literacy

16	**What is the highest year/form you attended in school?** (record the highest year attended)				
	None (1) ☐	Primary (2) ☐	Secondary (3)☐	College (4) ☐	University (5) ☐
16a	**If primary or secondary school were not completed, what was the reason for leaving school?**				
17	**Do you read newspapers or magazines?**				
	Yes, regularly (1) ☐	Yes, occasionally (2) ☐	No, never (3) ☐		

18	**Do you listen to the radio?**		
	Yes, regularly (1) ☐	Yes, occasionally (2) ☐	No, never (3) ☐
19	**Do you watch television?**		
	Yes, regularly (1) ☐	Yes, occasionally (2) ☐	No, never (3) ☐
20	**If you own a mobile phone, do you ever make financial transactions on it?**		
	Yes, regularly (1) ☐	Yes, occasionally (2) ☐	No, never (3) ☐ (if no, proceed to q21)
20a	**If yes, what type of transactions do you make?**		

1.4 Marital Status

21	**What is your marital status?**					
	Married (1) ☐	Married (w/ more than one wife)(2) ☐	Separated (3) ☐	Divorced (4) ☐	Widowed (4) ☐	Never married/ Single (5) ☐
22	**Who is the head (leader) of your household?**					
	You (1) ☐	Partner (husband/wife) (2) ☐	Other (please specify) (3) ☐			
23	**Do you have children**	Yes (1) ☐	No (if no, proceed to q24) (2) ☐			
23a	**Do you have children living outside the home?**					
	Yes, with relatives (1) ☐	Yes, in school (2) ☐	Yes, in their marital home (3) ☐	Yes, other (please specify) (4) ☐	No (5) ☐	
24	**How many people in total are living in your home?** (please state any other people residing other than children)					

1.5 Employment

25	**What is your main source of livelihood?**							
	Farming (1) ☐	Formal work (2) ☐	Fishing (3) ☐	Artisan (4) ☐	Remittances (5) ☐	*Ganyu* (6) ☐	Business (specify) (7) ☐	Other (specify) (8) ☐
26	**Have you carried out any work (other than in your own home or land) in the last seven days?** (if yes, proceed to q26b)							
	(1) Yes, formal (paid) work (please state) ☐	(2) Yes, *ganyu* ☐	(3) Yes, other informal work (please state) ☐	(4) No (if no, please answer q26a) ☐				
26a	**If no, have you worked in the last 12 months?** (if yes, proceed to q26b)							
	(1) Yes, formal (paid) work (please state) ☐	(2) Yes, *ganyu* ☐	(3) Yes, other informal work (please state) ☐	(4) No (if no, please answer q27) ☐				
26b	**Do you generally carry out this activity throughout the year, or do you work seasonally or only once in a while?**							
	Throughout the year (1) ☐	Seasonal/Part of the year (2) ☐	Once in a while (3) ☐					
26c	**How are you usually paid for this work?**							
	In cash (1) ☐	In-kind (2) ☐	In cash and in-kind (3) ☐	Not paid (4) ☐				
27	**What is your level of income per month?** (in MKW)							

	Less than 1000 (1) ☐	1000-5000 (2) ☐	6000-10000 (3) ☐	11000-15000 (4) ☐	16000-20000 (5) ☐	20000+ (6) ☐
28	**Does anyone else in your household work** (other than in your own home or land)?		Yes (1) ☐		No (if no, proceed to q29) (2) ☐	
28a	**If yes, who?**					
28b	**If yes, what kind of work?**					
	Formal (paid) work (please state) (1) ☐		Ganyu (2) ☐	Other informal work (please state) (3) ☐		
28c	**How are they paid for this work?**					
	In cash (1) ☐	In-kind (2) ☐	In cash and in-kind (3) ☐	Not paid (4) ☐		

2. Agriculture

29	**What are the main crops you grow?** (please pick and rank the top three)			
	1.			
	2.			
	3.			
30	**Do you intercrop?**	Yes ☐	No ☐	
31	**Do you use fertiliser?**			
	Yes, always (1) ☐	Yes, occasionally (2) ☐	Rarely (3) ☐	No (if no, proceed to q32) (4) ☐
31a	**If yes do you buy fertiliser or use organic (compost) fertiliser?**		Bought (1) ☐	Organic (2) ☐
32	**Do you have access to irrigation?**	Yes (1) ☐	No (if no, proceed to q33) (2) ☐	
32a	**If yes, does this irrigation system always work?**			
	Yes, always (1) ☐	Yes, occasionally (2) ☐	Rarely (3) ☐	
33	**If yes, can you grow crops all year round?**	Yes (1) ☐	No (2) ☐	
34	**How would you rate your harvest crop yield this year?**			
	No crops yield (1) ☐	Less than average (2) ☐	Average (3) ☐	Better than average (4) ☐
34a	**Can you estimate your crop yield this year?**			
34	**How does this compare to last year?**			
	Worse (1) ☐	Much the same (2) ☐	Better (3) ☐	

3. Decision-making & social capital

35	**If there were a village-wide problem (such as flooding, drought, crop failure), how would this problem be dealt with?**					
	At household level (1) ☐	Between neighbours (2) ☐	By local gov. / municipal (3) ☐	By all community leaders (4) ☐	At village level (5) ☐	Other (please specify) (6) ☐
36a	**In the past year, how often have you joined together with village/neighbourhood to address a common issue (e.g. during food shortages, flooding, crop failure)?**					
	Never (1) ☐ (go to 36c)	Once (2) ☐	A couple of times (3) ☐	Frequently (4) ☐		
36b	**What this successful (did you see positive outcomes from this collective action)?** Yes (1) ☐ No (2) ☐					

36c	**In the past year, how often have members of this village gotten together and petitioned local government with their village development needs (e.g. to improve infrastructure, to resettle displaced communities, for community facilities)?**							
	Never (1) ☐ (go to 37)		Once (2) ☐		A couple of times (3) ☐		Frequently (4) ☐	
36d	**What this successful (did you see positive outcomes from this collective action)?** Yes (1) ☐ No (2) ☐							
37	**To what extent are the following people influential to the lives and livelihood of your community?** (Use ranking codes below)							
	Government (1)	Chiefs (2)	Politicians (3)	Family members (4)	NGO (5)	Neighbours (6)	Church Pastor (7)	Other (specify) (8)
	Not at all: 1 A bit: 2 Moderately: 3 Significantly: 4 Very much: 5							
37a	**Who, out of the above, has the most influence?**							
38	**Do you feel you are well thought of (respected) within the community?** Yes, highly (1) ☐ Yes, somewhat (2) ☐ No (3) ☐ Unsure/Don't know (4) ☐							
39	**Do you think you have an influence in decision-making at community level?**							
	Yes, a strong influence (1) ☐		Yes, somewhat of an influence (2) ☐		No influence (3) ☐		Unsure/Don't know (4) ☐	
40a	**Do community members ever come to you for advice?**							
	Yes, often (1) ☐		Yes, occasionally (2) ☐		Rarely (3) ☐		No, never(proceed to q41) (4) ☐	
40b	**If yes, what advice they come to you for?**							

4. Risks & Hazards

41	**Which of the following are challenges that affect you in your daily life?** Pick the main two					
	Access to social services (1) ☐	Drought (2) ☐	Floods (3) ☐	Hunger (4) ☐	Disease (human (5) ☐	Disease (crop) (6) ☐
	Poverty (7) ☐	Unreliable rains (8) ☐	Other (specify) (9) ☐			

41a	**From the two main challenges, please answer the following questions** (using ranking codes below)				
	Challenge (from top 2)	Rank level of risk	How often does this occur?	Have the challenge changed over time (Y/N)	Who in the home is most affected?
1.					
2.					

RANKING CODES	
Level of risk	**Frequency of occurrence**
High: 1 Medium: 2 Low:3	Regularly: 4 Occasionally: 5 Rarely: 6 Never: 7

5. Weather and Climate change

42	**Is the climate changing according to evidence in your area?** Yes (1) ☐ No (2) ☐ (proceed to q46) Don't know (3) ☐
42a	**If yes, what evidence is there that climate is changing in your community?**

	Change in onset of rains (1) ☐	Change in cessation of rains(2) ☐	Increase in disaster occurrence (3) ☐	Erratic rainfall (4) ☐	Change in temperature (5) ☐	Other (specify) *(6)* ☐
42b	**If yes, how do you feel about the changes you've experienced?** (tick up to 3)					
	Fearful (1) ☐	Excited (2) ☐	Sad (3) ☐	Happy (4) ☐	Nothing (5) ☐	
	Confused (6) ☐	Powerless (7) ☐	Angry (8) ☐	Hopeful (9) ☐	Other(specify) (10)	
43	**Which of the following do you consider as the main effect of climate variability and change experienced in your community?**					
	Flooding (1) ☐	Dry spells/drought (2) ☐	Stormy rains (3) ☐	Disease outbreak (4) ☐	Other (specify) (5) ☐	
44	**What is the major disaster that affects your area?**					
	Hailstorm (1) ☐	Dry spell/ drought (2) ☐	Strong winds (3) ☐	Floods (4) ☐	Earthquake (5) ☐	Disease outbreak (6)☐
45	**Who gave you information on climate change?**					
	NGO (1) ☐	Local organisations (2) ☐	Local government(3) ☐	News/radio (4) ☐	Community members (5) ☐	Other (specify) (6) ☐
46	**What do you think causes climate change?**					
	Industry (1) ☐	Burning fuels (2) ☐	Deforestation (3) ☐	Agriculture (4) ☐	Transportation (5) ☐	Other (specify) (6) ☐
47	**Is there a difference between climate change and weather events?** Yes (1) ☐ No (2) ☐ Don't know (3) ☐ (if no/don't know, go to q48)					
47a	**If yes, what is the difference?**					
48	**To what extent do you consider climate variability and change a threat to your lives and livelihoods?**					
	Not at all (1) ☐	A bit (2) ☐	Moderately(3) ☐	Significantly (4) ☐	Very much (5) ☐	
49	**Are some community members more affected than others?** (if no, go to q50) Yes (1) ☐ No (2) ☐ Don't know (3) ☐					
49a	**If yes, who do you think out of the following groups are more affected?**					

	Tick appropriate	How/Why are they more affected?	Why do you think this is?
	Men (1)		
	Women (2)		
	Boy (child) (3)		
	Girl (child) (4)		
	The elderly (5)		
	The ill/sick (6)		
	Minority groups (7)		

50	**In January 2015, your area was affected by floods. To what extent do you agree or disagree with the following statements?** (use ranking codes below)
1	The floods were as a result of climate variability and change

2	The floods were as a result of acts of God
3	The floods were as a result of some magicians
4	The floods were as a result of angry spirits
5	The floods were as a result of human activity
6	The floods were the worst witnessed in my life
50a	**This year, your area has been affected by drought. To what extent do you agree or disagree with the following statements?** (use ranking codes below)
1	The drought was as a result of climate variability and change
2	The drought was were as a result of acts of God
3	The drought was as a result of some magicians
4	The drought was as a result of angry spirits
5	The drought was as a result of human activity
6	The drought was the worst witnessed in my life

RANKING CODES

Do not agree: 1 Agree a bit: 2 Neither agree nor disagree: 3
Significantly agree: 4 Totally agree: 5

51	**To what extent are the two biggest challenges you face (answered in question 41a) sensitive (or related) to climate variability and change?** (use ranking)					
	Challenge (from top 2)					
1.						
2.						
Not at all		*A bit*	*Moderately*	*Significantly*	*Totally*	
1		*2*	*3*	*4*	*5*	

6. Adaptation

52	**What measures are you using to adapt to the effects of climate variability and change?** (Please choose the main)		
	Ganyu (1) ☐	Winter cropping (2) ☐	Small scale business (3) ☐
	Changing eating habits (4) ☐	Irrigation (5) ☐	Plant drought-tolerant crops (6) ☐
	Tree planting (7) ☐	Selling assets (8) ☐	Fishing (9) ☐
	Food aid (10) ☐	Temporary relocation (11) ☐	Other (specify) (12) ☐
53	**Are there any negative (maladaptive) ways that you are using to adapt to climate variability and change?** Yes (1) ☐ No (2) ☐ Don't know/unsure (3) ☐ *(if no/don't know, proceed to q54)*		
53a	**If yes, please specify the main two:**		
1			
2			
54	**Who initiates adaptive/maladaptive measure?**		
	You (1) ☐	A family member (specify) (2) ☐	NGO (3) ☐
	Local government (4) ☐	Local organisation (5) ☐	Other (specify) (6) ☐
55	**What are the major factors that are affecting adaptation?**		
	Poverty (1) ☐	Knowledge (2) ☐	Illness (3) ☐
	Age (4) ☐	Gender (5) ☐	Access to resources (6) ☐
	Other (specify) (7) ☐		
56	**Do you or anyone in your household receive finance or inputs to adapt**? Yes (1) ☐ No (2) ☐ Don't know/unsure (3) ☐ (if no/don't know, proceed to q57)		
56a	**If yes, who in the household is the main beneficiary of this?**		

	You (1) ☐	Partner (H/W) (2) ☐	Jointly (3) ☐	Other (specify) (4) ☐

57	**Does your household receive any other form of inputs or finance?** Please list below					
	Description/name of inputs/finance (1)	Name of donor (2)	Type of organisation (3)	Beneficiary in household (4)	Has this helped your family? (5) (Y/N)	Any comments (6)
58	**Do you need other inputs/facilities/financing/knowledge to help you cope better to changes in weather patterns?** Yes (1) ☐ No (2) ☐ Don't know/unsure **(3)** ☐					
58a	**If yes, can you state what the most important thing to help you cope is?**					

7. Resettlement

59	**Do you consider resettlement as:**				
	Adaptation ☐			Failure to adapt ☐	
60	**To what extent has the January 2015 floods affected your perception of resettlement as an adaptation measure?**				
	Not at all (1) ☐	*A bit (2)* ☐	*Moderately (3)* ☐	*Significantly (4)* ☐	*Very much (5)* ☐
61	**How important is resettlement as a measure to adapt to climate variability and change to you?**				
	Not at all (1) ☐	*A bit (2)* ☐	*Moderately (3)* ☐	*Significantly (4)* ☐	*Very much (5)* ☐
62	**At what level are decisions to resettle made?**				
	Individual (1) ☐	Household (2) ☐	Village (3) ☐	District (4) ☐	
63	**Have you resettled before?** Yes ☐ No ☐ *(if no, proceed to q64)*				
63a	**If yes, when?**				
64	**If you were asked to resettle by the following, whom would you listen to?** (use ranking codes below)				
	1. Government - national?			*2. Councillor*	
	3. Government - district?			*4. Family members*	
	5. Village head?			*6. NGO*	
	7. TA			*8. Neighbours*	
	9. Paramount Chief			*10. Church Pastor*	
	11. MP				
	Not at all (1)	*A bit (2)*	*Moderately (3)*	*Significantly (4)*	*Very much (5)*
65	**Which of the following reflects the positions of the following people in terms of resettlement from your experience with each one of them?**				
	1. Politicians				
	2. Chiefs				
	3. Government				
	4. Members of your village				
	Want us to resettle (1)	*Don't want us to resettle (2)*	*Have no position on resettlement (3)*	*I don't know their position (4)*	
66	**How important would you consider the following factors in the resettlement destination in your decision to resettle?**				
	1. Access to land				
	2. Availability of social services				
	3. Continuation of culture				
	4. Presence of same village head				
	5. Friendly attitude of host community				

	6. Presence of same neighbours				
	Not at all (1)	*A bit (2)*	*Moderately (3)*	*Significantly (4)*	*Very much(5)*
67	**If availability of land is one of the factors, to what extent do you agree with the following statements?**				
	1. *Landowners are demanding cash for land*				
	2. Land is not enough for all of us				
	3. Landowners demanding land in exchange for land				
	4. Land is available but too far away				
	5. Land is not available				
	6. Chiefs in host community are refusing to allocate us land				
	Do not agree at all (1)	*Agree a bit (2)*	*Neither agree nor disagree (3)*	*Significantly agree (4)*	*Totally agree (5)*
68	**How would you rate the influence of politicians in assisting in the current resettlement process?**				
	Not at all (1)	*A bit (2)*	*Moderately (3)*	*Significantly (4)*	*Very much(5)*
	RESPONSE APPRAISAL				
69	**How difficult is it to act upon advisories to resettle?**				
	Very difficult (1)	Difficult (2)	Slightly difficult (3)	Neither easy nor difficult (4)	Slightly easy (5)	Easy (6)	Very easy (7)
70	**Indicate how you feel about the following statements:**				
	Agree strongly (1)	*Agree (2)*	*Slightly agree (3)*	*Neither agree or disagree (4)*	*Slightly disagree (5)*	*Disagree(6)*	*Disagree strongly (7)*
	1. Most people who are important to me want me to resettle				
	2. My family expects me to resettle				
	3. People who are important to me have resettled				
	4. Generally, I want to do what important people to me want me to do				
	5. I have the capacity to resettle on my own				
	6. Resettlement will protect me and my family from future harm of climate variability and change impacts				
	7. When disasters occur, those that matter most to me and I will likely be affected				
	8. There is likelihood of having floods similar to the January 2015 one in the next five years				
71	**Are there any additional negative outcomes from the resettlement process?** Yes ☐ No ☐ (if no, proceed to q72)				
71a	**If yes, please state:**				
72	**Are you aware of any adaptation/resettlement policies in Malawi?** Yes ☐ No ☐				
72a	**If yes, are these policies effective?**				
	Strongly agree (1)	Agree (2)	Neutral (3)	Disagree (4)	Strongly disagree(5)
LOCUS OF CONTROL					
73	**Indicate how you feel about the following statements:**				
	Strongly Agree (1)	*Agree (2)*	*Disagree (3)*	*Strongly disagree (4)*	
	1. In my life, good luck is more important than hard work for success				
	2. When I make plans I am almost certain I can make them work				
	3. Every time I try to go ahead, something or somebody stops me				
	4. My plans hardly ever work out so planning makes me unhappy				
	5. I do not have enough control over the direction my life is taking.				
	6. Chance and luck are very important for what happens in my life				
	7. God controls my life so I go by His wishes				
74	**Which of the following do you see as a negative consequence of resettlement? Pick only 3 in order of consequence (*enumerator: number the choices as 1, 2 or 3, depending on order*)**				

	1. Landlessness ☐
	2. Joblessness ☐
	3. Homelessness ☐
	4. Marginalization ☐
	5. Increased morbidity ☐
	6. Food insecurity ☐
	7. Loss of access to common property resources ☐
	8. Social/community disarticulation ☐
75	**How likely are you to resettle if you are provided with land to construct your house only and no farming land?**

	Totally unlikely (1)	Very unlikely (2)	A little unlikely (3)	Neither unlikely nor likely (4)	A little likely (5)	Likely (6)	Totally likely (7)

Have you recently resettled as a result of climate variability or changes? Yes ☐ No ☐
If no, skip to questions 85-87. If yes, please continue.
Note: Questions 76--84 ask only to those that have resettled!!

76	**How did you resettle?**		
	(1) On my own ☐	(2) With other community members without external support ☐	(3) With other community members with external support ☐

77	**How far is your resettlement site from your previous village, in terms of villages in between?**			
	(1) Same village ☐	(2) Two villages away but same TA☐	(3) *More than two villages away but same TA*☐	(4) More than two villages away but different TA ☐
78	**How far is your resettlement site from your previous village, in terms of distance (in KM)?**			

79	**How would you rate the host community in terms of friendliness?**				
	(1) Not friendly at all	*(2) A bit friendly*	*(3) Moderately friendly*	*(4) Significantly friendly*	*(5) Totally friendly*

80	**Which of the following is correct in terms of the size of land you have resettled on as compared to your previous home? The size of land here is ……. than my previous one**		
	(1) Smaller	(2) Same size	(3) Bigger

81	**To what extent was your decision to resettle influenced by those that had already resettled before you?**						
	Not at all (1)	A tiny bit (2)	A bit (3)	Moderately (4)	Significantly (5)	A lot (6)	Very much (7)

82	**Are there any cultural practices that you used to practice but are not being practised in your new place?** Yes ☐ No ☐ *(if no, proceed to q83)*
82a	**If yes, please state:**
83	**Are there any cultural practices that you are practising now but were not being practised in your previous place?** Yes ☐ No ☐ *(if no, proceed to q84)*
83a	**If yes, please state:**
84	**How likely are you to return to your original home?**

	Totally unlikely (1)	Very unlikely (2)	A little unlikely (3)	Neither unlikely nor likely (4)	A little likely (5)	Likely (6)	Totally likely (7)

Note: Questions 85—87 ask only to those that have not resettled or have returned after resettling!!

85	**How likely are you to resettle?**						
	Totally unlikely (1)	Very unlikely (2)	A little unlikely (3)	Neither unlikely nor likely (4)	A little likely (5)	Likely (6)	Totally likely (7)
86	**What is the one major thing that has made you not to resettle/return? (**Please specify)						
87	**What would be the one thing that would make you resettle?**						
	Availability of land in resettlement site (1)	A major disaster occurring in my present place (2)	Nothing (3)	Other (4) (specify)			

The questionnaire is now over. Thank you for your participation. Are there any other comments you would like to make?

Annex 2: Focus group discussion guide

Consent Process
Obtain permission to record the whole process of conducting focus group. Read out the consent form and obtain verbal consent, which should be recorded. Ask any literate member within the group, or anyone literate from the community, to witness the process of obtaining consent and sign the consent form on behalf of participants.

Introduction:

1. Introduce myself and the note-taker (who we are, purpose and use of study).
2. Explain the process of conducting the focus group, including emphasis on learning from them, no right or wrong answers, and need for the participation of everyone.
3. Explain the logistics: time focus group will take, bathroom location, refreshments
4. Ask the group to suggest some ground rules, making sure that they include:
   - Participation by everyone
   - Confidentiality on information discussed
   - No side conversations
   - Turning off mobile phones if possible
5. Ask the group if there are any questions before getting started.
6. Ask each group member to introduce themselves (**record**: name, age, gender, marital status).

Questions:

1. I would like to start our discussions by talking about the common challenges you face in your village. If I ask you to mention the five major challenges, what would these be? What is the cause of each of these challenges?
   Probe: Note if any challenges mentioned are related to climate change, disasters, livelihoods, leadership. Ask them to rank these challenges.

2. What is your understanding of climate change? What about climate variability?
3. Is there any evidence of climate change or variability in your community? If yes, what are these?
   Probe: How is climate change affecting your community? How are any of the challenges you mentioned in question 1 sensitive to climate variability and change? What are the vulnerability factors?
   Note: some answers to these questions might already have been provided in question 2. If that is the case, develop on those responses and ask if there are any additional challenges/evidence associated with climate change). Ask them to rank the impacts. Ask them to rank climate change within the other challenges identified in Q1

4. How are you dealing with the impacts of climate change? Who else is assisting the community to adapt and in what ways?
   Probe: focus on adaptive capacity. How do they consider the effectiveness of these measures? Ask if there are any maladaptive practices being adopted. At what level are adaptation decisions/choices made? How are they made? Is there anyone who influences them? If yes, how? Are there any barriers to adaptation, if yes, what are they?
5. What is your experience with resettlement? What do you think about resettlement as a way of adapting to climate change?
   Note: if resettlement was already mentioned in Q3, then this question should be a development on that, i.e. start by stating: you said previously that resettlement is one of the ways used to adapt to climate change…
   Probe: Ask if they can rank the adaptation measures mentioned in Q3, where would they place resettlement. What are the factors they consider when deciding to resettle or not (pros and cons??

Note: the framing of this question will vary depending on the type of community (i.e. those resettled, those planning to resettle, those refusing to resettle and those that have returned. You may have to **probe**, for instance, for a community that has returned or refused to resettle, why they have done so)

6. I would like us to now talk about leadership and decision making in your village.
    a. Who are the kind of people you consider as leaders in your village? What roles do each play?
    Probe: should not be more than 5; if listed more than 5, ask them to pick the 5 key ones and rank them)
    b. Is there anyone who influences your choice to resettle or not? If yes, who and how?
    Probe - if not answered already: What role do chiefs, local and central government, NGOs and donors play in resettlement/adaptation decision making? What incentives/disincentives do they offer? Whom do you respect/listen to most?
    c. What role do you play in resettlement/adaptation choices/decision making?
    (**Probe**: check the extent to which collection action is utilised. At what level [individual, household, village, district, national] are resettlement decisions made?)
    d. Do you know of any adaptation/resettlement policies in Malawi used in your community?
    Probe: If no, why? If yes, which are these? How are you involved in their development and implementation? How effective are they?

That concludes our focus group. Thank you so much for you time and for sharing your thoughts and opinions with us. Is there anything that you think you missed to say and would like to talk about?

Materials and supplies for focus groups

- Consent forms (one copy for participants, one copy for the team)
- Focus Group Discussion Guide for Facilitator
- 1 recording device
- Batteries for recording device
- Permanent marker and flip chart papers
- Beans/maize seeds for ranking exercises
- Notebook for note-taking
- Refreshments

Annex 3: Consent form for research participants

PhD PROJECT TITLE: _____

Project Approval Reference: _____

I, the undersigned, confirm that (please tick box as appropriate):

1.	I agree to take part in the above University of Sussex research project.	☐
2.	I have had the research project explained to me and I have read and understood the Information Sheet, which I may keep for records.	☐
3.	I understand that agreeing to take part means that I am willing to (choose those that apply): - Be interviewed by the researcher	☐
	- Participate in focus group discussions	☐
	- Be observed by the researcher in my public life	☐
	- Make myself available for a further interview should that be required	☐
	- Allow the interview to be photographed and audio taped	☐
4.	I have been given the opportunity to ask questions about the project and my participation.	☐
5.	I understand that my participation is voluntary, that I can choose not to participate in part or all of the project, and that I can withdraw at any stage of the project without being penalised or disadvantaged in any way.	☐
6.	I consent to the processing of my personal information for the purposes of this research study. I understand that such information will be treated as strictly confidential and handled in accordance with the Data Protection Act 1998.	☐
7.	I understand that confidentiality cannot be guaranteed for information which I might disclose in the focus group/s / group interviews	
8.	Select only **one** of the following: • I understand that I have given my approval for my name, the name of my district/community, and/or the name of my workplace to be used in the final report and products of the research project.	☐
	• I understand that any information I provide is confidential and that no information that I disclose will lead to the identification of any individual in the reports on the project, either by the researcher or by any other party.	☐

Name: _____

Signature _____

Date: _____

Independent witness to participant's voluntary and informed consent (only in cases where participant cannot read and/or write).
I believe that _____ (name) understands the above project and gives his/her consent voluntarily.

Name: _____

Signature _____

Address: _____

Date: _____

Annex 4: Participant information sheet

Study title:

Invitation

You are being invited to take part in a research study. Before you decide whether or not to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully. You are free to ask me any questions if you are not clear about anything in the information sheet. Take time to decide whether or not you wish to take part.

Purpose of the study

This study is being conducted as part of a doctorate research project. The purpose of the study is to understand the factors behind variations in how households and communities adapt to climate change, with a focus on resettlement. The study intends to find out why people who are exposed to similar climate change and variability risks respond differently to resettlement, where some resettle while others refuse to do.

The research seeks to answer the following two questions:

i. Why are there variations in adopting resettlement as an adaptation behaviour among households with similar levels of vulnerability to climate variability and change?
ii. What factors lead to different success rates of planned resettlement across similar highly climate vulnerable areas?

Why have I been invited to participate?

You were randomly chosen from a sample of other people from your village. You were selected because you are located in a village that is involved in resettlement (or you were randomly chosen from different agencies because your organisation/department/ministry is involved in the resettlement programme). In addition to yourself, 20 other people from your village will also participate in the research. The research is also being conducted in 19 other villages in Nsanje and Chikwawa where 419 other individuals are participating. (or, for agencies: the research is being conducted in Lilongwe, Chikwawa and Nsanje where 44 other officers from NGOs, government and UN agencies are participating at district and national level. In addition, a total of 420 people in 20 villages in Nsanje and Chikwawa will also participate in the research)

Do I have to take part?
It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to read and sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason.

What will happen to me if I take part?

The study will collect data through focus group discussions (depending on type of method: or semi-structured interviews, or observations, or questionnaires). You will be asked to discuss with other people from your village a set of issues relating to climate change and variability, adaptation, resettlement, decision-making, risk perception and leadership. (or, for interviews: You will be asked questions relating to climate change and variability, adaptation, resettlement, decision-making, risk perception and leadership). The discussions/interview will take no more than 60 minutes to complete.

What are the possible disadvantages and risks of taking part? (where appropriate)

Your participation in this research does not pose any advantages or risks to you and there are no costs that you will incur for participating. However, you will have to dedicate up to 60 minutes of your time to the research.

What are the possible benefits of taking part?

Although there may not be any immediate direct benefit to you, the findings of the research will help in better understanding why adaptation in general and resettlement in particular fails or succeeds. The recommendations from the research may also be taken up by government and other stakeholders to improve planning and implementation of climate change adaptation programmes.

Will my information in this study be kept confidential?

Information collected during the study will be kept strictly confidential (subject to legal limitations). In the event that you provided us with your name, we will not store your name with any of the data so that no one can associate any of the information directly with you. We will use codes to represent your name and these codes will only be known to the researcher. No names will be used in the research products and pseudonyms will be used instead. We will only use your identification details if you have given informed written consent to do so.

What should I do if I want to take part?

For you to take part in this study, you have to come to …….. (place), on ……. (date), by …… (time). (or: For you to take part in this research, you have to be interviewed by the researcher at …….. (place), on ……. (date), at …… (time).

What will happen to the results of the research study?

Results of this research will be used in a doctorate dissertation. In addition, the results will also be used in publications in peer-reviewed articles. The nature of the research may also mean that some of the findings could be published in the local or international media or humanitarian publications or presented at related workshops and conferences. However, your identity will not be revealed in any publications or dissemination, unless you have given prior informed and explicit consent to do so. If you wish to obtain a copy of any publication from this research, you may contact me on the contact details I have provided.

Who is organising and funding the research?

I am conducting this research as a doctorate student in the School of Global Studies, Geography Department at the University of Sussex in the United Kingdom. The research is being funded through a scholarship from the University of Sussex's Chancellor International Research Scholarship programme.

Who has approved this study?

The study has been approved by the Social Sciences & Arts Cross-Schools Research Ethics Committee (C-REC). I have also obtained permission from the District Commissioner and the village headman to conduct this research in your village.

Contact for Further Information

If you need to contact me at any time in relation to the study, you may use the following details:

Name: Stern Mwakalimi Kita
E-mail:
Mobile phone number:

If you would like to obtain further information about the research, or if you have any concern regarding my conduct during the research, you can contact my supervisor, whose details are as follows:

Name: Professor Clionadh Raleigh
E-mail:
Phone:

University of Sussex has insurance in place to cover its legal liabilities in respect of this study.

I would like to thank you for taking your time to read the information sheet.

Date