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Being Pushed And Pulled: Understanding How Climate Change And Multilateral Investment Interact To Influence Rural-to-rural Migration In Sub-Saharan Africa

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Abstract

In this dissertation, I use a mixed methodological (qualitative and quantitative) approach to examine how climate change and multilateral investment (MLI) simultaneously influence the experiences of migrants, non-migrants and return-migrants in rural sending and receiving communities within sub-Saharan Africa (SSA), using data collected from three regions of Ghana. I explore the gendered, historical, geopolitical, environmental, economic and sociocultural factors shaping the experiences of these groups, and the opportunities and constraints that they face in their communities of origin and destination. My study findings are based on two years of data collection (2019 - 2021), involving in-depth interviews (IDIs), focus group discussions (FGDs) and contextual observations. Study participants include female and male non-migrants and return-migrants in the migration origin (Upper West Region-UWR), migrants in middle-belt destination areas (Bono Region-BR), and key informants working with governmental and non-governmental organisations (NGOs) – on gender/women's issues, climate change/environment, MLIs, migration, rural development, among others – in the migration origin and destination areas, as well as in Ghana's national capital (Greater Accra Region-GAR). A total of 766 participants were recruited for this study. These include 30 and 12 participants for migrant and key informant IDIs, respectively, 55 participants for FGDs, and 669 participants for quantitative surveys. I use inductive theme-identification and explanation-building techniques to analyse my qualitative data, and descriptive and chi-square inferential statistical analyses for my quantitative data. My analyses and study findings are situated within feminist political ecology, complemented by insights from other theoretical/conceptual frameworks such as feminist postcolonial theories, feminist political economy, (livelihood) vulnerability, and intersectionality. Study findings are segregated by the migration context (i.e., origin and destination), with the findings from each context comprising a chapter of this dissertation. The findings based on the migration origin are presented in chapter four and those of the destination in chapter five. Key informant perspectives are interspersed with those of migrant groups in both chapters.

In the UWR, I found an increasing outmigration of people to middle-belt destination areas of Ghana, mostly resulting from climate change effects such as reduced/erratic rains and deteriorating soil fertility, combined with the colonial and neocolonial legacies of extreme poverty and deprivation, lack of economic opportunities and livelihoods, food insecurity, and

poor educational opportunities in UWR. These migration dynamics tend to be gendered, and are further influenced by factors such as age, (dis)ability status, health status, sociocultural norms, and family/household type and size. Although many migrations out of the UWR tend to be permanent, semi-permanent or cyclical/temporary, a few participants report migrating just once in their lifetime. For non-migrants and return-migrants in the UWR, gendered and sociocultural norms regarding family and communal continuity, care for older adults and gendered notions of the impropriety of migration are cited as the main reasons why they never migrated, or migrated but returned to UWR. A few participants mention unmet environmental and economic expectations as the reasons why they returned. Participants in the migration origin add that remaining in or returning to the UWR did not result in significant improvement to their lives, and in some cases, worsened their agricultural, economic and health outcomes. Further, the majority of non-migrants and return-migrants report having no knowledge of MLI (activities) in the migration origin, and consequently, few people in the UWR report working in/with MLIs. Participants in the migration origin also mention climate change effects (such as poor and unpredictable rainfall patterns, degraded lands, heat waves, and water and food scarcity), as well as economic deprivation, poor infrastructural development and lack of social amenities as the main challenges facing them in the UWR. Several participants report that these conditions are causing or exacerbating physical and mental health ailments and distress for them. These return-migrant and non-migrant perspectives are supported by key informants, who report that despite their best intentions to help improve the lives of people in the migration origin, policy neglect of the UWR and substandard working conditions – mostly resulting from poor political/governmental will and resulting lack of resources needed to work effectively – are impeding their work and institutional/organisational goals.

In the middle-belt destination areas, mainly the BR of Ghana, my findings reveal substantial in-migrations from the UWR to these areas, as evidenced by the national census surveys and predominant UWR migrant enclaves within the region. Migrants in the middle belt cite climate change effects such as poor rainfall and declining soil fertility, as well as the same economic challenges facing return-migrants and non-migrants in the UWR, as their main reasons for relocating to the middle belt. In addition, migrants report land unavailability and the imperative to send remittances to families in UWR as added motivations for relocating to the middle belt. Similar to their counterparts in the UWR, very few migrants report working

in/with MLIs in the middle belt. In fact, some migrants report relocating from their original settlements due to the activities of some MLIs. Although migrants in middle-belt destination areas report relatively better rainfall, land access and soil fertility, food and water security, and educational, economic and livelihood options, as compared with return-migrants and non-migrants in UWR, they also indicate that they experience isolation, discrimination, precarity and unmet expectations (from themselves and family/community back in UWR) as trade-offs for enjoying some of these benefits. Consequently, migrants in the middle belt report high levels of physical and mental distress, similar to those in the migration origin.

In both origin and destination areas, these vulnerabilities are more pronounced for women, older adults (particularly the elderly), people with disabilities, those living with chronic health ailments, and those who have even more limited access to resources. Based on these findings, I suggest some macro-level policy recommendations such as improving infrastructural development of rural migrant sending and receiving communities, providing better economic/livelihood options for migrant communities, and instituting urgent climate change mitigation strategies to address the rapidly deteriorating climatic conditions in these regions, particularly in the migration origin (UWR). I also propose better monitoring and evaluation of MLI, NGO and governmental initiatives in rural sending and receiving communities of Ghana, more equitable, targeted and stringent conditions associated with domestic/foreign investment in the country, increased responsibility, accountability and political will of Ghanaian governments, and better gender equality, climate change, MLI and migration programming to meet the informational, environmental, economic, health and other specific needs of people living in vulnerable conditions in the UWR and middle belt. Importantly, as my study findings show, it is crucial to involve people living in rural migrant sending and receiving communities in the design and implementation of any interventions and policies at both the local and national levels, to avoid implementing interventions and policies that are disconnected from the everyday lived experiences and needs of the individuals and groups most disadvantaged by ongoing climate change, MLI, migration and development activities. I conclude my dissertation with some directions for future research.

Keywords: Gender; Climate Change; Multilaterals; Foreign Investment; Rural Migration; Global Health; Development; Mixed Methods; Policy; Intersectionality; Equity; Upper West Region; Bono and Middle-Belt Regions; Ghana; Sub-Saharan Africa; Global South.

Summary for Lay Audience

In this doctoral dissertation, I explore how climate change and foreign and domestic investment interact to influence people's decisions to migrate from rural areas in northern Ghana (the migration origin) to rural areas in southern Ghana (the migration destination), and the gendered and intersectional differences in these experiences. Using various research methods, including by interviewing people of diverse backgrounds, I identify who migrates, where they migrate to, and what work they do in the migration destination. I also try to understand why some people never migrate, and why some migrate but return to the migration origin. I chose to study migrant communities in sub-Saharan Africa because my own parents migrated from northern to southern Ghana to provide me with better educational, economic and health opportunities. I focus on rural communities and rural-to-rural migration because four out of five people living in poverty globally are rural dwellers. I expect my research to inform economic, social and health policies that can help to improve the lives of people living in rural areas in Ghana and sub-Saharan Africa.

Dedication

This dissertation is dedicated to my mom, Anastasia Tinper (A.K.A Maru). You are my fire and drive for getting this done. It is also dedicated to the loving memory of my beloved friend, Susan Sagde Kyorku. From a young age, you made me appreciate the importance of thinking outside the box. I know you would have been celebrating a similar or greater feat if you were still with us. Rest well.

Acknowledgements

First, I would like to say a very big thank you to my primary supervisor, Dr Bipasha Baruah. Your wealth of knowledge and expertise keeps me in awe. I appreciate your invaluable role in seeing my doctoral dissertation to completion. Importantly, I want to thank you for your amazing support in my professional and personal life. I started the PhD programme reading about the horrors of graduate school and the significant difference that a supportive supervisor plays in the successful completion of one's PhD. Thanks to having you as my advisor, I have been spared many of the typical grad school struggles. Your role in supporting me through competitive scholarships relieved me of the financial pressures of grad school, and your constant encouragement and reaffirmations helped to greatly minimise my experiences of imposter syndrome. I am most grateful for the time, effort, and hard work that you have invested in my career and personal development. You continuously challenge me to push myself academically and professionally, and complement this with invaluable life advice. You also opened your home to me, and your family welcomed me as one of their own. To Paul, Ahaan, and Mojo, I want to say a big thank you to you all for always being there. Our movie nights and dinners are some of the highlights of my grad school experience. Bipasha, I'm forever grateful to you and your family for making my grad school experience a memorable one.

I would also like to thank my supervisor, Dr Isaac Luginaah, for your feedback at every stage of this dissertation and my PhD journey. I want to take this opportunity to express my heartfelt gratitude to you for providing me with a platform that has forever changed the course of my life. Granting me the opportunity to do my master's with you – and taking the time and effort to help me address the obstacles that stood in the way of this life-changing experience – has opened me up to so many possibilities. I also appreciate you opening your home to me. I am grateful to Auntie Maggie, Nasung, and Numa for making me feel part of the family. Thanks to the love and care shown by your family, I have always had a home away from home.

To my third supervisor, Dr Erica Lawson, words are not enough to express my gratitude for the amazing professional and personal support that you have shown me throughout my grad school journey. I have always admired you from afar. And when I finally had the opportunity to work with you, my admiration for you deepened. I have learnt so much from

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CHAPTER ONE (1)

RATIONALE FOR STUDY AND OVERVIEW

1.1 Introduction

Most people are migrating down south but those of us who are tired and no longer strong are those who are still here. There is a lot of suffering here; it does not rain. When it rains and you plant your crops and they grow to a certain point, then the rains destroy them. Hunger and poverty are prevalent here, I can't lie… That [hypertension] is what I am seated here with. Because I am struggling so much and not making headway, that is what gives you hypertension. I wake up and sit down, I don't know what to do, so I keep thinking. I don't have strength or anything, and I don't also have money to buy oil. You will be thinking and as you are thinking, you are making your BP [blood pressure] rise… Having a person with disability in the household adds an extra burden of responsibility. For instance, as he is seated [points to 90-year-old husband], he cannot see. I need to figure out how to get food for him to eat. His dirty clothes are way more than this [points to pile of laundry on the floor], I have to figure out how to get soap to wash his clothes. But I don't have, and I also don't have anyone to help me too. What do I do then? … I have not heard about any [Multilateral Investments-MLIs] … If you are home and suffering, and they say they want to come and start something [MLI], you will also have to sit and reflect to see whether whatever they intend to do will be beneficial to you or it wouldn't. If you reflect and see that it will be good, you will say okay I also want it but if you realise that when they open it, it will not be beneficial or it will end up destroying the town, you wouldn't be happy. But if they come and open and our children are getting jobs to help themselves, especially in their education, then we will be happy (Beh-faame, 80yrs, Dongkuolu, UWR).

This dissertation examines the ways in which climate change and multilateral investment (MLI) interact simultaneously to influence the lives of people living in rural migrant sending and receiving societies of sub-Saharan Africa (SSA), using data collected from three regions of Ghana. Climate change as used in this dissertation encompasses the effects of increasing greenhouse gas (GHG) emissions on the planet (e.g., global warming), the

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concomitant changes in long term ecological and weather conditions (e.g., degraded lands, poor soil fertility, erratic and unpredictable rainfall patterns, heat waves, etc.), the historical, geographical, sociopolitical, economic and power dynamics influencing these processes, and the ways in which the combination of all of these factors are distinctly felt in localised regions and at the individual level. MLI is used as an umbrella term to refer to development initiatives and investments in the areas of agriculture, mining, manufacturing, among others, undertaken in Ghana – either independently or in partnership with the Ghanaian government and/or non-governmental organisations (NGOs), as well as intergovernmental organisations (IGOs) working in Ghana. Examples of such intergovernmental interventions include the United Nations Food and Agriculture Organisation's (UN-FAO) Country Programming Framework 2018-2022 (CPF) in Ghana, that outlines three priority areas – environment and sustainable natural resource management, food and nutrition security, and rural development and resilient livelihoods – for collaboration between the FAO and the Ghanaian Government (FAO, 2021). MLIs also include foreign investment by multinational corporations in the country (e.g., the Ahafo Mines) (Newmont Corporation, 2021), as well as large scale local programmes or investments by Ghanaian nationals (see Cowtribe, 2021) in the aforementioned areas. In this regard, I use the terms MLI and domestic and foreign investment (DaFI) interchangeably. Finally, migration refers to the movement of people from their place of usual residence, either within a country or across an international border, temporarily or permanently, and for a variety of reasons (IOM, 2018). In this dissertation, I mainly focus on domestic/internal/within-country migrations.

I use both first- and third-person narrative throughout the dissertation, as I believe that this best captures my positionality as both an insider and outsider to this research, and also aids in the flow of my writing. Due to the constantly evolving nature of my research topic, I rely significantly on grey literature such as media articles, news reports, op-eds, working papers, technical reports, among others, to supplement the peer-reviewed literature around my topic. This notwithstanding, my study may still be missing some latest updates or current events due to the expansive and complex scope, and rapidly evolving developments around issues of climate change, MLIs and migration. In this chapter, I outline the rationale for my study, after which I provide a brief overview of climate change, MLIs and rural migration in Ghana. Following this, I discuss the importance and significance of my study, outline the research questions and objectives that guide my study, and summarise the methodological

and theoretical backgrounds and contributions of my research. I conclude with a synopsis of the organisation of my dissertation.

The quotation that opens this chapter and the dissertation is taken from my in-depth interview (IDI) with Beh-faame[1], an 80-year-old woman in Nandom-Dongkuolu, in the Upper West Region (UWR) of Ghana. Beh-faame had previously migrated with her partner to Tarkwa in the Western Region of Ghana to find work. After five years of living in Tarkwa, Beh-faame decided to return home to UWR to raise her family. She has nine children in total – six men and three women. Her husband, Saakom, remained in Tarkwa for several years after Beh-faame returned to UWR, and only followed suit when his older brother in the village (Dongkuolu) died, and he had to move back to UWR to assume responsibility of the household. All of the nine children that Beh-faame and Saakom gave birth to have migrated to southern parts of the country. Of these nine children, the first son got terminally ill in the Brong-Ahafo Region (BAR)[2], and returned home to the UWR where he passed away. The second son has been missing for over 20 years now; no family member has seen or heard from him since he migrated to southern Ghana. At the time of my interview with Beh-faame, the fourth son had returned to UWR from the Bono Region (BR) to farm for his parents because they were both too old and frail to farm, but he returned to the BR once he was done farming. Beh-faame and her husband, who had developed blindness, lived alone in the village until he passed away in August 2021. She now lives alone in Dongkuolu and says she hardly hears from her other children in southern Ghana[3].

Beh-faame's experiences as captured in the quotation highlight the multifaceted and interconnected nature of climate change, MLIs and rural migration in Ghana, as well as the gendered and intersectional experiences of the marginalisation faced by people in rural migration contexts regarding these contemporary crises. For instance, Beh-faame is experiencing the severe weather changes and uncertainties brought on by global ***climate change*** ("There is a lot of suffering here; it does not rain. When it rains and you plant your crops and they grow to a certain point, then the rains destroy them"). In addition to these

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[1] All names have been replaced with pseudonyms to protect the identities of study participants.
[2] The Brong-Ahafo Region (BAR) was re-demarcated into three regions as of December 2018. The new regions are the Bono, Bono East and Ahafo Regions.
[3] Both Beh-faame and her husband were interviewed for my study. In mid-August 2021, I received news that Beh-faame's husband had passed on. In late October 2021, I was again informed that Beh-faame is critically ill and hospitalised.

poor and changing environmental conditions, the endemic poverty and social marginalisation of the UWR – which I discuss in detail in the study context section of chapter two – makes it an unattractive destination for foreign investors, and consequently affects the region's ability to benefit from **MLIs** ("I have not heard about any MLIs"). This extreme deprivation brought on by climate change and poor economic opportunities is a major reason for the cyclical and permanent *out***migration** patterns in UWR, particularly among the younger generations ("Most people are migrating down south", and as evidenced by Beh-faame's son who returns to farm and the children who migrated and never returned). In her younger years, Beh-faame engaged in cyclical/temporary migration as well, but now her **age** makes it difficult for her to migrate for work ("Most people are migrating down south but those of us who are tired and no longer strong are those who are still here"). However, returning to or remaining in the migration origin (UWR) is having negative **socioeconomic** ("Hunger and poverty are prevalent here, I can't lie… I don't have strength or anything, and I don't also have money to buy oil… I have to figure out how to get soap") effects on Beh-faame. Being in the UWR is also having poor **physical health** ("That [hypertension] is what I am seated here with. Because I am struggling so much and not making headway, that is what gives you hypertension…") and **mental health** ("You will be thinking and as you are thinking, you are making your BP [blood pressure] rise") effects on her.

These negative experiences and effects are further influenced by Beh-faame's **gender** and the associated gender/cultural norms and expectations of being a woman in UWR ("I don't have strength or anything, and I don't also have money to buy oil… His dirty clothes are way more than this [points to pile of laundry on the floor], I have to figure out how to get soap to wash his clothes). Her experiences are also influenced by the fact that she lives with a person with **disability** ("as he is seated [points to 90-year-old husband], he cannot see. I need to figure out how to get food for him to eat"). Beh-faame is helpless in her **individual/micro-level** struggles ("But I don't have, and I also don't have anyone to help me too. What do I do then?"). She recognises that some assistance could come from the **structural/macro level**, but she is cautious in assuming that any or every help that comes will necessarily have good outcomes for her, her children and the community ("If you are home and suffering, and they say they want to come and start something [MLI operation], you will also have to sit and reflect to see whether whatever they intend to do will be beneficial to you. If you reflect and see that it will be good, you will say okay I also want it. But if you realise

that when they open it, it will not be beneficial or it will end up destroying the town, you wouldn't be happy. But if they come and open and our children are getting jobs to help themselves especially in their education, then we will be happy"). Beh-faame's experiences are both similar to and distinct from those of other non-migrants, return-migrants and migrants in rural communities of the UWR and middle belt[4] of Ghana.

Meanwhile, on 14th June 2021, the independent international news organisation, Devex, carried the headline, "G-7 summit panned as 'missed opportunity' on COVID-19 and climate" (Worley, 2021). In this piece, the 46th G-7 summit held in the United Kingdom from 11th to 13th June 2021 was heavily criticised as, "a historic missed opportunity" for its failure to meet COVID-19 vaccine priorities and climate change finance agreements, as well as the vagueness concerning how some of the grand rhetorical pledges made at the meeting would be achieved. Regarding climate change, except for the 5-year, 5.63 billion Canadian dollars (4.4 billion USD) climate finance pledge made by Canada with associated support to end coal mining – that was considered a relative success – the rest of the proceedings were considered woefully disappointing by the global development community, particularly stakeholders and institutions working in the area of climate change. Stakeholders affiliated with NGOs, and a community of experts in climate change and global development, chastised high-income countries, namely, the United States (US), the United Kingdom (UK), Germany, France, Italy, Japan and Canada for their substandard performance and commitments to addressing global climate change. The spokesperson for the 'Crack the Crises Campaign', an organised coalition of NGOs in the UK, was quoted as saying, "… This is an historic missed opportunity that leaves people everywhere dangerously exposed to these crises… The whole world needed this to be the moment when leaders finally agreed to get to grips … and kickstart a global recovery that protects both planet and people. Instead, with Boris Johnson happy to host the summit but unwilling to lead by example, we were left without the financing, urgency and action we needed and that will cost lives" (Worley, 2021). Discussions and outcomes of policies around climate change, climate financing and migration cannot be examined without a consideration of the overarching role of multilateralism in these processes. Thus, the disappointing outcomes of the G-7 summit led some researchers to question whether multilateralism can get the world out of climate change and associated crises (Marina Ortega, 2021).

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[4] In this dissertation, I use Bono Region and middle belt interchangeably. I however believe 'middle belt' best captures the geographical and contextual migration dynamics discussed in my study.

A few weeks later, on 9th August 2021, a Nature report of the latest assessment by the United Nation's Intergovernmental Panel on Climate Change (UN – IPCC) revealed that the earth is the hottest it has ever been in 125,000 years (Tollefson, 2021). In this report, three major points were emphasised. First, it was established with great certainty (compared to earlier reports) that the causes of global climate change are anthropogenic (i.e., human induced). Thus, what began as a hypothesis that humans are causing climate change, is now an established fact. Second, the certainty of recent work around climate change, one of which is the ability to narrow climate sensitivity (a key metric for measuring the extent of long term warming to be expected from the earth resulting from the doubling of atmospheric carbon dioxide levels as compared to the levels recorded in the pre-industrial era) led scientists to conclude that the probable warming range to be expected is 2.5 – 4 degrees Celsius, as compared with the previous broader estimates of 1.5 – 4.5 degrees Celsius contained in the last climate assessment report published in 2013. These new estimates imply that the earth is warming at a more rapid rate than previously assumed, leading scientists to conclude that in the moderate emissions scenario where little change happens regarding global industrial and consumption patterns, average global changes in warming will rise by 2.1 – 3.5 degrees Celsius instead of the 1.5 – 2 degrees Celsius initially projected. The IPCC report adds that, even in the scenario where governments significantly reduce their GHG emissions, global temperatures are still likely to exceed the 1.5 degrees Celsius threshold initially estimated, before coming back down. Third and finally, the report emphasised that the extreme weather effects of climate change are already being felt, and thus warns that the catastrophic effects predicted will happen sooner (about 10 years earlier) than was projected three years ago (France24, 2021; Tollefson, 2021). The report reiterates that the Mediterranean region and southwest Africa in particular are experiencing widespread effects; leading the UN Secretary General, António Guterres, to refer to the findings as, "a code red for humanity" (Dennis & Kaplan, 2021).

Xuebin Zhang, a lead author on the IPCC report notes that, the continued rise in temperatures will cause more extreme weather events, and severe temperature events that occurred once every 50 years in previous centuries will likely occur every 3–4 years at a 2-degree Celsius increase above pre-industrial temperatures. Zhang also warns that more compound events, such as heatwaves and long-term droughts occurring simultaneously, should be expected. In Zhang's words, "We are not going to be hit just by one thing, we are

going to be hit by multiple things at the same time"(Tollefson, 2021). With these dooming findings by the IPCC, there was great anticipation within the global development community about how this report would influence the proceedings of the 26th Conference of Parties (COP26) summit held in Glasgow from 31st October to 13th November, 2021.

Despite these projections and warnings by the IPCC, COP26 was evidence that meeting the Paris Climate Accord of 2015 – aimed at drastically reducing global GHG emissions in order to maintain or reduce global warming to 1.5 degrees Celsius above pre-industrial era temperatures by the close of this century – remains far-fetched (Dalton, 2021). This is illustrated by the reluctance of world leaders and policymakers of high, middle and low-income countries to institute drastic measures such as eliminating fossil fuels and cutting down on the industrial and consumption processes currently contributing to these emissions and climate change. It is also evidenced by the inability of most high-income countries and members of the Organisation for Economic Co-operation and Development (OECD) to meet prior climate finance pledges, and the political position of low-and-middle-income countries that their industrial development cannot be stagnated to meet climate recovery goals – particularly in the absence of agreed upon climate finance from high-income countries – given that low-income countries have contributed the least to the current climatic conditions. Thus, Beh-faame's future, as well as that of her family and community members, is being decided at meetings such as COP26 – by those who remain largely sheltered from the devastating effects of global climate change – and with subpar results so far.

However, it is important to note that the current distress resulting from climate change, and the associated economic deprivation and loss of family/communal support to outmigration as reported by Beh-faame, are happening under a 1.27 degrees Celsius global temperature (Rohde, 2021). Thus, Beh-faame and her community will likely experience more catastrophic consequences of climate change at a 1.5 degrees Celsius temperature (that world leaders are struggling to meet or agree upon) with dire implications for their survival. As I will show in this dissertation, climate change, migration and MLI are all issues of equity. It is established that the poorest people, communities, countries and regions have contributed the least to GHG emissions, yet they suffer a disproportionate burden of global climate change effects (Gaard, 2015). Furthermore, the people and communities in rural areas of the Global South – as well as in resource-poor communities of the Global North – that are the most vulnerable to climate change effects, remain marginalised from

conversations and decisions regarding their livelihoods, wellbeing and survival. With most of these vulnerable groups relying on migration and alternative forms of employment as a coping and survival strategy, it is important to examine the opportunities and constraints faced by these groups regarding climate change, MLIs and migration. Although growing MLIs in Ghana and SSA could serve as mechanisms for promoting environmentally sustainable development and (re)distributing resources more equitably to alleviate poverty and suffering among people and communities experiencing deprivation, this may not always be so, as in some cases, MLIs may in fact exacerbate suffering. It is therefore important to examine how climate change and MLIs are influencing the lives of rural migrant sending and receiving communities of Ghana and SSA more broadly, in order to find ways of improving the lives of these climate affected and mobile groups.

My research findings are useful for theory, policy and practice at individual, local and international levels. Human migrations remain a constant, MLIs and DaFI continue to grow, and it is ascertained that even though different individuals, countries and regions around the world will experience climate change effects differently, ultimately, these devastating effects will escape no one – as evidenced by the wildfires, cyclones, tornadoes, heatwaves and flooding being witnessed in high-income settings such as Canada, the US and Australia (Dennis & Kaplan, 2021; Tollefson, 2021). Thus, as John Holdren aptly put it 14 years ago, humanity basically has three choices regarding climate change: "mitigation, adaptation and suffering. We're going to do some of each. The question is what the mix is going to be. The more mitigation we do, the less adaptation will be required and the less suffering there will be" (Kanter & Revkin, 2007). It is my hope that by highlighting the limited adaptation (migration) options of mobile and rural populations in SSA, and the extreme suffering that these communities are already facing, my dissertation will contribute towards effecting immediate and urgent action regarding mitigation and equitable solutions to climate change.

1.2 Background: Climate Change, Multilateral Investment and Rural Migration in Ghana

This dissertation builds on my master's research (Baada, 2017), which examined the livelihood and caregiving challenges that migrant women farmers from the UWR face in their destinations, the rural areas of the BAR of Ghana. My master's study findings revealed that migrant women reap limited economic, health and social benefits from rural-rural migration due to environmental, infrastructural, social, economic and cultural barriers which inhibit

their effective utilisation of agricultural and health resources in the migration destination. Irrespective of this, most migrant women preferred to remain in the BAR as it still had relatively better environmental conditions compared to the migration origin where environmental degradation peaked about four decades ago (in the 1970s), and keeps deteriorating. In this dissertation, I build upon our understandings of the experiences of migrants in rural middle-belt destination areas (the BR) of Ghana, as well as the experiences and decision-making processes of non-migrants and return-migrants in the UWR. I do so by examining the dual effects of climate change and MLIs on migration and rural livelihoods in Ghana. This research is timely and crucial given the increasing vulnerability of rural dwellers and agrarian (rural farmers) migrants – particularly women – in a rapidly evolving environmental, economic and geopolitical context.

Currently, environmental impacts of global climate change and foreign investment remain major factors influencing migrations globally (Afifi et al., 2016; Baada, Baruah, & Luginaah, 2020; Castles, de Haas, & Miller, 2013). As climatic conditions worsen, populations dependent on environmental resources for their livelihood needs are expected to bear the brunt of these climatic stressors. SSA has been identified as one of the regions that will shoulder a disproportionate burden of climate change effects. This is because many people in the region are subsistence farmers and up to 90% of SSA's population depend on rain-fed agriculture for staples and employment (Cooper et al., 2008; Fischer, Shah, Tubiello, & Van Velhuizen, 2005). Consequently, a gradual reduction in the amount and duration of rainfall in the region is leading to lower agricultural productivity, loss of employment and incomes, and high levels of food insecurity. To cope with these negative consequences, many rural farmers resort to outmigration from their communities of origin (Warner & Afifi, 2014).

In Ghana, deteriorating environmental conditions in the northern sector have compelled inhabitants – mostly smallholder farmers – to seek better agricultural and other economic opportunities in the southern part of the country. The UWR, located in northern Ghana, has some of the highest rates of outmigration because of its economically deprived state (rooted in colonial and neocolonial legacies) and poor ecological conditions. This has resulted in limited economic opportunities, lack of income diversification, high levels of food insecurity and consequent high rates of outmigration from the region (Abdul-Korah, 2006; Kuuire, Mkandawire, Arku, & Luginaah, 2013; Luginaah et al., 2009). However, as most migrants from the UWR are subsistence farmers with low levels of education and income, the

most practical migration option available to them is in rural receiving societies in southern Ghana where they can access lands for farming (Kuuire, Mkandawire, Luginaah, & Arku, 2016). The middle belt of Ghana is the most preferred destination for migrants from UWR for four reasons. First, it has more comparatively fertile agricultural soils. Second, the middle belt experiences a biannual rainfall season while the migration origin has only one. Third, the middle belt is relatively closer to the UWR compared to other regions in southern Ghana (see map of study areas in chapter two). Fourth, the middle belt has a well-established network of UWR migrants due to many years of in-migration, and these networks thus serve as useful conduits for facilitating in-migrations from UWR.

At the same time, and reflecting ongoing globalisation trends, many MLIs are increasing their operations in Global South regions (Chen, Dollar, & Tang, 2015). The recognition of Africa as one of the fastest growing continents is resulting in the attraction of many foreign direct investments (FDIs) to the continent (Africa Development Bank, 2017). Western and Chinese corporations comprise the biggest foreign investors in many sectors of Ghana, with the country ranking 7th among the 20 top destinations for Chinese MLIs (Chen et al., 2015), globally. It is noteworthy to mention that multinational/foreign investment activities within Ghana and the African continent more broadly are partly facilitated by the research, policy, capacity building and infrastructure development work done by IGOs like the World Bank, International Finance Corporation (IFC), among others – with the goal of enabling FDI to thrive. Although many MLIs in SSA are transnational, the subregion is also witnessing the growth of local MLIs. Many MLIs in Ghana operate in environment-dependent sectors including agro-investments in biofuel, commercial food production, manufacturing and mining (Antwi, Mills, Mills, & Zhao, 2013), and tend to be based in rural areas of the southern sector – including the middle belt – due to the availability of natural resources such as timber, cocoa, gold and bauxite, as well as the ease of securing lands in these locations (Kuusaana, 2016). These emerging development trends further serve as pull factors of migration for people from the UWR.

While some studies show that MLIs may have positive impacts on host regions by increasing Gross Domestic Product (GDP), diversifying national economies, providing employment and improving infrastructural development in rural areas where they are based or operate (Kuusaana, 2017), other studies have shown that MLIs affect host communities negatively. For instance, Hilson (2007) found that mining and mono-cropping activities of

some MLIs lead to environmental degradation in the communities of operation. Other negative consequences identified include land grabbing, exacerbation of rural inequalities, further marginalisation of already vulnerable populations like women, children, the aged and migrants, and sexual harassment of women and girls in communities in which domestic and foreign investment-funded activities operate (Hilson, 2007; Kuusaana, 2017; Schoneveld, 2011). Furthermore, Kuusaana (2017) and Schoneveld et al. (2011) found that indigenous women and migrants are particularly vulnerable to the activities of MLIs in rural communities. This is because women and migrants both depend heavily on environmental resources, but tend not to have access to secure land tenure rights within their communities. Land rights are however an important component of subsistence farming and MLI operations, and thus deserve consideration in the discussion of MLI activities and rural migrant livelihoods.

In Ghana, land is mainly acquired in two ways; allodial/customary and usufructuary/statutory tenure. With the former, land rights lie in the hands of traditional rulers and family heads, whereas the state holds rights over usufructuary lands (Agbosu, 2007). Customarily, women in Ghana, similar to other areas of the Global South, do not inherit family lands and must resort to land leasing (Baruah, 2010; Kuusaana, 2016; Najjar, Baruah, & El Garhi, 2020). As most women in rural communities of Ghana lack the economic, cultural and literacy resources to legally acquire/lease lands, they end up borrowing land on insecure terms. With regards to migrants in rural communities, although men generally have comparatively advantageous land rights, male migrants' outsider status in receiving communities also implies that they can only acquire land through usufructuary or temporary lease rights. However, as mentioned earlier, most migrants in rural areas of Ghana tend to be of poor socioeconomic backgrounds. Hence, the majority often settle for less fertile/productive lands or rely on the goodwill of other community members and traditional leaders in settler communities for affordable lands (Schoneveld, German, & Nutakor, 2011). Yet, relying on the goodwill of non-migrants for land and other resources often comes with some conditions, which has implications for the security of rural migrant livelihoods.

1.3 Importance and Significance

Studying the combined effects of climate change and MLIs on rural populations in migration origins and destinations in Ghana is timely and urgent for six reasons. First, today many more people in northern Ghana rely on outmigration as a coping and survival strategy

(Kuuire et al., 2013; Warner & Afifi, 2017). Second, studies on migration continue to focus mainly on those who cross international boundaries. This fosters assumptions that the majority of movements are across national borders and therefore creates the need for more research on internal migration. Third, most existing studies of migration within national boundaries have not looked at migrants' access to livelihood and social resources in rural destination areas, which are often also the locus of MLIs. Fourth, research on internal migration has seldom focused on the needs and experiences of female migrants. Fifth, most studies examine climate change and MLIs as separate influences on migration even though they may operate in tandem on certain populations. Sixth and importantly, most studies on migration only explore the experiences of either migrants in destination areas or non-migrants in the origin. These gaps in knowledge exist despite the fact that migrants and rural populations in Ghana as well as in other SSA countries (e.g. Tanzania, South Africa and Mali) bear a disproportionate burden of the impacts of climate change and MLIs (Atuoye, Luginaah, Hambati, & Campbell, 2019; Carr & Thompson, 2014; Gbetibouo, Ringler, & Hassan, 2010). This is because as of 2018, four out of five people living below the international poverty line were resident in rural areas, with women forming the majority of these resource-poor groups (World Bank Group, 2018). It is also established that many rural populations living in poverty will resort to outmigration to both urban and rural centres. Furthermore, rural and migrant populations' social and economic marginalisation restricts their access to livelihood resources in both migration origins and destinations. In addition, the findings from my master's research, and those of other studies, show that the effects of climate change and exclusion from MLI-related development are even worse for women as gendered social and cultural norms hinder their effective use of environmental, health and economic resources (Baada, Baruah, & Luginaah, 2019; Butt, McCarl, Angerer, Dyke, & Stuth, 2005).

Consequently, as more people in the UWR become reliant on outmigration to the middle belt of Ghana as a coping strategy to the deteriorating environmental conditions, extreme poverty and high levels of food insecurity in the region, it is necessary to understand how their migration patterns and settlement experiences are affected by the presence of MLIs in destination societies. For example, are some migrants able to diversify their incomes from non-farm sources in their destinations, or is non-farm employment associated with MLIs mostly available to better-educated and better-resourced non-migrant populations and foreign workers? Additionally, it is critical to examine the differences in experiences between

migrants in destination areas, and non-migrants and return-migrants in the migration origin. Why do some people choose to migrate while others do not, and why do some migrants eventually decide to return to their home communities? These are important questions to ask as the concentration of MLIs in southern Ghana could further widen the inequalities between the northern and southern sectors of the country. Furthermore, given that most migrants from UWR in rural areas of the middle belt are heavily dependent on land, forest and other natural resources for their livelihood needs, the presence of MLIs in rural receiving areas could lead to uneven competition over these environmental resources. Thus, while MLIs could potentially serve as useful vehicles for improving the livelihoods of rural poor, they could also exacerbate the marginalisation of groups such as migrants (particularly women) by excluding these already vulnerable and marginalised groups from availing emerging economic opportunities. My research therefore examines how climate change and MLIs are influencing/reshaping migration and livelihood experiences in the UWR and in middle-belt destination areas. Through my study findings, I identify and suggest ways of better leveraging growing MLIs to the advantage of populations living in vulnerability.

1.4 Research Objectives and Questions

1.4.1 Research Questions

The primary question my research seeks to answer is: how do the combined effects of climate change and MLIs influence migration patterns and rural lives in Ghana? Specifically, I ask the following research questions:

1. How do the combined impacts of climatic stressors and MLIs influence migration trends from the UWR to the middle belt of Ghana?

2. What are the experiences of rural migrants to the middle belt? How do intersectional identities influence experiences of migration?

3. How do the combined impacts of climatic stressors and MLIs shape these migrants' everyday lives and wellbeing?

4. What opportunities and constraints do migrants face in rural areas where MLIs operate?

5. What are the experiences of non-migrants and return-migrants in the migration origin?

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6. What motivates some people to migrate and others to stay in their home communities?

7. Why do some migrants end up returning to the UWR?

8. Do MLIs benefit or marginalise migrant groups in rural areas?

9. With appropriate social and economic policies in place, might MLIs help migrants in the future?

1.4.2 Research Objectives

The main objective of this dissertation is to understand the dual effects of climate change and MLIs on migration patterns and rural lives in Ghana. I do so by examining the experiences of migrants in receiving areas of southern Ghana, specifically the middle belt, some of which host MLI operations. I also explore the experiences of return and non-migrants in the sending society, the UWR. Lastly, I engage with key informants and policymakers to explore how growing MLIs in Ghana may be leveraged in environmentally sustainable and equitable ways to improve upon the lives of rural/agrarian migrants, especially women. To answer my research questions, my dissertation is anchored by three specific objectives which include:

1. To explore the ways in which climate change and increasing MLIs are (re)shaping rural migration trends in Ghana.

2. To understand how the intersections of climate change and MLIs influence rural dwellers' access to resources in migration origins and destinations.

3. To understand the distinct experiences of migrants, non-migrants and return-migrants regarding climate change and MLIs.

4. To identify the ways in which growing MLIs in Ghana could be better leveraged to improve upon the livelihoods of migrants in rural areas of the middle belt, and non-migrants and return-migrants in the environmentally fragile UWR.

1.5 Methodological and Theoretical Overview and Contributions

I use an interdisciplinary, feminist, mixed methodological approach – which I discuss in detail in chapters two and three – to answer my research questions and meet my study objectives. A mixed methods approach was pursued at various levels including at the

disciplinary, paradigm, theoretical, methods and stakeholder levels. Although grounded in the discipline of feminist studies, my research also draws from, and contributes to, the fields of geography, environmental studies, sociology, global health and development. At the paradigm level, I situate my research within the transformative and pragmatic paradigms (see chapter two), which have similar philosophical assumptions (e.g., ensuring that theory and research result in equitable praxis or change for groups living in vulnerability), but are also distinct from one another (e.g., the transformative paradigm is believed to place more emphasis on philosophical / metaphysical underpinnings compared to the pragmatic paradigm). I chose a mixed paradigm approach as a way to ensure that the shortcomings or challenges of using one paradigm (e.g., transformative or pragmatic), could be complemented or mitigated by the other.

At the theoretical level, my study is supported broadly by the interdisciplinary framework of feminist political ecology. Conceptualised in 1987 by Blaikie and Brookefield, political ecology examines the ways in which power dynamics play out in regard to environmental resources at the macro and micro levels. Rocheleau, Thomas-Slayter and Wangari (1996) expand on discussions of political ecology by including a gendered analysis to these power dynamics. Feminist political ecology (FPE) therefore explores how patriarchal, geographical, environmental, political, and sociocultural systems affect individuals'/ populations' access to resources, particularly environmental ones such as land (Rocheleau et al., 1996). It also explores the opportunities and constraints that local groups (particularly women) face regarding knowledge production and political organising around environmental issues. An FPE perspective thus provides me with the tool to examine in detail, the geopolitical, sociocultural and other power relations that influence local and individual lived experiences as pertains to climate change and environmental/ecological resources.

In response to critiques regarding an inattention to the complexities of histories, race, differences and intimate relations/spaces that interact to shape gendered experiences at the micro scale, scholars such as Mollett and Faria (2013), Sultana (2021) and Sundberg (2017) advocate that researchers adopt a postcolonial intersectional analysis in theorisations of feminist political ecology. Based on this, I also draw on the interdisciplinary and interconnected theoretical/conceptual frameworks of feminist postcolonial theories, feminist political economy, intersectionality and livelihood vulnerability to enable me to better situate the experiences of climate change, MLIs and migration among rural communities of Ghana

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within the relevant racial and (neo)colonial histories, as well as political and economic interests that shape resource distribution at the local level. Employing a combination of these theoretical/conceptual frameworks also helps me to better highlight the common but distinct vulnerabilities of study groups as influenced by individuals' varying social identities and intersecting axes of marginalisation regarding climate change, MLIs and rural migration.

At the methods level, I combine qualitative (comprising of FGDs, IDIs and participant and contextual observations) and quantitative (survey) methods to collect data on migrants', non-migrants' and return-migrants' experiences of climate change and MLIs in Ghana. A mixed methods approach enables me to provide a broad understanding of my study topic, as well as the rich and in-depth experiences of study participants. I also use a multistakeholder approach that is inclusive of the experiences of migrant groups and key informants of diverse gender, age, socioeconomic status, (dis)ability, and ethnic backgrounds. As mentioned earlier, participants were recruited from the national, regional and community levels. I provide detailed explanations about my decision to mix different methods and interview diverse stakeholders, and my motivations for selecting each method, in chapter three.

My interdisciplinary study on gender, climate change, MLIs and rural migration in Ghana contributes to theory, policy and practice, as most studies that examine the effects of climate change and MLIs on people's lived experiences tend to study the vulnerabilities of migrant groups in relation to these phenomena either as distinct, unconnected experiences, or homogenise the experiences of all actors involved. Thus, by employing a multistakeholder and mixed methods approach that relies on interconnected methodological and theoretical frameworks, I emphasise the collective and similar vulnerabilities that rural migrants, non-migrants and return-migrants face, while also leaving room to explore the differences and unique experiences of marginalisation that specific individuals/subgroups experience as a result of their identity categories, social locations and access to opportunities. My study also contributes to the theoretical and methodological literature by providing insights into climate change, MLIs and rural migration experiences that a single method and/or theoretical approach might be unable to provide. In addition, my study contributes a unique perspective to the migration literature as it examines the experiences of people in both the migrant sending and receiving societies simultaneously, whereas most studies on migration focus only on one or the other. Finally, my research contributes to policy and practice by highlighting how migrants and rural populations in Ghana as well as in other SSA countries (e.g., Tanzania,

South Africa and Mali) experience climate change and MLIs, and how the effects of climate change and exclusion from MLI-related development are worse for women due to gendered sociocultural norms that hinder their effective use of environmental, economic, social and health resources. The findings from my research are thus useful for improving the economic, livelihood and wellbeing experiences of climate-affected rural migrant populations in SSA and in similar contexts in the Global South.

1.6 Organisation of Dissertation

This dissertation is organised into six chapters. In chapter one, I provide a brief discussion of the urgency of my dissertation topic, some background to climate change, MLIs and rural migration in Ghana, and lay out the significance of my study. I also outline the questions and objectives that guide my research, provide a brief overview of the methodological and theoretical approaches that ground my study, my reasons for choosing these approaches, and the contributions of my research to literature, theory, methods, policy and practice. I conclude chapter one with an outline of my dissertation structure.

Chapter two of the dissertation situates my work within the broader literature on climate change, MLIs and migration. I also discuss the ways in which these three phenomena play out within the context of local rural-rural migrations, and the gendered and intersectional factors that mediate these experiences at the micro level. Following this, I detail my theoretical/conceptual frameworks, my reasons for choosing these frameworks, and the strengths and shortcomings of these theoretical perspectives. I go on to describe the field of feminist research and methodologies within which my study is located, as well as the research paradigms that anchor my study. I provide the ontological, epistemological, methodological and axiological commitments that informed my choice of methodology and paradigms, and the benefits and limitations of these paradigms. I conclude chapter two with a description of my study contexts including the colonial/neocolonial, geographical, ethnic, political, economic, gendered and sociocultural backgrounds of my research.

Chapter three details my mixed methods approach to the study, and the decisions and procedures guiding my entire research process. In this chapter, I also explain the benefits and limitations of my various methodological approaches, discuss my sampling and data collection strategies, and outline my approach to data analysis, mixing and writing. I go on to explain how I ensured "goodness," reliability and validity ('rigour') in my study, as well as detail some

important ethical considerations regarding my research, and the tensions that I had to navigate in conducting my study. I conclude with discussions of my positionality and how this influenced my research processes.

In chapter four, I present the findings of my study among non-migrants and return-migrants in the migration origin, the UWR. Specifically, I discuss the migration patterns within the region (gendered, generational, temporary, cyclical, permanent, pendulum [see chapter two], etc.) and underlying decisions regarding these migration trends. I also discuss why some people never migrated (non-migrants), and why some migrated but returned to UWR (return-migrants). In this chapter, I also review the environmental, economic and sociocultural experiences of non-migrants and return-migrants, as well as how these affect their livelihoods and health outcomes in relation climate change, MLIs and migration. The perspectives provided by key informants working in the areas of gender and women's rights/issues, climate change, MLIs, migration and rural development in the UWR and national capital (GAR) are presented in dialogue with the experiences of non-migrants and return-migrants.

Chapter five provides the findings of my research among migrants in rural middle-belt destinations of Ghana. In this chapter, I describe the migration motivations, decisions, patterns and settlement experiences of migrants in the receiving/destination communities in relation to climate change and MLIs. I also discuss migrants' experiences of accessing environmental, economic and sociocultural resources in the migration destination. I go on to detail how migrants' livelihoods and health experiences are influenced by climate change, MLIs and migration in their communities of settlement. Finally, I place the accounts of migrants in conversation with those of key informants (in the middle belt and GAR) working in the areas of gender, climate change, MLIs, migration and rural development.

Chapter six concludes the dissertation. In this chapter, I provide a summary of my research findings and a discussion of these findings in relation to the insights provided by my theoretical and conceptual frameworks. I then situate the individual/micro-level experiences of my study participants within the broader, macro-level processes – such as global power dynamics, geopolitics, and environmental and economic policies – influencing these experiences. I provide some policy recommendations based on my study findings, and outline the strengths and limitations of my study. I discuss my contributions to literature, theory, methods, policy and practice, and conclude with some directions for future research.

LITERATURE REVIEW, AND THEORETICAL, METHODOLOGICAL AND STUDY CONTEXTS

2.1 Introduction

This chapter reviews literature relevant to the study, and provides information about the methodological, theoretical and geographical/locational contexts within which the study is situated. It begins with a review of the literature around climate change, MLIs and migration, and how these three interconnected phenomena play out at macro and micro scales. Following this, I explain the methodological background of my study, including the disciplinary context (i.e., the feminist research/methodological approach). I provide an overview of the paradigms within which my study is situated, the ontological, epistemological and axiological commitments that informed my methodological choices, and the limitations of my selected paradigms. After this, I present the theoretical and conceptual frameworks that I draw insights from, and their relevance for my study. I also discuss the shortcomings of these theoretical/conceptual frameworks. I conclude with a description of the study contexts (migrant sending and receiving areas, and north-south migration histories) where the research was conducted.

2.2 Climate Change and Human Migration

2.2.1 History and Emergent Dynamics of Climate Change

Although the notion of global greenhouse warming was first propounded over a century ago (circa 1896) by Swedish chemist, Svante Arrhenius, the concept of a warming climate or climate change did not become a political issue until around the late 1980s – early 1990s (Bodansky, 2001). The IPCC defines global warming as, "an increase in combined surface air and sea surface temperatures averaged over the globe and over a 30-year period… For periods shorter than 30 years, warming refers to the estimated average temperature over the 30 years centred on that shorter period, accounting for the impact of any temperature fluctuations or trend within those 30 years" (IPCC, 2018, p.31). Irrespective of the fact that the terms global warming and climate change are sometimes used interchangeably, a significant difference between the two is that climate change takes into account the influence of anthropogenic and sociopolitical factors on the warming of the planet (Lineman et al., 2015). Hence, my definition of climate change as the effects of increasing greenhouse gas

(GHG) emissions on the planet (e.g., global warming), the concomitant changes in long term ecological and weather conditions (e.g., degraded lands, poor soil fertility, erratic and unpredictable rainfall patterns, heat waves, etc.), the historical, geographical, sociopolitical, economic and power dynamics influencing these processes, and the ways in which the combination of all of these factors are distinctly felt in localised regions and at the individual level, as outlined in chapter one.

Global industrial revolutions have been tagged as significant contributors to current climate change processes (Morrar, Arman, & Mousa, 2017). At the beginning of the first industrial revolution, believed to have begun between 1760 – 1840, the density of atmospheric carbon dioxide was estimated at around 280 parts per million (ppm). However, with the industrial revolution came the increased burning of coal, oil and gas in the production of energy, and for fuelling machineries to provide transportation. By the year 1900, these processes had caused an increase in atmospheric carbon dioxide, as well as skyrocketing GHG and global temperatures (Gaard, 2015). Nevertheless, the politicisation and increased attention to climate change issues in the late 1980s and early 1990s is associated with the climate change regime and resulting environmental activities at the time (Bodansky, 2001; Gaard, 2015). These happenings were in part due to the discovery of the stratospheric 'ozone hole' and an accompanying report by the Brundtland Commission in 1987 that emphasised the importance of sustainability in development practices (Bodansky, 2001).

In the Brundtland report, also titled *Our Common Future*, it was argued that environmental issues cannot be understood outside of development ones, and that both are heavily influenced by global and domestic politics. The book/report further emphasised the importance of attaining sustainable development, which it defined as humanity's ability, "to meet the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland, 1987, p.16), by the year 2000. The report added that a renewed attention to multilateral solutions, informed by international political and economic systems of cooperation, was crucial to addressing environmental issues and meeting these sustainable development goals (Brundtland, 1987). This report may however not have achieved its intended impact, given that intensified industrialisation and resulting atmospheric GHG continue to rise. Thus, as of 2020, the carbon dioxide levels measured at the Mauna Loa Observatory in Hawaii was a record high of 412.5 ppm, 132.5 ppm above preindustrial levels. And this is in spite of the notable economic slowdown brought on by the

COVID-19 pandemic that year (Rebecca, 2021).

Bodansky (2001) categorises the development of the climate change regime, up until the Kyoto protocol in 1997, into five important stages. First is the foundational period (late 1800s – early 1980s), during which scientific concerns regarding global warming were first raised. Second is the agenda-setting period (spanning 1985 - 1988), when climate change transitioned from a solely scientific problem to one related to policy. The pre-negotiation phase forms the third (from 1988 - 1990), and during this time, governments became greatly invested in climate change processes and how these played out at the local level. Fourth was the formal intergovernmental negotiation stage (1990-1992), which saw increased bargaining among countries for common-ground solutions regarding climate change issues, leading to the enactment of the FCCC in May 1992. This 1992 Convention provided an umbrella framework for global responsibility to address climate change and was ratified by all 197 countries at the time. However, despite being an important achievement, the Convention failed to define what levels of GHG emission reductions were necessary to avoid dangerous human interference with the climate structure, thereby necessitating an alternative agreement that addressed this shortcoming (Bodansky, 2001). The fifth and final stage, according to Bodansky (2001), was the post-agreement stage (1992-1995) which focused on the expansion and implementation of the FCCC. This stage also saw the beginning of negotiations regarding specific commitments for addressing climate change from UN member states, and culminated in the adoption of the Kyoto protocol in 1997.

The Kyoto Protocol was aimed at meeting two main objectives: "reduce greenhouse gas (GHG) emissions by at least 5% of 1990 levels in Annex I countries, and encourage transfer of green technologies amongst countries" (Napoli, 2012, p.183), in order to mitigate climate change. This protocol was however considered unsuccessful in meeting the goals of stemming the climate crisis for several reasons. First, it lacked an effective emissions trading scheme. Second, it largely employed a top-down approach in negotiating states' commitments to decreasing emissions. Third, it only bound industrialised/Annex 1 countries to these emissions targets, exempting emerging economies at the time (such as the People's Republic of China, India, among others) from these reduction requirements. In protest, some Annex 1 countries such as the US failed to ratify the Protocol, and many others chose to not comply with the commitments outlined in it (Horowitz, 2016; Morgan, 2001; Napoli, 2012).

In response to these drawbacks of the Kyoto Protocol, the Paris Agreement was

adopted in December 2015, and is considered the successor to the Kyoto Protocol (Horowitz, 2016). The Paris Agreement differs from its predecessor in many ways. First, it binds both industrialised and emerging economies to emission reductions. Second, it adopts a less 'top-down' path and instead relies on mutually negotiated approaches to emission reductions among countries. The Agreement thus provides parties with the option to make reduction pledges, and offers some flexibility in meeting these emission reduction pledges/goals. Third, the Agreement moves away from enforceable emission mandates, and rather depends on transparency, political will and reporting obligations from states regarding these climate goals. Fourth and finally, the Paris Agreement mandates countries to concurrently meet technology development/transfer, finance, and adaptation goals in addressing the climate crisis – thus recognising that solutions to global climate change require more complex and multifaceted approaches than was initially assumed (Horowitz, 2016). Although the Paris Agreement may be considered an improvement to the Kyoto protocol, the proceedings of COP26, held from 31st October to 13th November 2021, is evidence that meeting these climate change mandates remains a challenge to both emerging and industrialised countries.

The struggles to reduce fossil fuel use and associated GHG emissions cannot be understood outside of the inequitable historical and contemporary capitalist, political, ecological and economic processes that continue to shape them (Bee, Rice, & Trauger, 2015; Gaard, 2015), as I discuss later in this chapter. But while the geopolitical and socioeconomic power dynamics that shape climate change decision making at the macro stage continue to wage on, communities and individuals in both the Global South and North – particularly those belonging to marginalised groups by virtue of their geographical locations, socioeconomic status, gender, age, among others – are already experiencing the brunt of the negative consequences of climate change. With the rise in incidences of wildfires, flooding, rising sea levels, reduced and erratic rains, degraded soils, heat waves, among others, many of these marginalised populations are turning to migration as a coping, adaptation and survival strategy towards these climate change effects.

2.2.2 Climate Change and Human Migration

Climate change effects are some of the biggest drivers or push factors of contemporary emigrations globally; although in some rare cases, they may serve as pull factors or immigration incentives (Campbell et al., 2007). Climate change effects may result

in involuntary/forced migrations, or voluntary migrations. Often, the type or form of migration that people will engage in in response to climate change effects will depend on the types of climatic events (i.e., slow vs sudden/rapid) that are being experienced and their intersection with geopolitical and socioeconomic factors. Although both voluntary and forced migrations in response to sudden and slower onset climate events are heavily influenced by geopolitical, economic and sociocultural factors, isolating slower onset climatic events as the sole or main cause of population movement is often more difficult to do, compared with sudden/rapid events that have a more obvious relationship with migration (Nishimura, 2018). Voluntary population movement in response to climate change effects tend to be influenced more by slower onset climate events, defined by the Office of the United Nations High Commissioner for Human Rights (OHCHR) as gradual changes in the environment that happen over a prolonged period of months to years (Nishimura, 2018). Examples of these slower onset events include sea level rise, glacial retreat, rising temperatures, salinisation, forest and land degradation, deteriorating soil fertility, reduced and unpredictable rainfall, among others. Involuntary/forced migrations on the other hand are more likely to occur in response to sudden or rapid onset climate events, described as discrete weather or climate events that have an immediate and obvious impact, and which tend to last a matter of hours or days. Examples of these sudden/rapid onset events include storms, hurricanes, wildfires, flooding, etcetera (Nishimura, 2018).

The distinction between voluntary and forced migration typically lies in the time and decision-making processes that underlie these movements (Charron, 2020; Erdal & Oeppen, 2018). With voluntary migrations, arrangements, processes and outcomes tend to happen over a period of time and through a careful decision-making or deliberation process. Involuntary or forced migrations, however, are often emergency responses to sudden climate events that pose a risk to human life. Hence, with sudden onset climate induced population movement, the decision-making period tends to be shorter. The OHCHR and other scholars (see Charron, 2020; Erdal & Oeppen, 2018) however caution that the categories of sudden and forced migration are not dichotomous, but rather fall within a continuum. Thus, many population movements in response to climate change do not always neatly fall within either the voluntary or involuntary side, as these behaviours and practices tend to be mediated by factors such as geography (whether a person lives in an arid or wet vegetation zone), politics (e.g., whether one finds themselves in a politically stable or unstable society), and

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socioeconomic factors (please see below).

Migrations in response to climate change effects may be undertaken collectively (by entire groups or communities) or individually (currently the dominant form of climate-migration). For example, it has been shown that small island states will be particularly hard hit by climate events such as sea level rise, due to their vulnerable geographical positioning. Consequently, for some of these states (e.g., Tuvalu), within country adaptations or coping mechanisms may not be effective or feasible, and may therefore necessitate that the entire community or nation evacuate to escape worsening climate change effects (Betzold, 2015). However, for other regions that are also particularly vulnerable to climate change effects due to their geographical location and heavy dependence on environmental resources such as land and rainfall (e.g., farming communities, rangelands and drylands in SSA, Middle East and North Africa [MENA], East and West Asia and Latin America), climate change induced migrations will vary based on individual, household and communal differences (Baada & Najjar, 2020).

Irrespective of these variations in climate-migrations, there are a number of important things to note. First, the majority of outmigrations in response to climate change effects will be internal / domestic / within-country (Brzoska & Fröhlich, 2016). This is mainly because the process of migration requires social, economic and cultural resources, and is particularly the case for international migration. For example, the legal paperwork involved in cross-border migration tends to be exclusionary for people of low economic and educational backgrounds. Furthermore, social networks play an important role in the migratory process, and many resource-poor people are more likely to have social networks within the same country that can help them move, as compared to cross-border social networks (Awumbila, Teye, & Yaro, 2016). As a result, many climate-affected populations are more likely to engage in internal or domestic migration, as this requires relatively fewer economic and sociocultural resources. This notwithstanding, cross-border migrations in response to climate change effects are also happening, although on a lower scale. It is noteworthy to mention that migrants who relocate across national borders due to climate change effects are often still hosted within the same geographical region. This implies that most climate change induced migrations within the Global South will be absorbed by the Global South, and those in the North by the North (Brzoska & Fröhlich, 2016).

Another important fact to keep in mind is that, not every individual or household will

be able to emigrate (even internally) in response to climate change. This is due to the differentiated vulnerabilities and marginalisation that some individuals and groups face, and how these affect their access to the economic, sociocultural and physical resources needed to partake in migration (Afifi et al., 2016; De Haas, 2005). Also, not everyone who migrates may benefit from migration as a coping strategy, as some resource-poor groups may experience a reproduction of poverty in destination areas (Baada et al., 2019). Thus, worsening climatic conditions globally could lead to trapped populations (those who are unable to relocate) in both migration origin and destination areas (Baada et al., 2020; Bell, Tabe, & Bell, 2020). Furthermore, studies show that some migrants may engage in pendulum migration to maximise the benefits of migration in both origin and destination areas. De Haas and Fokkema (2010) define pendulum migration as the process whereby migrants spend several months a year in origin and destination areas, and actively maintain residence in both. According to the authors, this form of migration can be classified as neither temporary, permanent or return. Finally, return-migrations are also worthy of consideration in issues of climate change related population mobility, given that the limited coping provided by migration may cause some people who move to eventually return to the origin or sending areas (Bilgili & Siegel, 2017; de Haas, Fokkema, & Fihri, 2015).

2.3 Multilateralism and Human Migration

2.3.1 Multilateralism

The term 'multilateral' in conventional diplomatic usage denotes states, and is thus used to refer to the relationships between three or more states regarding some specific issues (Cox, 1992; Ruggie, 1992). These issues may concern security, economics/trade/ investment, climate change, migration, health, among others. Keohane (1990) thus defines multilateralism as, "the practice of co-ordinating national policies in groups of three or more states, through ad hoc arrangements or by means of institutions" (p.732). Cox (1992) adds that the concept of multilateral may also be used in international economic relations to signify trades and payments, and freedom of capital flows. Thus, when used in international economic spheres, multilateralism typically evokes trades and investments organised around specific rules of state or organisational conduct (Cox, 1992; Ruggie, 1992). According to Ruggie (1992), what makes multilateralism unique is not just the fact that it organises national policies among three or more states, but that this coordination is done based on specific

principles – such as trust, reciprocity and non-discrimination – of regulating order among these states. The author also notes that multilateralism as a general form of contemporary global relations pre-dates multilateralism as institution (i.e., formal multilateral organisations).

Cox (1992) and Keohane (1990) report that multilateralism was largely birthed from negotiations between the US and Britain regarding membership of the post-World War (WW) II economic order, and the resulting increase in multinational conferences covering diverse thematic issues of global concern. This creation mainly ensued from the recognition of the usefulness of multilateralism (or global cooperation) in maintaining peace and fostering economic relations to aid in the rebuilding of economies, post war (Martin, 1992). During these membership negotiations in the immediate aftermath of WW II, the US leveraged its economic advantage to pressure Britain to relinquish the preferred trade and payment systems – aimed at addressing the global depression of the 1930s – that made up the Commonwealth and Empire under the Ottawa Agreements of 1933. Around this time, countries in the Global South, and the Soviet Union and Europe, had low to no presence in international economic issues as many of the former were still colonised territories, and the latter were still struggling with the aftermaths of the war. These regions were thus unable to substantively participate in the formation of multilateralism/multilateral relations (Cox, 1992).

Multilaterals typically operate through organisations and institutions (mainly IGOs) – which Keohane (1990) defines as, "persistent and connected sets of rules, formal and informal, that prescribe behavioural roles, constrain activity, and shape expectations" (p.732) – as well as the agreements or treaties set forth by these institutions. Multilateral organisations may have conditionally open or restricted/selective institutional memberships. For instance, the Group of 7 (G-7) is an example of a restricted/selective multilateral organisation. Multilaterals may also be open to all at the regional or global levels. Examples of regional multilaterals include the North Atlantic Treaty Organisation (NATO), League of Arab States (LAS) and African Union (AU). Global multilaterals on the other hand include the United Nations (UN) and its affiliate organisations such as the International Organisation for Migration (IOM), the World Trade Organisation (WTO), and the International Renewable Energy Agency (IRENA). Finally, multilateral banks form another dimension of global institutions and exist to help coordinate economic, trade and investment activities among

various countries. Some examples include the European Bank for Reconstruction and Development (EBRD), Asian Development Bank (AsDB) and African Development Bank (AfDB) at the regional level. Global level multilateral banks comprise the International Fund for Agricultural Development (IFAD), OPEC Fund for International Development (OFID), and the World Bank Group (including the International Bank for Reconstruction and Development [IBRD] and International Development Association [IDA]) (Engen & Prizzon, 2018). It is however important to note that multilateral institutions, memberships and requirements are constantly changing.

Multilateralism has since come to be recognised as a preferred alternative to unilateralism (the action of a single state or party) and bilateralism (relations or joint policy action between two states or parties), due to its relative success in stemming global hegemony (Ruggie, 1992). Multilateralism thus has several benefits including its ability to provide a platform for bargaining and cooperation among states regarding the world's most pressing issues (e.g., climate change, war/peace, migration, foreign investment, health, human rights), evening out power dynamics among different states and geographical regions, and promoting egalitarian distribution of resources (Keohane, 1990; Martin, 1992; Ruggie, 1992). However, scholars such as Martin (1992), Ruggie (1992) and Weiss (2018a) note that these purported benefits of multilaterals/multilateralism may be idealist or utopian, and may differ significantly from the reality or actual operation of multilateralism, due largely to the skewed power dynamics that continue to shape global politics and policy making.

Multilateralism also has its shortcomings, mainly resulting from the ability of some state and capitalist systems to exert more influence regarding structural reforms around ecological, gender, human rights and other issues (Cox, 1992), as compared to others. For instance, in the 1980s, multilateralism was considered to be in crisis principally due to the rejection of the UN (as the conduit for meeting international goals and actions) by the US and other powerful states. This resulted in a shift towards unilateralism and/or political dominance regarding global political and economic issues. This move was in part spurred by the economic crises that characterised the mid-1970s and which contributed to the unwillingness of high-income countries to meet financial aid stipulations to low-income countries, at the time. Other reasons included the preference for a free market system, deregulation and the privatisation of economic policies at the local and global levels, as well as the subsequent perception that the UN was obstructing economic liberalisation (Cox,

1992). By the end of the cold war in 1989, some of these tensions subsided along with the collapse of the Soviet East European empire: and the role of the UN in resolving global tensions reinforced the importance of multilateralism in mediating geopolitics and stabilising hegemonic regimes (ibid).

In contemporary times, despite the UN's continued positioning as the global policymaking organisation, and its ability to survive shocks and polarisation – resulting from states' vested interests in global issues, controversies around UN operations in disaster stricken countries, and the lackadaisical attitudes of some UN leaders and diplomats – many still question whether the institution (and multilateralism) is actually equipped to promote equity in global relations (Weiss, 2018b). To illustrate, the US remains the UN's largest funder and consequently, its most vital member state. The US therefore significantly influences decision making within the UN, notwithstanding the five-member veto-wielding mechanism implemented by the institution to curb such uneven power dynamics (Weiss, 2018a). Moreover, scholars such as Druckman (2019) and Weiss (2018a, 2018b) argue that contemporary multilateralism is under siege, as evidenced by the rise of several right wing governments across the world (e.g., US' Trump, Brazil's Bolsanaro, Russia's Putin, Israel's Netanyahu, India's Modi, Egypt's el-Sisi, Philippine's Duterte, among others), many of whom champion nationalist and unilateral/bilateral rhetoric. Thus, according to Weiss (2018a), many of these populist governments have launched an attack on the aspects of multilateralism/multilateral agreements (for example the Paris Agreement to address climate change, the Global Compact on safe, orderly, and regular migration) that they do not agree with, and challenge the utility of IGOs in resolving the world's most pressing problems. These right-wing governments also tend to view the UN with scepticism, insisting that the institution exists to mainly protect the interests of emerging economies and smaller states – to the disadvantage of larger ones. This is despite the fact that these larger states have historically used the UN to meet their own self-interests (for instance, Washington and other state forces relied on the UN and the Organisation for the Prohibition of Chemical Weapons (OPCW) to disassemble Syria's chemical weapons capacity, as they viewed them a threat) (Weiss, 2018a, 2018b). These challenges notwithstanding, and regardless of the UN's imperfect record, Weiss (2018a) cautions that multilateralism remains the world's most suitable vessel for addressing the most critical contemporary crises – such as global and national security, migration, and climate change – and as such should not be discarded.

At the broader scale, the politics of multilateralism are particularly important to consider in issues of domestic and foreign investment, as global relations and negotiations significantly influence who invests where, the terms of these investments, and who benefits from these opportunities at the global and local level. For example, Africa has been identified as the current global investment hub due to its 'untapped' natural and human resources and, in response, several states are directing their financial investments to the continent (Africa Development Bank, 2017; Atuoye, 2019; Oluwole, 2021) . Although historically, European and North American countries have taken the lead on investment activities overseas – and particularly in low-income settings including several African countries – in recent times, Asian countries such as India and China have proven to be significant competitors in terms of trade and investment activities on the continent, and have thus established themselves as global political and economic forces to be reckoned with (Papanikolaou, 2021). Also, BRICS (Brazil, Russia, India, China, and South Africa) countries have attained notable economic growth over the last three decades, currently contributing 21 percent of the world's GDP. The BRICS countries have thus also been identified as leading stakeholders in the global economy, as they control over 4 trillion USD worth of foreign exchange reserves (Ahmed, 2017; Danish, Ulucak, & Khan, 2020).

With the UK's Brexit souring EU relations and affecting global trading and investment options, and Trump's hostile rhetoric to make America great again (and subsequent shredding of the Trans-Pacific Partnership) impacting the US' relationship with several countries and its access to international markets, the stage has been set to further solidify competing states' ranking as top investors in global markets, and particularly in Africa (Noja, Cristea, & Yüksel, 2021; Weiss, 2018a). Thus, the Chinese government has leveraged emerging multilateral relations to place itself at the forefront of global economic affairs, dictating the terms of international commerce and investment within Asia and worldwide (Weiss, 2018b). Consequently, at the end 2019, China maintained its decade-long position as the top investor in Africa, with 27 percent of its investments going to the continent and creating approximately 18,562 jobs. In comparison, the US came up second, with four percent of total investments going to the continent and creating 12,106 jobs. Turkey was fourth with 38 percent of investments and 5,047 created jobs, and India ranked seventh with 16 percent of national investments and 4,165 jobs (Oluwole, 2021). At the local level, the profit-oriented goal of foreign investment also influences the specific cities or communities that investments will be

directed to, by both international and local investors – with many investors often choosing larger/urban towns and cities (Belderbos, Du, & Slangen, 2020; Sheng, 2011). In instances where investments are directed towards rural or suburban areas, the presence of natural resources that can be leveraged for economic profits tends to serve as a determining factor. These trends have implications for population outmigrations (emigration) and in-migrations (immigration), globally (Atuoye et al., 2021; Kuusaana, 2017; Sauer & Pereira Leite, 2012).

2.3.2 Multilaterals/Domestic and Foreign Investment, and Human Migration

The process of multilateralism, and local and foreign investments steeped in multilateral relations, influence both domestic and international emigrations and immigrations (Atuoye et al., 2021; Suciu, Cristea, & Noja, 2018). Regarding multilateralism as a process, migrations are one of the major issues that UN member states regularly meet over. Migration is so central to the interests of multilateralism that the UN established the IOM in 1951 to help address the havoc and displacements brought on by WWII. The earlier set up of the IOM was centred on European migrations, hence its previous naming as Provisional Intergovernmental Committee for the Movement of Migrants from Europe (PICMME) in 1951, and Committee for European Migration (ICEM) in 1952. The change in name to IOM in 1989 was an attempt to better reflect the organisation's dedication to promoting migrations not just within Europe, but across the world (International Organization for Migration [IOM], 2021). In contemporary times, the IOM exists to facilitate safe, humane and orderly migration, recognising the agency of migrants and the fact that migration provides immense benefits to individual migrants, as well as their sending and receiving societies. The organisation currently has 173 member states, with over 10,000 staff working in more than 150 countries across the world (International Organization for Migration [IOM], 2021). The significance of migration to multilateralism is further evidenced by its inclusion in the UN Sustainable Development Goals (SDGs), specifically goal 10, which identifies migration a crucial avenue for minimising inequalities at the state and global levels (United Nations, 2017).

Moreover, given the interconnectedness of the various aspects of multilateral issues/interests, the recognition of climate change as one of the world's most pressing contemporary crises (requiring collective and urgent multilateral action) has further increased attention on migration issues. This is due to the establishment that many populations fleeing climate change effects will rely on migration as a major adaptation, coping and survival

strategy (Nishimura, 2018; Warner & Afifi, 2014). Consequently, both climate change and migration straddle issues of national and global security, which again is of primary concern to multilateralism (Bates-Eamer, 2019; Martin, 2010). Thus, many states, particularly high-income and western countries, have expressed wariness about the influx of climate migrants to their areas, despite the evidence suggesting that most climate migrations will be domestic/internal (Afifi et al., 2016; Brzoska & Fröhlich, 2016; Warner & Afifi, 2014). Also, many states (such as Russia, the US, China) have begun staking claims on the Arctic, as the melting sea ice makes the previously barren region now conducive for future population in-migration/inhabitancy, and resulting economic and military activity, as noted by White (2019). Hence:

> China and Russia have both identified the Arctic as a strategic priority, and have consequently invested in their capabilities and capacities to exert influence. China's extraterritorial claims, mobilization of synthetic islands, and its economic interests in controlling access to trade routes and resources may all contribute to future confrontation. Recognizing the reality of global warming, China is developing its Polar Silk Road with a strengthened policy towards the Arctic region. Russia, meanwhile, has established its Arctic Command, the Northern Fleet Joint Strategic Command, stationing surface-to-air missile capabilities in the region and improving or creating from scratch multiple deep-water ports and airfields to project power in the region (ibid, p.325).

Thus, in anticipation of natural resource (e.g., water, land) scarcity and wars, several states are working to establish sovereignty and territorial control over Arctic borders (White, 2019). And many others are engaged in the manufacturing and testing of weapons such as, "taser anti-personnel mines; high-powered microwaves; armed robots; wireless tasers; acoustic devices/vortex rings; ionizing and pulsed energy lasers; chemical calmatives, convulsants, bioregulators and malodurants" (Martin & Wright, 2006, p.6), among others, that can aid them to keep out unwanted climate migrant hordes. Indeed, these territorial wars and border control measures seem to be deemed more important to high-income and western states than finding actual solutions to mitigating climate change.

Finally, in regards to MLIs and migration, many people in economically deprived communities often rely on economic migration as a livelihood improvement strategy, with most of these mobile populations moving to areas that have emerging employment

opportunities – some of which are established by domestic and foreign investors (Suciu et al., 2018). As mentioned, the politics underlying the siting of MLIs at structural and local/communal scales ultimately determines where these domestic and foreign investments operate, and who gets to benefit from these economic opportunities. Although mobile populations engage in both domestic and international/cross-border migration to access domestic and foreign investment opportunities, many economic migrations will probably happen within the same country, and the few cross-border ones within the same geographical regions, due to the reasons discussed earlier. Thus, contrary to popular discourses and tropes – and the fears of high-income/western nations – migrants from the Global South will likely be absorbed by the south, and those from the Global North will be hosted within the north (Brzoska & Fröhlich, 2016; De Haas, 2005).

2.4 Macro and Micro Level Intersectional Considerations: Climate Change, Multilateral Investments and Migration

In discussions of climate change, MLIs and migration, some important macro and micro level intersectional factors need to be taken into consideration to better understand the inequitable distribution of environmental, economic, political, social and other resources, globally and locally. Examples of broader or structural factors worthy of examination include histories (e.g., colonialism), geopolitics, capitalism/economic interests, among others. At the micro and/or individual level, it is also important to understand differences based on gender, socioeconomic status, ethnicity, and so forth, and how these interact with the macro ones to influence individuals' and groups' experiences of climate change, domestic and foreign investment, and migration. In what follows, I discuss some of these structural and local/individual level factors, as well as how/why they matter within the context of my study.

2.4.1 Macro Level Considerations

2.4.1.1 Histories

Climate change, domestic and foreign investment and migration cannot be understood outside of the capitalist histories of (neo)colonialism, slavery and imperialism that have created and continue to shape inequalities around these issues. Historically, the current wealthiest western nations have contributed the most to the build-up of excess GHG, in their efforts to stimulate economic/industrial growth (Biermann & Boas, 2008; Gaard, 2015).

Furthermore, the industrial gains of these countries are deeply embedded in histories of colonialism, slavery and consequent exploitation of the labour of black and brown bodies, as well as natural resources from the Global South (Bee et al., 2015; Biermann & Boas, 2008; Gaard, 2015). These histories have entrenched existing global resource inequalities, and indeed, scholars such as Atuoye and Luginaah (2017), Fairhead et al. (2012), and Robertson and Pinstrup-Andersen (2010) argue that some contemporary forms of foreign investment (e.g., green development and large scale land acquisitions) constitute a re-colonisation of low-income and Global South countries.

These uneven global development patterns are undoubtedly one of the drivers of south-north migration and internal migrations within Global South countries (see study context section). As such, researchers such as Biermann and Boas (2008), McMichael, Barnett and McMichael (2012), and Torres and Casey (2017) have argued that wealthy, industrialised countries have an ethical responsibility to assist in the facilitation of safe and affordable migrations between the Global South and North, particularly for climate migrants. Despite this, many countries in the north continue to show reluctance in supporting international migrations, instead mobilising tropes (see section on discourses) that blame resource-poor people and countries for climate change effects and garner support to restrict south north migrations, particularly among racialised groups.

2.4.1.2 Geography

Geographical location also plays a significant role in issues of climate change, MLIs and migration. For instance, geographical location inevitably determines the types and severity of climate events that people and communities might experience. To illustrate, small island states, low-lying regions, dry areas of the world and arctic regions have been identified as some of the locations that will experience catastrophic effects of climate change due to their vulnerable positioning (Bell et al., 2020; Betzold, 2015; Warner & Afifi, 2014). Geographical location may also determine the type of adaptation (e.g., in situ adaptations such as irrigation) that communities can engage in to mitigate climate change effects. Regarding MLIs, geographical factors may influence the siting of investment opportunities. Thus, for domestic and foreign investments that rely on natural resources such as land and rainfall (e.g., agricultural investment), regions that possess these resources may be a preferred siting destination. Manufacturing-based investments may also scout for areas that have relevant

resources such as timber, rosewood and raw food materials to set up their business operations, and mining investments are likely to consider the presence of resources such as gold, bauxite, diamonds, among others, when setting up operations. Also, geographical location may influence access to markets (e.g., rural versus urban areas) and, consequently, the location of MLIs (Kuusaana, 2017; Sauer & Pereira Leite, 2012). Lastly, geographical location determines whether some populations may need to move to escape climate change effects and/or benefit from investment opportunities. Specifically, geography significantly influences migration patterns, including who migrates and where they relocate to. Thus, as mentioned, studies have shown that many migrations in response to climate change will be within the same country and geographical region (Afifi et al., 2016; De Haas, 2005).

2.4.1.3 Politics and Power Dynamics

Geographical manifestations of, and responses to, climate change, MLIs and migration are however greatly mediated by local and global level politics. For instance, as discussed prior, climate change agreements remain heavily politicised, evidenced by the COP26 proceedings where leaders of low, middle and high-income countries all leveraged their political positions to approve or contest climate change mandates (Dalton, 2021). Additionally, climate change issues have formed a major campaign platform for many political parties across the world, with both pro and anti-climate change parties/candidates garnering huge followings and voter bases based on their political messages (Cheung, 2020; Strong, 2022). Furthermore, WikiLeaks archives released by Julian Assange were found to contain information about the ways in which high income countries such as the US use their political and power positioning to obstruct climate action at climate change meetings and proceedings (WikiLeaks, 2021). According to the leaked information, the US has employed targeted surveillance of climate negotiators including presidents, cabinet ministers and even former UN secretary general, Ban Ki-moon. The documents revealed that:

> Former Secretary of State Hillary Clinton… drafted a detailed "human intelligence" directive calling on all manner of biographical and even biometric data (e.g. fingerprints, DNA) belonging to UN workers to be obtained. Spying and surveillance is done in order to gain a competitive edge between countries. During environmental summits, human and electronic intelligence gathering methods are used in order to determine what the bargaining positions of even

'friendly' governments are. An NSA intercepted conversation... revealed that the US was pressuring the Germans to drop their demand for a 25-45% reduction in carbon emissions, and that the lobbying would likely be successful. Spying is also being used to help bribe, blackmail or coerce governments into acting as desired. Meanwhile, even as climate negotiations proceed from year to year, separate treaty negotiations... all have provisions that would preference the rights of corporations over the ability of governments to protect the environment, reduce greenhouse gas emissions and promote renewable energy (WikiLeaks, 2021).

These political and power dealings echo some of the challenges of multilateralism in relation to hegemony and vested interest among leaders and states. Also, with respect to foreign investments, WikiLeaks revealed, "serious corruption and 'neocolonial exploitation' of mining resources by multinational corporations... focusing on the Central African Republics mining resources. As was a suppressed report into the devastating toxic dumping of waste in the Ivory Coast by commodities trader Trafigura" (WikiLeaks, 2021). At the state or local level, political power also often determines where governments will direct domestic and foreign investments. For example, in Ghana, most MLIs tend to be concentrated within the southern sector, as the majority of government leaders hail from this area and therefore stand to benefit from pleasing their voter base in the south; also the country's majority population (Abdulai & Hulme, 2015). Finally, migration/population movement remains one of the world's most politicised issues. This is illustrated by the territorial wars to protect borders discussed above, and the biases of multilateral organisations such as the IOM in favour of Eurocentric priorities (Martin & Wright, 2006; Trauner et al., 2019; White, 2019). Thus, although the global compact is hailed as a historic milestone in addressing migration needs, its implementation has been characterised by political tensions and resulting fatalities (Global News, 2019), and a close reading of the compact reveals it is not as progressive for racialised and minority migrants and refugees as it is purported to be (Guild & Grant, 2017; Oelgemöller & Allinson, 2020; Pastore, 2018).

2.4.1.4 Economics

It is important to recognise that these political dynamics around climate change, migration and MLIs are heavily rooted in economic interests of states and elites. For instance,

the challenge in getting states and world leaders to meet GHG emission targets is largely informed by the fear of losing out on the profiteering and wealth accumulation associated with global capitalism and resulting commodity overproduction (Bee et al., 2015; Gaard, 2015). Further, structural decisions of domestic and foreign investors and investment locations are often informed by profit-making goals, hence the strategic siting of these operations/activities (Atuoye et al., 2021). Finally, migration remains a huge source of economic revenue for many migrant sending and receiving countries, hence the persistent framing of 'desirable' migrants as ones who can contribute 'productively' to host societies and help ease the economic burdens of sending societies (Carling & Hoelscher, 2013; De Haas, 2005; de Haas & van Rooij, 2010).

2.4.1.5 Discourses

However, to mask political and economic interests in these issues, dominant discourses and tropes are often mobilised to cast blame and dehumanise the 'other' (low income and racialised populations), in order to normalise and justify injustices and inequalities related to climate change, MLIs and migration. For instance, with respect to climate change, the 'uncontrollable reproduction' and subsequent 'over population' of brown and black bodies – in the Global South and among racialised and low income groups in the north – has historically been blamed for the planet's diminishing resources and resulting extreme climatic events (Hartmann & Barajas-Roman, 2011; Huang, 2008). This is irrespective of the fact that climate change is an overproduction and overconsumption problem, and that 20 percent of the world's population, most of whom are located in high-income countries, consume 80 percent of the world's resources (Acciona, 2016). Further, the Brundtland Report's concept of "sustainable development" has informed climate change narratives over the last two decades and has led to the production of techno-solutions like "the green economy" that may continue to advance capitalist and (neo)colonial mechanisms of privatisation, while ignoring the underlying causes and inequalities of climate change (Gaard, 2015; Johnston et al., 2007).

Regarding migration, tropes of (climate) migrant hordes fleeing from the Global South (and low-income countries/communities in the north) to high income western countries are often mobilised to animate populations in host/receiving societies about the ills of international migration. Moreover, despite the significant economic, sociocultural and

demographic contributions of migrants to host societies, they continue to be portrayed mostly as threats to security and parasites that burden host societies (Baldwin, 2013; Béland, 2020; Parsons, 2016). These, among other discourses and tropes, are a major reason for the hostility towards international migration, particularly of racial minorities. Consequently, many countries, leaders and policymakers often pitch investment opportunities in low income and Global South countries as a useful solution to curtailing international migration, regardless of its proven ineffectiveness (De Haas, 2005). Finally, regarding MLIs, despite the profit-oriented nature of foreign investments within the Global South (particularly by western individuals and corporations), there is often the tendency to portray these investments as foreign 'aid', further entrenching discourses of the dependency of the Global South on the generosity of the north (Gray & Ariong, 2021).

2.4.2 Micro Level Differences in Climate Change and Human Migration

At the micro level, several factors also influence how climate change, MLIs and migration are experienced, one of which is *socioeconomic status*. The world's most economically marginalised populations (e.g., SSA and the Global South more broadly, as well as low-income communities in the Global North experiencing widespread poverty) will shoulder a disproportionate burden of global climate change effects (Ibe & Amikuzuno, 2019; Shepard & Corbin-Mark, 2009). This is largely due to their significant dependence on agriculture, and also because their resource-poor nature affects the extent of mitigation and adaptation strategies that these groups can afford (Baada et al., 2020; van der Geest, 2004; Warner & van der Geest, 2013). At the individual level, socioeconomic determiners such as educational status and occupation may affect experiences of climate change, MLIs and migration. For instance, high educational and economic status, occupational mobility and low dependence on natural resources for basic upkeep may increase a person's options for in-situ and alternative coping/adaptation mechanisms to climate change. However, for people with low levels of formal education and who depend heavily on natural / environmental resources such as land, rainfall, forests, game, fishing, among others, for basic needs, climate events may likely influence migration for better livelihood options (Afifi et al., 2016; Allison, Andrew, & Oliver, 2007; O'Neill et al., 2020). Socioeconomic status may also influence access to social, economic and cultural capital needed for migration, and the benefits that accrue to an individual, postmigration (Baada et al., 2020; Van Hear, 2014). Finally, studies show that

access to economic opportunities – including employment in natural resource, commercial farming and other industries – is greatly affected by educational, economic and social capital (e.g., a person's social circles) (Bipasha Baruah & Biskupski-Mujanovic, 2021b; Evergeti & Zontini, 2006). Thus, people of low socioeconomic status may have limited capital, thereby worsening their vulnerability to these three phenomena.

Gender is another salient factor underpinning decisions and experiences of climate change, migration and MLIs. For instance, studies have found that gender plays a huge role in access to environmental resources, as well as in adaptation responses to climate change (Gonda, 2019; D. Najjar & Baruah, 2021; Rocheleau et al., 1996). Gender is also important to consider in migration processes as it informs who is able to migrate within a household, as well as post migration outcomes such as access to social, cultural and economic support (Baada & Najjar, 2020; Baada, 2021). Lastly, gender has been shown to influence access to employment in domestic and foreign investment opportunities, similar to other employment avenues, with women often experiencing barriers to accessing employment in these areas (Bipasha Baruah & Biskupski-Mujanovic, 2021b; Kuusaana, 2017). It is however important to add that gender often interacts with other important micro level factors such as socioeconomic status, community norms, household structure/type (e.g., extended, nuclear, polygynous) and marital status (e.g., married, single, divorced, widowed), to influence experiences of these issues (Caretta & Börjeson, 2014; Ge, Resurreccion, & Elmhirst, 2011; Van Aelst & Holvoet, 2016).

Additionally, *race and ethnicity* may affect vulnerability to climate change effects. Studies have shown that racialised groups, many of whom are also ethnic minorities, often experience climate change at the intersections of other marginalisations like discrimination and poor socioeconomic status (Moser, 2010). This consequently influences the geographical residence/settlement patterns of these groups, and may result in heightened exposure to climate change effects, while also limiting the mitigation/adaptation strategies available to them (Bee et al., 2015; Gaard, 2015). Yet, despite their increased susceptibility to climatic vulnerabilities, racial and ethnic minorities are also often relegated from climate policy and decision-making circles. The few who overcome these obstacles to engage in climate advocacy may again find themselves experiencing exclusion within media and related spaces. A case in point is the Ugandan climate activist, Vanessa Nakate, who was cropped out of a photo taken with Greta Thunberg and other peer activists – after attendance at a youth

climate change summit held in Davos – in an Associated Press (AP) news report (CNN, 2020; Moser, 2010). Furthermore, studies reveal that racialised and ethnic minorities often experience prejudice in migration processes, beginning with migration eligibility criteria and opportunities, and continuing into the (post)settlement phase in destination areas (Ellermann, 2020). Lastly, studies across the world demonstrate that racial and ethnic minorities tend to experience discrimination in employment options, including within foreign investment circles (Gemelas et al., 2022; Kuusaana, 2017).

Experiences of climate change, MLIs and migration may also differ based on *(dis)ability status*. For instance, according to Gaskin et al. (2017), people with disabilities face amplified inequalities in relation to climate change due to the intersections of personal/identity categories (e.g., gender and income), environmental factors (e.g., poor support from government and disability organisations), bodily impairments (e.g., hearing and cognitive impairments, and progression/exacerbation of symptoms), among others. These disabling conditions can often affect climate change adaptation options (e.g., migration and postmigration experiences), and lead to higher mortality rates among people living with disabilities relative to the general population (Bell et al., 2020; Gaskin et al., 2017). Despite this, Bell et al. (2020) note that people with disabilities continue to be excluded from climate change and migration decision and policy making spaces, with the majority of attention focused on their 'innate vulnerability'. Also, studies have found that people with disabilities experience both subtle and overt discrimination in finding employment (Darcy, Taylor, & Green, 2016), and in fact, Hiranandani and Sonpal (2010) show that the privatisation of economic reforms associated with foreign investment and globalisation may exacerbate the marginalisation of disabled persons. These outcomes are concerning, given that about 15% of the world's population live with a disability (Bell et al., 2020).

Last but not least, *age* has been found to shape experiences of climate change, MLIs and migration at the local/individual level. For instance, studies show that older adults are more prone to experiencing poor physical health such as heat exhaustion and strokes brought on by extreme weather events like heatwaves, as well as mental health ones like loneliness, isolation and depression brought on by changing climatic and associated sociocultural conditions (Hopp, Dominici, & Bobb, 2018; Horton, Hanna, & Kelly, 2010). And for people reliant on farming for sustenance, ageing may interact with climate change effects to produce more dire livelihood and food security options (Horton et al., 2010; O'Meara, 2019).

Regarding migration, several studies reveal that older adults are less likely to migrate, hence the rapidly ageing demographic of communities with high volumes of outmigration (Baada & Najjar, 2020; Braimah & Rosenberg, 2021; Guo, Aranda, & Silverstein, 2009). Studies also show that older adults in such communities tend to experience higher levels of depression and lower life satisfaction (Braimah & Rosenberg, 2021; Guo et al., 2009). Finally, studies indicate that older adults face persistent discrimination in the labour market due to their perceived frailty and 'unproductivity' (Stypińska & Nikander, 2018). These micro level considerations are by no means an exhaustive list, as factors such as sexual orientation, living with chronic ailments, religious affiliation and many others, may influence the different ways in which individuals and groups experience climate change, migration and MLIs.

2.5 Disciplinary, Methodological and Theoretical Contexts

2.5.1 The Feminist Research Methodological Approach

A feminist mixed methodological approach was adopted for this study. This means that mixed (qualitative and quantitative) methods, rooted in a feminist methodology, were used to collect, analyse and present data. Mixing was done at various stages of the study including at the methodological/paradigm, theoretical, methods, data analysis, and writing/presentation levels (Please see figure 3 which diagrams the stages of mixing). My study on climate change, MLIs and rural migration in Ghana is guided by a *feminist* methodological approach for several reasons. *First*, climate change-affected groups, migrants and rural dwellers are some of the most marginalised by ongoing climate change, development and globalisation processes. I therefore chose a feminist approach as I am interested in understanding the experiences of vulnerability among these disadvantaged groups. *Second*, my use of a feminist methodological approach is informed by my interest in understanding the gendered differences in experiences of climate change, MLIs and rural migration among my study participants.

Third, in addition to these gendered differences, I am also interested in understanding within-group differences. For instance, what differences exist among groups of women and men? What differences exist among people in the migration origin and those in the migration destination? What differences exist among people of different socioeconomic and health status? How do the experiences of climate change, MLI and rural migration differ based on

age and (dis)ability? These are some of the questions that a feminist approach helps me ask. *Fourth*, a feminist methodological approach is best suited to my study as I seek to amplify participants' voices of climate change, MLI and rural migration, given that most scholarly engagement with these topics often focus on the quantification and techno-scientific, rather than everyday lived experiences (human faces) of these events. *Fifth*, I use a feminist approach because I am interested in situating participants' experiences within the broader historical, geopolitical, socioeconomic, cultural and gendered structures that shape these experiences. *Sixth and finally*, I approach my research not as a distant, unengaged researcher, but as one who shares similar historical, geopolitical, gendered, cultural, ethnic, climate change and migration experiences with my participants. A feminist research methodological approach therefore affords me the opportunity to situate myself within my research.

2.5.1.1 What is Feminist Research/Methodology?

According to Thompson (1992), *research methodology* refers to all aspects of a study inquiry, including the agenda, epistemology, methods and ethics. A similar definition has been advanced by Cresswell (2003), who describes research methodology as the assumptions that inform a researcher's knowledge claims, as well as how they intend to produce knowledge based on these claims and assumptions. Cresswell (2003) adds that research methodologies and/or the conditions that guide knowledge production may also be referred to as paradigms. Feminist research gained prominence during the second wave of the women's movement around the 1960s – 1970s. Since then, scholarly debates about whether or not a distinct feminist research/methodology exists have waged on (Code, 2019; Crasnow, 2015; Gorelick, 1991; Hammersley, 1992; Harding, 1989; Johnson & Onwuegbuzie, 2007). While some scholars believe that a feminist methodology does exist but is more about perspective and sets of practices rather than a specific research method(ology) (Eichler, 1997; Hesse-Biber & Griffin, 2015; Reinharz & Davidma, 1992), others believe that overall, there is no strong case for a distinct feminist methodology (Gorelick, 1991; Hammersley, 1992, 1994). Given these differences, a single, established definition of feminist research methodology does not exist and scholars describe feminist research methodology in diverse ways. For instance, Eichler (1997) notes that feminist research is oriented towards the advancement of the status of women, and is carried out by researchers who identify as feminists. Eichler adds that feminist research is engaged, as opposed to 'value neutral', and is undertaken among a community of

researchers who acknowledge and dialogue with one another's work. She further notes that it is important to conceptualise feminist methodology as a thick braid with multiple strands that are sometimes neatly done and at other times messy in nature.

Of the complete braid, one strand deals with discussions of methods – a collection of practices and tools for conducting research appropriate to the feminist tradition – and the strengths and drawbacks of these methods. Another strand concerns the discussion of methodological issues which include broader theoretical orientations that guide the selection of specific methods, as well as the 'what, why and how' of conducting feminist research. The final strands focus on conversations of philosophical and metaphysical orientations, including the epistemologies and ontologies that (should) guide feminist research, and whether or not feminist/non-sexist research can be conducted using traditional methods (Eichler, 1997). Drawing from Harding (1989), Hesse-Biber and Griffin (2015) posit that at the heart of a feminist methodology or inquiry are critical questions and awareness about social realities and the role of research in capturing these realities. Notwithstanding the varied descriptions, most feminist scholars agree that feminist research/methodology is about examining the relationship between gender, power and knowledge production/scholarship, particularly within the social sciences.

2.5.1.2 A Brief History of Feminist Research Methodologies

According to Eichler (1997), feminist scholarship re-emerged in the 1970s to challenge the dominance of patriarchal, androcentric and gender-blind research, most of which were aimed at maintaining the status quo (i.e., inequalities between women and men). These dominant, male-biased research approaches – largely undertaken by men – often relied on positivist, quantitative research methods regarded as objective and value-neutral, to produce knowledge about an 'objective' (male-centred) world in which women were given peripheral status. In cases where women were the focus of research, this research was still often undertaken by men, about women, and with little input from women themselves (Eichler, 1997; Hesse-Biber & Griffin, 2015; Kwan, 2001). Feminist researchers therefore challenged these hegemonic forms of research and knowledge production on the basis that no true accounts of women's experiences could be effectively captured through a male-lens without women's substantive input. Feminists' opposition to androcentric methodologies also led them to question what approaches might be better oriented towards studying the

experiences of women, amplifying women's voices, and disrupting the historically sexist research produced by men about women. These critiques and questions led to the call by several feminists to promote the use of ethnographic and qualitative approaches to knowledge production in social research as a way to unearth subjugated knowledge, develop new theories about the lived experiences of women, and mainstream gender in research and knowledge creation spaces (Eichler, 1997; Hesse-Biber & Griffin, 2015; Kwan, 2001). Feminists argued that such methodological approaches would help to disrupt the static, gender-blind and binary realities that the use of quantitative approaches often resulted in (Code, 2019; Cresswell, 2003; Harding, 1989; Thompson, 1992).

Not surprisingly, these suggestions by feminist researchers led to methodological wars between feminist and 'non-feminist' researchers, and among feminist researchers themselves. These wars, closely linked to the paradigm wars I discuss later, were centred on proving whether quantitative, qualitative or mixed methodological approaches were best suited to producing knowledge about the world in general and women in particular (Code, 2019; Harding, 1989). Within the feminist community, researchers debated if the method that a researcher adopted for their study automatically made their research feminist or non-feminist. Another closely related debate was about whether or not feminist research could/should only be produced by women. Feminists who subscribed to the empiricist tradition believed that quantitative methods could be used to produce knowledge by and for women, so long as a 'feminist approach' was taken. Feminist empiricists believed that using 'rigorous' quantitative methodologies was a crucial requirement for producing knowledge for and by women, if feminists were to be taken seriously within the scientific community. They were also of the opinion that the use of traditional quantitative methods by feminists was important for destabilising the hegemony of androcentric and gender-blind research. Hence, for feminist empiricists, the end justified the means (Code, 2019; Crasnow, 2015; Harding, 1989; Thompson, 1992). On the other hand, feminists who subscribed to the standpoint tradition were of the view that feminist scholarship could only be accomplished by a total rejection of the master's tools – quantitative and other male-biased ways of knowing (Eichler, 1997; Gorelick, 1991; Kwan, 2001; Lorde, 1984). Thus, according to standpoint methodologists, feminist research is one that is produced by women using only approaches that give authority and voice to women (i.e., ethnographic and other qualitative approaches) (Code, 2019; Collins, 1986; Smith, 1974; Thompson, 1992).

These methodological debates are still evolving. And while there remain differences among feminists about whether or not only specific methodological approaches or ways of producing knowledge constitute a feminist methodology, there seems to be more of an acceptance of diverse methodologies and knowledge production strategies within the community. Thus, many contemporary feminist researchers agree that no specific method or tool is inherently feminist. Rather, it is the process or perspective to the research that makes it feminist (Eichler, 1997; Harding, 1989; Leckenby & Hesse-Biber, 2011; Mertens, 2012; Thompson, 1992). On the basis of this, several feminist scholars outline some basic tenets or features of feminist research which include a focus on gender and how gendered social relations structure women's and men's experiences; an emphasis on the validity of personal lived experiences as a way of knowing; privileging women's experiences; amplifying women's voices; taking a bottom-up approach to research; paying attention to power dynamics and privilege within the research process; centring the researcher within the knowledge production process; and connecting personal experience to broader social contexts using statistics and/or narrative (Crasnow, 2015; Harding, 1989; Hesse-Biber & Griffin, 2015; Leckenby & Hesse-Biber, 2011; Mertens, 2011; Thompson, 1992).

2.5.1.3 Critiques and Counter-critiques of the Feminist Research Methodological Approach

Despite the considerable progress of feminist research and the contributions it has made to knowledge over the years, the field has been critiqued by scholars both outside of the tradition and those within it. *Outside of the group of feminist researchers*, scholars such as Hammersley (1992, 1994) have questioned whether gender as a social category deserves the importance and uniqueness that it is given in feminist research. According to Hammersley (1992, 1994), to focus on, "gender is to strip away other aspects of the context of the phenomena studied. For these reasons, while gender is very important … it should not be given any pre-established priority over other variables" (p.191). Hammersley adds that prioritising experience over methods, relying on unstructured data collection techniques (e.g., grounded theory, oral ethnographies, etcetera), and hierarchising subjective truth or multiple realities – as is characteristic of feminist research – does not augur well for discerning 'truth' in knowledge production. For Hammersley:

> such arguments founder on the fact that all experience is a human
> construction... The point is simply that we have no direct access to the truth,

even… about our own perceptions and feelings. The idea that we can 'see what is there' instead of relying on cultural assumptions involves a false contrast. What we see is always a product of physiology and culture, as well as of what is there. I am not suggesting that there is no point to feminists' and others' emphasis on experience… But to be effective it probably needs to be reformulated to refer to the use of methods that minimise the chances of false cultural assumptions being embedded in the data. And the possibility of error… produced by such unstructured methods must be recognised, as must their relative disadvantages in terms of efficient data collection. In my view we should emphasise neither method nor experience, but rather seek to correct experience by use of method, and method by the use of experience (p.192).

Hammersley further argues that emphasising on direct experience as a way of knowing inherently implies that only people within the group about which knowledge is being created can produce accurate accounts of realities. Hammersley concludes that the claims that women and oppressed groups have unique/superior insights about their own experiences and those of their oppressors or general realities, are not convincing. Based on this, Hammersley claims that the case for a distinct feminist methodology is not compelling.

While Hammersley somewhat accurately summarises the features and goals of feminist methodology, the basis on which he critiques and dismisses the case for a feminist methodology may also be considered unconvincing, given that his analysis did not consider the important conversations around feminist methodologies at the time of his writing. For instance, since the 1980s, mainstream feminist research has been critiqued by feminists belonging to minority groups (e.g., racial, gender, and sexual minorities) for its inattention to differences and the influence of contextual factors on lived experiences (see Butler, 2006; Collins, 1986; Crenshaw, 2018; Lorde, 1984; Lugones, 1987; Mohanty, 1988; Spivak, 2003). These critiques, which I expand on in the paragraphs below, ultimately made differences and contexts a focus of feminist research from the 1980s onwards, and consequently restructured feminist methodological approaches to research. Furthermore, it is important to note that feminists are not against the idea of having people from privileged groups (e.g., men, white, middle-class) produce knowledge that promote feminist causes and goals: in fact, feminism has grown to acknowledge and encourage the importance of allyship in research processes. Instead, feminists caution that, without adequate scrutiny, allowing people from privileged

groups to produce knowledge about and for subjugated groups could increase the risks of misrepresentation, and also increase the tendency for these privileged groups to take over the field of feminist research and subjugated knowledge. Thus, in Harding's (1989) words, "it is important to discourage men from thinking they can take over feminist research the way they do everything else which becomes significant in the public world—citing only other male researchers, doing little to alleviate the exploitation of their female colleagues or the women in their lives whose work makes their eminence possible, and so forth" (p.12). To mitigate the risks associated with the appropriation of feminist research methodologies, feminists provide some suggestions for how allyship might be effectively leveraged in knowledge creation, paramount to which is the acknowledgement of researchers' positionalities.

Within the feminist movement itself, several scholars have critiqued feminists' approaches to research. A major critique against feminist research, particularly earlier ones, is its tendency to draw broad generalisations and disregard differences (Collins, 2016; Davis, 1993; Hesse-Biber & Griffin, 2015; Kwan, 2001). For instance, feminist postcolonial scholars such as Ang (2003), Bulbeck (1998), Khan (2005), Mohanty (1988) and Spivak (2003) have argued that feminist research has historically treated the study of women's lives and issues with a one-size-fits-all, without consideration for within-group differences – particularly regarding women of colour and in the Global South. Other critiques include the tendency of mainstream feminist research to ignore the influence of women's historical and sociocultural contexts on their everyday lived experiences, and the infantilisation, victimisation and 'othering' of women belonging to minority groups – without regard for the ways in which women differently enact their agency. Similarly, black feminist scholars such as Collins (1986), Crenshaw (2018), Davis (1993), Lorde (1984) and Ortega (2006) have critiqued feminist approaches to knowledge creation for the binary ways in which they view oppression (e.g., men versus women; black versus white), and their inattention to complex and interlocking systems of oppression based on social categories such as gender, race, class, ethnicity, among others. Black feminist researchers further argue that such binary categorisations of oppression often miss the ways in which some subjugated groups (e.g., white women facing gender discrimination, black men experiencing racial discrimination) with comparatively more privilege (in terms of gender, race, class and ethnicity), may themselves act as oppressors towards those belonging to racial, gender, ethnic, class and sexual minority groups. Lastly, Black feminist scholars emphasise that the broad categorisation of women as

one homogenous group with similar experiences of oppression fosters assumptions that all women share the ideals and struggles of white, middle-class women (e.g., breaking the glass ceiling). Apart from privileging these ideals as the standard, these assumptions also often lead to majority women groups imposing their ideals on minority and less privileged women, while ignoring the different and often more complex struggles that minority women face (ibid).

Furthermore, feminist researchers have highlighted the ways in which some studies purporting to be feminist in nature, or that set out with genuine intentions to do feminist work, may still perpetuate social discriminations such as ableism, homophobia, transphobia, sizeism, ageism, racism, classism, sexism and other systemic ills – either through their research process or in their research outcomes (Hesse-Biber & Griffin, 2015; Mertens, 2014; Mertens, 2012; Thompson, 1992). To illustrate, Hesse-Biber & Griffin (2015) show how, in their study aimed at understanding African American girls of low socioeconomic status' attitudes towards Science, Buck et al. (2009) failed to capture the voices of their study participants due to the nature of their study design which relied on traditional standardised tools that were not adequately tailored to capture the voices of the students. Thus, despite their goal of using a critical feminist perspective to question early cultural framings of women in/and science that tended to centre the concerns of white middle class girls, the authors were unable to effectively do so. Also, Khan (2005) in her work, "Reconfiguring the native informant: Positionality in the global age" discusses her discomfort about presenting her research findings on the experiences of women imprisoned under the Zina Ordinance, a law which imprisons women for various acts of 'sexual promiscuity'. Khan's discomfort stems from the fact that, while she recognises that her research could give voice to her participants and garner attention to help the women in prison, they could also paint Pakistan in a negative light and further narratives of women in the Global South as victims who needed saving from their men by white feminists and/or western nations.

It is important to acknowledge that the field of feminist research has greatly benefited from these debates, critiques and conversations around methodology. Thus, contemporary feminist researchers are constantly striving to make their research more inclusive and respectful of diversely situated groups. Consequently, for feminist scholars such as Harding (1989), a good feminist research approach (e.g., using an 'underclass' approach and centring the researcher/inquirer within the study to understand how their positionality [i.e., gender, race, class, sexual orientation, ethnicity, etc.] shaped the entire research process), rather than

a 'feminist method', helps to produce critically-grounded research. And based on these debates and suggestions, the field of feminist methodology is continuously developing more inclusive methodological approaches that account for the diverse voices and experiences of marginalised gender, racial, ethnic, class, sexual, disabled and other groups. It is within this broad, evolving, inclusive and transformation-oriented tradition that I situate my own study on gender, climate change, MLIs and rural migration in Ghana. In the following section, I detail the research paradigms that guide my work.

2.5.2 The Research Paradigms

My first stage of mixing was at the paradigm level. I use qualitative and quantitative approaches rooted in the transformative and pragmatic paradigms. While some researchers are of the view that a paradigm and a methodology are the same, others argue that the paradigm is distinct and forms one component of a research methodology, or conversely that the methodology is embedded within the paradigm (Cresswell et al., 2003; Eichler, 1997; Guba & Lincoln, 1994; Mertens, 2007). Guba and Lincoln (1994) define research paradigm as the fundamental belief systems/worldviews that guide a researcher's choice of methods, and ontological and epistemological stances. Mertens (2010) refers to paradigms as metaphysical frameworks that influence researchers' identification/clarification of their beliefs regarding reality, knowledge, methodology and ethics. The concept of research paradigms is associated with Thomas Kuhn's (1962) work, *The Structure of Scientific Revolutions,* where Kuhn conceptualised paradigms as the, "universally recognized scientific achievements that for a time provide model problems and solutions to a community of practitioners" (Kuhn, 2021). Since then, several researchers have worked to develop research paradigms into organising frameworks that help researchers to explore their internal belief systems and translate these beliefs into their research practices and procedures (Denzin & Lincoln, 2011; Eckberg & Hill, 1979; Guba & Lincoln, 2005; Hunter & Brewer, 2015; Mertens, 2010).

There are four main tenets or assumptions that underlie research paradigms. These are the ontology, epistemology, methodology and axiology. *Ontological* assumptions explore beliefs about the nature of reality and how researchers make claims about what constitutes knowledge (Cresswell, 2003; Mertens, 2007, 2012). Thus, researchers seeking to understand their ontological orientation will ask questions such as, how do I know something is real? And what type of evidence will I accept as reality? The *epistemological* tenet is concerned with

how knowledge is created or how we come to know. Epistemology is also about understanding the relationship between knowers (researcher) and the would-be-known (research participants). In effect, epistemological questions include: how do I relate to the people from whom I collect data? Would proximity/closeness to research participants help me to know, or do I need to establish distance or 'neutrality' in order to know? (Cresswell, 2003; Mertens, 2007). The *methodological* assumption deals with the suitable approach to inquiry, based on the researcher's identified ontology and epistemology. A researcher working within a specific paradigm will ask methodological questions such as, how can I find out what I believe can be known? What choices can I make (beyond methods and tools) in collecting data about human experiences to assure me that I have truly captured reality? (Guba & Lincoln, 1994; Mertens, 2007) Finally, the *axiological* tenet concerns the researcher's awareness about their own beliefs, values, ethics, attitudes and biases, and a recognition of how these influence the entire research process. Thus, important axiological questions to ask oneself include: How do I define ethical research, theory and practice? What do I consider moral or ethical behaviour? What is my responsibility in maintaining ethical procedures and relationships in my research, and how do I do so? How do I address ethical dilemmas that come up in culturally complex research settings? What do I do about ethical dilemmas that cannot be neatly addressed? (Hesse-Biber & Griffin, 2015; Mertens, 2007). All assumptions within the research paradigm are interconnected. Hence, a researcher's choice of ontology automatically influences their epistemological, methodological and axiological commitments.

Also, some researchers advocate that theory forms an important aspect of research paradigms, and thus should always be considered as one of the tenets/assumptions of research paradigms (Creswell, 2015; Hankivsky & Grace, 2015; Mertens, 2007; Preissle, Glover-Kudon, Rohan, Boehm, & DeGroff, 2015). These critical paradigmatic assumptions, questions and considerations led me to adopt both the transformative and pragmatic research paradigms, as well the interconnected theoretical frameworks that underpin my work. Next, I elaborate on the transformative and pragmatic research paradigms, why I chose these paradigms, and how these paradigm choices have influenced my research.

2.5.3 The Transformative Paradigm

The transformative paradigm is associated with the works of Donna Mertens (Mertens, 2014; Mertens, 2007, 2010, 2011, 2012) and other (feminist) researchers (Creswell,

2015; Hankivsky & Grace, 2015; Preissle et al., 2015). The transformative paradigm is a metaphysical framework employed by researchers committed to furthering social justice and human rights, and that prioritises a consideration of the cultural complexities researchers face in diverse settings (Greene, 2008; Mertens, 2012). According to Mertens (2012), the transformative paradigm engages with the tensions that come up during research encounters characterised by uneven power dynamics which result from differences, privilege and marginalisation associated with race, ethnicity, immigration status, economic status, gender, disability, and other historically relevant power differentials. This transformative paradigm therefore encompasses all of the belief systems, theories, inquiry methods and ethical considerations that inform social justice and equity-oriented research (Mertens, 2010, 2012).

2.5.3.1 Tenets of the Transformative Paradigm

The *ontological assumptions* of the transformative research paradigm recognise and stipulate that there are several versions of 'reality'. This assumption thus acknowledges constructivists' arguments about the social construction of multiple realities. The transformative ontological assumption however differs from constructivist assumptions, as it (transformative) posits that, rather than multiple realities, there is one reality and multiple perspectives and experiences of this single reality (Mertens, 2010). Thus, this ontological assumption requires researchers to examine what factors influence our decision to accept one version of reality over versions. The transformative ontological assumption provides me with the lens to ask questions such as, whose reality am I privileging in my study on climate change, MLI and rural migration in Ghana? How do I challenge perceived realities, accounts and discourses that sustain systems of oppression within my study context and among my research participants? What are the consequences of giving credence to multiple versions of reality? What are the consequences of accepting the 'wrong' or 'privileged' versions of reality? In addition to these questions, the ontological assumption of the transformative paradigm requires that researchers examine unearned privileges regarding gender, race, ethnicity, sexual orientation, socioeconomic status and other aspects of diversity – for both the researcher and participants – and also remain cognisant of the fluid and contextual nature of discrimination, oppression and social inequities (Mertens, 2010, 2012).

The *epistemological assumptions* of the transformative paradigm are closely tied to its ontological ones and explore the ways in which the nature of knowledge influences the

relationship between the researcher and study participants. They also raise important questions regarding power and privilege in the research process. These questions are crucial to ask both in instances where the researcher is an outsider/non-member of the research community and in situations where they are insiders (i.e., members of the study community) (Mertens, 2010, 2012). Questioning these researcher-participant relationships and power dynamics enables researchers to understand how various versions of reality are embedded within power dynamics and historical, geopolitical and sociocultural contexts. Mertens (2012) therefore advocates that researchers acknowledge power differences in their efforts to build relationships with their study participants, and also strive to build trust with study participants through supportive, reflective, dialectical and iterative approaches.

The *methodological assumptions* of the transformative paradigm result from its ontological and epistemological commitments, and focus on the procedures of systematic inquiry. Under the transformative paradigm, a cyclical and diverse model of data collection is considered the most appropriate (Mertens, 2010, 2012). The transformative methodology also advocates for the need to involve multiple stakeholders, take an iterative approach to data collection and analysis, and use methods or tools that amplify the voices of research participants. Finally, the transformative paradigm encourages researchers to question and consider the most appropriate ways that they can collect data about the different perspectives on reality, and how they can do so in a manner that makes them confident that these realities have been captured in an ethical and inclusive way to promote social justice (ibid). Hence, some critical methodological questions that a transformative belief system asks include: "What are the best methods for collected data? Numbers, so I can be objective (sic)? Words and pictures, so I can get a deep understanding? Mixed methods so I get both? How do I use these methods to get the 'real picture'?" (Mertens, 2010, p.472). Mertens adds that it is important for researchers to question the power they wield by themselves/individually and through their methods, as well as how much control they [researchers] have over their methods. She also cautions that the transformative methodological assumptions have implications for all stages of the research process including the study design/development, rationale/justification, sampling, data collection, analysis and interpretation, write-up and dissemination processes, and subsequent use of research findings (Mertens, 2012).

Finally, Mertens (2012) defines axiology as beliefs about the, "meaning of ethics and moral behavior" (p.804). The *axiological assumptions* of the transformative approach thus

examine ethical relationships around research, researcher and participants; keeping in mind that the basic principle of the transformative axiology is the improvement of social justice/ human rights, as well as a recognition of and respect for cultural/contextual complexities and norms (Mertens, 2010). Mertens notes that these ethical issues and their awareness are not always unproblematic for researchers, as some ethical considerations may sometimes escape researchers, and even in instances where researchers are fully aware of them, some ethical dilemmas cannot be neatly avoided or reconciled. I discuss my own ethical challenges in chapter three. In the next section, I provide a brief explanation of the pragmatic research paradigm and its basic tenets.

2.5.4 The Pragmatic Paradigm

The pragmatic research paradigm is a philosophical framework that recognises the differences in belief systems among the various inquiry paradigms. Pragmatism however insist that, differences notwithstanding, the philosophical assumptions of the various paradigms are logically independent of one another and can thus be mixed – along with diverse methodologies, methods and theories – in order to achieve the most suitable research processes and outcomes (Greene & Caracelli, 1997; Leckenby & Hesse-Biber, 2011). The pragmatic paradigm also has core tenets/assumptions with interwoven ontological, epistemological, methodological and axiological commitments. *Ontologically*, pragmatists posit that consciousness, experience and reality are continuous and recursive interactions, and that the fundamentals of ontology (for example, power, agency and subjectivity) are a product of human (inter)actions. Pragmatists therefore prioritise practice/praxis over theory. *Epistemologically*, pragmatists believe that the measure of truth/knowledge/reality is dependent on how well this truth/knowledge/reality can be successfully implemented in everyday life. Pragmatists also acknowledge three types of epistemological facts: 'brute facts' reliant on consensus knowledge; 'social facts' largely derived from subjective experiences; and 'hybrid facts' which are the manifestation of 'brute facts' on societal and human experiences. *Methodologically*, pragmatists argue for pluralism in methods as way of realistically capturing the complexities of the human experience. Finally, *Axiologically*, the pragmatic paradigm asserts that all ontological, epistemological and methodological commitments must be directed at answering questions that solve societal problems (Frankel Pratt, 2016; Haas & Haas, 2002; Hesse-Biber, 2012; Korte & Mercurio, 2017).

Many scholars believe that the pragmatic paradigm was borne out of the need to address the philosophical polarisation between positivist and constructivist paradigms and thinkers concerning the nature of knowledge, what can be known, who can know and how we can know. Thus, the pragmatic paradigm came into existence around the 20th century as a way of bridging paradigm divides. Pragmatists also reject the dichotomy between theory and practice, and instead advocate that theory and research should be directed at resolving practical, societal and communal problems (Dewey, 1986, 2018; Korte & Mercurio, 2017). Pragmatists therefore take a "middle of the road" approach (Onwuegbuzie & Johnson, 2006, p.48) – between subjectivism and objectivism, and positivism and constructivism – believing that there are considerable insights to be derived from multiple perspectives regarding knowledge production. The pragmatic paradigm therefore urges researchers not to focus so much on paradigm debates, but instead search for workable solutions through their research practice (Frankel Pratt, 2016; Johnson & Onwuegbuzie, 2007; Onwuegbuzie & Johnson, 2006). For instance, in their editorial issue for *Millennium: Journal of International Studies,* Bauer and Brighi (2002) argued that, "Looking beyond the epistemological stalemate opposing positivism and post-positivism, Pragmatism invokes a methodological pluralism and disciplinary tolerance [and] encourages a multi-perspectival style of inquiry that privileges practice and benefits from the complementarity, rather than opposition, of different understandings of world politics" (p.iii).

The pragmatic paradigm is consequently often referred to as the mixed methods paradigm, due to its emphasis on methodological, philosophical and theoretical pluralism. However, the strengths of this paradigm (i.e., focus on methods/outcomes, rather than philosophical ideals) may also be regarded as its weaknesses. Hence, some pragmatists believe that separating scholarship from the metaphysical assumptions that underpin such scholarship may provide room for recognising and designing research in ways that more closely resemble the complexity of the social world and also provide an opportunity to resolve these problems through diverse methods/data (Katzenstein & Sil, 2009). Others however reject this call on the basis that it is impossible to proceed with any research without first understanding the overarching metaphysical framework or paradigm guiding that work. These latter scholars thus believe that what we inquire about and how we go about the inquiry process is always influenced by our belief systems of what constitutes knowledge, and that these belief systems inevitably influence the knowledge creation process and research

outcomes (Frankel Pratt, 2016; Mertens & Hesse-Biber, 2012).

2.5.5 Relevance of the Transformative and Pragmatic Paradigms to my Work

As a feminist researcher guided by the transformative paradigm, my goal for studying the effects of climate change and MLIs on rural migration in Ghana – as well as the gendered and intersectional considerations of these phenomena – is to help improve the wellbeing of my study populations. On the basis of this, *my ontological commitment* is to understand how historical, geopolitical and other contextual factors shape the realities of my study communities, and privilege the realities of study participants about how they experience climate change, MLIs and migration. I also bear a commitment to challenge dominant realities, accounts and discourses that might seek to discount the realities of my study participants and sustain the systems of oppression that constrain their access to resources/opportunities and shape their current realities. I believe that by continuing to give credence to only the dominant versions of reality, there is the risk of presenting one (dominant) version of the story on climate change, MLIs and rural migration, and consequently silencing the voices of marginalised and minority groups. I am also of the view that by only paying attention to dominant/privileged accounts of climate change, MLIs and migration (i.e., views of policy makers, investors, perspectives from the Global North), groups living in vulnerability such as rural migrant communities in Ghana may continue to be instrumentalised and used to further tropes and discourses of dependency, even as they bear the disproportionate and negative effects of climate change, MLIs and migration. I recognise that despite being a migrant twice over myself, I have a socioeconomic privilege that most of my study participants do not, and hence, my experiences and realities of climate change, MLIs and migration differ from those of study participants.

My epistemological commitments include recognising the ways in which my socioeconomic privilege, in addition to my gender, age and migrant status influence how I view knowledge, and the ways in which I approach co-constructing knowledge with study participants. This involves constantly monitoring how my power and privilege may be influencing my research process and the relationship dynamics between participants and me. It also requires a cognisance of how my positionality as an insider (being a migrant, hailing from UWR, residing in the middle belt, sharing a language and culture, and sharing a gender with female participants) and outsider (being of a higher socioeconomic status, residing in

urban areas most of my life, currently pursuing graduate education at a western institution, and being of a different gender than male participants) have influenced my study. By following the epistemological commitments of the transformative approach, I am able to question and reflect on my relationship with my study participants and find the most suitable ways to position myself in relation to participants in order to get access to their lived experiences. Lastly, these epistemological commitments equip me to be aware and reflexive of the ways in which the diversity of my research participants influence the knowledge production process and their varied perspectives on reality.

Following from the assumptions of the transformative paradigm, ***my methodological commitment*** is to ensure that my inquiry methods and tools enable me to capture varied versions of participants' realities, amplify the voices of study participants and provide a broad and nuanced perspective of my study topic to influence policy action. This led me to use a diversity of qualitative (in-depth interviews [IDIs], focus group discussions [FGDs], contextual observations) and quantitative (surveys) research methods/tools. In addition, my methodological commitment requires that I make the effort to situate participants' voices within the existing literature, involve multiple stakeholders (i.e., male and female migrants, return-migrants, non-migrants, community leaders, and officials of state and non-state organisations), and take a representative and equitable approach to sampling in order to capture multiple perspectives and tell a compelling story about my participants' lived experiences. I believe that using both narratives (qualitative) and numbers (quantitative), and including the perspectives of multi-stakeholders, helps me to tell this story.

In addition to these pluralist methods and tools, I endeavoured to make my research as iterative as possible by doing a reconnaissance study and subsequently reframing, adding and removing some of the initial research questions from my data collection tools based on feedback from, and my interactions with, study participants. I also tried to provide participants an opportunity to direct my research findings by asking open-ended questions in my qualitative tools and guides. I was however limited in the extent to which I could involve participants in my research design, as is encouraged by the transformative paradigm. Given that this study informs my doctoral dissertation, and my status as an international graduate student with limited time and funding resources, I had to undertake my research conceptualisation independently and choose a study design that was both time and cost effective. Cross-sectional surveys, IDIs and FGDs therefore proved to be the most suitable to

my research, as compared with designs such as participatory action research and longitudinal studies that allow participants to lead the research process and allow for more immersion and relationship building with study participants – but which take a longer time to implement. Finally, as a researcher working within the transformative paradigm, I bear the commitment to ensure that my research does not end with my dissertation defence but extends to the dissemination of study findings and drawing policy attention to these findings. In line with this, I will publish and share my study findings through academic and non-academic outlets such as journal articles, Op-Eds, conferences, media articles, creative pieces, among others, to ensure that participants' voices receive the policy attention they deserve and consequently lead to an improvement in the wellbeing of my study communities. I acknowledge that I have wielded the most power in my research as I undertook most of the design and implementation by myself. I am however confident that I have captured a representative reality of my study participants using my chosen methodological approach.

Finally, by adopting a transformative paradigm in my study, ***my axiological commitments*** are to ensure that I implement my study in the most ethical manner possible. Accordingly, throughout my research design, data collection and analysis, and dissertation writing, I constantly examined every decision and step I took to make sure that my research processes and outcomes were ethical and would promote social justice. To illustrate, I chose my study topic because of its urgency and potential to improve the lives of study participants. I chose to work with hard-to-reach and underserved populations because they are often made invisible and left out of policy conversations. I followed institutional/procedural ethics regulations, took careful steps to ensure that my research process was respectful of local cultural norms, and made certain that my research environment was safe and inclusive, and that participants felt safe and willing to participate. However, despite my best efforts and commitment to fully align my study with the transformative paradigm, some ethical tensions arose on the field that affected my ability to do so and which I elaborate on in the section on ethical considerations. These tensions are however not unique to my research, as pioneers of the transformative paradigm have advocated that researchers constantly anticipate unanticipated ethical dilemmas throughout their research processes. (Mertens, 2007, 2010, 2012). The limitations that I faced in trying to adopt a fully transformative research paradigm subsequently influenced my decision to use a mixed paradigm approach.

As discussed earlier, the strength of the pragmatic research paradigm lies in its ability

to transcend metaphysical and methodological debates, and provide researchers with varied, flexible and practical approaches for answering research questions, solving societal problems and bridging theory, policy and practice. In the context of my research, using a pragmatic approach enabled me to **ontologically** recognise my participants' truths and realities as dialectical and relational, and prioritise their everyday lived experiences over dominant discourses. This enabled me to **epistemologically** produce 'hybrid truths' by situating participants' individual experiences and voices within the broader structures that influence these outcomes. A pragmatic epistemology also enabled me to work towards producing accounts and recommendations that can be implemented by policy makers in a way that makes a difference in participants' lives. Inevitably, this influenced my **methodological** decision to use a pluralist/mixed methods approach that made sense within the limited time and funding at my disposal, and which could help me to capture the complexities of participants' experiences while also providing evidence-based suggestions. Finally, by following a pragmatic approach, I was able to accomplish my **axiological** commitment of ensuring that all my ontological, epistemological and methodological choices were directed at solving a social problem. Importantly, the pragmatic axiology provided me with a framework for resolving (or attempting to resolve) real life methodological and ethical challenges that arose during data collection in the most practical and helpful manner, without being fixated on ontological, epistemological and other philosophical transgressions.

2.5.6 Limitations of Selected Research Paradigms

Despite the immense benefits that research paradigms bring to knowledge production – for instance helping researchers to make and defend knowledge claims, and serving as a guide in the design and implementation of research projects – there are some limitations or challenges associated with paradigms. The overarching challenge has been the fierce paradigm wars and debates that were most prominent in the 1970s and 1980s and which continue to linger today. These wars and debates have been both among scholars belonging to different schools of thoughts (e.g., positivists, post-positivists, pragmatists and constructivists), and those within the same school of thought, and have largely centred on questions about which paradigms are the most legitimate and, for purist scholars, whether or not paradigms can/should be mixed. It is worthwhile to mention that paradigm wars have subsided to some extent among contemporary researchers, as most have come to see the

utility of mixing disciplines (interdisciplinarity) and associated underpinnings, as well as methods (mixed methods), in finding answers to research questions (Creswell, 2015; Greene, 2015; Johnson, 2015; Preissle et al., 2015).

In addition to these broader debates around paradigms, individual critiques have also been levelled against the transformative and pragmatic paradigms. For instance, regarding the transformative paradigm, scholars such as Carr and Kemmis (1986) and Hammersley (1992) argue that there needs to be a separation between the researcher as a producer of knowledge and as a facilitator of social change. In their view, using a research paradigm such as the transformative one – which prioritises community engagement and social justice – blurs the line between knowledge production and advocacy, and increases the chances of producing 'biased' or compromised research findings. In response, scholars such as Crasnow (2015), Hesse-Biber and Griffin (2015), and Mertens (2010) insist that the ultimate goal of research, and feminist research in particular, should be towards changing the social and political status of research participants and marginalised groups. These scholars add that it is unethical to rely on communities for knowledge, if this knowledge would not lead to an improvement in the communities' wellbeing.

My personal critique of the transformative paradigm is that its prescriptions are quite stringent. By spelling out exactly what a transformative approach must embody (which I acknowledge is very helpful for novice researchers), the assumptions of the transformative paradigm tend to ignore the ways in which knowledge producers might be differently situated and thus may have different levels of privilege and/or access to resources for their studies – inevitably affecting how best these researchers can satisfy all the requirements of a transformative research approach. Furthermore, although I agree with the transformative paradigm's central tenet that all studies must be directed at improving societal outcomes, it is sometimes difficult to judge what counts as improvement and from whose perspective this improvement should be evaluated. In addition, some improvements might take a long time to be realised, and hence some studies may be mistakenly judged as not meeting this [improvement] criteria in the short term because their benefits are not immediately felt. Also, it is important to note that improvements may come not only in material form but also in intangible forms. For instance, amplifying participants' voices and making these voices visible in policy arenas may be regarded as beneficial, even if material policy action never results from those voices. I have also had some participants in hard-to-reach communities share with

me that, having 'visitors' travel to their communities to engage with them makes them feel seen and heard. Finally, scholars such as Bourdieu (1996) advocate that the research environment – and interviews especially – can provide therapeutic spaces for participants to tell their truths in ways that everyday interactions may not enable them to.

In respect to the pragmatic paradigm, a main critique is that it tends to ignore/ underestimate the influence of the researcher's philosophical stance on the research design, implementation and outcomes. By focusing more on the practical outcomes of research, the pragmatic paradigm fails to fully capture how a researcher's belief systems, positionality and biases affect the entire study process, and how this may lead to some inaccurate representations or unintended outcomes for study participants. Thus, despite its proclaimed strength that it, "looks forward into the practical outcomes of research and theory, not backward to ontological, epistemological, or methodological ideals" (p.74), some advocate that the only way researchers working within this paradigm can produce good work is to first examine the ontological, epistemological and methodological assumptions that guide all research. Irrespective of these limitations, engaging with research paradigms, particularly the transformative and pragmatic paradigms, has provided me with useful frameworks to carefully think through and conduct my study. Next, I discuss my theoretical framework.

2.6 Theoretical Framework: Feminist Political Ecology

This study is anchored within the interdisciplinary theory of feminist political ecology (FPE) with relevant insights from feminist postcolonial theories, feminist political economy, intersectionality, and vulnerability (see figure 1 below for theoretical conceptualisation). According to Rocheleau, Thomas-Slayter and Wangari (1996), FPE explores the gendered relations of ecologies/environment, economies and politics among diverse individuals and groups in various parts of the world. It also considers the ways in which gender interacts with important social categories such as race, class, culture, among others, to influence people's experiences of environmental issues and resources. FPE was first conceptualised by feminist scholars in the 1990s in response to the silence or invisibility of gender in much of political ecology theorising and the resulting lack of information about how women and other marginalised groups experience environmental issues. Thus, by centring feminist perspectives in political ecology, Rocheleau et al. (1996) sought to emphasise the important role of gender

in mediating these political and ecological dynamics.

2.6.1 A Brief Overview of Political Ecology

Political ecology emerged from the fields of geography, anthropology and related disciplines, and draws from political economy analyses to assess the sociopolitical processes and power dynamics that underlie decision making around ecological issues (Blaikie & Brookefield, 1987; Roberts, 2020). Political ecologists therefore focus on the uneven distribution, access and use of environmental resources, the influence of structural forces such as capitalism on these uneven outcomes, and the role of geopolitics and class in shaping these policies and practices (Blaikie & Brookefield, 1987; Roberts, 2020; Rocheleau et al., 1996). Since its emergence in the 1970s and 1980s, political ecology has proved useful for examining processes of neoliberal globalisation, international development and economic industrialisation (or 'modernisation'), and their influence in restructuring local environmental experiences, particularly among actors in the Global South. With its emphasis on multiple scales of analyses – referring to the ways in which power, political and economic dynamics play out at the macro, meso and micro levels – political ecology also provides a critical lens for understanding the disruptions and dispossessions experienced by local communities in relation to globalisation. Political ecology is therefore considered a crucial counter to earlier Malthusian ideas that attributed blame for increasing environmental or climatic degradation to human 'over population' (Roberts, 2020; Sultana, 2021a).

Regardless of these contributions, political ecology has been critiqued on several accounts. For instance, some earlier political ecology theorising has been criticised as being simplistic in its analysis of environmental issues. Examples include the drawing of dichotomies between 'virtuous local land users' and 'ruthless corporations/states', despite the complexities and continuums of these dynamics in reality (Moore, 1993; Roberts, 2020). Further, scholars such as Vayda and Walters (1999), as well as Zimmerer and Bassett (2003) have critiqued political ecology for its tendency to adopt an unexamined lens that overly focuses on power and politics, thereby neglecting actual ecological analyses. According to these authors, such approaches tend to relegate the environment to a background stage, and portray political and power struggles over resource control as happening in isolation. In addition, Wilkins (2021) notes the absence of discussions on religion in political ecology theorising, and in the few cases where religion is discussed, it is often in regards to

ethnographic work done among Indigenous/local communities. This is irrespective of the fact that religious ideologies, spirituality and the sacred are usually deployed in environmental issues (for instance, nature-society relationships, causes and effects of climate change), with real consequences for certain individuals and groups. Finally, despite its interdisciplinary orientation, political ecology has been heavily critiqued as a predominantly white and masculine field that remains bound to postcolonial and settler-colonial spaces of interaction (Sultana, 2021a). This white, male orientation of the field has contributed significantly to its lack of attention to issues of gender in environmental issues, including how gender may intersect with other factors such as histories of colonialism, race, ethnicity and class to influence people's environmental experiences (Rocheleau et al., 1996; Sultana, 2021a)

2.6.2 The Role of Feminist Theories in Advancing Political Ecology

In response to some of these critiques of political ecology, FPE draws upon feminist ideas of centring the voices and experiences of women, and promoting social justice among oppressed groups, to better situate environmental and/or ecological experiences (Elmhirst, 2011; Gonda, 2019; Mollett & Faria, 2013; Rocheleau et al., 1996). FPE is by no means a monolithic field, given the range of issues it takes up and the diversity of FPE academics, policymakers and practitioners. This variation notwithstanding, FPE embodies some core tenets. *First*, FPE theorising cuts across three thematic areas: gendered science/knowledge; gendered political participation and grassroots activism; and gendered rights and responsibilities over environmental resources (Rocheleau et al., 1996). *Second*, like political ecology, FPE is concerned with scalar politics – thus, how knowledge production and consumption, political participation, and rights/responsibilities over the environment, play out at various levels or scales (Mollett & Faria, 2013; Sato & Soto Alarcón, 2019; Sundberg, 2017). However, unlike political ecology, FPE advocates that the examination of scalar politics go beyond the community or meso level, to include more micro spaces such as the family/household and the individual/body (Ge et al., 2011; Gonda, 2019; Sundberg, 2017). These interest areas of FPE are informed by feminist sub-disciplines, including feminist science studies, ecofeminism, and feminist critiques of development (Sundberg, 2017).

Figure 1: Theoretical Conceptualisation
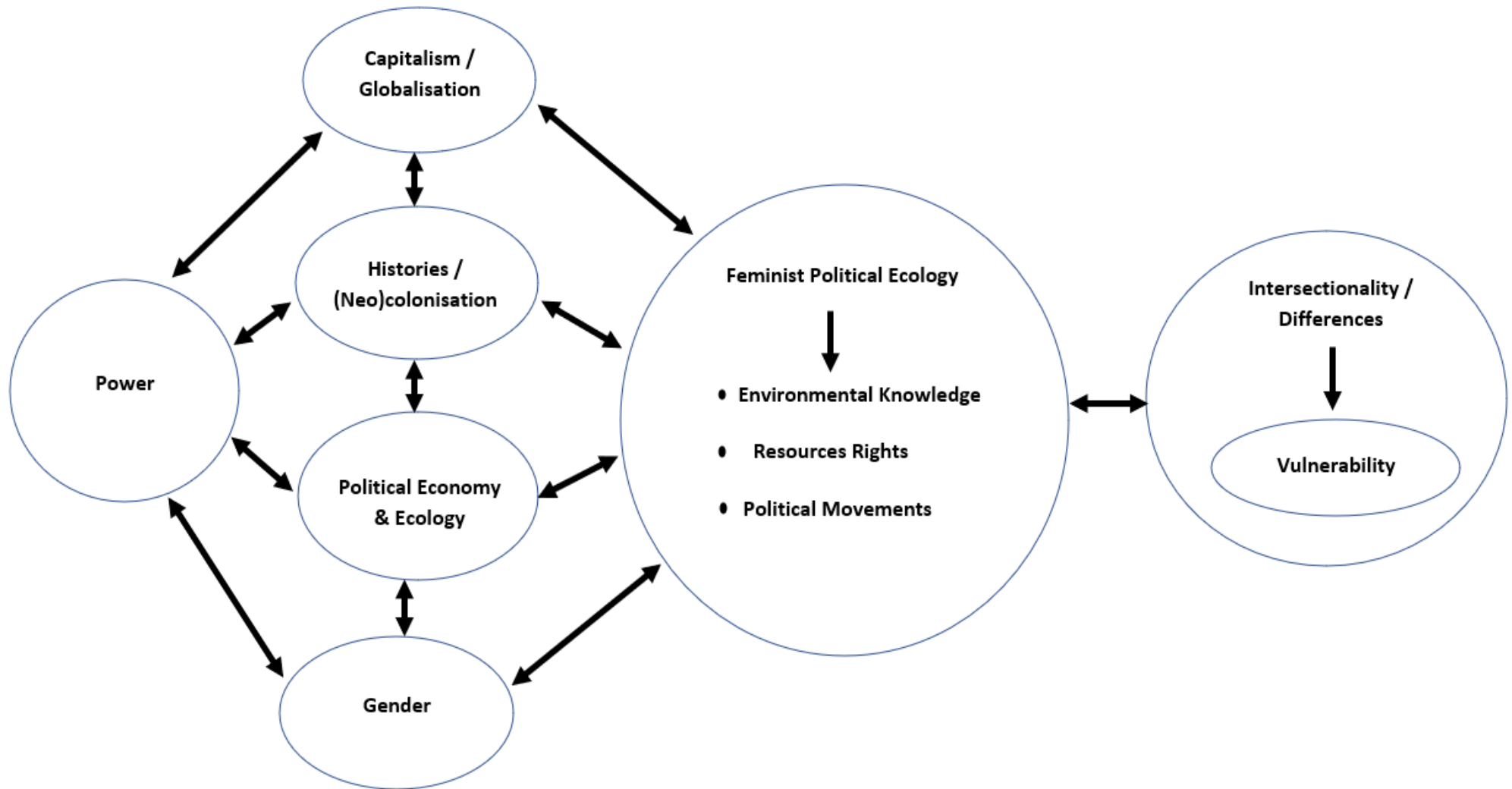
2.6.2.1 Gendered Science and Knowledge Production

Regarding gendered science and knowledge, FPE seeks to unpack the notion of 'scientific objectivity', arguing that the processes of knowledge production and consumption (i.e., who is regarded a knowledge producer, what counts as knowledge, and how this knowledge is created and taken up), are rooted in patriarchal gender norms (Resurrección & Elmhirst, 2020; Rocheleau et al., 1996; Sundberg, 2017). FPE scholarship on science, technology and other areas of knowledge creation therefore have five interconnected threads that run through them. First is the importance of women's diverse roles as producers, reproducers and consumers, and how this multiple positioning requires women to develop and maintain complex systems of household, communal, national and environmental landscapes. FPE theorists add that the traditional separation or dichotomy between these domains often brings women into conflict with specialised sciences/knowledges that only centre on one of these areas. Second, according to FPE, although women engage in various economic and political activities, they remain largely responsible for managing the basic necessities of daily life such as provision of care, thereby uniquely positioning them to challenge threats to health and life at this basic level (ibid).

Third, FPE maintains that human and planetary health and ecologies can be understood in alternative, feminist ways, given that these two domains are experienced daily in the 'mundane' activities of sustenance. Hence, FPE theorists posit that technical knowledge is not always a necessary requirement for grasping environmental knowledge. However, FPE does not preclude the ability to use feminist and specialised tools or methods to understand these phenomena as well. Fourth, FPE argues that, although formal science relies significantly on quantification, abstraction, replication and fragmentation as the basis of knowledge, women throughout history have highlighted the importance of integrated and comprehensive approaches to knowledge creation, particularly around environmental and health issues. And this is partly informed by women's gendered socialisation that connects their physical experiences with social ones (Gonda, 2019; Resurrección & Elmhirst, 2020; Rocheleau et al., 1996). Fifth and finally, FPE scholars problematise various gender biases in knowledge creation and use, including women's inequitable power and participation in formal science, the misappropriation of science to produce knowledge about women, the perceived universality of science, the appropriation of gendered metaphors in explaining and interpreting scientific knowledge, and the use of science in environmental management and

exploitation (Resurrección & Elmhirst, 2020; Rocheleau et al., 1996b; Sundberg, 2017). Thus, according to Sundberg (2017), a key feature of FPE is to show how, "women and other marginalized groups are systematically disadvantaged by conventional scientific practices that exclude them as knowers, while producing knowledge that renders their experiences invisible or represents them as inferior" (p.2).

2.6.2.2. Political Participation and Grassroots Organising

Regarding political participation and grassroots organising, FPE recognises women's collective mobilising to raise awareness about environmental issues and push for action to address these. This mobilisation has historically been within social, local and grassroots organisations involved in political, environmental and socioeconomic struggles – in response to changes happening globally (Resurrección & Elmhirst, 2020; Rocheleau et al., 1996). These global changes include environmental transformations, growing discourses on sustainable development, the marginalisation of minority groups based on race, gender, class and sexual orientation, the subsequent restriction of these marginalised groups' access to power and resources, and the redefinition of women's identities (by women themselves) through the recognition and enactment of individual and collective agency (Mollett & Faria, 2013; Rocheleau et al., 1996). These transformations have further contributed to the growing involvement of women in environmental knowledge and struggles.

2.6.2.3 Gendered Rights and Responsibilities

Finally, with respect to gendered rights and responsibilities, FPE asks critical questions such as, "who controls and determines rights over resources, quality of environment, and the definition of a healthy and desirable environment?" (Rocheleau et al., 1996, p.10). These questions are important to consider in matters of gender, climate change and natural resource access and use, given the salience of power and politics around these issues. FPE also critiques the false binaries of environmental resource tenure versus quality, whereby tenure is often discussed in relation to rural development and the Global South, whereas quality is taken up in relation to urban and industrial settings, particularly in the Global North. FPE demonstrates that communities in rural areas and the Global South are not precluded from suffering poor environmental quality, just as those in the north are not exempt from the challenges of resource tenure (Rocheleau et al., 1996; Sundberg, 2017).

FPE also emphasises the importance of paying attention to gendered division of roles and responsibilities regarding environmental resources within various spaces and scales, and across various species (Rocheleau et al., 1996; Sato & Soto Alarcón, 2019; Sultana, 2021b). FPE theorists again opine that the dichotomies between public versus private, production versus consumption, and production versus reproduction are blurred (Rocheleau et al., 1996; Sultana, 2021a). Scholars therefore insist that a careful consideration of these gendered roles /responsibilities and false dichotomies in FPE theorising is crucial, because an examination of gendered resource access that does not consider these complexities may continue to disenfranchise women regarding ownership of environmental and/or natural resources (e.g., land, forest, water, and food). For example, in their analysis of gendered tree tenure across the world, Rocheleau and Edmunds (1997) show that different resource rights and responsibilities were granted to women and men based on their socially ascribed roles as caregivers (reproducers) and breadwinners (producers). Consequently, men tended to have ownership over major crops, whereas women only had rights over species below, above or in between men's crops, thereby subjecting them to men's control and decisions regarding what to grow or tend.

2.6.2.4 Scalar Politics

Apart from these three core areas, FPE also prioritises scalar politics around environmental issues. As mentioned prior, both political ecology and FPE emphasise the crucial need to situate environmental processes within the different scales – global, regional, national and communal – at which they play out. However, FPE goes a step further to advocate for the need to consider less visible or 'private/intimate' scales (e.g., the household, individual, body), as important sites within which environmental issues play out as well (Elmhirst, 2011; Mollett & Faria, 2013; Sultana, 2021a; Sundberg, 2017; Truelove, 2011). FPE further foregrounds the need to recognise the interconnectedness and influence of these scales. For instance, some FPE scholars (see Elmhirst, 2011 and Wright, 2010) show that it is often at the intimate level that global and national power relations are enacted and sustained. Subsequently, researchers such as Eriksen et al. (2015) and Gonda (2019) argue that, engaging with scalar politics and bridging the macro and micro scales of environmental experiences should be the primary focus of FPE theorising, since these are the platforms on which social inequalities are (re)produced. In response to these calls, contemporary and/or emerging FPE

scholarship have begun to centre themes of embodiment (how the human body manifests environmental issues) and the (re)production of subjectivities (access and control over various bodies and species) as functions of ecological power dynamics and relationships (Elmhirst, 2011; Gonda, 2019; Sultana, 2021a; Sundberg, 2017).

2.6.3 Strengths and Shortcomings of Feminist Political Ecology

2.6.3.1 Benefits of FPE

FPE has advanced knowledge, policy and practice regarding environmental and natural resource access, control and use in significant ways. In respect to *theory/knowledge*, one of FPE's strengths is its ability to unpack the ways in which gendered and power dynamics shape women's and men's access to and control over resources, including in the domain of environmental knowledge production and use (Resurrección & Elmhirst, 2020; Sato & Soto Alarcón, 2019). FPE thus highlights how women and other minority groups have historically been marginalised from knowledge production around ecological issues, due to the patriarchal/androcentric character of 'environmental science'. FPE is also a useful tool for engaging in reflexive and politically-grounded knowledge creation that promotes our understandings of women's and other marginalised groups' roles in advancing knowledge of environmental issues. FPE also productively critiques mainstream environmental, development and political ecology work and discourses that often tend to portray women only as victims of their environment. In addition, FPE theorising helps to highlight the importance and interconnections of contextual and scalar dynamics such as histories, place, space and relationships in mediating knowledge and experiences of the environment. Finally, FPE provides a useful starting point for deconstructing binaries, including theory-practice dichotomies, by showcasing the role of academics in leveraging knowledge to influence policy and practice, and the contributions of environmental practitioners in furthering academic knowledge around environmental issues (Resurrección & Elmhirst, 2020; Sultana, 2021a).

FPE also contributes significantly to *policy* regarding gendered environmental issues. For instance, in their edited collection titled*, Negotiating Gender Expertise in Environment and Development*, Resurrección and Elmhirst (2020) discuss the rise in the uptake of gender 'experts' and 'specialists' within several organisations and policy arenas, as a way of promoting more gender equitable and responsive policies, and centring socio-ecological justice goals in mainstream environmental and development programming. Resurrección and

Elmhirst (2020) acknowledge that these emerging trends, roles and responsibilities (of gender experts) may come with challenges and complications – e.g., being reduced to bureaucratic, cosmetic and tokenistic symbols/obligations, as well as the expectations of having a single gender expert speak to the experiences of all women. These challenges notwithstanding, the authors argue that this new direction represents a win for FPE. Thus, by having professionals trained in conducting gender sensitive research and subsequently translating, conveying and implementing these research findings through policy and practice, there is more room to influence better, gender-responsive policies around environmental and development issues.

Finally, regarding *practice*, women's groups across the world – whose work are underpinned by FPE, even if not explicitly named as such – have influenced action around environmental issues in several ways. In Kenya, the Women's Green Belt movement mobilised to engage in widespread tree planting and protection of a public park in Nairobi (Rocheleau et al., 1996). In India, the Chipko movement organised to protect the Himalayan forests against timber concessionaries. In North America, women's grassroots groups have fought the disposal of hazardous wastes in North Carolina, Warren County, among others (ibid). Other notable examples include the works of Portia Adu-Mensah, who organised the people of Ekumfi Aboano, a community in Ghana, to rally against the siting of a coal mine in the area (Habib, 2020). Similarly, Hilda Flavia Nakabuye founded "Fridays for Future Uganda", a movement that mobilises Ugandan students to strike by boycotting Friday lessons, as a way to influence action on climate issues within the country. Finally, Vanessa Nakate, a Ugandan activist, draws from her grassroots experiences of climate change to organise protests and participate in spaces such as COP26, to garner policy attention and influence action to mitigate climate change (Habib, 2020; The Guardian, 2021). Although these movements are not entirely unproblematic as they still rely on neoliberal assumptions of individual and micro-level responsibility for addressing climate change, they represent victories nonetheless as they platform women in environmental and ecological issues.

2.6.3.2 Shortcomings of FPE

These benefits notwithstanding, FPE as a theoretical framework has also been critiqued on varying accounts, with many of the critiques revolving around its inability to adequately tackle issues of difference. To illustrate, a dominant shortcoming of FPE is its lack of attention to histories of slavery, colonialism and neocolonialism, and how these shape

contemporary environmental resources, experiences and outcomes. Thus, in line with earlier critiques of the feminist movement by postcolonial scholars (see Bulbeck, 1998; Davis, 2003; Lewis & Mills, 2003; Mohanty, 1988; Spivak, 2003) who note the absence of race and ethnicity in discussions of women's issues, scholars such as Elmhirst (2011), Mollett and Faria (2013) and Sultana, (2021) also criticise dominant/mainstream FPE scholarship for neglecting race and ethnicity in most of its theorising on gender and the environment. This is despite an earlier call by Rocheleau et al. (1996) that researchers centre race and ethnicity alongside class and gender, in environmental issues.

Elmhirst (2011) therefore notes that due to the disconnect between mainstream feminist/gender advocacy on environmental issues, and racial/ethnic advocacy on same, some scholars (and scholarship) on environmental and development issues (particularly in the Global South) choose to not identify with the label 'feminist', despite the FPE orientation of their work, as this tag may come with unpleasant and unwelcome political meanings. Thus, according to researchers such as Elmhirst (2011), Mollett and Faria (2013), Sundberg (2017) and Wilkins (2021), for many, the category of gender is constitutive of race, ethnicity, religion and class. Hence, no productive discussion of gender can happen without first considering how historical, racial, geopolitical, and related power dynamics shape environmental experiences at the local level. Critics of FPE therefore argue that paying attention to these histories will go a long way towards better situating the environmental marginalisation and dispossession that racial and ethnic minorities across low, middle and high income countries face (Elmhirst, 2011; Mollett & Faria, 2013; Sultana, 2021a). It will also help to better highlight the significant contributions that actors from the Global South have made towards advocacy and mitigation of climate change and environmental issues.

Another major critique of FPE is its tendency to study gender as a binary, monolithic, static, and acontextual construct. This results in several undesirable outcomes such as the instrumentalisation and essentialisation of gender, with women often portrayed as helpless victims and non-agentic actors who need saving, whereas men are portrayed as vicious oppressors who only and always oppress women (Resurrección & Elmhirst, 2020; Sato & Soto Alarcón, 2019; Sundberg, 2017). Other gendered, essentialist tropes include the use of feminine terminology (e.g., mother earth) that also describe the environment as helpless and in need of nurturing, the identification of women with nature (by many ecofeminists), and the attribution of the purported connection between women and nature to women's intrinsic

biological attributes (e.g., altruism). Lastly, another problematic uptake of gender in FPE is the neoliberal discourse of 'empowering' women to save their communities and the world. Such discourses run the risk of further burdening women in both their productive and reproductive roles, as a way to meet these empowerment goals (Gonda, 2019; Sato & Soto Alarcón, 2019).

Finally, FPE has been critiqued for its silence on, or uncritical uptake of, social and other identity categories such as religion (Mollett & Faria, 2013; Wilkins, 2021), age (Mollett & Faria, 2013), class (Mollett & Faria, 2013; Sultana, 2021a), culture (Sato & Soto Alarcón, 2019; Sundberg, 2017), sexuality (Sultana, 2021a; Sundberg, 2017), marital status (Mollett & Faria, 2013), the body and embodiment (Elmhirst, 2011; Mollett & Faria, 2013), and emotions (Gonda, 2019; Sato & Soto Alarcón, 2019; Sultana, 2021a). Also, mainstream FPE has been criticised for its anthropocentrism and inadequate consideration of power dynamics among various species. Accordingly, Sato & Soto Alarcón, (2019) and Sultana (2021b) both emphasise the co-constitutiveness of human and non-human animals, and the need to equally prioritise the place and survival of non-human species in environmental/ecological discussions. Apart from these, there is also limited to no attention on issues of disability in FPE literature, which is concerning given the differentiated marginalisation that people with disabilities face in environmental policy and practice spaces, despite the wealth of knowledge and contributions that they bring to these areas (Bell et al., 2020). These critiques outlined are by no means an exhaustive list. However, regardless of these drawbacks, credit must be given to FPE theorising, as scholars within this field are constantly rising to the critiques and challenges to be more critical and inclusive. Consequently, recent waves of FPE scholarship make conscious efforts to address some of the issues identified above (Sultana, 2021a; Sundberg, 2017).

2.6.4 Use of FPE in my Work

In response to these critiques of FPE, scholars such as Mollett and Faria (2013), Sultana (2021a) and Sundberg (2017) advocate for a 'postcolonial intersectional analysis' in FPE theorising, to more fully account for environmental experiences as influenced by histories, power dynamics, politics and other social categories. According to Mollet and Faria (2013):

> Postcolonial intersectionality acknowledges the way patriarchy and racialized processes are consistently bound in a postcolonial genealogy that embeds race and gender ideologies within nation-building and international development processes. This concept reflects the way women and men are always marked by

difference whether or not they fit nicely in colonial racial categorizations, as cultural difference is also racialized" (p.120).

In line with these calls, I use a postcolonial intersectional FPE analysis that also pays attention to issues of vulnerability in this dissertation. I do so by drawing on insights from the theoretical and conceptual frameworks of feminist postcolonial theories, feminist political economy, intersectionality and (livelihood) vulnerability (please see figure 1) – to enable me to better situate the experiences of people in rural migrant sending and receiving communities of Ghana regarding climate change and MLIs.

Postcolonial theories examine the ways in which slavery, colonisation and neocolonisation have created and continue to sustain uneven global relations particularly between high-income/Global North countries, and low-and-middle-income/Global South countries. Postcolonial theories also serve as a useful starting point for recognising how global structures of capitalism and exploitation create and sustain local structures of same (Bhabha, 2012; Said, 1985; Tsang, 2021). Adopting a feminist lens to postcolonial theories is helpful for examining how these unequal relations manifest within the structural/macro and individual/micro levels in gendered and other distinct ways. It also provides a lens for understanding the role of global patriarchies and inequalities in fostering local patriarchies and inequalities (Khan, 2005; Mills, 2019; Spivak, 2003). Scholars such as Lugones (2010) add that decolonial exercises are necessary for better understanding capitalist/colonial modernity, "because the colonial imposition of gender cuts across questions of ecology, economics, government, relations with the spirit world, and knowledge, as well as across everyday practices that either habituate us to take care of the world or to destroy it" (p.742). Such exercises subsequently help to both recognise the connection between the local and global, and avoid a romanticisation of indigenous systems, recognising that these systems may also partake in exploitative and inequitable environmental, development and gender relations (Lugones, 2010; Sultana, 2021a). Lugones (2010) also argues for the need to acknowledge and integrate the intersectional feminist scholarship of women of colour in postcolonial theorising, to better unpack the colonialities of gender. I therefore use feminist postcolonial theories to help me locate the local and individual experiences of climate change, MLIs and rural migration Ghana within the historical, (neo)colonial and global power dynamics (e.g., capitalism, discourses) that shape these experiences.

Political economy on the other hand explores the role of politics and economics on

policy and decision making, and the ways in which uneven power dynamics affect the support and implementation of social and other policies at the macro and micro level (Abdulai & Hulme, 2015; Keynes & Jevons, 1912; Marx, 2010; Poole, 2011). In critiquing and extending the propositions of political economy, feminists advocate for the need to disrupt the dichotomies intrinsic to political economy theorising (e.g., production versus consumption, production versus reproduction, public versus private goods and services, etc.), and also bring to the fore, women's unrecognised, unappreciated and un(der)paid labour in sustaining local and global economies (Best et al., 2021; Lawson et al., 2021; LeBaron & Roberts, 2010; Prügl, 2020; Rai & Waylen, 2013). I use feminist political economy to enable me to highlight the power, political and economic dimensions underlying decision and policy making in relation to ongoing development and globalisation processes such as migration, climate change, MLI/economic investments, among others in Ghana.

The vulnerability framework foregrounds how ecological, political, socioeconomic and cultural factors affect a population's disposition to, and experiences of, adversity; as well as their capability to withstand and recover from exposure to hazards that threaten their lives (Alexander, 2013; Anderson & Woodrow, 1989; Chambers, 1983; Dilley & Boudreau, 2001; Wisner, 2016). According to O'Brien et al. (2004), vulnerability regarding livelihoods may manifest in two forms: as a starting point or as an end point. Vulnerability as a starting point evaluates social vulnerability in relation to the causes, distribution and characteristics of vulnerability. This analysis takes into account the ways in which vulnerabilities are collectively shaped by environmental and social processes and, within an ecological context, are likely aggravated by climate change (Kelly & Adger, 2000). Thus, to better understand vulnerability as a starting point, some important questions to ask include: who are the most vulnerable? And how can their vulnerability be minimised? Vulnerability as an end point meanwhile focuses on the residual effects of social, economic and political outcomes (e.g., climate change, investment opportunities) outside of adaptation mechanisms. Within the context of climate change, this may involve understanding populations' susceptibility to climatic exposures after adaptation options have been exhausted (O'Brien et al., 2004). I use the (livelihood) vulnerability framework in this dissertation to show how migrants, non-migrants and return-migrants in sending and receiving regions of Ghana may be disproportionately exposed to environmental and socioeconomic hazards (i.e., climate change effects, vicious cycles of poverty, and political neglect), thereby heightening their vulnerability to extreme

climate events and economic deprivation, and threatening their survival.

Finally, intersectionality examines the interlocking ways in which a person's identity (such as their gender, race, ethnicity, age, socioeconomic status, sexual orientation) shapes their life and experiences of oppression/marginalisation (Crenshaw, 2018; Hankivsky & Grace, 2015). Intersectionality has been used as both a theory and methodology in diverse interdisciplinary and mixed methods scholarship including in health (Grace, 2013; Logie et al., 2013, 2012), education (Harper, 2011; Museus & Griffin, 2011), climate change (Baada et al., 2020) and migration (Khanlou & Gonsalves, 2011) to understand how multiple systems of oppression and/or identity categories may interact to influence individuals' and groups' experiences of marginalisation. I use the theory of intersectionality in this dissertation to highlight the collective and similar experiences of my study participants, as well as their individual and distinct experiences regarding climate change, MLIs and rural migration.

Taken together, these five interrelated theoretical/conceptual frameworks help to emphasise the unique ways that migrants, non-migrants and return-migrants in rural communities of Ghana experience climate change, migration and MLIs, and how their social positioning affects their access to resources in migration origin and destination areas. A postcolonial, intersectional FPE perspective that foregrounds differentiated vulnerabilities thus provides me with the tool to examine in detail, the historical, gendered, geographical, political, socioeconomic, cultural and other power relations that influence local and individual lived experiences as pertains to environmental/ecological, economic and social resources. Next, I discuss the locational contexts within which my study was conducted.

2.7 The Study Context

This study was conducted in the UWR and middle belt (Bono Region [BR]) of Ghana. I begin this section by describing the sociodemographic characteristics of the migration origin/sending area (UWR) including its historical, geographical, ecological, economic and sociocultural background. I go on to discuss how the characteristics of the region influence the outmigration of people from UWR to southern parts of Ghana. Following this, I describe the historical, geographical, economic, ecological and sociocultural contexts of the destination/receiving region (middle belt/BAR/Bono Region [BR]), and outline how conditions in middle belt destination areas serve as pull factors of migration for people from UWR. After

this, I provide an overview of north-south migration dynamics in Ghana, and conclude with a discussion of migrants' decision-making and settlement experiences in middle belt locations.

Figure 2: Map of Ghana Showing Study Areas
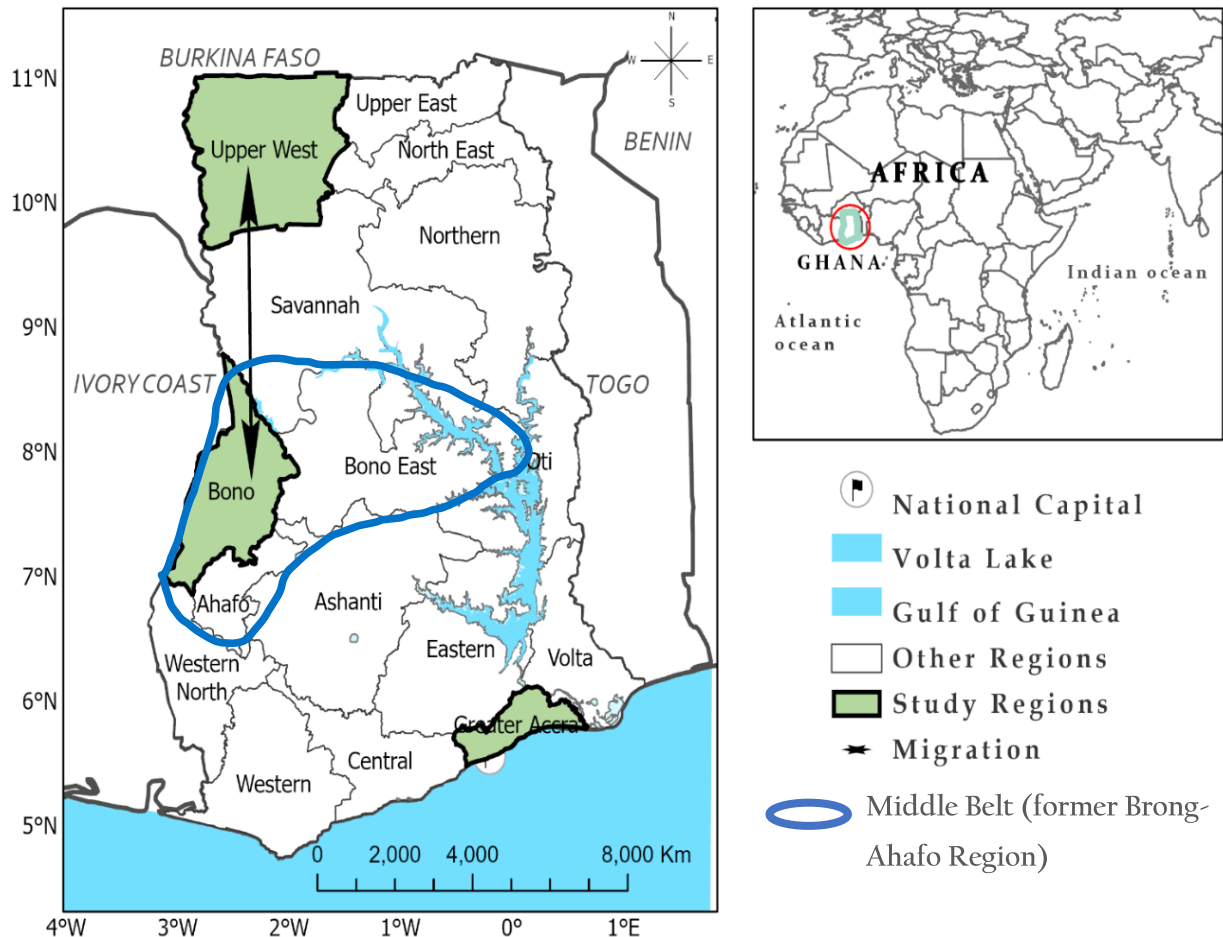
2.7.1 Migration Origin/Migrant Sending Region: The Upper West Region of Ghana

Situated in the north-western corner of Ghana, the UWR borders the Upper East and North East Regions to the east, Burkina Faso to the north and west, and the Savannah Region to the south (please see figure 2). The region is located between longitudes 1° 25' and 2° 45' and latitudes 9° 30' and 11° 00' N. It was established in 1983 from the then Upper Region and occupies a land area of 18,476 km2, constituting 12.7% of Ghana's total land mass. According to the last official national census, the UWR had 702,110 inhabitants, comprising 2.8% of the country's total population (Ghana Statistical Service, 2013a). Current provisional results of the 2021 national census by the Ghana Statistical Service (GSS) however estimates the region's population at 904,695, representing 2.9% of Ghana's 30.8 million people (Ghana

Statistical Service, 2021). Of this total UWR population, 51.2% are women and 48.8%, men. The region is estimated to have an average population density of 48.8 persons per square kilometre (p/km^2), almost three times lower than the national average of 129.3 p/km^2 (City Population, 2021). The UWR has the highest rural demographic in the country; 83.7% relative to the national average of 49.1% (Ghana Statistical Service, 2013c, 2013a). Subsistence farming is the mainstay of the region, with an estimated 77.1% of the population engaged in some type of agricultural work, compared to the national average of 42%. Major food crops grown in the region include millet, corn, groundnuts, beans and yams. Some households also undertake livestock rearing. Over half (59.5%) of the population in UWR have not undergone formal education, more than twice the national average of 25.9%. Of this number, 51.5% are men and 66.5% women. About 4% of people in UWR report living with a disability.

Prior to the re-demarcation of the country in 2018, UWR was the youngest and one of the smallest (in terms of land mass) in Ghana. However, with the re-demarcations, it currently ranks sixth in terms of land mass. The region has 11 districts, with Wa Municipal as the regional capital. Although the Regional Coordinating Council (RCC) is the main political and administrative decision-making body, the region also recognises the authority of traditional rulers and chiefs at various levels. Thus, at the regional level, political and social decisions are often undertaken by both legal and traditional authorities, at centralised and decentralised levels. At the communal level, power is vested within the Tengan-Sob and the Tindana, the custodians of the spirit and physical lands, respectively (Mwinlaaru, 2017). The major ethnic groups in the region are the Dagaaba, Sissaala, Waala and Brifo, and the main languages spoken in the area include Dagaare, Sisaali, Waali and Brifo. The main religions practiced in the region are Christianity, Islam and the African Traditional Religion (ATR).

The UWR has some of the highest rates of poverty in the country. For instance, the 2015 Ghana Poverty Mapping Report pegged the region as the poorest with poverty rates of 70.7%, more than double the national average of 30.9% (Ghana Statistical Service, 2015). The Ghana National Household Registry (GNHR) also classified 18.5% of households in UWR as poor (earning an income below the international poverty line of $1.90 per day), while the majority (63.8%) of households were classified as extremely poor (living below the poverty line and without access to basic human needs and services) (Modern Ghana, 2017). Lastly, some scholars report poverty rates of up to 96% in some UWR communities (Kuuire et al., 2013). In addition to this economic deprivation, UWR also has high levels of food insecurity

(Atuoye & Luginaah, 2017; Kuuire et al., 2016; Luginaah et al., 2009), limited economic and livelihood opportunities, poor infrastructural development including subpar schools, hospitals, housing conditions (e.g., mud brick/earth and corrugated metal sheets are the most widely used building materials) and poor electrification (Ghana Statistical Service, 2013c; USAID, 2020). This extreme poverty in the UWR (rooted in colonial and neocolonial legacies as discussed below) is exacerbated by deteriorating climatic conditions in the region.

The UWR is situated in the Guinea Savannah vegetation belt, characterised by grassland areas interspersed with drought resistant trees such as baobab, shea, neem and dawadawa (African locust bean). In addition to serving as food and herbs, these trees are also often used for domestic fuel/energy needs. UWR has one rainfall season, which previously ran from April to September and averaged around 957.6mm – 1150mm of annual rainfall (Afifi et al., 2016; Armah et al., 2011; Ghana Statistical Service, 2013c). These rainfall conditions have however changed over the years. Apart from the rainy season, the region also experiences severe harmattan seasons typified by a prolonged dry weather, dusty winds, cold hazy mornings, and extreme heat in the afternoon. Temperatures in UWR range from 20 degrees Celsius (the coldest, typically during December/harmattan) to above 40 degrees Celsius (often in March-May); before the rainy season begins.

The UWR began experiencing negative climate change effects – manifested as poor/unpredictable rainfall and weather conditions, degraded soils, and heat waves – from the late 1970s, and these climatic conditions worsen each year (van der Geest, 2011). Given that the majority of people in UWR are into subsistence farming, and coupled with the limited economic and livelihood opportunities in the region, these poor environmental/ecological conditions further exacerbate their marginalisation and therefore serve as drivers for outmigration to southern parts of Ghana. Thus, as of 2010, over a quarter (28.04%) of the UWR population lived outside of the region, with 41.7% of migrants from UWR moving to the former BAR/middle belt (Baada et al., 2020; Ghana Statistical Service, 2013a).

Social hierarchy within UWR households is influenced by age and gender – with younger and female household members often deferring power to older and male members. However, most cultures in UWR are male-centred, mainly a result of the patrilineal system of inheritance within the region. Thus, at the household level, power and decision-making authority often lie in the hands of the household head – usually the oldest male member. Although scholars such as Mwinlaaru (2017) posit that age deference trumps gender

deference in UWR, it is often the case that male household members tend to control major economic decisions within the home whereas female members oversee decisions regarding household maintenance and minor economic purchases (Baada, 2017; Lobnibe, 2008). Gender norms and roles in many UWR households therefore tend to be structured around these sociocultural hierarchies, with men often tasked with economic upkeep including the supply of staple foods, payment of school, medical and other bills, and the provision of housing and large purchases or household needs. Women on the other hand are largely responsible for the provision of domestic labour and caregiving services including household chores such as cooking, cleaning and laundry, as well as caring for children, older adults and persons requiring assisted care. In addition, women are responsible for 'assisting' men with farm work and undertaking small-scale economic activities (e.g., petty trading, burning of charcoal, shea butter processing and sale, pito[5] brewing) to supplement household income. These gender norms and roles inevitably shape and are shaped by migration dynamics.

2.7.2 Migration Destination/Migrant Receiving Region: The Middle Belt of Ghana

Rural communities in the middle belt (former BAR) of Ghana – covering the Bono, Ahafo and Bono East Regions, as well as parts of the Ashanti Region – are the preferred destination for most migrants from UWR. The BAR lies on latitude 7° 45' 0" N and longitude 1° 30' 0" W. The BR (located within the BAR) is one of six new regions created in Ghana in 2018 by the ruling government. It was carved out of the former BAR, which was itself created from the then Ashanti Province, in 1959. Given its recent creation, sociodemographic and other information about the BR is scant, so I rely on information about the BAR/middle belt, supplemented with available information about the BR, to situate the migrant receiving context. This lack of information also informs my decision to use the term middle belt, rather than BR, as much of the information presented in this dissertation is more characteristic of Ghana's BAR/middle belt than the newly created BR.

The BAR had a population of 2,310,983 during the last official national census (Ghana Statistical Service, 2013b). Recent estimates however puts the BAR's (now the Bono, Bono East and Ahafo Regions) population at 2,976,717 (City Population, 2021). The newly created BR makes up 1,208,649 (40.6%) of this total population – with 50.6% women and 49.4% men.

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[5] A fermented beer made from millet, maize, and/or guinea corn

The BR covers a land area of 11,113 km² and has an average population density of 108.8 p/km². The BAR/middle belt straddles two ecological vegetation zones; the Guinea Savannah Woodland and the Semi-deciduous Rainforest. It experiences a dual rainfall season, with annual rainfall averaging 1000mm in northern areas to 1400mm in the more southern parts (Ghana Statistical Service, 2013a), although studies show that these rainfall patterns are changing (Baada et al., 2020). The region has an average climate temperature of 23.9 degrees Celsius. The middle belt is (or has historically been) endowed with natural resources and favourable climatic conditions such as rich soils, good rainfall, mineral deposits, forest and timber resources, and several tourist sites (Ghana Statistical Service, 2013b).

Figure 3: Map of Ghana Showing Study Communities
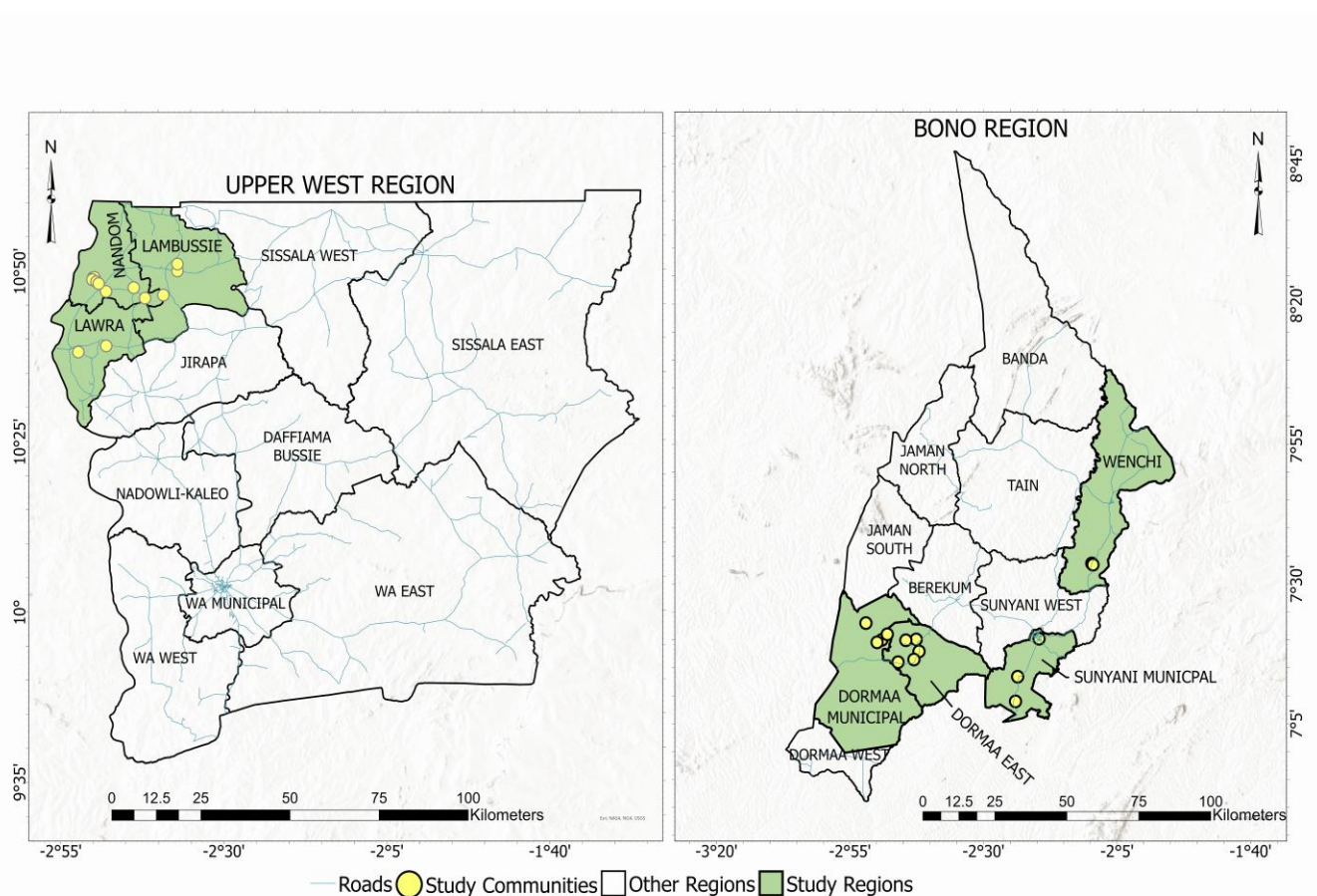
Approximately 55.5% of the middle belt is rural and 27.9% of people in the area live below the poverty line, although these rates can be as high as 78.3% in some communities (Baada, 2017; Ghana Statistical Service, 2013a). Albeit lower than UWR, agricultural activities also form the major occupation of people in the middle belt, with 68.5% of the population

engaged in this sector. Further, 78.9% of people engaged in agricultural work are based in rural areas (Ghana Statistical Service, 2013b). Major crops grown in the middle belt include cash crops such as cashew, cocoa, timber, coffee, tobacco and rubber, as well as food crops like cassava, yam, plantain, tomatoes and rice. The middle belt is affectionately called Ghana's breadbasket, as it provides about 30% of the country's food needs. According to the GSS, a significant proportion of agricultural labour in the area comes from migrant workers from the three northern regions of Ghana, including the UWR (Ghana Statistical Service, 2013b).

Inhabitants of the middle belt are of Akan ethnicity, and major languages spoken in the area are Bono (a dialect of Twi) and Twi. Similar to UWR, the middle belt recognises both statutory (state/legal) and traditional (chiefs/community leaders) sociopolitical systems of authority. Unlike the UWR, inhabitants of the middle belt practice a matrilineal system, and this is reflected in other cultural aspects such as kinship, lineage and inheritance. The middle belt is a popular destination for migrants from northern Ghana, and the UWR in particular, for several reasons. First, it has comparatively better climatic (rainfall, soil, weather) conditions than UWR. Second, it is geographically closer to the UWR as compared to other regions in southern Ghana. Third, the middle belt has a large network of UWR migrants due to years of in-migration to the area. Thus, according to the GSS, migrants make up 23% of the total population of the middle belt, with those from UWR forming the highest proportion (23.04%) (Baada et al., 2020; Ghana Statistical Service, 2013a). These existing migrant networks therefore serve as facilitators for newer migrations to the middle belt. Next, I discuss the colonial and neocolonial legacies underlying Ghana's structural inequalities and how these have shaped migration histories within the country.

2.7.3 Historical, Structural and Geographical Inequalities, and Rural Migration in Ghana

Migration patterns in Ghana cannot be understood outside of the (neo)colonial policies that have shaped these trends. This is especially the case for north-south, rural-rural migrations from UWR to middle belt areas. Prior to the arrival of European slave traders, the northern sector of Ghana – located within the Sahel Zone – was a thriving region in terms of trade/commerce (Songsore, 1979). The Sahel Zone was primarily organised around state lines to foster Trans-Saharan trading activities, predominantly between Sahelian States and North Africa. The Mole-Dagbon groups – located in present-day northern Ghana and inclusive of the current UWR – were part of these early centralised states, and therefore benefitted

significantly from these trade activities (Amin, 1972; Songsore, 1979). These good fortunes were however overturned with the arrival of European merchants, who mainly traded in the southern and coastal sectors of Ghana. This preference for southern trade was largely due to the presence of natural resources such as gold, diamond, bauxite, cocoa and timber in these parts, as well as the area's proximity to the Gulf of Guinea. These emerging dynamics of European trade consequently led to a political and economic restructuring of trade routes and activities – including the disruption of Trans-Saharan trade activities – with the southern sector of the country becoming the new, international trade hub (Garrett, 1980). Another noteworthy feature of these new trade dynamics was the fact that the European trading system was more capitalist inclined, compared with the Trans-Saharan trade, and therefore involved significant exploitation of both people and goods. This restructuring in the trade system ultimately left the northern sector severely disadvantaged due to the loss of its thriving commerce advantage.

Northern Ghana's woes were compounded by the advent of slave trading and resulting wars between slave traders and local populations of the then-Gold Coast. By the 1800s, the British become the dominant European settlers and traders of both natural resources and human slaves from the Gold Coast. Over time, these British colonists deemed it necessary to centralise their rule and develop their areas of settlement to boost trade activities and ensure comfortable living conditions for themselves (Garrett, 1980). Accra (now Greater Accra Region) was therefore made the capital of the colony, and roads, railways, healthcare facilities and educational institutions were established in this area. The northern sector at the time did not benefit from these infrastructural developments, as it was not part of the British protectorate, and also did not constitute an economic hub of British trade activities. The northern sector was therefore rather positioned as a labour reserve for the growing mines, plantations and armies in southern Ghana, and subsequently, young people from the area were routinely recruited to go and work in these southern industries, often through coercion (Bening, 1977; Garrett, 1980; M. Owusu, 1970; Songsore, 1979; Songsore & Denkabe, 1995).

After Ghana gained independence in 1957, these colonial legacies of intentionally stagnating development in the northern parts of the country were sustained by subsequent local governments, as a way to ensure the continued flow of labour to growing southern industries. The contemporary outcomes of these (neo)colonial development policies in

northern Ghana include under-developed/non-existent social infrastructure and amenities such as roads, railways, educational institutions, healthcare facilities, electricity, running water, etcetera (Songsore, 1979; Songsore & Denkabe, 1995). Others include poor employment and livelihood options, hence the heavy reliance on subsistence farming for economic, food and other survival needs. With time, the use of brute force to recruit labour from northern Ghana was discontinued. However, the concentration of industries and economic activities in southern Ghana served as an incentive for people in the north to 'voluntarily' move to these southern areas. Furthermore, the presence of educational, health and other social infrastructure in southern Ghana implied that people from the northern sector often had to relocate to the south to access these resources and opportunities. Thus, voluntary north-south migration in Ghana is traced to this period in the country's history (Songsore, 1979). Notably, most migrations of the 18th and early to mid-19th century tended to be temporary/cyclical, as migrants (including those from UWR) returned to the north once their migration needs had been met (Abdul-Korah, 2006). These early migrations were also male dominated, as the independent migration of women during this period was discouraged due to sociocultural reasons rooted in the patriarchal character of UWR culture. For example, it was deemed unsafe for women to travel alone. And similar to other African cultures, the few women who migrated by themselves were perceived to be promiscuous (Grier, 1992; Koenig, 2005). Finally, early migrations from northern Ghana were to mostly urban communities of the south, also often the locus of economic activities (Abdul-Korah, 2008).

2.7.3.1 Changing Migrations: Shifts in Motives, Geography and Gender

With time, the voluntary movement of people from northern to southern Ghana began to evolve to include motives such as exploration and fulfilling sociocultural rites of passage, particularly for young men (Abdul-Korah, 2008). Thus, from the 1960s onwards, boys who came of age in the UWR were encouraged to travel to 'Kumasi' (southern Ghana) to broaden their horizons and accumulate resources to settle down and start their own families. Similar to previous north-south migrations, these also tended to be temporary, male dominated, and urban-based (ibid). By the late 1970s however, different migration trends began to emerge.

These changing migration patterns were partly because the economic marginalisation of northern Ghana (and UWR) was exacerbated by Ghana's decision in 1983 to adopt the

neocolonial Structural Adjustment Programme (SAP) recommendations of the World Bank and International Monetary Fund (IMF). In the mid-1960s, Ghana – previously tagged "the bright and promising star of Africa" (Konadu-Agyemang, 2000, p.473) – fell into severe economic hardship, resulting from several factors including excessive national borrowing by the government, a decline in GDP, dried up foreign reserves, and economic/public sector mismanagement. In addition to these adversities, the country was also experiencing political instability, corruption, the unprecedented outmigration (brain drain) of skilled workers (particularly teachers and medical staff), and a famine (Konadu-Agyemang, 2000).

By the early 1980's, the government of Ghana sought external intervention from the twin Bretton Woods institutions to assist the country out of its difficulties and help stabilise the economy. In diagnosing the problem, the IMF and World Bank identified internal factors such as, "unwarranted state interference in the workings of the price mechanism, over-bloated public service, exchange control, state ownership of manufacturing enterprises, investment in social welfare … inward-looking trade policy, and heavy government spending" (Konadu-Agyemang, 2000, p.474). The SAPs were therefore prescribed as the solution for overcoming Ghana's economic hurdles, similar to other low- and middle-income countries at the time. These SAPs – consisting of actions such as privatising public enterprises, downsizing the public sector, currency devaluation, promoting exports, cutting government spending in education, health and welfare, and removing subsidies for some goods and services (including agricultural ones) – were expected to stimulate economic growth and help Ghana to recover (Hutchful, 2002; Konadu-Agyemang, 2000).

Although the SAPs negatively affected the lives of all Ghanaians, they were particularly marginalising for people from the UWR and other northern regions for many reasons. First, most people in UWR were subsistence farmers who greatly depended on agricultural subsidies to be able to afford inputs. Second, the emphasis on international trade and export led to an increased attention on cash crops like coffee and cocoa, mainly grown in southern Ghana. Thus, in addition to the challenges of accessing farm inputs, farmers in UWR also had fewer marketing options for their crops (e.g., groundnuts, beans, millet), as these were not prioritised for export (Konadu-Agyemang, 2000). These neocolonial policies consequently worsened economic and food insecurity among people in UWR, further widening inequalities between northern and southern Ghana and serving as push factors of migration for many in the region (Songsore & Denkabe, 1995).

Around this time (late 1970s and early 1980s), the UWR also began to experience deteriorating climatic conditions, mostly stemming from its positioning in the Guinea Savannah. These climatic changes included steadily declining rainfall amounts, short rainfall durations, and erratic and unpredictable rainfall seasons. Others included land degradation, decreased soil fertility and consequent declines in agricultural production. Again, these emerging dynamics were particularly devastating for residents of the region given their heavy dependence on subsistence farming. Coupled with the existing vulnerabilities and inequities created by the aforementioned colonial and neocolonial policies, outmigrations from the region intensified as most inhabitants needed alternative livelihood and survival strategies.

These growing outmigrations were accompanied by crucial changes in migration patterns. *First*, most people from UWR were now moving to rural rather than urban areas of the southern sector. *Second* and related, these new migrations were for subsistence farming purposes, compared with earlier forms that were for work in commercial farming, mines and other wage jobs. Thus, given that environmental conditions and poor farming outcomes were the main push factors of outmigration, many migrants were now moving to rural farming communities due to the relative ease of securing farmlands in these areas. *Third*, most migrations from UWR were now towards the middle belt (BAR and parts of the Ashanti Region), as these locations were geographically closer to the UWR. *Fourth*, migrations were becoming permanent rather than temporary/cyclical. This was mainly because many migrants saw cost utility in relocating with their nuclear families, instead of having to travel back and forth during work seasons. Moreover, migrating as a family also ensured that farmers could access household labour for their farms in the destination areas (Abdul-Korah, 2006; Baada, Baruah, & Luginaah, 2019; Kuuire et al., 2016).

Fifth and importantly, these change in migration patterns, particularly the permanent nature of newer migrations, led to the involvement of more women in these mobility processes. At first, many of the women migrating did so with their partners and families. Over time, however, the sociocultural norms that previously restricted women's migration began to change, and subsequently, many young women from UWR could independently migrate to southern Ghana as well (Abdul-Korah, 2011; Lobnibe, 2008). It is however important to add that most women who migrate to rural locations of the middle belt tend to be older and/or married, as younger and unmarried women prefer to settle in urban centres to engage in wage labour (Abdul-Korah, 2011; Awumbila & Ardayfio-Schandorf, 2008).

2.7.3.2 Settlement Dynamics among Migrants in Rural Middle Belt Areas

Due to years of in-migration to the middle belt, many new migrants rely on economic and social assistance (e.g., remittances, information) from older/earlier migrants to facilitate their own relocation and settlement in destination areas. Migrant networks also serve as important resources for accessing land and employment opportunities in middle belt receiving areas (Kuuire et al., 2013). Given their resource-poor state, many migrants from UWR prefer to settle in remote rural locations, as lands here are comparatively cheaper. It is therefore common to find migrant hubs in dispersed, remote areas of the middle belt; some of which have been named after communities in UWR (e.g., Nadowli) (Baada, 2017). These settlement patterns however tend to have dire implications for migrants' lives and wellbeing, as most migrant communities lack social infrastructure and amenities such as electricity, running water, hospitals, good roads and schools.

Migrants in the middle belt who have relatively more resources often buy land to build their homes and farm, while those without as many resources resort to borrowing/leasing lands (Kansanga & Luginaah, 2019). Migrants' housing is usually constructed from mud, thatch, bamboo and straw (Baada, 2017). Regarding farming activities, many migrants negotiate lease or sharecropping arrangements with landowners in destination areas. With leasing, migrants typically engage in some (semi) formal land acquisition process, where they pay amounts ranging from GHS 200 (33 USD) to GHS 1,000 (164 USD) per acre of land for a duration of time, often one year (Field Work, 2019-2021). With sharecropping on the other hand, migrants work out an arrangement where they exchange either food crops, labour or both, to a landowner, in exchange for land. Abunu and Abusa were previously the dominant sharecropping arrangements in middle belt areas. In the Abunu system, farm produce is split in a 2:1 ratio for the farmer and landowner, respectively, whereas in Abusa, produce is split in a 3:1 ratio between farmer and landowner (Kuuire et al., 2013). This arrangement is sustained until migrant farmers raise enough money to either rent or buy their own lands. In recent times however, migrant farming arrangements have come to include another system where they provide both labour and caretaking services on a landowner's cash crop farm, while intercropping food crops on these farms (Baada, 2017; Field Work, 2019-2021). Although these arrangements provide migrants with land tenure options in middle belt destination areas, they are sometimes exploitative, and may be exclusionary for women and

other marginalised groups due to economic and sociocultural norms that affect their buying/renting options (Baada et al., 2019; Kansanga & Luginaah, 2019).

2.8 Summary

In this section, I reviewed literature around climate change, MLIs and migration from the broader perspective. I also discussed how macro level factors such as histories, geography, politics, economics and discourses shape these three phenomena, as well as how micro level categories such as gender, socioeconomic status, ethnicity, age and disability may shape experiences of climate change, MLIs and migration at the local/individual level. Following this, I outlined the disciplinary context within which my study is located, including the field of feminist research/methodology and the paradigm commitments that guide my work. I also provided an overview of the theoretical background of my research. I concluded with a description of the study sites and the historical and contemporary dynamics of north-south migration in Ghana.

CHAPTER THREE (3)

RESEARCH METHODOLOGY

3.1 Introduction

In this chapter, I present the research methods that guide my study. The chapter is divided into two main sections: a first where I situate my research within the mixed methods literature, and a second where I discuss the practicalities and my experiences of empirical data collection and analyses. I begin by describing the mixed methods approach, as well as its benefits and limitations. I also discuss the measures I have taken to guarantee 'rigour' in my research. Next, I outline the specific methods and tools used in data collection, and my rationale for selecting these. I go on to describe my data collection procedures for both the qualitative and quantitative components including sampling, interviewing and survey administration methods. This is followed by a section on how the various forms of data were analysed and integrated. After this, I provide a discussion of some important ethical considerations regarding my study including my navigation of procedural/institutional ethics, and relational/situational/contextual ethics. I reflect on some of the tensions that arose throughout my research and how these tensions were reconciled, or in some cases, why these tensions could not be neatly addressed. I conclude the chapter with a discussion of my positionality and how this has influenced my research.

3.2 Study Design: The Mixed Methods Approach

My study adopts a feminist mixed (qualitative and quantitative) methods approach – anchored within the transformative and pragmatic paradigms (please see chapter two on feminist research and paradigms) – given my goal of presenting a comprehensive picture of my participants' experiences, while also capturing their in-depth views, experiences and voices. Mixed methods are conceptualised in varied ways. For instance, Ivankova and Creswell (2009) define mixed methods as, "a procedure for collecting, analysing, and mixing quantitative and qualitative data at some stage of the research process within a single study in order to understand a research problem more completely" (p.137). Cresswell (2003) refers to the mixed methods approach as, "one in which the researcher tends to base knowledge claims on pragmatic grounds (e.g., consequence-oriented, problem-centred, and pluralistic). It employs strategies of inquiry that involve collecting data either simultaneously or

sequentially to best understand research problem [sic]. The data collection also involves gathering both numeric information (e.g., on instruments) as well as text information (e.g., on interviews) so that the final database represents both quantitative and qualitative information" (p.21). Finally, Donna Mertens in her interview with Johnson and Onwuegbuzie says, "Mixed methods research, when undertaken from a transformative stance, is the use of qualitative and quantitative methods that allow for the collection of data about historical and contextual factors, with special emphasis on issues of power that can influence the achievement of social justice and avoidance of oppression" (Johnson & Onwuegbuzie, 2007, p.120). Johnson and Onwuegbuzie (2007) situate mixed methods research between the extremes of quantitative research credited to the ideas of Plato, and the qualitative traditions of the Sophists. Thus, mixed methods researchers are encouraged to strive to respect the ideals of both perspectives, and work to find a feasible middle ground for answering/ addressing research questions and problems.

Ivankova and Creswell (2009) identify *mixed methods*, *qualitative methods* and *quantitative methods* as the three broad research traditions in the social sciences. While qualitative and quantitative approaches are more established and have therefore been used more extensively in studies globally, the mixed method tradition is the newest of the three and is therefore considered less well-known, although the use of mixed methods is increasingly gaining traction in social science research as well. The mixed methods tradition is believed to have originated in 1959, when Campbell and Fisk adopted multiple methods to examine the validity of psychological traits among individuals, and subsequently encouraged other researchers to use more than one method in collecting and analysing data (Campbell & Fiske, 1959; Cresswell, 2003). However, the field of mixed methods became full-fledged around the late 1970s, when several books and strategies about how to undertake mixed methods research began to emerge. The last three decades have since witnessed the popularity of using both qualitative and quantitative procedures to collect and analyse data to inform research problems (Creswell & Tashakkori, 2007; Ivankova & Creswell, 2009).

Ivankova and Creswell (2009) provide three characteristics (or notation systems) of a mixed methods research approach: timing, weighting, and mixing. *Timing* refers to the order in which the qualitative and quantitative data are collected and analysed. *Weighting* signifies the way in which each data type is prioritised. Lastly, *mixing* denotes how data and findings from the qualitative and quantitative methods or strands are integrated within a single study.

Decisions about which strategies or notation systems to use in a mixed methods study depend on several factors including the time and funding available to the researcher, the expertise of the researcher or research team, the expectations of funding organisations, and the purpose of the research (Hesse-Biber & Griffin, 2015; Johnson & Onwuegbuzie, 2007; Leckenby & Hesse-Biber, 2011; Morse, 2015; Preissle et al., 2015). Of the three notations, Ivankova and Creswell (2009) identify mixing as the most important aspect of mixed methods research, and indicate that this could occur at various stages including at the data collection and analysis stages, or during the interpretation and writing of study findings. The authors add that the process of mixing study results is largely dependent on the study purpose and design, as well as the strategies employed in collecting and analysing the data.

Based on Ivankova and Creswell's (2009) notation systems described above, **I adopted a *concurrent/convergent timing (qualitative + quantitative)*** approach to data collection, given that I needed to collect my data within a stipulated time in order to meet my doctoral programme expectations and deadlines. A concurrent/convergent approach means that I collected and began analysing both data sets simultaneously and separately (but iteratively). To do so, I used different tools and instruments to collect qualitative and quantitative data, at the same time. Regarding weighting, in keeping with my concurrent study design, *I prioritised both the qualitative and quantitative components (QUAL and QUAN quant)* of my research equally. However, I engage with the qualitative data more substantially for several reasons. First, due to the feminist orientation of my research – and based on my ontological, epistemological, methodological and axiological commitments discussed in chapter two – I gave weight to the qualitative component due to its dialectical nature and the ability to obtain rich, in-depth and thick descriptions of participants' experiences. I expand on this in the section below where I discuss the individual (qualitative and quantitative) methods. Second, engaging with the qualitative component enabled me to emphasise the human faces and experiences of climate change, MLI/DaFI and rural migration, as previous studies – which often take a quantitative nature – tend to lack this (Bee et al., 2015; Duerden, 2004; Gaard, 2015). Third, I weighted the qualitative component of my research more, as a way to challenge the dominant approach to mixed methods studies where quantitative methods are often given more weight than qualitative ones. Finally, regarding the third notation, mixing, *I used a study design that involved mixing at all stages of the research process*, from conceptualisation (paradigm level) to dissemination (publication outlets). Although the

majority of my data mixing happened at the analysis and interpretation phases – when I began comparing the results from both data sets to see what findings complemented and/or contrasted one another – my approach to mixing for the broader study started much earlier at the design, paradigm and theoretical levels (please see figure 2 below diagramming levels and procedures of mixing). In the next section, I explain my qualitative and quantitative approaches to the study and how I undertook mixing and/or integration of both methods.

3.2.1 The Qualitative Approach in Mixed Methods Research

Qualitative methods is an umbrella term that covers a cluster of interpretive research techniques aimed at describing, decoding, translating and engaging with the meaning, rather than the frequency, of everyday phenomena and experiences (Van Maanen, 1979). To undertake qualitative research implies using a dialectical approach – involving the trading of language, culture and other non-verbal communication between the inquirer/researcher and research participants – to find answers to research questions. According to Van Maanen (1979), this dialectical process is aimed at reducing, "the distance between indicated and indicator, between theory and data, between context and action" (p. 520). Van Maanen adds that the substance of qualitative methods is often generated in vivo, inductively and close to the point of origin of the phenomenon being studied. The author however notes that the use of qualitative methods does not preclude a researcher's engagement with the logics of scientific empiricism, as is often erroneously argued, although phenomenological analysis remains the dominant technique used in carrying out qualitative research. Qualitative research is often associated with constructivist and critical theory paradigms, and is the commonly used approach in feminist research. However, feminists also use quantitative research methods, and some qualitative research may take positivist or post-positivist epistemological angles in their work (Crasnow, 2015; Guba & Lincoln, 1994; Leckenby & Hesse-Biber, 2011; Thompson, 1992).

Cresswell (2003) identifies some characteristics of qualitative research. First, in qualitative research, *meanings are co-constructed* by human beings through their engagement, and their interpretations of this engagement, with the world. Qualitative research therefore relies on the use of open-ended questions to give participants the opportunity to express their views on their engagements with and interpretations of the world. Furthermore, because *meaning generation is always social* and arising from human

and communal lived experiences of the world, qualitative researchers generally rely on inductive ways of knowing and generating meaning from the data that researchers gather on the field. Finally, qualitative research postulates that humans engage with their surroundings and *make sense of their everyday lived experiences based on their historical, social and cultural perspectives* of this world. Consequently, qualitative research is aimed at both exploring and situating participants' experiences within the contexts that inform them, which often requires that researchers visit the study contexts or sites themselves to be able to gather information, personally. Based on these characteristics, some of the widely used methods under the qualitative approach include ethnography, IDIs, oral histories, FGDs, photovoice, among others.

Although most qualitative researchers hold similar beliefs (e.g., about using open-ended research instruments, the contextuality of knowledge, co-constructed realities and meanings, and relying on inductive knowledge creation), there is great diversity among qualitative researchers, which is reflected in the diverse approaches to qualitative research. An important, long-standing debate that has characterised the qualitative community concerns what constitutes good/bad quality qualitative research. The first school of qualitative researchers believe that rigour, reliability and validity are crucial for producing good quality research and ensuring that qualitative research is given the same recognition/credibility as quantitative research (Baxter & Eyles, 1997; Long, 2017; Onwuegbuzie & Johnson, 2006), while the second school argues that it is misguided to evaluate qualitative research with the same criteria as quantitative research, particularly given that qualitative research emerged as a way of challenging the rigidity associated with quantitative and other positivist and post-positivist methodologies (Long, 2017; Onwuegbuzie & Johnson, 2006). The third school of qualitative researchers are of the view that, although using the same techniques, criteria or terminology to evaluate both qualitative and quantitative work does a disservice to qualitative research, some measure or evaluation of the quality of qualitative work is necessary for developing the field and guiding novice researchers in designing and conducting their own research (Gordon & Patterson, 2013; Tracy, 2010). I subscribe to this last school of thought and therefore used Tracy's (2010) 'eight big-tent' criteria – discussed in the section on reliability and validity – for establishing goodness or 'reliability/validity' in the qualitative component of my research.

Figure 4: Diagram Showing Mixed Methods Approach to Study
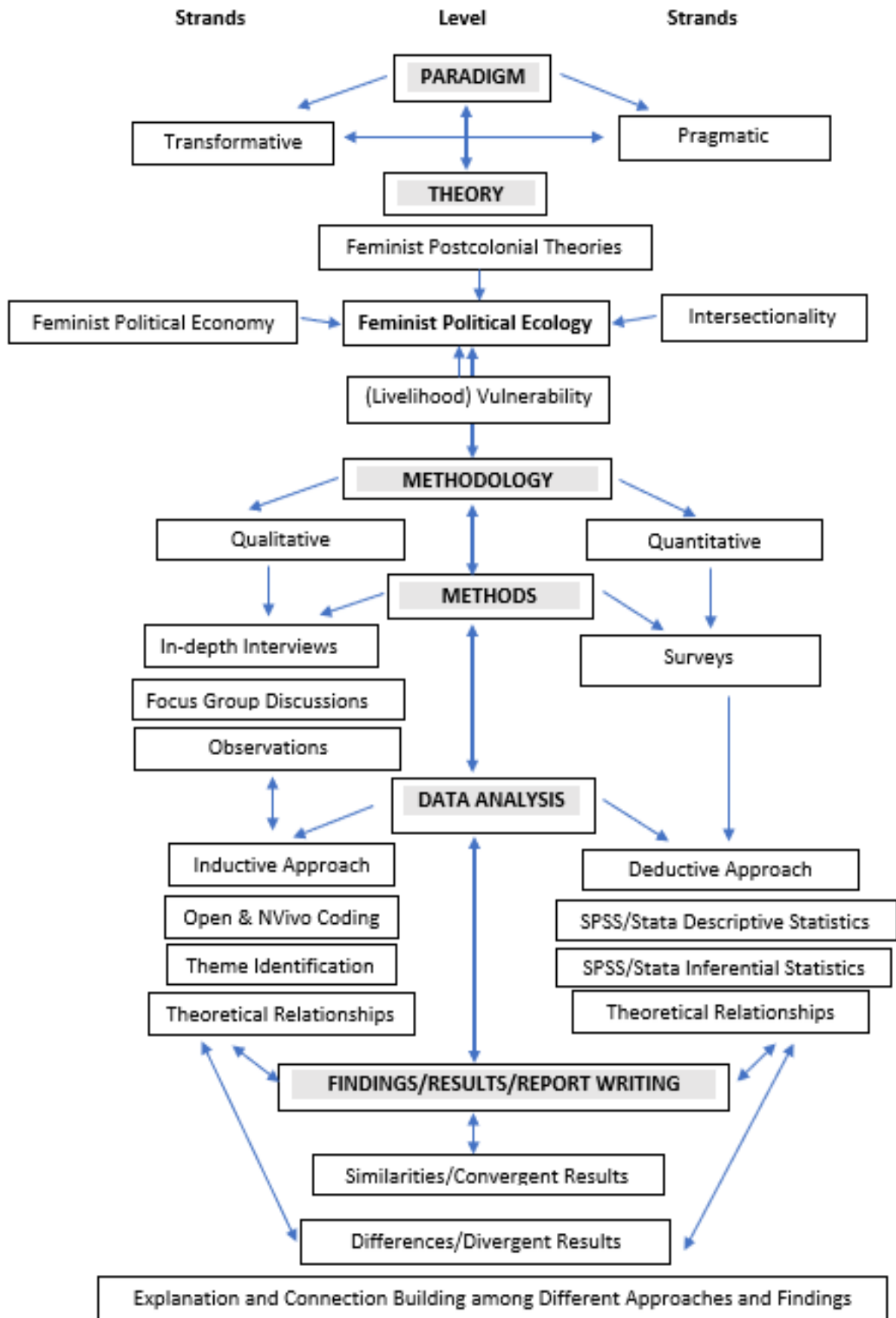
A qualitative research approach comes with several benefits including the ability to capture individual/subjective data and lived experiences, produce rich descriptions, and add contextual meaning and information to a study (Morse, 2015). Other benefits include being able to use qualitative insights to promote our understandings of cause (or causal inferences) of phenomena, and provide less abstract knowledge situated within everyday experiences. Furthermore, qualitative methods enable researchers to amplify participants' voices (through narratives and direct quotations) in a manner that convinces policy makers of the reality of participants' experiences and the need for urgent action. Finally, a qualitative approach helps researchers to produce knowledge that prioritises, and is inclusive of, the experiences and voices of women, girls, people from resource-poor settings, and other marginalised and minority groups (Crasnow, 2015; Leckenby & Hesse-Biber, 2011).

There are however some limitations to the qualitative research approach. First, people both within and outside the qualitative tradition have pointed to the inability to accurately quantify qualitative research, and how this potentially limits the ability of researchers to gauge the extent of a phenomenon (Morse, 2015). For instance, Morse (2015) argues that in qualitative interviews, and particularly FGDs, researchers often have to rely on general agreements, disagreements or differing opinions within the group, since all participants are not asked the same questions. Second, the small sample size typical of qualitative studies, and the inability to accurately quantify findings, has implications for researchers' ability to generalise or transfer study findings from one context to another (Baxter & Eyles, 1997; Hankivsky & Grace, 2015; Tracy, 2010). Third, this inability to generalise or transfer qualitative research findings tends to make it a less preferred and used option within policy and development circles, as policy makers often want to ensure that interventions would lead to the best outcome for the greater number of people (Crasnow, 2015; Hankivsky & Grace, 2015; Jones, Pereznieto, & Presler-Marshall, 2015; Leckenby & Hesse-Biber, 2011). Finally, some scholars (see Hammersley, 1992, 1994) are of the view that qualitative research results in an overreliance on participant reported data (what participants have seen, experienced, thought, remembered, etc.) rather than on researcher-obtained and first-hand observations (i.e., 'objective' knowledge). I am however of the view that prioritising participants' perspectives over those of the researcher does not necessarily make a study a weak one. Also, researchers such as Baruah (2009) caution that, while quantifiable data may be helpful for answering the 'what' questions, they fall short in illuminating the 'why and/or how'. I

therefore use qualitative methods in my study to answer the why and how questions, provide rich and thick descriptions, and capture the complexity of my research participants' gendered and intersectional experiences of climate change, MLIs and rural migration in Ghana.

3.2.2 The Quantitative Approach in Mixed Methods Research

According to Ivankova and Creswell, quantitative research refers to the process whereby, "researchers gather numeric data, for example, proficiency test scores or multiple choice question (or 'closed-response item') responses on questionnaires; they then try to objectively analyze this data using a variety of statistical techniques, and let the numeric results prove or disprove a hypothesis so that those results can be generalized from a sample to a larger population" (2009, p.137). Quantitative research is the oldest method/tradition in social science inquiry, and has its roots in positivist traditions/paradigms, with surveys and randomised control trials (RCTs) being the commonly used techniques in quantitative social science research. Because of its positivist orientation, quantitative research is often pitched as being objective and value free, as positivists maintain that all knowledge can and should be observed and measured from an objective viewpoint, rather than through human interactions and interpretations (Weber, 2004). Quantitative approaches thus aim to collect quantifiable data that can be explored using a range of methods from simple or descriptive measures such as frequency counts and percentages, to complex or inferential techniques such regression analysis. The results of quantitative analysis are often presented in the forms of test and summary statistics, graphs, and statistical tables (Kwan, 2001). Quantitative research thus relies on deductive approaches to knowledge production, and uses established theoretical perspectives to verify or falsify research hypotheses. Earlier (and some contemporary) researchers of the positivist tradition have argued that quantitative approaches rely on and produce facts, and are therefore the most appropriate techniques for producing unbiased findings (Guba & Lincoln, 1994; Kwan, 2001). Due to this claim to value-neutral, unbiased and objective findings, the quantitative approach is often positioned at the top of the hierarchy in social science research, and remains the dominant social science inquiry method (Cresswell, 2003; Guba & Lincoln, 1994; Hankivsky & Grace, 2015; Preissle et al., 2015).

At the paradigm level, the positivist stance of objectivity and value neutrality of the quantitative tradition has been heavily critiqued on the basis that knowledge is conjectural

and therefore precludes the ability to gain absolute truth. Hence, critics of the positivist and quantitative traditions argue that all research evidence is imperfect and fallible. Furthermore, the positivist tradition has been challenged regarding its claim to objective and value-free knowledge, given that the process of acquiring or creating knowledge is often influenced by prior evidence, data, research interests, worldviews, and rational underpinnings (Cresswell, 2003). In response to these critiques, the school of post-positivism emerged to challenge the dominance of positivist methods and research, and some assumptions embedded within these methods. Although post-positivists still rely on quantitative techniques to answer research questions, they acknowledge that objectivity and value neutrality are unattainable, and that knowledge is the product of histories, human interactions, everyday lived experiences and internalised worldviews or biases (Clark, 1998). As a result, post-positivist researchers may use qualitative methods in conjunction with quantitative ones, and the field of mixed methods is often considered to be post-positivist.

Irrespective of these developments to positivism, and outside of the paradigm level, several critiques are still being directed at quantitative research/methods. For instance, researchers such as Guba and Lincoln (1994), Kwan (2001) and Preissle et al. (2015) argue that quantitative methods strip studies and study subjects of contextual meaning due to the closed-ended nature of survey questions. Second, it is often argued that quantitative approaches may be marginalising and exclusionary for minority groups and experiences, since the responses of these minority populations are likely to be considered 'outliers' and thus discarded. Third and related, the aim of developing generalisable research findings from quantitative research means that majority opinions are given the most importance. This may however result in the inability to apply general data/findings to individual and unique cases (ibid). Fourth, feminist researchers such as Hesse-Biber (2012) and Thompson (1992) argue that because quantitative methods depend on quantifiable data, they are incapable of reflecting the richness and complexity of women's and other oppressed groups' experiences. Fifth, feminists add that quantitative methods do not provide researchers with an opportunity to build meaningful connections/relationships with study participants, as compared to qualitative approaches. Sixth, feminists argue that the reductionist, deterministic and rigid nature of coding schemes and quantitative techniques in general, tend to treat research participants and the world as static, even though people and societies are fluid and constantly evolving (Crasnow, 2015). Finally, the use of quantitative techniques limits researchers' ability

to amplify participants voices (e.g., through the use of direct quotations) (Baxter & Eyles, 1997; Crasnow, 2015; Hesse-Biber, 2012; Thompson, 1992; Tracy, 2010).

Notwithstanding these shortcomings, the quantitative approach is useful for several reasons. First, quantitative methods can be used together with qualitative ones to produce complementary, broader and more generalisable or transferable research findings. Second, due to their typically large samples and inferential techniques, quantitative methods provide researchers with an opportunity to compare and contrast complex patterns of sociocultural, political, gendered and economic phenomena within and between groups. Third, quantitative methods such as RCTs may enable researchers to measure certain outcomes (e.g., development interventions) to inform their future programming. Fourth and finally, some research funders and policy makers find quantitative methods more appealing, hence including a quantitative component to one's study may increase a researcher's chances of securing funding. In the context of my study, I use quantitative methods to enable me to paint a broader picture of my participants' experiences, explore differences in experiences, and increase the generalisability/transferability of my study findings.

3.2.3 Mixing and Integration in Mixed Methods Research

Mixing, in mixed methods research, denotes the ways in which two or more methods (or data) from the qualitative and quantitative components of a research project are integrated within a single study (Ivankova & Creswell, 2009; Tashakkori & Teddlie, 1998). Method and/or data mixing, also often referred to as integration, is a crucial aspect of the mixed methods process. Bazeley (2010) thus defines integration as the process of combining various elements of data and analysis throughout a study in order to allow the data and analysis elements to become interdependent in arriving at an overall theoretical or research goal, and in a manner that produces research findings that are greater than the sum of the parts. Ivankova and Creswell (2009), Leckenby and Hesse-Biber (2011) and Mertens (2007) note that mixing qualitative and quantitative data can be done at various stages of the research process including at the research design, data collection, analysis, and interpretation of results phases: although it can be argued that integration continues well past the aforementioned stages into the writing and dissemination stages as well.

O'Cathain, Murphy and Nicholl (2010) suggest three techniques for integrating data from multiple methods. These are: *triangulation protocol*, which works to produce a

"convergence coding matrix" where similar themes from the different data sets are grouped into meta-themes or converging themes. The second technique is *following a thread*, which takes place at the analysis stage and begins with an initial analysis of key components of the data to identify primary/vital themes and questions that require further exploration, after which the researcher then selects a question or theme from each component and follows this across the other components to create a thread. This method tends to take an iterative/cyclical process to data analysis/presentation. Finally, there is the *mixed methods matrix* technique which is used in situations where there are equal numbers of surveys and IDIs for each case (cases may be individuals, groups or geographical regions) – i.e., each participant has a completed questionnaire and a qualitative interview – and the qualitative and quantitative data for each case are used in writing up the report.

The decision about when and how to integrate methods and/or data in a mixed methods study often depends on the reasons for conducting the study, the manner in which the study was designed, the procedures used for data collection and the strategies used in analysing the data (Ivankova & Creswell, 2009). For instance, the aim or approach to integration may depend on: whether the goal is to transform data by converting qualitative elements into quantitative ones or vice versa (Cresswell, 2003); whether the study is aimed at triangulating the results from different aspects of the research in order to confirm or corroborate findings (Tashakkori & Teddlie, 2008); if the research is aimed at generating a completeness or complete picture of a research project (Tashakkori & Teddlie, 2008); or whether the study aims for a complementarity of study findings (Ivankova & Creswell, 2009; Onwuegbuzie & Johnson, 2006). Irrespective of the reason and goal of using mixed qualitative and quantitative methods, several scholars are of the consensus that researchers must strive to ensure that the findings from both components of their data make sense within the broader narrative (or meta-inference) of their work (Creswell, 2015; O'Cathain et al., 2010; Tashakkori & Teddlie, 2008).

On the basis of this, Onwuegbuzie and Johnson (2006) advocate that researchers pay attention to issues of "legitimation" (the threats to external and internal validity in mixed methods research) as a way of ensuring that their study findings are trustworthy, credible, dependable, confirmable and/or transferable. However, while some mixed methods researchers are of the opinion that every component of the study should, "fit like pieces of a puzzle" (Morse, 1991, p.122) and that researchers must ensure that their study findings are

consistent across different methods (Johnson & Onwuegbuzie, 2007; Tashakkori & Teddlie, 2008), others argue that producing good mixed methods research involves leaving room for divergent, inconsistent and contradictory results or findings (Hankivsky & Grace, 2015; Long, 2017; Preissle et al., 2015; Tashakkori & Teddlie, 2008). The latter school of researchers believe that inconsistent, contradictory or dissonant results in a study tell a story of their own and may signal new directions for further enquiry. They therefore encourage that, rather than discard inconsistent findings or regard them as a sign that something is wrong with the study, researchers can put these divergent findings in conversation with the other findings – recognising that both sets of (consistent and inconsistent) findings are important and true in their own right (Hunter & Brewer, 2015; Johnson, 2015; Long, 2017). Hankivsky and Grace (2015) and Preissle et al. (2015) also note that researchers have an ethical responsibility to report inconsistent findings and disclose the criteria used to resolve these discrepancies, or provide possible explanations for why such discrepancies cannot be resolved.

3.2.3.1 Approach to Triangulation and Integration Within my Study

In the context of my study on the effects of climate change and MLIs on rural migration in Ghana, I was interested in combining methods that collectively amplify voices (qualitative) and provide numerical/statistical information (quantitative) in order to illuminate the experiences of rural migrants, non-migrants and return-migrants, and subsequently influence policy action pertaining to these groups in Ghana and SSA more broadly. By using a concurrent/convergent research design, I collected both the qualitative and quantitative data simultaneously. The concurrent design also provided me with the opportunity to analyse the qualitative and quantitative data sets separately but iteratively, and put the data and findings from both components in conversation with one another at the interpretation and final stages of data analysis. Although the majority of my integration was done at the analysis and writing stage, I relied on my mixed theoretical frameworks as a guide in designing and undertaking my study, and in analysing, understanding and reporting my findings. Importantly, *I took a complementary rather than triangulation approach to my study*. This means that I used the data and results from the different methods in dialogue with one another to produce a more representative picture, rather than as a means of verification/corroboration.

Triangulation – the dominant reason for conducting mixed/multimethod research and technique for integrating findings from multiple methods – refers to the practice of combining

different methodologies in studying a single phenomenon in order to verify or strengthen study results (Denzin, 2017; Johnson & Onwuegbuzie, 2007). Denzin (2017) identifies four types of triangulation: theory triangulation, methodological triangulation, data triangulation and investigator triangulation. In her earlier work, Morse (1991) argued that triangulation is a useful technique when a single method is insufficient to guarantee that the most comprehensive approach has been used to resolve a research problem. The benefits of triangulation include helping researchers to produce well-substantiated findings that compensate for the weaknesses of one method with the strengths of another (Cresswell et al., 2003). Despite these benefits, triangulation also has some drawbacks. First, collecting and analysing both qualitative and quantitative data sets in tandem requires significant effort and diligence, which might be particularly challenging for novice researchers. Second, managing, understanding and integrating results from qualitative and quantitative data may prove challenging, particularly if the findings from the two data sets do not converge (Guba & Lincoln, 1994; Ivankova & Creswell, 2009; Tracy, 2010).

Given these shortcomings, and building on the concept of triangulation, some researchers offer the concept of crystallisation as a preferred alternative for making sense of and integrating data within mixed and multimethod studies (Ellingson, 2012; Richardson, 2000; Tracy, 2010). Crystallisation, similar to triangulation, refers to the process of engaging multiple data sources, lenses/perspectives and researchers to produce complementary and trustworthy research findings (ibid). Rooted in performative and post-structural assumptions, the concept of the crystal (from which crystallisation emerged) was first propounded by Richardson (2000) as a "central imaginary" that transcends the rigid and fixed two-dimensional concept of the triangle (triangulation). According to Tracy (2010), "Crystallization encourages researchers to gather multiple types of data and employ various methods, multiple researchers, and numerous theoretical frameworks. However, it assumes that the goal of doing so is not to provide researchers with a more valid singular truth, but to open up a more complex, in-depth, but still thoroughly partial, understanding of the issue" (p.844). I therefore chose to use the crystallisation approach to integration/triangulation in my research, given my aim of understanding and merging the evolving, negotiated and multiple perspectives of reality/truth as espoused by my study participants in both the qualitative and quantitative components of my research. Hence, by using the crystallisation technique, I am able to take a complementary (rather than verification) approach to my data integration. The

crystallisation strategy further offers me the opportunity to present both convergent and divergent findings in my study, situate these findings within the theoretical and epistemological frameworks that guide my research, and provide possible explanations for these convergent and divergent findings.

3.2.4 Benefits and Limitations of the Mixed Methods Approach

The benefits of a mixed methods approach lie in its potential to leverage the strengths of both qualitative and quantitative methods as outlined. Apart from the advantages provided by the individual methods, other benefits to using a mixed methods approach include the ability to gain in-depth understanding of patterns and trends, study and report diverse perspectives, develop new measurement tools, and create and test new or existing theories (Ivankova & Creswell, 2009; Tashakkori & Teddlie, 1998). Thus, for Ivankova and Creswell (2009) and Tashakkori and Teddlie (1998), mixing qualitative and quantitative data in a single study helps to provide a more extensive understanding of phenomena under study, as compared to using only one method/type of data collection and analysis. Ivankova and Creswell (2009) add that a mixed methods approach provides more flexibility in the research process by allowing researchers to choose the most appropriate strategies, methods and/or tools for addressing their research questions and objectives. By having access to diverse methods and tools, researchers are better able to focus on finding answers to the research questions or objectives under study, rather than worrying about whether a specific method/tool can answer a particular research question or objective. Additionally, by using both qualitative and quantitative methods, data sets, or results, researchers have a better opportunity at answering 'what, why and how' questions and painting a broader and more nuanced understanding of phenomena, compared with using only one method. Moreover, mixing different methods (or qualitative and quantitative data) may be considered a more intuitive way of doing research about the world and learning about phenomena, given that many people in real life rely on both numbers and stories to make sense of everyday occurrences (Ivankova & Creswell, 2009). Finally, Patton (2014) suggests that using a single research method may open researchers up to more vulnerability regarding errors [sic] in their study results/findings, as compared with using multiple methods. Thus, the strengths of both qualitative and quantitative designs are maximised by complementing the weaknesses of either method, when a mixed methods approach is used.

A mixed methods approach is however not without shortcomings. Similar to its advantages, a limitation of mixed methods is the fact that it opens researchers up to the host of challenges that come with using either qualitative or quantitative approaches, as discussed earlier. In addition to these challenges, mixed methods studies require significant time, resources and effort to complete (Ivankova & Creswell, 2009). Also, the different nature of qualitative and quantitative research requires that different quality standards are applied to ensure reliability. This might however be confusing or difficult to accomplish, especially for inexperienced researchers (Greene & Caracelli, 1997; Morse, 2015; Onwuegbuzie & Johnson, 2006). Furthermore, regardless of the acknowledged challenges of integrating findings from the various strands or components of a mixed method study, several researchers opine that a mixed methods study loses its utility if mixing/integration is poorly done (Morse, 1991, 2015; O'Cathain et al., 2010; Onwuegbuzie & Johnson, 2006; Tashakkori & Teddlie, 2008). Johnson (2015) however cautions that, for feminist and transformative mixed methods research projects, it is vital to ensure that a preoccupation with 'proper' mixing or integration does not ultimately undermine social justice related goals through the erasure of marginalised, inconsistent, dissonant or outlier perspectives that may be perceived as posing a problem to integration.

3.3 Rigour: Validity, Reliability and Goodness in Feminist Mixed Methods Research

Cresswell and Plano-Clark (2007) define validity in mixed methods research as the ability of researchers to draw accurate and meaningful conclusions from all of the qualitative and quantitative components or data in their study. According to Johnson and Onwuegbuzie (2007), the concept of validity must be extended to cover not just the research *methods*, but also the *process* of mixing ideas across different research paradigms. This focus on both the process and methods, to establish reliable findings, is what Johnson and Onwuegbuzie (2007) call *commensurability validity or legitimation*. The authors add that legitimation encompasses the threats to internal and external credibility in mixed methods research, and constitutes a continuous process that must be considered at every stage of the research process, rather than only at the outcome or results writing/presentation stage. Currently, a fixed set of criteria for establishing validity in mixed methods research is yet to be agreed upon; hence, some mixed methods researchers advise that the best way to ensure valid findings in mixed methods is to follow the proposed procedures for establishing research rigour in both the

qualitative and quantitative traditions (Creswell, 2015). Feminist researchers also suggest that alternatives to validity – such as truthfulness, reliability and goodness – may prove more useful and inclusive for promoting or ensuring validity in mixed methods research projects (Hesse-Biber, 2012; Hesse-Biber & Griffin, 2015; Mertens & Hesse-Biber, 2012; Tracy, 2010). In the following sections, I explain how I maintained validity and reliability (or 'rigour') for the qualitative and quantitative strands of my research, and for my mixed study as a whole.

3.3.1 Quantitative Rigour, Reliability and Validity

In quantitative research, the perceived usefulness of study findings is largely dependent on the quality or rigour of the research process, and validity and reliability are the often relied on measures for achieving this rigour (Heale & Twycross, 2015; LoBiondo-Wood, Haber, Cameron, & Singh, 2014). Heale and Twycross (2015) define *rigour* as the lengths to which researchers go to enhance the quality of their study. *Validity* denotes the extent to which a concept is precisely measured in a quantitative study, whereas *reliability* refers to the accuracy of a study instrument or tool, and/or the magnitude to which that study instrument/tool can consistently produce the same results if used in identical situations repeatedly (Heale & Twycross, 2015). Heale and Twycross (2015) identify three major types of validity: Content validity, construct validity and criterion validity. *Content validity* examines the extent to which a study instrument correctly measures all aspects of a construct/ phenomenon. *Construct validity* refers to how accurately a research tool or instrument measures the construct or idea that it is intended to capture, and lastly, *criterion validity* refers to the magnitude to which a study instrument relates to other tools/instruments that measure the same constructs (Heale & Twycross, 2015). Reliability on the other hand is evaluated using three attributes: Homogeneity, stability and equivalence. *Homogeneity*, also known as internal consistency, denotes the extent to which all items on a scale measure a single construct. *Stability* signifies the ability to produce consistent results when an instrument is repeatedly used to test constructs or phenomena. Finally, *equivalence* refers to the consistency in responses among multiple participants or users of the same or alternate study instruments. In sum, to ensure rigour in quantitative studies, it is essential for researchers to guarantee that their research tools, instruments, variables and questions measure the constructs that they are intended to capture, and that their studies can be replicated across different contexts with similar or consistent results.

To guarantee the rigour or quality of the quantitative component of my research, I undertook several measures. First, I relied on standardised tools, instruments and measurement scales that have been developed over time and applied in different contexts to understand the different thematic areas of my study. For instance, I adapted the short-form-12 health survey, version 2 (McDowell, 2009), to understand participants' health and wellbeing within the context of climate change, MLIs and rural migration in Ghana. I also used climate change instruments that have been tested and used in diverse global contexts such as Cambodia (Ung, 2016) and Tanzania (Armah, 2015; Atuoye, 2019). Furthermore, the instruments and questions that I used in measuring constructs such as MLI/DaFI experiences, migration, decision making, gender and livelihood, and sociodemographic characteristics were either adapted from, or have been used in, studies on similar thematic areas across the world, including in SSA and Ghana (Anfaara, 2018; Antabe, 2016; Atuoye, 2019; Ung, 2016). In addition to using standardised tools and instruments, my methods of analysis are also based on, and/or conform to, already established models anchored within theoretical and conceptual frameworks such as the livelihood vulnerability framework, feminist political ecology, social determinants of health, among others. In addition to these, I used computer software such as SPSS, Stata and NVivo to help manage and analyse my data. These softwares are the dominant applications employed in social science research and data analysis, and therefore come with well-established procedures for making sense of and presenting data.

Apart from undertaking these strategies to ensure that my study findings are reliable and can be replicated across different contexts, I also followed some procedures to guarantee the validity and quality of my study findings. To begin, adopting established and standardised tools, theories and analyses ensured that I was measuring the relevant constructs of my research (e.g., climate change, migration, mental and physical health, decision making, among others). Second, I tailored these tools and instruments to fit my study context and research questions/objectives, while ensuring that meanings were not distorted. Third, I ran my instruments by skilled speakers of the local Ghanaian languages and seasoned researchers in my area of study to ensure that adapted instruments had not lost some of their meanings. Fourth, all research assistants (RAs) in my study underwent an initial one-week intensive training and follow-up training throughout the course of data collection to ensure that they had clear understandings of the research instruments (particularly survey questionnaires) and could administer them effectively to minimise losses in translation (see ethical considerations

section). Fifth, I pretested my research instruments prior to data collection, and modified research tools based on feedback from study participants, RAs, research supervisors and study partners. For instance, I removed questions that did not suit my study context, added ones that enabled me to capture the entirety of constructs that I was measuring (e.g., questions on remittances to better assess impacts of migration), and modified the language and phrasing of some questions to better capture the meaning of a construct (e.g., the concept of 'climate change' which has no direct equivalent in local Ghanaian languages).

Finally, I was in Ghana in 2019 to conduct my reconnaissance survey, train RAs and begin data collection. Although my plans to return to Ghana in May 2020 to continue data collection were disrupted by the COVID-19 pandemic, I was able to supervise the rest of the data collection semi-remotely with the help of my research team and partners (see section on study sites and institutions) in Ghana. I also relied on tools, software and technology such as the Qualtrics online survey repository and video conferencing applications such as Zoom to partake in fieldwork interactions whenever possible. All data collected were carefully scrutinised, and I provided regular feedback to local RAs in Ghana after going through the data collected. This careful scrutiny and supervision helped me ensure that my data was complete and of good quality. As a result of this, the missing data for my quantitative component is less than 3 percent. Given these measures and strategies, I am confident that the quantitative component of my research and findings can be replicated in similar contexts, as they satisfy the scientific basis of repeatability. I am also confident that I was able to accurately measure the constructs/phenomena that I set out to study, and that my study findings are valid. Ultimately, I am convinced that my research and study findings satisfy the core measures of rigour in quantitative research.

3.3.2 Qualitative Goodness ('Rigour')

By virtue of being a newer research tradition – and given its aim of disrupting the narrow criteria of rigour advocated for by the quantitative school – the field of qualitative research presently lacks a specific set of measures for evaluating the quality or 'rigour' of qualitative studies. This notwithstanding, several researchers advocate for some basis or criteria for assessing the quality or "goodness" of qualitative research (Baxter & Eyles, 1997; Gordon & Patterson, 2013; Long, 2017; Tracy, 2010). For instance, according to Baxter and Eyles (1997), the key to 'validity' in qualitative research is, "clarity – making the implicit 'rules'

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explicit" (p. 511). The authors go on to suggest some strategies for promoting clarity and ensuring rigour in qualitative studies including credibility, transferability, dependability and confirmability. Broadly, satisfying these strategies requires that researchers provide ample information about the appropriateness of their research methodology, including their justification for using qualitative methods, reasons for combining multiple methods in a single study (if they did), how respondents for the study were selected along with descriptions of respondent characteristics, and direct quotations from research participants in order to portray meanings using participants' own words/voice, rather than only via the voice of the researcher. Baxter and Eyles (1997) add that it is essential for qualitative researchers to indicate why some voices are chosen over others in the presentation of direct quotations.

Gordon and Patterson (2013) and Tracy (2010) propose similar suggestions for evaluating the quality of qualitative research, although they suggest that the term 'goodness', rather than validity/rigour, may be a better way to describe the standard of qualitative work. I support the assertion that using different terminology and criteria to describe and evaluate qualitative work is helpful for emphasising the distinctiveness of the qualitative research tradition. As a result, I use Tracy's (2010) eight "big-tent" criteria as a template for evaluating and maintaining quality/goodness within the qualitative strand of my research. Tracy (2010) builds upon the concept of the "big tent" advanced by Denzin (2008) as a structure that advocates for qualitative quality while still recognising and encouraging diversity and complexity among various qualitative research paradigms and work. Tracy (2010) thus emphasises that the criteria she prescribes are flexible, and can be amended based on the research objectives or goals, and the skills and preferences of the researcher. A critical feature of the eight big tent is the fact that the criteria prioritise not just the quality of end results, but also the quality of the processes involved in undertaking said research. Although Tracy (2010) prescribes these criteria for qualitative research, it is important to note that some of the criteria are applicable to quantitative and mixed methods research as well. Hence, I relied on these criteria to improve the overall quality of my research.

The eight "big tent" criteria, according to Tracy (2010), are: (1) worthy topic (2) rich rigor (3) sincerity (4) credibility (5) resonance (6) significant contribution (7) ethics and (8) meaningful coherence (p.839). To meet the requirements of the first criterion, *worthy topic*, Tracy (2010) posits that the research topic must be timely, relevant, significant and interesting. The author adds that worthy topics typically emerge from disciplinary priorities

and/or from timely societal/personal events. Tracy cautions that a study topic that is chosen solely for opportunistic or convenience reasons, and that lacks greater significance or personal meaning is likely to be undertaken in a superficial manner. To attain *rich rigour*, Tracy suggests that a qualitative study must be rich, nuanced, complex and multifaceted. The richness of the study may be improved through the inclusion of a variety of theoretical frameworks or constructs, data sources, study contexts and study samples. In addition to richness, rich rigour in qualitative studies is evidenced by whether the study is reasonable and appropriate, and whether researchers show due diligence and transparency in the collection, analysis and (re)presentation of data. According to Tracy, "Questions about rigor include the following: Are there enough data to support significant claims? Did the researcher spend enough time to gather interesting and significant data? Is the context or sample appropriate given the goals of the study? Did the researcher use appropriate procedures in terms of field note style, interviewing practices, and analysis procedures?", among others (p.841).

The third criterion for good qualitative research is *sincerity*. According to Tracy, this may be accomplished through self-reflexivity, honesty, transparency, vulnerability and data auditing. Tracy adds that, to be sincere, researchers must be honest and transparent about their biases and goals, and, "how these played a role in the methods, joys, and mistakes of the research" (p.841). The fourth criterion, *credibility*, denotes the trustworthiness, plausibility and realism of research findings. This is achievable through research practices such as thick descriptions, crystallisation, multivocality and persuasive accounts. The fifth criterion is *resonance*, which entails the ability of the researcher to meaningfully affect an audience by engaging in practices that invoke empathy and reverberation, even among audiences who have no direct relation to the research topic. Thus, for Tracy, resonance can be achieved through aesthetic merit and expressive writing, and a resulting generalisability/transferability of study findings. The sixth criterion, *significance*, refers to the capacity of the study to extend knowledge, promote understanding, improve practice, generate areas for future research, and empower study participants and similarly situated groups by making visible, the experiences that are invisible or disproportionately ignored.

Ethics are the seventh criterion, and involve adhering to and promoting procedural/institutional, relational, situational and exiting/departure ethical practices throughout the research process. According to Tracy, researchers must make considerable efforts to go beyond review boards and philosophies such as "do no harm" and "the greater

good", to account for differences in situational ethics. This involves showing reflexivity, mutual respect, dignity and interconnectedness right from the study conceptualisation stage to the dissemination stage. Relational ethics also require reflexivity in representation and dissemination of findings, and a commitment to fostering long term relationships and promise-keeping in exiting/departure ethics. The final criterion for maintaining goodness in qualitative research is *meaningful coherence*, which is evaluated based on how well studies achieve their research objectives or goals, fulfil what they purport to be about, use methodologies and representational practices that suit their selected theories and paradigms, and carefully interconnect their literature, study findings and research goals. Tracy however cautions that meaningful coherence does not preclude studies from being unexpected, messy or jarring. Instead, meaningful coherence is attained when researchers:

interconnect their research design, data collection, and analysis with their theoretical framework and situational goals. For instance, if the researcher espouses that knowledge is socially constructed, then it would not make sense for them to use member checks in the realist sense, to ascertain the truth of the findings. Instead, to be meaningfully coherent, a social constructionist framework would employ member reflections—a practice that does not aim toward accuracy of a single truth, but rather provides space for additional data, reflection, and complexity (p.848).

These suggestions and guidelines for maintaining goodness within qualitative studies by Tracy (2010) are similar to those proposed by earlier researchers such as Baxter and Eyles (1997) who encourage that qualitative studies promote rigour by detailing as extensively as possible, their interview processes and data analysis strategies. Baxter and Eyles (1997) also recommend that qualitative researchers undertake lengthy and immersive fieldwork, returns to study areas and participants, and build strong relationships with participants to enhance the credibility of their research findings. Finally, it is encouraged that researchers engage with the interpretative community, provide rationales for the verification of their study findings, use standardised interview guides, pay attention to and detail issues of power dynamics in interviews, and provide reflexive accounts of how these processes influenced interview interactions (ibid).

Regarding quality in data analysis, Baxter and Eyles (1997) note that it is critical to

consider how interview dialogues are developed into theoretical constructs. The authors argue that it is vital for qualitative reports to go beyond displaying verbatim quotations to include engagements of how specific quotes are selected for presentation from the collection of interview transcripts. This is particularly important, given the lack of set criteria or techniques for undertaking interview or thematic analysis. Baxter and Eyles thus advocate that it is imperative for researchers to make readers aware of whose voices/meanings are showcased and why. For Baxter and Eyles (1997), such declarations, "reveal what, for the author, are the things about the study that make the findings worthy of attention. Without these clues, the reader may judge work unfairly according to criteria which might not be relevant for the research" (p.509). A point of departure between Baxter and Eyles (1997) and Tracy (2010), however, is that the former believes that immersion, while important, may jeopardise the credibility of study findings whereas the latter believes that relationship building strengthens the goodness of a qualitative study. I disagree with Baxter and Eyles (1997), as I do not believe that a single, valid version of reality exists. Hence, while I do agree that a researcher's biases inevitably affect the research processes and outcomes, I believe that a reflexive account of these biases enables researchers to be sincere. Such reflexivity also provides readers with a broader understanding of the realities or accounts emerging from the study, as presented from the researcher's viewpoint. I have shown in earlier parts of this dissertation how my study satisfies some of these goodness criteria (e.g., worthy topic, rich rigour, significance), and I will demonstrate in the later sections, how I strove to meet the other criteria (e.g., ethics, sincerity, credibility, resonance, and meaningful coherence).

3.3.3 Mixed Methods Rigour

In addition to the processes of establishing rigour within qualitative and quantitative research as described above, Dellinger and Leech (2007) suggest a mechanism called the Validation Framework (VF) – borrowed from the concept of construct validity that is widely accepted and used in quantitative research – as a way of ensuring rigour (reliability and validity) in mixed methods research. According to Dellinger and Leech, despite the implicit tensions of conducting mixed methods research (largely resulting from the innate differences in qualitative and quantitative approaches), it is important to remember that both qualitative and quantitative methods rely on the understandings and negotiation of meanings and/or constructs to inform data. The authors therefore argue that reliability and validity in mixed

methods research can be attained using the VF, which emphasises meaning making (i.e., the extent to which meaning is understood or constructed by both the researcher and study participants). Dellinger and Leech (2007) encourage researchers to approach construct and/or meaning making (VF) as an open, evolving and negotiated process rather than as a static one. These suggestions are similar to those of other researchers who propose that the quality of a mixed methods study is in its ability to show meaningful connections. I therefore relied on meaning making throughout my study design, data collection and analysis, and writing/presentation to ensure overall rigour (reliability and validity) in my study.

3.4 Methods in Practice – Data Collection and Analyses

3.4.1 Data Collection

In this section, I discuss my data collection and analyses strategies for both the qualitative and quantitative strands of my research. I begin with a description of the study sites and institutions selected for the study, after which I discuss my sampling (sizes and distribution) and respondent selection. Following this, I discuss the methods and techniques used for gathering qualitative and quantitative data, and my reasons for selecting these. Some descriptive characteristics of participants in the IDIs, FGDs and surveys are presented.

3.4.2 Study Sites, Institutions and Stakeholders

As part of my mixed methods underpinnings, I adopted a multi-scale and multistakeholder approach to my study. Specifically, data were collected at multiple levels and from diverse stakeholders from various regions of Ghana to inform and answer my research objectives and questions. Regarding the study sites and institutions (scale), participants were recruited at the national, regional, district and communal levels. Thus, my research was undertaken in three regions of Ghana: The Upper West (UWR – migration origin), Bono (BR – middle-belt destination), and Greater Accra (GAR – national capital) (please see figure 1 [map of study areas] in chapter two). Within these regions, participants were recruited from nine districts. These include the Nandom, Lawra, Lambussie and Wa Districts, in the UWR/migration origin; the Dormaa Central, Dormaa East, Wenchi and Sunyani Municipal Districts in the middle belt/migration destination; and the Accra Municipal District in the national capital. Finally, at the local or communal level, participants were recruited from 29 communities/localities (see figure 3 below for the full list of study regions, districts

and communities). At the institutional level, I interviewed government (state) and non-governmental organisation (NGO/non-state) staff working in the areas of gender, climate change, MLIs, migration and rural development at the local, regional and national levels (see table 5 for the details of key informant interviews). With respect to stakeholders, I engaged with female and male migrants in middle-belt destination areas, non-migrants and return-migrants in the migration origin, and key informants in both migrant sending and receiving regions, as well as in the national capital, the GAR.

3.4.3 Study Sample

A total of 766 participants were recruited for the study. These include 97 participants for the qualitative component (IDIs and FGDs) and 669 participants for the quantitative component (surveys). Within the qualitative component, 30 IDIs were conducted with female and male migrants, non-migrants and return-migrants – 15 each in the migration origin (UWR) and destination (middle belt) areas. These consisted of 17 interviews with women and 13 with men (see tables 1, 2 and 3 below for details/sample characteristics of IDIs). I also conducted five FGDs with the above-mentioned groups. A total of 55 participants – 22 women and 33 men – took part in FGDs, and group memberships ranged from nine to 14, with an average of 11 members per group (please see table 4). Lastly, 12 interviews were also conducted with key informants working with state and non-state organisations. Of this number, four were women and eight, men (see table 5 for details on key informant interviews).

For the quantitative component, a survey was administered to a total of 669 people, although one case (person) was dropped during analysis due to incomplete responses. These include 287 non-migrants and return-migrants in the UWR, and 381 migrants in the middle belt. Regarding gender, survey interviews comprised of 290 women (135 in UWR and 155 in middle belt), representing 43.4% of the total sample, and 378 men (152 in UWR and 226 in middle belt) who made up 56.6% of the total sample. Survey participants' characteristics are provided by gender and context (origin vs destination) in tables 6 and 7 below. Also see note on gender representativeness in ethical considerations section.

Because my study was about understanding the motives for and experiences of different forms of migration; in the UWR (migration origin), my target population for both the qualitative and quantitative components were non-migrants and return-migrants. Non-migrants were classified as people who had never migrated out of UWR in their lifetime.

Return-migrants were categorised as people who had previously migrated for any length of time but no longer did so, as well as people who were still engaged in some form of migration such as temporary, cyclical, seasonal or pendulum migration, but who were resident in the UWR/origin at the time of my data collection. In the middle belt (migration destination), my target population included both permanent and temporary migrants, thus, those who had migrated from UWR to middle-belt destination areas with no intentions of returning to UWR, as well as those who had migrated there for different durations of time but planned to return to UWR at some point. For all migrants in the middle belt, it was expected that they should have been resident in the destination area for at least four weeks prior to my study.

Participants were recruited from diverse ethnic, religious, occupational, educational and marital backgrounds. Regarding ethnicity, migrant, non-migrant and return-migrants identified as Dagaaba (the majority of respondents – 83.8% for surveys), Sissala, Waala, and Brifo; all ethnic groups within the UWR. Although most key informants also hailed from the UWR, a few of them were from different regions of Ghana. The majority of participants identified as Christian (87.3%), with the rest identifying as Muslim, African Traditional Religion (ATR) practitioners, or belonging to no religion. Since my study was focused on rural migration experiences, farming formed the main occupation of study participants (88.0% for surveys), with a few engaged in trading, multilateral work, the civil service and daily labour or wage work. Participants ranged in age from 18 – 96, were of different educational levels and marital statuses, and came from different household types. Forty participants in the survey (representing 6.0% of the sample population) reported living with a disability. I provide more details about study participants in my results sections (chapters four and five).

3.4.4 Respondent Selection

As I was interested in studying the experiences of migrants, non-migrants and return-migrants in both sending and receiving areas of Ghana simultaneously, I selected my study areas purposively. The study contexts/sites in the migration origin (UWR) were chosen for five reasons. First, the selected districts and communities experience high volumes of outmigration, according to several studies (Abdul-Korah, 2006; Baada et al., 2020; Kuuire et al., 2016; Luginaah et al., 2009) and the Ghana Statistical Service (GSS) (Ghana Statistical Service, 2012). Second, these study districts/communities are close in proximity to one another (please see map of study area). Third, these districts and communities, despite being

the site of several other studies (see section on research fatigue in ethical considerations), remain understudied in terms of the interconnections of climate change, MLIs and migration dynamics. Fourth, these study communities have high proportions of rural dwellers. Fifth and finally, I chose the study sites in the UWR due to my familiarity with the terrain, as I come from the Nandom district myself (see section on positionality).

Similarly, I chose the middle-belt destination districts and communities for several reasons. First, Ghana's middle belt areas – and the selected study districts and communities in particular – receive a high volume of in-migrants from the UWR, according to studies and the GSS (Abdul-Korah, 2008; Baada et al., 2020; Ghana Statistical Service, 2012; Kuuire et al., 2016). In addition to being migrant hubs, I also selected the study communities due to their rural nature and close proximity to some form of MLI, for example, CowTribe in the Dormaa Central District, and Britak and Nsemere quarries in the Sunyani Municipality and Wenchi Districts, respectively. Despite my objective of choosing communities near MLIs, however, I had to drop some selected localities in close proximity to MLIs due to the low numbers of UWR migrants in these areas (e.g., the Kenyasi-Goomu locality where the Ahafo Mines operates). Follow ups with migrants in neighbouring communities revealed that, most of the migrants in areas where the Ahafo Mines is operational had had to relocate from these areas due to the high costs of living and lack of access to farmlands in these communities.

Key informants on the other hand were selected from governmental and NGO institutions that work directly or indirectly with rural migrant groups in both the migration origin and destination areas. These organisations/institutions include subsidiaries of the Field Support Services Programme (FSSP) of Global Affairs Canada (GAC), the Centre for Advancing Rural Opportunities (CARO), the Environmental Health and Sanitation Department, the Gender Desk of the government of Ghana, among others. Conducting key informant interviews proved challenging due to the COVID-19 pandemic and other factors, which I discuss in my ethical considerations section.

I employed a variety of strategies for recruiting study participants. For instance, I used paid community public address systems (PAS) to announce my research. I also relied on announcements at community gatherings, contacting chiefs and leaders to inform them about my research and having them relay the information to their community members, and using snowballing techniques. In many cases, letters of information (LOIs) and invitation – explaining the purpose of my study and containing the contact information of the primary

researcher, research supervisors and research team – were distributed to community leaders and institutional heads/workers of the selected study sites and institutions. Community leaders and heads of organisations were encouraged to disseminate the details of the research to the larger community and members of staff, and have interested participants contact the research team directly. Once participants established initial contact, I (primary researcher) followed up with them to schedule interviews based on participants' availability. This process was followed for IDIs, FGDs and surveys. In addition to these mechanisms, I also encouraged the first group of participants who took part in the various components of my study to share the research widely with their networks and encourage them to contact me to discuss participation in the research. Finally, for the quantitative component (surveys), I relied on PAS and communal announcements of my study, to pre-inform community members that the study team might be coming around to their respective homes to conduct surveys.

3.4.5 Collection Methods

Data for my study were collected between October 2019 and August 2021. I used a hybrid approach that involved in-person fieldwork/data collection and remote or semi-remote fieldwork/data collection techniques. I was in Ghana in October 2019 to do a reconnaissance survey, meet my study partners, recruit and train research assistants, pre-test the research instruments, and begin data collection. I returned to Canada in November 2019 as I needed to tutor classes in the Winter 2019 term, and was also awaiting a decision about an International Development Research Centre (IDRC) grant that I had applied for. I planned to return to Ghana in Summer (May-August) 2020 when classes would have ended and when I had enough funds to continue my research. I was however unable to return to the field in person due to the COVID-19 pandemic and associated travel and other restrictions. I therefore resorted to a (semi) remote data collection model with the help of my research partners and team in Ghana.

Figure 5: Diagram Showing Study Areas (Regions, Districts and Communities)
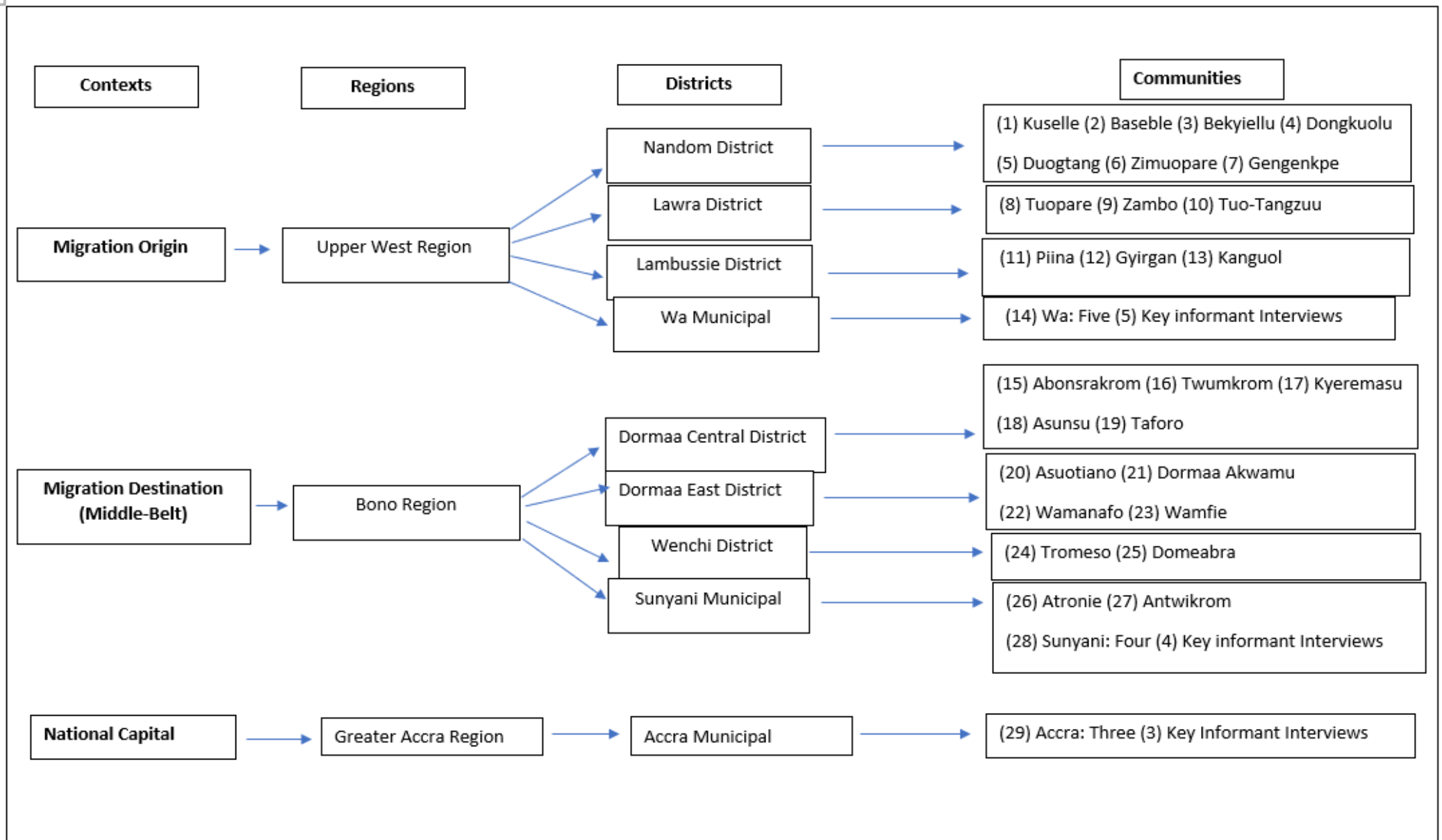
Both qualitative and quantitative data were collected and analysed concurrently. This falls within the *qual + quant* sequence outlined in Morse's (1991) and Ivankova and Creswell's (2009) notation regarding *timing*. Despite being the most complex of the four mixed methods designs (the others are the explanatory, exploratory, triangulation and embedded) described by Ivankova and Cresswell (2009), a simultaneous data collection strategy was best suited to my study due to time and financial limits. It was also the most suitable option given that I was looking for both qualitative and quantitative explanations of migrant groups' experiences of climate change and MLIs. This strategy therefore offered me the opportunity to compare and contrast the findings from the different components of my data, in order to arrive at broader conclusions (Cresswell et al., 2003). For my data collection methods, I relied on IDIs, FGDs, surveys and observations, which I discuss in the following sections.

3.4.5.1 In-depth Interviews

In-depth interviews refer to conversations between a researcher and participants on a study topic or theme. These conversations tend to be fluid and dialectical rather than interrogatory in nature, and focus on the experiences, interests and opinions of participants (Valentine, 1997). I chose IDIs as one of my study methods as I aimed to prioritise participants' experiences, their narratives of these experiences, and the historical and contextual factors that shape these experiences. I used a semi-structured approach to my interviews. Semi-structured interviews straddle the structured and unstructured interview formats, and are particularly useful for exchanging knowledge between researcher and participant in an interactive way (Berg & Lune, 2007; Hesse-Biber, 2012). Semi-structured interviews were best suited to my study as I was interested in finding answers to my research questions, while also offering participants the opportunity to steer conversations. I therefore used pre-designed questions (around specific topics or themes) that were asked in a consistent manner, but which gave room for further probing based on emerging information or responses from participants.

As discussed earlier, a total of 30 IDIs were conducted with migrants, non-migrants and return-migrants in the migration origin and destination areas. Specifically, 15 IDIs were held in the UWR with eight women and seven men, and 15 in the middle-belt destination areas with nine women and six men. In the UWR, IDIs were held in two districts and six communities (please see table 1). Interviews were scheduled and conducted in these

communities based on the number of interested participants who contacted me or who agreed to my follow up requests to hold an interview with them (e.g., after survey or FGD sessions). All IDIs were facilitated with a semi-structured interview guide (Appendix D) that asked questions related to migration, climate change, MLIs and gendered and intersectional experiences. Questions were crafted around migration decisions, patterns, motives and settlement, as well as experiences of climate change, weather conditions, farming, health, presence/knowledge/engagement of or with MLIs, gendered and intersectional similarities and differences in experiences, and proposed interventions for improving rural migrant populations' livelihoods and wellbeing.

Interview times and venues were scheduled based on participants' availability and preferences. Most interviews were held in the homes of participants, while others were held in private spaces outside of participants' homes (e.g., in community centres, church buildings, among others). All interviews with migrant groups were conducted in Dagaare, Waali, Twi and English – the main dialects spoken in the study communities. I conducted all IDIs myself as I am fluent in Dagaare and English, and proficient in Waali and Twi. Interviews lasted between 15 – 60 minutes, and although my interview guide was designed to encourage lengthy discussions on the various aspects/themes of my study, the duration of interviews was determined by participants' engagement with our conversation. For instance, some participants tended to be reserved and therefore provided brief responses to the questions and follow up probes, while others talked extensively about their experiences even without probes. Some interviews also had to be cut short due to work or other commitments of study participants. All IDIs were audio recorded with the consent of participants (see ethical considerations section). As part of member reflections, participants were provided the option of listening to playbacks of the interview in order to provide feedback, clarify or expand on some of the points discussed, or make changes to any aspect of the interview session that they wanted to. While a few participants took up the offer, many of them declined it.

Table 1: Information and Sample Characteristics of In-depth Interview Participants

IDI Characteristics	Number of Respondents						Total N=30
	Migration Origin Number (N=15)		Subtotal	Migration Destination Number (15)		Subtotal	
	Female (n=8)	Male (n=7)	N=15	Female (n=9)	Male (n=6)	(n=15)	
Age							
18 - 29	-	-	-	1	-	1	1
30 - 39	1	3	4	2	-	2	6
40 - 49	2	1	3	5	1	6	9
50 - 59	1	1	2	1	3	4	6
60 - 69	2	-	2	-	1	1	3
70 - 79	1	1	2	-	-	0	2
80 - 89	1	-	1	-	1	1	2
90 - 99	-	1	1	-	-	0	1
Locality							
Bekyiellu	2	-	2	-	-	-	2
Dongkuolu	1	2	3	-	-	-	3
Zimuopare	1	2	3	-	-	-	3
Tuo-Tangzu	2	1	3	-	-	-	3
Zambo	2	1	3	-	-	-	3
Kuselle	-	1	1	-	-	-	1
Twumkrom	-	-	-	1	1	2	2
Abonsrakrom	-	-	-	-	1	1	1
Dormaa Akwamu	-	-	-	2	-	2	2
Tromeso	-	-	-	4	2	6	6
Atronie	-	-	-	2	2	4	4
District							
Nandom	4	5	9	-	-	-	9
Lawra	4	2	6	-	-	-	6
Dormaa Central	-	-	-	1	2	3	3
Dormaa East	-	-	-	2	-	2	2
Wenchi				4	2	6	6
Asutifi North				2	2	4	4
Region							
Upper West	8	7	15	-	-	-	15
Bono	-	-	-	9	6	15	15
Occupation (Note: overlap in occupations). SO = Secondary occupation							
Farming	6	6	12	9	5	14	26
Petty Trading	2 (SO:1)	-	2	-	-	-	2
Pito Brewing	-	-	-	1 (+ farming)	-	1	1
No Occupation	1	1	2	-	1	1	3
Hunting	-	2 (SO:2)	2	-	-	-	2
Education							
No Education	6	4	10	5	4	9	19
Primary Education	2	1	3	4	1	5	8
Junior High (JHS)	-	1	1	-	1	1	2
Senior High (SHS)	-	1	1	-	-	0	1
Marital Status							
Single/Never Married	-	2	2	-	-	-	2
Married	3	5	8	8	6	14	22
Divorced	1	-	1	-	-	0	1
Widowed	4	-	4	1	-	1	5

Table 2: In-Depth Interview Characteristics (Migration Origin/Upper West Region)

IDI No.	Pseudonym	Location/ Community	District	Gender	Age	Education	Occupation	Marital Status	Migration Status	Migration Purpose
1	Kaunsob	Bekyiellu	Nandom	Female	60	No edu.	Farming	Widowed	Return-Migrant. Done	Spousal migration
2	Beh-faame	Dongkuolu	Nandom	Female	80	No edu.	Farming (and koose in dry season)	Married during interview. Recently widowed	Return-Migrant. Done	Spousal migration, caregiving
3	Gyile	Dongkuolu	Nandom	Male	38	Primary 4	Farming, migration and Hunting	Single	Return Migrant. Still cyclical	Farming and hunting
4	Saakom	Dongkuolu	Nandom	Male	90	No edu	None (previously farming)	Married	Return Migrant. Done	To work in mines
5	Zinni	Bekyiellu	Nandom	Female	30	No edu	Petty trading	Divorced	Return migrant. Still cyclical	Spousal migration. And now wage labour
6	Antom	Zimuopare	Nandom	Male	73	No edu	Farming	Married	Return migrant. Once, done	Construction work
7	Kyaapuorey	Zimuopare	Nandom	Female	61	Primary 5	None (previously farming)	Widowed	Once. Done	Wage labour to marry
8	Zunuo	Zimuopare	Nandom	Male	41	No edu	Farming	Married	Return migrant. Cyclical. Done	Farming
9	Nomu	Tuotangzu	Lawra	Female	49	No edu	Farming	Married	Once. Done	Babysitting
10	Mwinsom	Tuotangzu	Lawra	Female	72	No edu	Small farming	Widowed	Once. Done	Spousal migration
11	Bertuurme	Zambobadi	Lawra	Male	57	No edu	Farming and a bit of hunting	Married	Return. Cyclical.	Farming
12	Mercy	Zambobadi	Lawra	Female	47	No edu	Helping Children in farming	Widowed	Non-migrant	N/A
13	John	Tuotangzu	Lawra	Male	30	SHS	Farming	Never married	Return migrant. Cyclical, yearly	Wage work
14	Puvila	Zambobadi	Lawra	Female	55	Primary 1	Farming	Married	Twice. Done	Baby sitting and spousal migration
15	Beyelke	Kuselle	Nandom	Male	38	JHS	Farming	Married	Return migrant. Done	Work

Table 3: In-Depth Interview Characteristics (Migration Destination/Middle-Belt Regions)

IDI No.	Pseudonym	Location/ Community	District	Gender	Age	Education	Occupation	Marital Status	Migration Status	Migration Purpose
1	Kuu-ima	Twumkrom	Dormaa Central	Female	43	No edu.	Farming	Married	Migrant – 16 years Semi-permanent	Farming
2	Kaa-ir	Twumkrom	Dormaa Central	Male	55	No edu	Farming	Married	Migrant – 18 years. Migrated thrice within middle belt	Farming
3	Dambio	Abonsrakrom	Dormaa Central	Male	59	No edu	Farming	Married	Migrant – 40 years. Migrated thrice within middle belt. Plans to return once he gets what he wants.	To escape poverty and food insecurity
4	Zenebia	Dormaa Akwamu	Dormaa East	Female	38	No edu	Farming	Married	About 6 years in current location	First to babysit. Moved to current place to farm with husband
5	Christy	Dormaa Akwamu	Dormaa East	Female	25	Primary 6	Farming	Married	6 years in current location. Moved prior	To current location to join spouse
6	Lebkaa	Tromeso	Wenchi	Female	48	No edu	Farming	Widowed	15 years. Permanent	Moved because husband asked to
7	Tiere-bio	Tromeso	Wenchi	Female	50	Primary 3	Farming	Married	21 years – will return if husband says so	Moved with husband to middle belt. Husband migrated to escape crowding
8	Bang-bio	Tromeso	Wenchi	Male	62	Middle School	Farming	Married	15 years – Migrated once in middle belt	Lack of farmlands in village.
9	Bio-naasa	Tromeso	Wenchi	Male	80	Primary edu	Farming/Wage work, but not anymore	Married	47 years – Migrated severally before settling in current place	Exploration and wage work
10	Felicity	Tromeso	Wenchi	Female	37	Night school. P.3	Farming	Married	21 years – Temporary, will return	Migrated by herself to explore options and learn new things. Met husband and moved to Tromeso
11	Antuna	Tromeso	Wenchi	Female	48	Primary 3	Farming and Pito Brewing	Married – Polygynous	14 years – Moved once within middle belt	Exploration, remittances, met partner in middle belt
12	Sung	Atronie	Sunyani Municipal	Female	49	No edu	Farming	Married	16 years – Permanent	Exposure and to look for money
13	Nde	Atronie	Sunyani Municipal	Male	42	No edu	Farming	Married	16 years – Has intentions to return, but difficult to	To look for work
14	Kanyiri	Atronie	Sunyani Municipal	Female	45	No edu	Farming	Married	30 years – Migrated thrice within middle-belt	To search for money and peace
15	Pupiello	Atronie	Sunyani Municipal	Male	59	No edu	Farming	Married	25 years – Migrated once within middle belt	First to engage in wage work, then to work in commercial maize farm

Focus group discussions were the second method used in my qualitative strand. Focus groups refer to a qualitative interviewing technique where the researcher facilitates discussions on a selected study topic among small groups of individuals who meet the selection criteria for the study (Schutt, 2014). Compared to other qualitative approaches such as IDIs and oral ethnography, FGDs are a relatively newer and less common research method, and thus tend to receive less attention in the methodology scholarship. This notwithstanding, FGDs are gaining traction within fields such as feminist, development, and qualitative research, as well as in social science research more broadly. Focus groups are a useful way to explore participants' views about certain topics, as well as the similarity and differences in these views, in a social interaction context (Conradson, 2005; Tritter & Landstad, 2019).

Table 4: Focus Groups Characteristics

Context	FGD Number	Location			Type of FGD	Number of Participants	Gender Composition	Age Range
		Region	District	Community				
Migration Destination	1	Bono	Dormaa East	Wamanafo	Men Only	10	10 Men	21 – 64 Years
	2	Bono	Dormaa Central	Twumkrom	Mixed: Women and Men	9	4 Women, 5 Men	18 – 36 Years
Migration Origin	3	Upper West	Nandom	Bekyiellu	Women Only	12	12 Women	18 – 92 Years
	4	Upper West	Nandom	Bekyiellu	Men Only	10	10 Men	18 – 78 Years
	5	Upper West	Nandom	Duogtang	Mixed: Women and Men	14	6 Women, 8 Men,	22 – 85 years
Total	5					**55**	**Women: 22 Men: 33**	

I used FGDs in my study to enable me gain general and in-depth understandings of the themes of my research topic, and also use findings from the FGDs to complement those from the IDIs and surveys. A total of five FGDs were conducted with migrant groups in the UWR and middle belt. Specifically, I conducted three FGDs in the UWR and two in the middle belt. These comprised of one all-female, one all-male and one mixed FGD in UWR, as well as one all-male and one mixed FGD in the middle belt. I had planned to conduct a final (all-female) FGD in summer 2020, but was unable to do so due to the COVID-19 pandemic and evolving restrictions/regulations. In the UWR (migration origin), FGDs were held in the Nandom District, and in the middle belt (migration destination), the Dormaa East and Central Districts.

Each FGD consisted of between nine to 14 members, with an average of 11 persons in each group (please see ethical considerations section on FGD memberships). These numbers were large enough to get diverse perspectives on my study topic, yet small enough to enable me facilitate discussions effectively (Krueger, 2014). FGDs were scheduled based on the availability of all participants within the group, and were held in locations most conducive to all members. These locations include communal meeting spaces – such as church buildings, community centres, under the shade of trees – that were warded off to non-participants.

All FGDs were conducted in English, Twi, Waali and Dagaare by me and the lead RAs. I chose to have lead RAs present in FGDs to help with recordings, moderation and the clarification of some concepts in the local dialects, whenever necessary. FGDs were facilitated with semi-structured guides (see Appendix E), with questions designed to capture the various themes and objectives of my study topic. One of the main critiques of FGDs is that there is the tendency for more vocal or outgoing members to dominate discussions. To address this, I facilitated FGDs in a manner that offered all participants an equal opportunity to express their views. I also followed up with more reserved participants about the possibility of taking part in an IDI. All FGDs lasted between 45 minutes and two hours, and were audiotaped with the consent of all participants within the group. I discuss issues of confidentiality in the section on procedural ethics below.

3.4.5.3 Key Informant Interviews

Key informant interviews denotes the practice of interviewing individuals who can provide researchers with vital information and insight regarding a specific topic (Kumar, 1989). According to María Aguilera and Amuchástegui (2019), it is important to solicit the help of key informants in situations where a researcher requires guidance, basic information, and/or contextual background about a relevant topic. Key informant interviews as used in this study refers to my discussions with community leaders and government and NGO officials who possess extensive knowledge and work closely (or in some capacity) with migrant communities, particularly in the areas of gender, climate change, MLIs and rural issues. I recruited a total of 12 key informants – from the same districts/regions that I recruited migrant participants from, as well as in the national capital, the GAR – for my study. Some of the key informants interviewed include officials working in the areas of multilaterals (e.g., the Field Support Services Programme [FSSP] of Global Affairs Canada [GAC]), rural development

(e.g., CARO), and climate change and environmental related issues (for example the Environmental Health and Sanitation Department). Details of key informant interviews – such as the locations, organisations, gender, among others – are provided in table 5.

Table 5: Key Informant Interviews

IDI No.	Department/Institution	Institution Type	Gender of Respondent	Region/Location	Number of Interviews
1	Department of Agriculture	Government	Female	Greater Accra	1
2	Municipal Assembly	Government	Male	Upper West	1
3	CowTribe	NGO	Male	Bono Region	1
4	Care International	NGO	Female	Greater Accra	1
5	Gender Desk	Government	Female	Bono Region	1
6	Field Support Services Programme (FSSP) of Global Affairs Canada (GAC) - MLI	NGO	Male	Greater Accra	1
7	Ministry of Food and Agriculture	Government	Male	Upper West	1
8	Community Development Alliance (CDA)	NGO	Male	Upper West	1
9	Environmental Health and Sanitation Department	Government	Male	Bono Region	1
10	Centre for Advancing Rural Opportunities (CARO)	NGO	Male	Upper West	1
11	Idea Paths Consult	NGO	Male	Bono Region	1
12	Queen Mother	Community Leader	Female	Upper West	1

Similar to IDIs and FGDs, key informant interviews took a semi-structured form and were facilitated with semi-structured interview guides (see Appendix G). Interview questions asked key informants about the organisational goals of their respective institutions and how these goals relate to rural migrants. Questions also explored the individual roles of key informants within their organisations, and their personal engagement with migrant communities. Finally, interview questions asked key informants about some of the challenges they experience in undertaking their roles and responsibilities, and the interventions needed to aid them with their work and help improve the lives of the rural migrant communities that they work with. All interviews were scheduled based on key informants' availability and conducted in the English language. All but one IDIs were audio recorded with consent from participants. Interviews lasted between 35 and 75 minutes. Most key informant interviews were conducted remotely or semi-remotely, and the challenges of conducting these interviews are discussed in my ethics section. Despite their usefulness for providing expert knowledge and serving as a guide for the researcher, María Aguilera and Amuchástegui (2019) caution that sometimes key informants may also act as gatekeepers due to their hierarchical

positions within communities or organisations. However, my use of the complementary (varied information from different sources and locations) rather than verification approach helps to address this issue, by complementing (rather than corroborating) key informant accounts with those of community members in migrant sending and receiving areas.

3.4.5.4 Quantitative Surveys

Surveys were the only method or tool that I employed for the quantitative strand of my study. De Vaus (2013) describes surveys as structured or systematic sets of data that rely on information gathered about the same variable or characteristic from more than one case or respondent. This data is then arranged into a data grid to aid in processing and/or analysis. I used the *G*Power A Priori* computation software to calculate my required sample size for the quantitative survey. Since I was interested in understanding the experiences of migrants, non-migrants and return-migrants, and exploring the gendered and intersectional differences (and similarities) in these experiences, I decided to use the Chi Square (X^2) Variance (difference from constant) as the main statistical test for my dissertation. For the X^2 Variance two tailed test, and at an alpha (α) level of 0.05 (95% degree of freedom [df]), the minimum total sample size required for my study was 159. I however decided to aim for a sample size of 800 (at least 200 each for the migration origin and destination) in order to increase the statistical power of my analyses. Also, while the ratio of UWR population to migrants in the middle belt is approximately 4.3:1 according to the last official census (Ghana Statistical Service, 2012), I oversampled in the migration destination to enable me capture seasonal migrants and the diversity of migrants' experiences in different destination areas of the middle belt.

A two-staged sampling – using both non-probability (purposive) and probability (random) – technique was used to identify and recruit participants for the surveys. *In the first stage* and as discussed earlier, I selected my study sites purposefully due to my study objectives and goals. However, once these study sites were identified, I relied on community announcements to disseminate information about my research, ask interested participants to contact the research team, and pre-inform community members that the research team might be visiting their homes for enumeration purposes. *In the second stage*, the research team randomly selected households from the chosen study communities – by visiting every third dwelling within the community – to have the survey administered to adults in these

households. Since my study was aimed at collecting individual rather than household experiences of the study phenomena, more than once person (and ideally both women and men) could be interviewed within the same household. However, no more than four people could be surveyed in a single household. About 1,500 eligible households were identified for the study. Of this number, the research team visited about 850 households, and a survey was administered to 669 women and men within these households. One of the respondents/cases was however missing a substantial proportion of information and was therefore dropped from the data analysis, bringing the total number of completed survey responses to 668, representing an 83.5% response rate. A structured, closed-ended Qualtrics online survey questionnaire (with an offline app option) was used in collecting responses to inform the survey data (Appendix F). This questionnaire/tool was divided into five major sections with each section containing questions dedicated to the themes of migration, climate change, MLIs, health and gendered and intersectional issues.

Table 6: Participants Characteristics for Survey – General Population Sample by Gender

No.	Characteristic	Frequencies and Percentages					
		Women			Men		
		Frequency (n = 290)	% of Women (n = 290)	% of Total (n = 668)	Frequency (n = 290)	% of Men (n = 378)	% of Total (n = 668)
1	**Gender**						
	Female	290	100%	43.4	-	-	-
	Male				378	100	56.6
2	**Age**						
	18 – 29	83	28.6	12.4	92	24.3	13.8
	30 – 39	75	25.9	11.2	100	26.5	15
	40 – 49	66	22.8	9.9	86	22.8	12.9
	50 – 59	44	15.2	6.6	67	17.7	10.0
	60 and above	22	7.6)	3.3	33	8.7	4.9
3	**Occupation**						
	Farming	243	83.8	36.4	345	91.3	51.6
	Trading	25	8.6	3.7	5	1.3	0.7
	Civil Service	13	4.5	1.9	16	4.2	2.4
	Other (wage work)	8	2.8	1.2	9	2.4	1.3
	Multilateral work	1	0.3	0.1	2	0.5	0.3
4	**Educational Status**						
	No education	152	52.4	22.8	182	48.1	27.2
	Middle school	10	3.4	1.5	19	5.0	2.8
	Primary	57	19.7	8.5	61	16.1	9.1
	Junior High	35	12.1	5.2	51	13.5	7.6
	Senior High	19	6.6	2.8	36	9.5	5.4
	Tertiary	17	5.9	2.5	29	7.7	4.3
5	***Income**						
	No Response	157	54.1	23.5	128	33.9	19.2
	Below 999 GHS	93	32.1	13.9	138	36.5	20.7

No.	Characteristic						
	1,000 – 1,999 GHS	10	3.4	1.5	44	11.6	6.6
	2,000 – 4,999 GHS	11	3.8	1.6	37	9.8	5.5
	5,000 – 9,999 GHS	13	4.5	1.9	16	4.2	2.4
	10,000 GHS and above	6	2.1	0.9	15	4.0	2.2
6	**Marital Status**						
	Never married	37	12.8	5.5	93	24.6	13.9
	Currently married	196	67.6	29.3	269	71.2	40.3
	Divorced	14	4.8	2.1	10	2.6	1.5
	Widowed	39	13.4	5.8	4	1.1	0.6
	Prefer not to answer	4	1.4	0.6	2	0.5	0.3
7	**Region of Residence**						
	Upper West Region	135	46.6	20.2	152	40.2	22.7
	Bono Region	155	53.4	23.2	226	59.8	33.8
8	**District of Residence**						
	Lambussie	30	10.3	4.5	40	10.6	6.0
	Nandom	89	30.7	13.3	81	21.4	12.1
	Lawra	16	5.5	2.4	31	8.2	4.6
	Dormaa East	39	13.4	5.8	56	14.8	8.4
	Dormaa Municipal	25	8.6	3.7	66	17.5	9.9
	Sunyani Municipal	37	12.8	5.5	40	10.6	6.0
	Wenchi	54	18.6	8.1	64	16.9	9.6
9	**Migration Status**						
	Non-migrant	37	12.8	5.5	30	7.9	4.5
	Return-migrant	98	33.8	14.7	122	32.3	18.3
	Migrant	155	53.4	23.2	226	59.8	33.8
10	**Disability**						
	Yes	16	5.5	2.4	24	6.3	3.4
	No	276	95.2	41.3	354	93.7	53.0
11	**Ethnicity**						
	Sissala	18	6.2		23	6.1	3.4
	Brifo	17	5.9	2.5	17	4.5	2.5
	Dagaaba	238	80.7	35.6	322	85.2	48.2
	Waala	17	5.9	2.5	16	4.2	2.4
12	**Religion**						
	Christianity	261	90	39.1	322	85.2	48.2
	Islam	9	3.1	1.3	21	5.6	3.1
	African Traditional Religion (ATR)	10	3.4	1.5	23	6.1	3.4
	No Religion	10	3.4	1.5	12	3.2	1.8

*At the time of data collection: 1 USD = 5.48 GHS & 1 GHS = 0.18 USD

Table 7: Participants Characteristics for Survey – Segregated by Migration Origin and Destination

No.	Characteristic	Migration Origin (UWR)			Migration Destination (Middle-Belt)		
		Women (n= 135) Freq (%)	Men (n=152) Freq (%)	Subtotal (n=287) Freq (%)	Women (n= 155) Freq (%)	Men (n= 226) Freq (%)	Subtotal (n=381) Freq (%)
1	**Gender**						
	Female	135 (47.0%)	-	135 (47.0%)	155 (40.7%)	-	155 (40.7%)
	Male	-	152 (53.0%)	152 (53.0%)	-	226 (59.3%)	226 (59.3%)
2	**Age**						
	18 – 29	35 (25.9%)	30 (19.7%)	65(22.7%)	48 (31%)	62 (27.4%)	110 (28.9%)
	30 – 39	29 (21.5%)	40 (26.3%)	69 (24.0%)	46 (29.7%)	60 (26.6%)	106 (27.8%)
	40 – 49	29 (21.5%)	36 (23.7%)	65 (22.7%)	37 (23.9%)	50 (22.1%)	87 (22.8%)
	50 – 59	23 (17.0%)	30 (19.7%)	53 (18.5%)	21 (13.6%)	37 (16.4%)	58 (15.2%)
	60 and above	19 (14.1%)	16 (10.5%)	35 (12.2%)	3 (1.9%)	17 (7.5%)	20 (5.3%)

3	Occupation						
	Farming	113 (83.7%)	139 (91.5%)	252 (87.8%)	130 (83.9%)	206 (91.2%)	336 (88.2%)
	Trading	12 (8.9%)	3 (2%)	15 (5.2%)	13 (8.4%)	2 (0.9%)	15 (3.9%)
	Civil Service	6 (4.4%)	5 (4%)	12 (4.2%)	7 (4.5%)	11 (4.9%)	18 (4.7%)
	Other (wage work)	4 (3%)	4 (2.6%)	8 (2.8%)	4 (2.6%)	5 (2.2%)	9 (2.4%)
	Multilateral work	-	-	-	1 (0.7%)	2 (0.9%)	3 (0.8%)
4	Educational Status						
	No education	63 (46.7%)	67 (44.1%)	130 (45.3%)	89 (57.4%)	115 (50.9%)	204 (53.5%)
	Middle school	7 (5.2%)	9 (5.9%)	16 (5.6%)	3 (1.9%)	10 (4.4%)	13 (3.4%)
	Primary	23 (17%)	22 (14.5%)	45 (15.7%)	34 (21.9%)	39 (17.3%)	73 (19.2%)
	Junior High	18 (13.3%)	20 (13.2%)	38 (13.2%)	17 (11%)	31 (13.7%)	48 (12.6%)
	Senior High	14 (10.4%)	20 (13.2%)	34 (11.9%)	5 (3.2%)	16 (7.1%)	21 (5.5%)
	Tertiary	10 (7.4%)	14 (9.2%)	24 (8.4%)	7 (4.5%)	15 (6.6%)	22 (5.8%)
5	*Income						
	No Response	81 (60.0%)	52 (34.2%)	133 (46.3%)	76 (49.0%)	76 (33.6%)	152 (39.9%)
	Below 999 GHS	40 (29.6%)	64 (42.1%)	104 (36.2%)	53 (34.2%)	74 (32.7%)	127 (33.3%)
	1,000 – 1,999 GHS	2 (1.5%)	13 (8.6%)	15 (5.2%)	8 (5.2%)	31 (13.7%)	39 (10.2%)
	2,000 – 4,999 GHS	2 (1.5%)	7 (4.6%)	9 (3.1%)	9 (5.8%)	30 (13.3%)	39 (10.2%)
	5,000 – 9,999 GHS	5 (3.7%)	7 (4.6%)	12 (4.2%)	8 (5.2%)	9 (4%)	17 (4.5%)
	10,000 GHS and above	5 (3.7%)	9 (5.9%)	14 (4.9%)	1 (0.7%)	6 (2.7%)	7 (1.8%)
6	Marital Status						
	Never married	20 (14.8%)	36 (23.7%)	56 (19.5%)	17 (11%)	57 (25.2%)	74 (19.4%)
	Currently married	82 (60.74 %)	105 (69.1%)	187 (65.2%)	114 (73.6%)	164 (72.6%)	278 (73%)
	Divorced	7 (5.2%)	7 (4.6%)	14 (4.9%)	7 (4.5%)	3 (1.3%)	10 (2.6%)
	Widowed	22 (16.3%)	3 (2.0%)	25 (8.7%)	17 (11%)	1 (0.4%)	18 (4.7%)
	Prefer not toanswer	4 (3.0%)	1 (0.7%)	5 (1.74%)	-	1 (0.4%)	1 (0.3%)
7	Region of Residence						
	Upper West Region	135 (47.0%)	152 (53%)	287 (100%)	-	-	-
	Bono Region	-	-	-	155 (40.7%)	226 (59.3%)	381 (100%)
8	District of Residence						
	Lambussie	30 (22.2%)	40 (26.3%)	70 (24.4%)	-	-	-
	Nandom	89 (65.9%)	81 (53.3%)	170 (59.2%)	-	-	-
	Lawra	16 (11.9%)	31 (20.4%)	47 (16.4%)	-	-	-
	Dormaa East	-	-	-	39 (25.2%)	56 (24.8%)	95 (24.9%)
	Dormaa Municipal	-	-	-	25 (16.1%)	66 (29.2%)	91 (23.9%)
	Sunyani Municipal	-	-	-	37 (23.9%)	40 (17.7%)	77 (20.2%)
	Wenchi	-	-	-	54 (34.8%)	64 (28.3%)	118 (31%)
9	Locality/Community						
	Baseble	9 (6.7%)	6 (4.0%)	15 (5.2%)	-	-	-
	Bekyiellu	10 (7.4%)	9 (5.9%)	19 (6.6%)	-	-	-
	Dongkuolu	10 (7.4%)	20 (13.2%)	30 (10.5%)	-	-	-
	Duogtang	9 (6.7%)	5 (3.3%)	14 (4.9%)	-	-	-
	Gengenkpe	10 (7.4%)	13 (8.6%)	23 (8.0%)	-	-	-
	Kuselle	22 (16.30%)	27 (17.8%)	49 (17.1%)	-	-	-
	Kanguol	6 (4.4%)	10 (6.6%)	16 (5.6%)	-	-	-
	Gyirgan	9 (6.7%)	10 (6.6%)	19 (6.6%)	-	-	-
	Piina	18 (13.3%)	20 (13.2%)	38 (13.2%)	-	-	-
	Tuopare	5 (3.7%)	10 (6.6%)	15 (5.2%)	-	-	-
	Zambo	10 (7.4%)	11 (7.24%)	21 (7.3%)	-	-	-
	Zimuopare	17 (12.6%)	11 (7.24%)	28 (9.8%)	-	-	-
	Abonsrakrom	-	-	-	10 (6.5%)	24 (10.6%)	34 (8.9%)
	Antwikrom	-	-	-	14 (9.0%)	19 (8.41%)	33 (8.7%)
	Asuotiano	-	-	-	20 (12.9%)	32 (14.2%)	52 (13.7%)
	Atronie	-	-	-	18 (11.6%)	17 (7.5%)	35 (9.2%)
	Domeabra	-	-	-	14 (9.0%)	10 (4.4%)	24 (6.3%)
	Dormaa Akwamu	-	-	-	8 (5.2%)	11 (4.9%)	19 (5.0%)

	Tromeso	-	-	-	36 (23.3%)	49 (21.7%)	85 (22.3%)
	Twumkrom	-	-	-	6 (3.9%)	21 (9.3%)	27 (7.1%)
	Wamanafo	-	-	-	7 (4.5%)	8 (3.5%)	15 (3.9%)
	Wamfie	-	-	-	6 (3.9%)	8 (3.5%)	14 (3.7%)
	Koradasu	-	-	-	9 (5.81%)	8 (3.5%)	17 (4.5%)
	Kyeremasu	-	-	-	1 (0.7%)	11 (4.9%)	12 (3.2%)
	Taforo	-	-	-	6 (3.9%)	8 (3.5%)	14 (3.7%)
9	**Migration Status**						
	Non-migrant	37 (27.4%)	30 (19.7%)	67 (23.3%)	-	-	-
	Return-migrant	98 (72.6%)	122 (80.3%)	220 (76.7%)	-	-	-
	Migrant	-	-	-	155 (40.7%)	226 (59.3%)	381 (100%)
10	**Disability**						
	Yes	9 (6.7%)	9 (5.9%)	18 (6.3%)	7 (4.5%)	15 (6.6%)	22 (5.8%)
	No	126 (93.3%)	143 (94.1%)	269 (93.7%)	148 (95.5%)	211 (93.4%)	359 (94.2%)
11	**Ethnicity**						
	Sissala	9 (6.7%)	9 (5.9%)	18 (6.3%)	9 (5.8%)	14 (6.2%)	23 (6.0%)
	Brifo	3 (2.2%)	3 (2%)	6 (2.1%)	14 (9.0%)	14 (6.2%)	28 (7.4%)
	Dagaaba	123 (91.1%)	140 (92.1%)	263 (91.6%)	115 (74.2%)	182 (80.5%)	297 (78.0%)
	Waala	-	-	-	17 (11%)	16 (7.1%)	33 (8.7%)
12	**Religion**						
	Christianity	122 (90.4%)	132 (86.8%)	254 (88.5%)	139 (89.7%)	190 (84.1%)	329 (86.4%)
	Islam	4 (3.0%)	8 (5.3%)	12 (4.2%)	5 (3.2%)	13 (5.8%)	18 (4.7%)
	African Traditional Religion (ATR)	6 (4.4%)	7 (4.6%)	13 (4.5%)	4 (2.6%)	16 (7.1%)	20 (5.3%)
	No Religion	3 (2.2%)	5 (3.3%)	8 (2.8%)	7 (4.5%)	7 (3.1%)	14 (3.7%)

*At the time of data collection: 1 USD = 5.48 GHS & 1 GHS = 0.18 USD

3.4.5.5 Contextual Observations and Field Notes

The final methods that I relied on to gather data were contextual observations and field note entries. Regarding contextual observations, I made it a point to constantly observe the environment and/or locational characteristics of the study sites and interview situations, as well as the non-verbal cues (e.g., facial expressions and gestures) of study participants. This was to enable me to capture every aspect of the interaction process and also pay attention to what was not said in the interview situation. This is necessary because, according to scholars such as Bourdieu (1996) and Power (2004), what is not said in the interview situation is equally as important as what is said. With respect to field notes, I kept a journal and endeavoured to make entries in it after every interview. This was to enable me write down important happenings that were not captured in the audio-recordings or interview notes, and also ensure that I did not forget vital information relevant to each interview or researcher-participant interaction. Lastly, my field note entries served as a source of preliminary data analysis, as I was able to record recurrent themes as well as interesting, serendipitous findings that were emerging, as a way to aid me manage and understand my data.

3.4.6 Data Analyses

In this section, I discuss the data analyses strategies employed for both the qualitative and quantitative strands of my research, and how these analyses were integrated. Qualitative and quantitative data were analysed separately but in an iterative manner. As discussed, I gave both qualitative and quantitative data equal weight, based on my *QUAL + QUANT* mixed methods design (Ivankova & Creswell, 2009).

3.4.6.1 Qualitative Analysis

Qualitative interviews (IDIs and FGDs) were transcribed with the help of the Express Scribe Transcription Software. I undertook all transcriptions since I conducted interviews with migrant groups myself, and/or had skilled RA translators present during FGDs where other dialects (that I do not speak well) were used. All interview recordings were translated directly from the local dialects to the English language during transcription, using both literal and contextual translation techniques. Transcripts were re-read while listening to audio recordings, to ensure that no information was distorted, missed or lost in translation. In instances where I was uncertain about the meanings of specific phrases or words, I ran them by local speakers to preserve as much contextual meaning as possible. I also used the closest in meaning to words or concepts that had no direct equivalent in the English language. I discuss translational ethics later in this chapter.

Inductive theme-identification and explanation-building were the dominant techniques used in the analyses of my qualitative data. Once transcription was completed and transcripts edited, I began open coding on Microsoft Word versions of the transcripts. This involved reading to familiarise myself with the content of the transcripts, and assigning initial themes to emerging ideas (Crang, 2005). This process helped me get a sense of the breadth and depth of my qualitative data, develop possible meanings about the ideas/narratives in the interview texts, and identify potential and/or recurring themes. I added notes to these initial/open codes on the Word documents to serve as reminders and guides for further coding and analysis. Upon completion of open coding, I uploaded all transcripts into the QSR software for qualitative analysis, NVivo, for guided coding. I first created umbrella categories or codes to cover the various aspects of my study (e.g., migration, climate change, MLIs). Guided by my open codes and notes – as well as my theoretical/conceptual frameworks and research questions and objectives – I created parent codes in NVivo based on the initial

themes identified during open coding. To illustrate, 'migration motives' was one of the initial codes/themes that I assigned under the umbrella of migration, and this was informed by my research questions, objectives and data. I then did a close reading of all the transcripts uploaded to NVivo, in order to add to or modify these initial codes. While doing so, I also began developing sub-codes under the parent ones, based on the diverse and unique experiences described by each participant in the transcripts. Examples of sub-codes under 'migration motives' include 'gendered differences in migration motives', 'age differences in migration motives', among others. These parent and sub-codes were constantly modified by either breaking up codes in situations where a theme was dominant enough to be on its own, or merging ones that were too similar or overlapping to be standalone codes/themes.

In addition to coding for common themes in the interviews/transcripts, I also coded interview transcript to cases/respondents/groups for both IDIs and FGDs. This was to enable me to easily trace quotations or themes back to the interviews or transcripts that they emerged from, and also help me to contextualise responses and show the similarities and differences in lived experiences (or themes). For IDIs, cases (participants) were assigned both interview numbers and pseudonyms, whereas FGDS were assigned group numbers and categorised by type. The qualitative findings in my results sections therefore cover the final themes that emerged from coding – based on my research questions and objectives, theoretical and conceptual frameworks, and dominant themes or experiences.

3.4.6.2 Quantitative Analysis

Quantitative data were analysed using descriptive and inferential (chi square) statistical analyses. For both descriptive and inferential analyses, gender served as the primary variable (independent variable) in running tests, as I was interested in producing gendered understandings of my study topic and situating the relational role of women and men within my study findings. I however rely more on descriptive statistics for most of my analysis and results for three reasons. First, as stated earlier, I was interested in using my quantitative data to paint a broader picture of the themes emerging from the qualitative data, rather than explain tests of significance or the associations between selected variables, and hence did not need complex regression models or tests of associations. Second, given my emphasis on the qualitative experiences of participants, performing advanced inferential statistical analyses (e.g., multivariate analyses) may not have left me enough room to engage

with the depth/breadth of the qualitative data. Third and finally, I relied more on descriptive statistics to reduce redundancy in my analyses and ensure complementarity of my study findings. In some cases, however, it was useful to determine if the experiences of women and men differed regarding certain variables/experiences (e.g., threat of climate change), in which case bivariate and/or chi square tests were performed to test for significance or differences. Initial processing of my data was done in the IBM's Statistical Package for the Social Sciences (SPSS), after which I transferred the data to Stata for further cleaning and analyses.

3.4.6.3 Integrating Qualitative and Quantitative Analyses and Data Presentation

Although I took an iterative approach to mixing and/or integrating the qualitative and quantitative strands of my study, the bulk of my data integration happened at the analysis stage, when I put both data sets and findings in conversation with one another. This process enabled me to see the convergencies and divergencies in my data, as well as how the qualitative and quantitative data complemented one another. Thus, for my study results, I present the descriptive and inferential statistics from the quantitative component to paint a broad picture and provide estimated proportions regarding participants' experiences under study themes, after which I use the qualitative data (drawing from quotations) to explain how and/or why participants may be reporting said experiences in the quantitative data. I also provide possible explanations for dissonant or seemingly inconsistent findings between the qualitative and quantitative results of my study.

Qualitative and quantitative data are presented interchangeably, with the findings from both strands used to elaborate on one another. The findings from the qualitative data are presented using themes and direct quotations. Themes are categorised under major and sub-themes, and quotations from participants that best capture the essence of the various themes are used to illustrate or elaborate on the qualitative findings. I also ensured to include quotes from all interviews to ensure representativeness. For descriptive statistics, specifically means ($\bar{x}$) and proportions/percentages, mean scores are rounded to two decimal places and percentages to one decimal place. With respect to inferential statistics, Pearson's chi square (X^2) and Fisher's exact tests of association are employed. The Fisher's exact test is used for crosstabulations with fewer than five counts/frequencies in at least one cell, whereas the Pearson's X^2 is performed for crosstabulations with more than five counts/frequencies in all cells. All alpha levels (α-levels) are set at .05, which implies that for a result/finding to be

considered significant, it cannot take place more than 5% of the time due to chance. Thus, for all X^2 statistical tests, p-value scores less than or equal to 0.05 (p≤0.05) are considered significant, whereas those greater than 0.05 (p>0.05) are considered not significant. Only statistically significant X^2/Exact results are highlighted in the findings section.

3.5 Ethical Considerations

In this concluding section, I discuss the ethical considerations underpinning my entire research process including issues of institutional/procedural, situational, relational and positional ethics. This is in response to the call by Preissle et al. (2015) that ethics be placed at the forefront of mixed methods studies. To this effect, I provide detailed descriptions of how I obtained ethics approval for my study and the measures I took to promote participants' safety (e.g., confidentiality of participation) in my research. I also discuss some of the ethical and fieldwork challenges that arose during my study, how these were addressed, and in cases where they could not be neatly reconciled, why. I conclude with some background about myself and the influence of my positionality on my research. This is my attempt to situate myself and my study within the "goodness" principle, which scholars such as Macfarlane (2010) and Preissle et al. (2015) propose for researchers, as a way to promote reflections and discussions regarding the compliance and integrity of their study. According to Macfarlane (2010) and Preissle et al. (2015), such detailed reflections provide researchers with an avenue to address issues such as the scholarly and practical significance of research questions and inquiries, as well as the fluid nature of ethics processes. It also serves as a means for researchers to be honest about their standpoints, interests and strategies, and aids readers to evaluate whether research procedures are defensible by some criteria.

3.5.1 Procedural Ethics: Approval, Recruitment and Training, and Participation

3.5.1.1 Ethics Approval and Respondent Recruitment and Participation

Ethical clearance for this study was granted by the Non-medical Research Ethics Board (NMREB) of my home institution, the University of Western Ontario (UWO), and by my partner/local institution in Ghana, the University for Development Studies (UDS). All participants in my research were aged 18 or older, as this is the age of legal consent in Ghana; no upper age limit was set to promote inclusivity. All participants were provided with LOIs – prior to or during recruitment – detailing the purpose of my research, and their rights and

roles in the study. These included the right to not take part in the study, the right to not answer any questions, and the right to withdraw from the study at any time. For participants who had not undergone formal education and/or who could not read the LOI themselves, skilled RAs translated the content of the LOI to them. Participants were asked to provide written or verbal consent before taking part in any aspect of the study.

Participants were also assured of their confidentiality in the study. For the surveys, although information such as participant and questionnaire identification (IDs) were recorded for the purpose of sorting responses, all identifying information were delinked from the data sets during analysis. Regarding IDIs and FGDs, some participant information (e.g., names, telephone numbers or emails) were collected to aid in the scheduling and facilitation of interviews. However, these were also delinked from the interviews, and all data stripped of identifying information. Although participants in IDIs were assured of the confidentiality of their participation, FGD participants were informed that their participation was not anonymous due to the group nature of interactions, and hence, confidentiality could not be guaranteed. This notwithstanding, all FGD participants were encouraged to keep discussions within the group private. For IDI participants who were uncomfortable with being audio recorded, I provided the option of note taking, and one participant took up this offer. Since all FGDs had to be audio recorded to facilitate discussions, participants who were uncomfortable with being recorded were given the option of participating in IDIs instead, but no one opted out of FGDs. Only the primary researcher had access to the data at all times, and these data were stored in encrypted folders that only I had the passwords to.

3.5.1.2 Research Assistant Recruitment and Training

A total of 16 RAs were recruited from different regions and ethnicities of Ghana for the entire duration of the research project. These include two lead RAs, one each stationed in the migration origin and destination areas, and 14 RAs to assist with survey enumeration in both origin and destination areas. RAs were recruited with the help of the key contact person of my partner institution (the UDS) in Ghana, as well as through referrals to/by research consultancies in the country. As mentioned, I conducted all IDIs myself, and had one lead RA present in each FGD to aid with recording, moderation and translation. All RAs underwent an initial one-week intensive training, as well as regular re-trainings throughout the research process. RA trainings consisted of sessions on ethical practices, their rights, roles

and responsibilities as RAs within the study, survey administration, translating research questions effectively in order to minimise losses in translation, and recognising signs of distress among participants and addressing these effectively (i.e., referring participants to trained health workers for assistance). All RAs were asked to respect the privacy of participants and not disclose any information regarding the research to anyone else. Before partaking in any aspect of the study, all 16 RAs were made to sign confidentiality agreements. For survey enumeration, IDs were assigned to all RAs to aid with supervision and the provision of feedback to individual RAs regarding their data collected.

3.5.1.3 COVID-19 Safety Protocols

During remote data collection amid the COVID-19 pandemic, some safety measures were followed. First, personal protective equipment (PPE) such as face masks, hand sanitisers and gloves, disinfectant wipes and rubbing alcohol were provided to the research team for their own use and for distribution to study participants. Second, the research team identified eligible households to be recruited for the study – using appropriate physical distancing measures – and information on how to contact the research team was made available during this identification processes. Interested participants who owned smart phones and could take the survey on their own were given prepaid mobile data and the link to the survey. For participants who were interested in the study but did not possess smart phones or the ability to complete surveys on their own, RAs conducted these surveys either over the phone or in a physically distanced and safe (appropriate PPE worn by RAs and participants) setting. For telephone surveys, affordable cellular phones were purchased and participants without mobile phones were provided with disinfected ones that were dropped off at their homes. RAs subsequently called these participants to complete surveys over the phone. Once RAs were done administering surveys, participants were asked to leave the mobile phones in a specified location outside of their homes for RAs to pick up. These phones were disinfected by the research team before they were handed over to the next participants. For key informant interviews, the research team contacted prospective and interested participants about scheduling interviews. Following this, interviews were scheduled for either in-person (still adhering to physically distanced settings and other safety measures) or over the telephone. All key informants owned personal phones and, hence, did not use the phones provided by the research team. No FGDs were conducted during the pandemic.

3.5.2 Situational and Relational Ethics: Ethical Compliance and Integrity versus Goodness and Justice on the Field

Several scholars (see Cantin, 2020; Douglas-Jones, 2021; Preissle et al., 2015) discuss the fluid nature of research ethics, and the tensions that often arise during researchers' navigation of ethics processes. This is in part due to the differences between some institutional/procedural ethics, and cultural, situational and relational ethics. For instance, some procedural ethics of universities (or other institutions) may deem it unsafe for researchers to visit or conduct interviews in the homes of study participants. Yet, in some cultures, it is considered respectful (or ethical) that researchers visit the homes of their study participants rather than ask for the participants to commute elsewhere to participate in their study. Thus, Preissle et al. (2015) note that researchers sometimes need to make certain ethical decisions on the field, which may seem conflicting or contradictory to institutional or procedural ethics. In my own study, this played out in several ways.

3.5.2.1 Focus Groups Memberships

In my procedural ethics application, I indicated that I would have a maximum of 10 members in each FGD, and a total of 60 members for all FGDs. However, because I relied on community announcements and snowballing to recruit participants for the qualitative aspect of my study, and due to the social nature of FGDs (and my study contexts), I sometimes received interest from several participants. Once the limit was reached for an FGD, I would inform the remaining interested/prospective participants that the FGD capacity had been met. Despite this, sometimes, the recruited FGD participants shared the venue and time of our scheduled meetings with friends or family, who showed up to these meetings. Procedurally, it was unethical for me to admit these participants. But culturally, it was unethical for me to turn away interested community members who had shown up to the meeting. To address this, I admitted interested participants into discussions but planned to reduce the memberships of the subsequent FGDs to ensure that I did not exceed the total number of 60 FGD participants that I had indicated in my procedural ethics. However, I ended up being one FGD short due to the COVID-19 pandemic, hence, I eventually had a total of 55 FGD participants for my study.

Further, in my procedural ethics, I indicated that migrants, non-migrants and return-migrants would be compensated for their participation in my study with an amount of CAD 5.00 per person for surveys, and CAD 10.00 per person for IDIs and FGDs. While these amounts were not large enough to influence participation, they were to serve as compensation to participants for taking time off their work to take part in my study, and also offset transportation costs for migrant groups. However, once data collection began, some women in migrant communities expressed concerns that the men were likely to use the cash honoraria for alcohol consumption. The women therefore suggested that I either compensate them in kind or donate lump sums to community savings coffers, which I did. Also, some (extended) family and community members were offended by my decision to compensate them for participating in my (their daughter's) study, and therefore declined the monies I offered. Although consistent honoraria payment is procedurally ethical, within the context of my research, maintaining this consistency had implications for the safety of some study participants. Moreover, insisting that participants who refused the cash honoraria take the monies would have been considered culturally disrespectful. Although I struggled with my decision to approach the payment of honoraria differently based on the evolving situational and relational dynamics on the field, I ultimately chose to respect participant's wishes, safety and integrity.

3.5.2.3 Inclusivity in Sampling and Recruitment

Apart from the ethical challenges related to compensating participants, I also experienced ethical tensions in my sampling and recruitment processes. For instance, to be as inclusive as possible, I had made it a point to recruit study participants from diverse backgrounds including all age categories, as well as people with disabilities who did not have diminished capacity and could participate in my study. However, some families and households were uncomfortable with having the elderly or disabled[6] members of their family participate in my research. Consequently, my requests to engage with elderly or disabled members were often met with statements such as, 'they are not feeling well' or 'they are tired', and the research team was usually redirected to other household members. Thus,

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[6] I use the term 'disabled' with the recognition that persons living with disabilities are disabled by their structural and social environments.

although respecting the wishes of household members – to not engage with the elderly or persons living with disabilities – had implications for maintaining inclusivity and representativeness in my work, not respecting these wishes would have been considered culturally inappropriate and/or disrespectful to the households, or of the vulnerabilities of some study participants.

Still regarding recruitment, I had to change some study sites (localities/institutions) during data collection for a few reasons. To begin, I chose study areas (particularly in middle belt destinations) that were located in, or in close proximity to, areas of MLI operations. However, upon arrival in one of these communities – Kenyasi-Goomu, which is close to one of the Ahafo Mines operation centres – the study team was informed that most migrants from UWR who had previously settled in the community had had to relocate to other areas. Competitive and expensive land tenure systems in the locality, and the resulting inability to secure land for subsistence farming, were cited as reasons for the relocations. The very few remaining UWR migrants in the area and those in nearby localities added that, despite being a rural community, the cost of living in Kenyasi-Goomu had skyrocketed since the mines started operating. I therefore chose new study sites that were a bit outside of the Ahafo Mines operation areas, but which had a large concentration of UWR migrants (e.g., Atronie).

I also had to replace some governmental, NGO and multinational institutions (and stakeholders) due to the reluctance of officials within these institutions to participate in my study. This unwillingness was evidenced by the unreturned phone calls and emails, lengthy bureaucratic procedures with little or no progress, and the outright refusal by some officials to participate. A friend (whom I had relied on for a referral to their head of organisation) in one of these government institutions later confided in me that, the rise in investigative journalism around issues of corruption in Ghana was one of the main reasons why some upper-level staff were reluctant to take part in my study. In such instances, I either had to find new institutions or different stakeholders within the same institution to interview.

3.5.2.4 Inclusivity: Gender Representativeness

Still regarding recruitment and participation, before embarking on my data collection, I aimed to make my study as representative of all genders as possible. However, this proved challenging. For instance, to encourage the participation of both women and men, I endeavoured to recruit equal numbers of female and male RAs so that participants could feel

comfortable and have the option to work with an RA of similar gender. However, few female RAs responded to my search/call, or took part in my data collection, for two reasons – both rooted in sociocultural norms. First, due to the remote nature of study communities, the research team often had to travel long distances and, sometimes, stay overnight in these communities. This setup was however unconducive to the participation of some female RAs who had family obligations that precluded them from travelling with us, or who could not travel with the team for safety and sociocultural reasons (e.g., travelling with 'strangers'). Second and related, given that my study was among rural dwellers, most of whom are farmers, the study team often had to visit study communities either very early in the mornings or late at night, in order to meet farmers before they left for work. These times were however not convenient for many female RAs again due to family and household commitments (e.g., household chores such as cooking, cleaning and childcare that must be performed during this time). Consequently, only five of the 16 RAs who helped me with data collection were women.

Furthermore, in designing my study, I sought to recruit more female than male study participants to account for the low visibility of women in climate change, MLI and rural migration research. However, this proved difficult to achieve – particularly for surveys and mixed FGDs – again due to sociocultural reasons. Although the research team often visited migrant communities very early in the morning before they left for their farms or late in the evening/night when they had returned, the migrant women were often not available during these times as they were usually engaged with household chores and other domestic responsibilities. To compensate for this, I ensured that I interviewed more female migrants for the IDIs. Lastly, it was challenging recruiting female key informants mainly due to the low representation of women in leadership roles in Ghanaian institutions, similar to other contexts across the world (Baruah & Biskupski-Mujanovic, 2021a, 2021b; USAID, 2020).

3.5.2.5 Exploring Gendered and Intersectional Differences

I witnessed less hostility from male migrants during data collection for my doctoral research as compared with my master's (Baada, 2017). This is likely because my doctoral research involves both women and men, whereas my master's was only among migrant women farmers. This notwithstanding, some participants expressed discomfort about some of the questions asked, particularly those on gendered and intersectional differences in experiences. To illustrate, in the UWR district of Lawra, I received a 20-minute lecture from a

female participant about the inappropriateness of trying to understand how her gender might have influenced her lived experiences. According to this participant, questions and/or studies that seek to distinguish experiences by gender could serve as a potential source of conflict between women and men (or spouses), mainly resulting from either the assumption that some genders have it worse than others, or from the disruptions to participants' realities that such questions about gender relations within households/communities could cause. For instance, the woman said to me, "it is because of some these questions that you the young women of this generation cannot sustain your marriages. Because you think everything is a competition with your men, even hardships. If you want to know something about me, fine. But don't ask me how my gender plays into my experiences".

As a feminist, I was torn between providing a response about the importance of questions that explore gendered experiences/relations, and silently acknowledging this woman's view: I chose the latter. Furthermore, when asked if they thought that gendered and intersectional differences existed in experiences, some participants responded that they had never lived in another body or social location and, hence, could not make any comparisons or assumptions about others' experiences. Finally, several participants were uncomfortable discussing their income. This is however not surprising, as finances are considered a private domain in Ghanaian culture. Consequently, several 'no response' or 'prefer not to answer' responses were recorded for questions on income in my study. On hindsight, designing the question on income as a categorical rather than continuous variable would have been more helpful. However, to compensate for this, I included a household wealth index scale in order to be able to measure household wealth independently of income.

3.5.2.6 Translational Ethics

Translational issues also emerged as one the major dilemmas I faced on the field. Although the concept of migration is quite straightforward and easily translated from the English language to local Ghanaian languages, climate change and MLI are not. Thus, because no equivalent terminologies exist for climate change and MLI – which are the other main thematic areas of my study – the research team deliberated about the terms nearest in meaning that could be used in the local dialects. 'World change' (directly translated) was the first option agreed upon. However, during the reconnaissance and pretesting stages, the team realised from the responses of participants that, the term 'world change' evokes more

religious and sociocultural understandings, rather than scientific or environmental ones: although participants often linked changing environmental conditions to changing religious and sociocultural contexts (please see findings sections). Thus, the research team agreed that some contextual information that grounded 'world change' within scientific and environmental understandings might be helpful for conveying the meaning intended. Climate change was therefore situated within the context of changes over time in rainfall patterns and soil conditions. However, given that part of my study was aimed at assessing participants' knowledge of climate change, it is likely that the background information provided may have subsequently influenced participants' knowledge, understandings and responses to climate change questions. Regarding MLI, the term nearest in meaning that was used was 'big company or big work'. Although participants' responses captured the essence of MLIs, as defined in chapter one, it is still possible that some meanings were lost in translation.

3.5.2.7 Research Fatigue

Finally, several participants reported and showed signs of research fatigue. For instance, I was told by some participants that they had taken part in similar research projects in the past and had received no benefits or seen any changes in their lives. Research fatigue was also obvious from the high numbers of refusals to take part in my study (mostly surveys), the high attrition rates, and the fact that some participants terminated their participation mid-way due to disinterest and/or because they felt they had been asked similar questions in the past. This dynamic is not surprising, as the resource-poor nature of my study communities (particularly those in the migration origin) makes them a source of several academic and non-academic (including international, governmental and NGO) studies – most of which are aimed at exploring the vicious cycles of poverty among people from or living in the UWR. These manifestations of research fatigue relate to Preissle et al.'s (2015) discussions of the burdens of participation – which tend to be pronounced in mixed and multimethod studies – where they note that people who participate in several different studies or different components of the same study, eventually experience participation burnout. This fatigue observed among study participants was compounded by the lengthy nature of my survey questionnaire, mostly resulting from the fact that I had four main thematic areas (gender, climate change, MLI and migration) and also because I relied on standardised/established survey tools (e.g., the short-form-12 health survey) that had several different scales or dimensions to them.

3.5.3 Positionality

My doctoral research is greatly influenced by my lived experiences as a woman and a migrant twice over. I therefore identify as both an insider and outsider to this study. I come from the UWR but was born in coastal Ghana. Growing up, I moved with my family severally before eventually settling in the BAR, where I resided for close to a decade before immigrating to Canada. I come from a nuclear family of five, however, I have always lived in a large household irrespective of the region my parents settled in. This is because, many extended family and community members in the UWR regularly used our home as a transit point to other migration destinations, mostly in southern Ghana. The length of stay of these extended family and community members often ranged from as short as a few days or weeks, to as long as several months or years. While observing these mobility dynamics, I realised a number of things. First, many of the people that were coming to live with us (before eventually moving to rural areas of the middle belt) tended to be young and men. I also noticed that most of the women who took part in these migrations either came as a couple, or only stayed a short duration before returning to the UWR. Finally, I noticed that despite being from UWR myself, my life and career trajectory was very different from that of my extended family and community members. These migration dynamics sparked my curiosity and got me asking some questions, including: Why were so many people moving away from UWR? Why was I seeing differences in migration patterns? Why was my life and career trajectory so different from that of my extended family and community members? What could I do to help improve the lives of these family and community members? These questions and lived experiences motivated me to research migration issues for my graduate studies.

I identify as an insider to this research because I share a migration status, language, culture and place of origin with study participants. I also share the same gender with women migrants. Finally, I share some of the experiences of discrimination that migrants – particularly from northern Ghana – tend to experience in southern Ghana. Some of these discriminatory practices include being called derogatory names such as 'Teni' and 'Pepeni'[7]. Others include being mocked for our accents and being considered as less deserving of some opportunities in the southern sector. For instance, some colleagues in my high school and

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[7] Teni is literally translated 'twin' and Pepeni is literally translated 'similar'. Over time, however, these terms have assumed negative connotations and are used to denigrate people of northern descent as being similarly unenlightened or uncultured. "Country cousin" or "poor cousin" are comparable terms in English.

university did not understand why there were several students from northern Ghana in southern institutions and would often tell us to go back to school in our regions of origin.

On the other hand, I identify as an outsider for several reasons. First, I am of a different gender than male participants. Second, my socioeconomic status (lower middle class) differs from those of my research participants. Third, my middle-class status has given me access to better educational and economic opportunities (e.g., pursuing a PhD abroad on fully funded scholarships) as compared to participants. Fourth, despite being an internal migrant myself, I have resided in urban areas all my life. Fifth, by residing in urban settings, I have always had better access to social amenities such as electricity, potable water and good healthcare. Finally, my middle-class status has shielded me from some of the marginalisation and discrimination that internal migrants from northern Ghana face in the south. For example, being able to secure better work opportunities.

My status as an outsider and insider came with benefits and limitations in conducting my doctoral research. Regarding the benefits of being an outsider, I was often referred to as a 'guest' when we visited participants' homes to collect data. This guest status, coupled with the hospitable Ghanaian culture, came with several perks such as being offered food and drinks, and being excused for asking some questions that are considered sensitive or common knowledge among people from UWR (e.g., questions on gender relations or income, or questions on UWR rural migration experiences). The limitations of being an outsider to this research include being considered as 'lost' (for example possessing inadequate knowledge of some cultural and ceremonial practices and dances), being viewed with scepticism by some participants, and being made fun of for speaking in a different accent, too.

On the other hand, my status as an insider (including my knowledge of the culture and language) was used to facilitate my entry into study communities. Also, participants were more receptive of my research, despite being fatigued from several other local and international studies. Some participants indicated that they were more hopeful that my research could bring some positive changes to their lives since I was one of them. Furthermore, I was able to empathise with some of the rural migrants' experiences in the middle belt, for example, the derogatory name calling and being asked to return to the north. However, as an insider, I was critiqued (particularly by non-migrants and return-migrants in UWR) – together with other young outmigrants – for neglecting our home region and parents. For instance, a participant in Nandom said to me during one of our interactions, "you the

young, strong and educated ones among us are the ones that should be helping to lift your communities out of poverty. But you all run away and only come home when you're sick or need something". Also, despite causing some participants to refuse cash honoraria for taking part in my study, my insider status also led other participants to make some requests of me (e.g., to run errands with our rented research vehicle, pay children's school fees, take some of my younger relatives back with me to care for); and while I was happy to fulfil the ones within my means (e.g., errands and topping up fee payments), I could not undertake others (e.g., fostering younger relatives). Finally, my status as an insider made some participants a little annoyed about my line of questioning, as they expected that I should know the responses to some of the questions I was asking. In such instances, I gently reminded participants that although I had an idea about their experiences, for the sake of my study, I could not make any assumptions. I also reminded them that one of the ways that I could amplify their voices was to present my findings using their own narratives.

Throughout my study, I made conscious efforts to be cognisant of how my positionality was influencing my research and the power and relationship dynamics between me and study participants. This cognisance also enabled me to undertake some measures to reduce these power dynamics. For instance, not dressing in ways that made me stand out, declining to sit on special chairs and stools offered to me, and letting participants know that I was there to learn from them. I however also made it a point to acknowledge to participants that I recognised the immense privileges I enjoy by virtue of my social location. I also endeavoured to recognise my biases regarding rural versus urban living in Ghana, and to ensure that these biases did not cloud my understandings or interpretations of participants' own perspectives on their lives (e.g., while I may consider living in rural areas of the middle belt deprived due to the lack of social amenities, some participants consider it an improvement to their lives pre-migration).

These attempts at evening out power dynamics notwithstanding, I acknowledge that my lifestyle and consumption patterns as a middle-class woman are contributing in some way to the climate change effects being experienced by my study populations. I understand that I continue to have better access to economic opportunities (including foreign investment) in Ghana because of my socioeconomic status. I also recognise that my position as a middle-class woman within the socioeconomic hierarchy is made possible by the continued subjugation of some groups, including migrant groups living in vulnerability. I acknowledge

that actions such as refusing special stools do not significantly even out power dynamics between my study participants and me. Ultimately, the most important way to level this power unevenness is through structural changes that (re) distribute resources and opportunities more equitably to all persons, irrespective of gender, class, geographical location or other social categories.

CHAPTER FOUR (4)

FINDINGS: CLIMATE CHANGE, MULTILATERAL INVESTMENT AND MIGRATION AMONG NON-MIGRANTS AND RETURN-MIGRANTS IN THE UPPER WEST REGION (UWR) OF GHANA

4.1 Introduction

This chapter presents the study findings on climate change, MLIs and migration among non-migrants and return-migrants in the UWR. The findings are based on study objectives and major thematic areas that emerged during data analysis. The chapter is divided into six sections. The first provides some sociodemographic characteristics of non-migrants and return-migrants in the region. The second, third and fourth sections outline the experiences of climate change, MLIs and migration, respectively, in the UWR. Section five highlights the gendered and intersectional considerations of these phenomena, and the sixth presents proposed interventions and policy suggestions from migrant groups and key informants. For all findings, key informant perspectives are interspersed with those of non-migrants and return-migrants. I begin with some sociodemographic characteristics of the study sample.

4.2 Sociodemographic Characteristics of Participants in UWR

A total of 343 participants were recruited for the study in UWR. This comprised of 162 women and 181 men. Of this number, 287 participated in the survey (135 women and 152 men), 15 in IDIs (eight women and seven men), 36 in FGDs (18 women and 18 men) and five in key informant interviews (one woman and four men). For the quantitative survey, 76.7% of people identify as return-migrants while 23.3% identify as non-migrants (see table 8). Participants for the survey were recruited from 12 communities in the Lambussie, Lawra and Nandom Districts. The majority of respondents (170 representing 59.2%) are resident in the Nandom District, 70 (24.4%) reside in Lambussie and 47 (16.4%) in the Lawra District. Most participants are aged 30-39, representing 24% of the sample population, and the smallest age group are those aged 60 years and above who form 12.2% of the total sample. Farming is the major occupation of respondents in the study, with 252 respondents (87.8%) engaged in this. Fifteen (5.2%) participants engage in trading, 12 (4.2%) work in the civil service, and eight (2.8%) engage in other economic activities or were not employed at the time of data collection.

Table 8: Participants Characteristics for Survey –Migration Origin/Upper West Region

No.	Characteristic	Number and Frequency		
		Women (n= 135) Freq (%)	Men (n=152) Freq (%)	Total (n=287) Freq (%)
1	**Gender**			
	Female	135 (47.0%)	-	135 (47.0%)
	Male	-	152 (53.0%)	152 (53.0%)
2	**District of Residence**			
	Lambussie	30 (22.2%)	40 (26.3%)	70 (24.4%)
	Nandom	89 (65.9%)	81 (53.3%)	170 (59.2%)
	Lawra	16 (11.9%)	31 (20.4%)	47 (16.4%)
3	**Locality/Community**			
	Baseble	9 (6.7%)	6 (4.0%)	15 (5.2%)
	Bekyiellu	10 (7.4%)	9 (5.9%)	19 (6.6%)
	Dongkuolu	10 (7.4%)	20 (13.2%)	30 (10.5%)
	Duogtang	9 (6.7%)	5 (3.3%)	14 (4.9%)
	Gengenkpe	10 (7.4%)	13 (8.6%)	23 (8.0%)
	Kuselle	22 (16.30%)	27 (17.8%)	49 (17.1%)
	Kanguol	6 (4.4%)	10 (6.6%)	16 (5.6%)
	Gyirgan	9 (6.7%)	10 (6.6%)	19 (6.6%)
	Piina	18 (13.3%)	20 (13.2%)	38 (13.2%)
	Tuopare	5 (3.7%)	10 (6.6%)	15 (5.2%)
	Zambo	10 (7.4%)	11 (7.24%)	21 (7.3%)
	Zimuopare	17 (12.6%)	11 (7.24%)	28 (9.8%)
4	**Migration Status**			
	Non-migrant	37 (27.4%)	30 (19.7%)	67 (23.3%)
	Return-migrant	98 (72.6%)	122 (80.3%)	220 (76.7%)
5	**Age**			
	18 – 29	35 (25.9%)	30 (19.7%)	65(22.7%)
	30 – 39	29 (21.5%)	40 (26.3%)	69 (24.0%)
	40 – 49	29 (21.5%)	36 (23.7%)	65 (22.7%)
	50 – 59	23 (17.0%)	30 (19.7%)	53 (18.5%)
	60 and above	19 (14.1%)	16 (10.5%)	35 (12.2%)
6	**Occupation**			
	Farming	113 (83.7%)	139 (91.5%)	252 (87.8%)
	Trading	12 (8.9%)	3 (2%)	15 (5.2%)
	Civil Service	6 (4.4%)	5 (4%)	12 (4.2%)
	Other (wage work)	4 (3%)	4 (2.6%)	8 (2.8%)
7	**Educational Status**			
	No education	63 (46.7%)	67 (44.1%)	130 (45.3%)
	Middle school	7 (5.2%)	9 (5.9%)	16 (5.6%)
	Primary	23 (17%)	22 (14.5%)	45 (15.7%)
	Junior High	18 (13.3%)	20 (13.2%)	38 (13.2%)
	Senior High	14 (10.4%)	20 (13.2%)	34 (11.9%)
	Tertiary	10 (7.4%)	14 (9.2%)	24 (8.4%)
8	***Income**			
	No Response	81 (60.0%)	52 (34.2%)	133 (46.3%)
	Below 999 GHS	40 (29.6%)	64 (42.1%)	104 (36.2%)
	1,000 – 1,999 GHS	2 (1.5%)	13 (8.6%)	15 (5.2%)
	2,000 – 4,999 GHS	2 (1.5%)	7 (4.6%)	9 (3.1%)
	5,000 – 9,999 GHS	5 (3.7%)	7 (4.6%)	12 (4.2%)
	10,000 GHS and above	5 (3.7%)	9 (5.9%)	14 (4.9%)
9	**Marital Status**			
	Never married	20 (14.8%)	36 (23.7%)	56 (19.5%)
	Currently married	82 (60.74 %)	105 (69.1%)	187 (65.2%)
	Divorced	7 (5.2%)	7 (4.6%)	14 (4.9%)

		Widowed	22 (16.3%)	3 (2.0%)	25 (8.7%)
		Prefer not to answer	4 (3.0%)	1 (0.7%)	5 (1.74%)
10	**Disability**				
		Yes	9 (6.7%)	9 (5.9%)	18 (6.3%)
		No	126 (93.3%)	143 (94.1%)	269 (93.7%)
11	**Ethnicity**				
		Sissala	9 (6.7%)	9 (5.9%)	18 (6.3%)
		Brifo	3 (2.2%)	3 (2%)	6 (2.1%)
		Dagaaba	123 (91.1%)	140 (92.1%)	263 (91.6%)
12	**Religion**				
		Christianity	122 (90.4%)	132 (86.8%)	254 (88.5%)
		Islam	4 (3.0%)	8 (5.3%)	12 (4.2%)
		African Traditional Religion (ATR)	6 (4.4%)	7 (4.6%)	13 (4.5%)
		No Religion	3 (2.2%)	5 (3.3%)	8 (2.8%)
*At the time of data collection: 1 USD = 5.48 GHS & 1 GHS = 0.18 USD					

Regarding education, most participants (130 or 45.3%) have no formal education while 61 (21.3%) have a primary or middle school education. Another 72 participants (25.1%) have undergone junior and senior high school education, and few (24 or 8.4%) have a tertiary education. With respect to income, most participants (133 representing 46.3%) preferred not to report their income or provided no response to the question on income. Among those who responded, the majority (104 participants or 36.2%) earn an annual income of 999 GHS (the equivalent of 179.8 USD at the time of data collection). Fifteen participants (5.2%) have an annual income of 1,000 – 1,999 GHS (180 – 359.8 USD), nine (3.1%) make between 2,000-4,999 GHS (360 – 899.8 USD), and 12 participants (4.2%) report an annual income of 5,000 – 9,999 GHS (900 – 1,799.8 USD). Only 14 participants (4.9% of respondents) earn an annual income of 10,000 GHS (1,800 USD) or above.

Most participants (187, comprising 65.2%) are married, 56 (19.5%) have never been married and 14 (4.9%) are divorced. While 25 participants (8.7%) are widowed, the majority are women who make up 88% of people in this category. Eighteen (6.3%) respondents in UWR report living with a disability. Regarding ethnicity, the majority of respondents identify as Dagaaba (263 representing 91.6% of the total sample), 18 (6.3%) as Sissala and six (2.1%) as Brifo. Finally, most participants (253 or 88.5%) report belonging to the Christian religion, 13 (4.5%) participants identify as African Traditional Religion (ATR) practitioners, 12 (4.2%) as Muslims and eight (2.8%) report belonging to no religion. Please see table three (methods chapter) for details of participants who took part in IDIs. In the following sections, I present the findings on climate change, MLIs and migration in the UWR.

4.3 Experiences of Climate Change among Non-migrants and Return-migrants in UWR

4.3.1 Climate Change Awareness and Knowledge

An objective of this study was to examine the experiences of climate change among rural dwellers in UWR, including their awareness or knowledge of climate change, perceived changes in climatic conditions, impacts of climate change and adaptation mechanisms employed by people living in the region to cope with the negative effects of climate change. Table 9 below presents a cross tabulation of gender against the climate change variables awareness and knowledge. While awareness refers to whether participants have ever heard about climate change, knowledge asks questions that assess how much participants know about climate change.

The results show that more women (50.4%) than men (45.4%) have never heard of climate change. Overall, 47.4% of participants in UWR indicate that they have never heard of climate change. In determining knowledge of climate change, I constructed an additive scale/index for climate change knowledge. The index was developed from 12 statements that participants were asked to indicate their levels of agreement with. These included statements such as *climate change can cause*: heat waves (prolonged episodes of hot weather); more frequent storms and cyclones; droughts or water shortage; forest fires; among others. Each statement had responses ranked from 0 to 5, with the possible scores of the index ranging from 0 to 50; 0 representing no knowledge and 50 representing strongest knowledge. For instance, for the statement "climate change can cause heat waves (prolonged episodes of hot weather)", those who answered 0 were categorised as having no knowledge, whereas those who answered 5 were considered to have the strongest knowledge. The scale reliability coefficient was 0.9466, meaning that all items on the scale strongly measured the same construct (knowledge of climate change). The average scores for the scale were calculated and the results show a mean score of 26.60 for both genders. However, women had a slightly lower average score (25.95) than men (27.17). The significant proportions of people who have never heard about the interpretation of the term climate change (close to half of the population) in UWR, and the close to average mean scores for climate change knowledge (26.60 out of a possible 50) are concerning given that climate change is one of the world's most pressing crises.

Table 9: Climate Change Awareness and Knowledge

No.	Characteristic/Variable	Gender		Total	X²/Fisher's
		Women (n= 135)	Men (n=152)	(n=287)	p-value
		% / x̄(std)	% / x̄(std)	% / x̄(std)	
1.	**Ever heard about global climate change or global warming**				
	Yes	49.6 %	54.6%	52.3%	0.400
	No	50.4%	45.4%	47.4%	
2.	**Knowledge of climate change**				
		25.95 (6.32)	27.17 (5.73)	26.60 (6.04)	0.066

In qualitative interviews with participants, many reiterated that they have never heard about the interpretation of the term 'climate change', while a few said they have heard about it. However, as indicated in chapter three, the fact that climate change has no equivalent translation in the local dialects likely influenced participants' responses regarding whether they have ever heard about it. Thus, to better situate participants' responses, the term 'climate change' was contextualised by the research team to convey changing environmental/climatic conditions. Often, after this contextualisation, participants would indicate that they have heard about these changing climatic conditions in one form or another. For instance, in an FGD, a participant says in response to the question of whether they know about climate change – after I had provided some background to the concept:

> Oh yes, I have heard about it. Sometime ago, a student from Wa UDS came to talk to us about farming. In our conversation, the student said that our clouds are receding which is why the sun has become so scorching and is bothering us so much. I didn't know you were talking about that. But if that's what you're referring to, then I have heard about it (Female participant, Mixed FGD-5).

This description of the ozone layer depletion is the closest that most participants came to describing climate change in technoscientific terms. For participants who report that they have heard about climate change, a few of them indicate that they first learnt about it when they migrated temporarily to the southern sector of the country to engage in farming:

> It was when I travelled down south I heard them talking about it. The extension officers came to do a farming demonstration and they said that those who have been burning their bushes, it is the smoke and fire that rises to destroy the rubber [atmospheric covering/ozone layer] and prevent the rain. They said that it's also what is causing the soils to lose fertility. I have heard about that thing

you're talking about (Bertuurme, Man, Zambobadi, 57).

However, without this contextualisation of climate change as a global phenomenon influenced by anthropogenic factors and resulting in environmental changes, many participants would often discuss climate change (closest local translation: 'world change') from a sociocultural and/or religious perspective. For example, in an FGD discussion about whether participants know about climate change (pre-contextualisation), a woman says:

> Yes, I have heard about world change. In church and on TV the pastors and priests say it all the time. The world has really changed. Our "basabasa'' (immorality) has worsened. You prepare your farm and someone brings his wife to sleep with on your farm. That way, he has spoiled your farm. If he just has sex on your farm, nothing will do well again because he has removed your farm's strength. It's been like that since our grandparents' time, but it wasn't as common. Yes, the world has changed (Participant, All female FGD-3).

This speaks to the conceptions/misconceptions that many UWR residents have about climate change, and the associations between environmental change and social morality that participants draw. Furthermore, when asked about the source of their awareness or knowledge of climate change, many participants identified religious groups as their main source of knowledge:

> I heard of it in Church. They said at the start of creation, God made a rubber to cover humans. The sun was shining too much and God created the rubber to protect and give us shade. And that rubber, when waters rise to the sky, it returns it as rain. They came and did a sermon on this issue recently in church (Puvila, Woman, Zambobadi, 55).

Discussions with key informants working in government and NGO institutions in UWR revealed that climate change education does not take centre stage in their programmes or activities within the region. All five key informants interviewed for the study indicate that they do not focus directly on climate change, although issues of changing climatic/environmental conditions often come up in their daily interactions with people in rural communities. To illustrate, a key informant with the municipal assembly says:

> The issue is, my work is not directly related to climate change. I work on the implementation of development issues in rural areas. But because most are

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farmers, we sometimes discuss climatic conditions. But we don't specifically go

to educate them about climate change (Key informant 2: Municipal Assembly).

These findings speak to the low levels of awareness and/or formal knowledge of climate change as a techno-scientific term or issue. However, these findings are not reflective of participants' everyday knowledge and lived experiences of climate change, as further conversations and probing revealed the significant intrinsic knowledge that people in UWR have regarding changing environmental conditions and the ways in which participants' lives are shaped by these changes.

4.3.2 Changes in Climatic/Environmental Conditions in UWR

Another objective of the study was to explore perceptions of climatic conditions in UWR. Participants were therefore asked survey questions regarding changes in different environmental/weather conditions such as temperature, rainfall and farmland quality. The findings on perceived climatic changes are presented in table 10. Overall, 83.6% of people (81.5% women and 85.5% men) indicate that they have observed changes in temperatures in UWR over the past 10 years. When asked about the kinds of changes observed, 72.8% of participants note that temperatures are getting hotter. Another 52.3% report noticing longer hot spells, although considerably more men (59.9%) than women (43.7%) report this. Lastly, about 40% of respondents indicate that they have noticed rapid changes in temperatures, with slightly more women (42.2%) reporting this than men (39.7%). A X^2 test revealed a statistically significant association between gender and perception of hot spells in the UWR. This means that men are more likely to report hot spells than women. The large numbers of people reporting hotter and rapid temperature changes in the region is concerning and consistent with reports of rising average temperatures across the world.

Apart from temperature changes, participants were also asked if they have noticed any changes in rainfall patterns in UWR over the last decade. These include changes in the start and end time of rainfall, and overall rainfall seasons/duration. The results show that 93.4% of participants have noticed changes in the start time of rainfall. When asked about the types of changes observed in rainfall start times, 71.6 % of participants indicate that the rainfall season starts late. Also, close to 90% of respondents (87.4% women and 90.8% men) report noticing a change in the end time of rainfall, with 61.7% stating that the rainfall seasons tend to end early and abruptly. Further, about 74% of participants say that the overall

length/duration of the rainy seasons is shorter, with slightly more men (76.3%) reporting this than women (71.1%). Lastly, 83% of participants in UWR indicate that they have noticed changes in the quality of farmlands over the past 10 years, with 88.5% of them reporting that the quality of farmlands has either gotten worse or much worse. These results are again consistent with observed degrading environmental conditions globally.

Table 10: Perceived Changes in Climatic/Environmental Conditions

No.	Characteristic/Variable	Gender		Total	X^2/Fisher's
		Women (n= 135) % / x̄(std)	Men (n=152) % / x̄(std)	(n=287) % / x̄(std)	p-value
1	**Noticed temperature changes in past 10 years**				
	Yes	81.5%	85.5%	83.6 %	0.644
	No	14.8%	11.8%	13.2 %	
	Don't Know	3.7 %	2.6 %	3.1 %	
2	**Temperature changes observed**				
	Getting hotter	72.6 %	73.0%	72.8%	0.934
	Getting colder	18.5 %	17.1%	17.8 %	0.755
	Longer hot spells	43.7%	59.9 %	52.3%	0.006
	Longer cold spells	20.0%	12.5%	16.0%	0.084
	Rapid temperature changes	42.2%	37.5%	39.7%	0.414
3	**Changes in rainfall STARTING TIME over past 10 years**				
	Yes	92.6 %	94.1 %	93.4 %	0.452
	No	5.9 %	5.9%	5.9 %	
	Don't Know	1.5%	-	0.7%	
4	**Kinds of changes in rainfall STARTING TIME**				
	Starts early	27.8%	25.5 %	26.5%	0.894
	Starts late	70.6 %	72.5 %	71.6 %	
	Don't Know	1.6%	2.1 %	1.9 %	
5	**Changes in rainfall END TIME over past 10 years**				
	Yes	87.4 %	90.8%	89.2 %	0.507
	No	11.1 %	7.2%	9.1 %	
	Don't Know	1.5 %	2.0%	1.7 %	
6	**Kinds of changes in rainfall END TIME**				
	Ends early and abruptly	61.5%	61.8%	61.7%	0.481
	Ends late and abruptly	25.2%	29.0%	27.2%	
	Don't Know	13.3%	9.2 %	11.2 %	
7	**Overall length of rainy season**				
	Shorter	71.1 %	76.3%	73.9 %	0.373
	Longer	20.0 %	13.8%	16.7 %	
	Don't Know	8.9 %	9.9 %	9.4%	
8	**Change in farmland quality over past 10 years**				
	Yes	78.5 %	86.8 %	82.9%	0.135
	No	19.3%	11.2%	15.0 %	
	Don't Know	2.2%	2.0%	2.1 %	
9	**Overall observed change in farmland quality**				
	Better/much better	11.9%	11.2%	11.5%	0.860
	Worse/much Worse	88.2%	88.8%	88.5%	

In qualitative interviews, participants were asked to elaborate on some of these observed changes in climatic/weather conditions. In an IDI, a participant talks about the

effects of rising temperatures on human health as well as the health and growth of plants.

> The temperatures are high now. Right now as we sit, after a while you cannot
> even put your foot on the ground because of the heat. How will crops grow? It
> does not rain and the ground is hot. The crops will die. It's because our weather
> is very hot, that's why we don't get harvests (Zinni, Woman, Bekyiellu, 30).

The above quotation highlights participants' perceptions of warming temperatures on various aspects of life in the migration origin. Zinni is of the view that the growing hot temperatures within UWR are affecting people and plants alike, and connects these hot temperatures to the poor rainfall patterns, a view shared by several other residents of the region. Many participants therefore talked extensively about the changes in rainfall seasons, as well as the shortening of rainfall durations and reduction in total volume of annual rainfall. In an IDI with Antom, he says of rainfall in UWR:

> It no longer rains like it did when we were children. Back then it was always
> raining. It could rain until November; everyone got whatever they wanted from
> the rain. But now it's no longer raining. And when it eventually does, it rains no
> more than 22 times and completely stops (Antom, Man, Zimuopare, 73).

This is supported by another participant who says of the rainfall patterns in UWR:

> It no longer rains like it used to. Years ago, by the 4th and 5th month, we sow.
> But now sometimes even in the 6th month the rain is only starting, but it will
> not still rain very well. Now it's usually in the 8th month that it begins raining
> (Puvila, Woman, Zambobadi, 55).

Several participants talked about the ways in which the effects of these reduced and erratic rains on farming are exacerbated by deteriorating soil fertility. Many add that the rapidly declining soil conditions in the region make it difficult to farm or reap productive harvests, especially without the application of chemical fertilisers.

> During our fore parents' time, the land was good. Around this time [October],
> we would still be enjoying the old millet and preparing the mounds for the next
> planting season. We had no worries. But now the lands are all dead. I don't
> know whether they [fore parents] have taken the land away or we the present
> generation aren't farming well. We don't know. Back then, when they farmed,
> they applied only organic/local fertilisers, or even sometimes nothing, and still

reaped good pepper and other food harvests. But now, without the chemical fertilisers, you get nothing from the lands (Kaunsob, Woman, Bekyiellu, 60).

Still other participants add that these changing climatic conditions are also leading to increased incidence of pests and diseases in plants. However, given participants' resource-poor state, many are unable to afford the appropriate herbicides and pesticides needed to treat their crops, thereby leading to even lower farm harvests.

Now when we farm, some caterpillars destroy all the crops. For the millet, last year they gave us some medicines but this year they didn't give us any. That's why my crops are looking this way. We apply ashes to help because I don't have the proper medicines to apply. That's why my crops have died. The pests and diseases attack the millet and maize and destroy them (Beh-faame, Woman, 80yrs, Dongkuolu).

These accounts by participants are buttressed by those of key informants who acknowledge the deteriorating climatic conditions in the region and accompanying decline in agricultural production. An official from the Ministry of Food and Agriculture (MOFA) says of environmental conditions in UWR:

The rainfall is poor. Climate change has affected rainfall patterns because now we anticipate the rainfall around June, which is late. Previously by April it rained. It stops early too. By August the rains end abruptly so it ends up affecting agricultural productivity (Key informant 7: MOFA).

According to migrant groups and key informants, these changing climatic conditions have dire implications for people in UWR as they significantly affect farming conditions and harvests, food security, and physical and mental health outcomes among people living in the region, as discussed below.

4.3.3 Impacts of Climate Change among Residents of UWR

Participants were asked about how changing climatic conditions in UWR are affecting their lives and everyday experiences. Close to 40% of participants (37.8% women and 41.5% men) report experiencing a drought over the last 10 years (see table 11). Thus, according to Kyaapuorey, there have been years when people in her community (Zimuopare) went without any rain and harvests, despite learning that other communities within and outside the region

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had experienced rains and relatively better harvests.

> Some years we get the rain by chance, other years we are unlucky and nothing
> comes. Sometimes it rains at other places but doesn't rain at ours. We sow our
> crops but everything dries and goes to waste. You get up and decide to work
> hard on your farm, but your farming will not move on smoothly. Before you
> know it, the year is gone and you have nothing. What will you do? (Kyaapuorey,
> Woman, Zimuopare, 61).

These extended periods of poor rains and harvests (droughts) severely affect the food security of people in UWR, with most participants in IDIs and FGDs identifying food insecurity as one of the biggest challenges facing them in the region.

> It's food that sustains us and gives us strength and joy. But now when you farm,
> it does not yield well. We get worried thinking about where to get food or
> money to go to the market to buy food. Sometimes even if you have the money,
> you can't get ingredients to buy in the market (Puvila, Woman, Zambobadi, 55).

Droughts are however not the only effects reported by participants. As discussed below, climate change impacts within the region range from the effects on farming to other aspects such as health and everyday life. For instance, participants were asked to indicate their agreement with statements regarding climate change related health impacts (see table 11). The results show that heat stroke/exhaustion, infectious diseases and water quality impacts are the risks identified by most participants as threats to their health, with 39%, 37.6% and 35.2% of participants, respectively, responding 'yes' to whether these posed risks to them. Other impacts identified by participants include sunburn (34.2%), water-borne diseases (33.8%), air quality impacts and respiratory illness (33.1% for each), and stress/anxiety (31.4%). Cancer and drowning were the only health risks that received lower than 25% 'yes' responses. For all impacts, many more men than women identified these as risks to their health, with some such as sunburn showing as large as a 14.1% difference in the percentage of men versus women who identify this as a health risk. Overall, however, only sunburn had a statistically significant association with gender, with men more likely to report sunburn. This is probably associated with men spending substantial time in the sun for farming. I further constructed an additive scale/index using the 10 statements on climate change health impacts shown in table 11 below. The reliability coefficient of the scale was 0.9285. Mean

scores of the perceived climate change related health risks were calculated. The results show a close margin in the mean scores of women and men, 21.68 and 22.37 respectively.

Table 11: Perceived Impacts of Climate Change

No.	Characteristic/Variable	Gender		Total	X²/Fisher's
		Women (n= 135) % / x̄(std)	Men (n=152) % / x̄(std)	(n=287) % / x̄(std)	p-value
1	**Droughts in the past 10 years**				
	Yes	37.9%	41.5%	39.7 %	0.800
	No	58.5%	54.6%	56.5%	
	Don't Know	3.7%	4.0 %	3.8%	
2	**Perceived health risks of climate change**				
i	Heat stroke/exhaustion	38.5%	39.5%	39.0%	0.289
ii	Infectious diseases (e.g., dengue, West Nile Fever, Malaria, pandemic flu etc.)	34.1%	40.8%	37.6%	0.503
iii	Water quality impacts	34.8%	35.5%	35.2%	0.541
iv	Sunburn	26.7%	40.8%	34.2%	0.010
v	Water-borne diseases	30.4%	36.9%	33.8%	0.458
vi	Air quality impacts	29.6%	36.2%	33.1%	0.456
vii	Respiratory illness	28.9%	36.8%	33.1%	0.360
viii	Stress or anxiety	28.2%	34.2%	31.4%	0.382
ix	Cancer	24.4%	25.0%	24.7%	0.992
x	Drowning	23.0%	25.0%	24.0%	0.907
3	**Perceived level of health impact of climate change**				
		21.68 (4.82)	22.37 (5.05)	22.05 (4.95)	
4	**Perceived danger of climate change to life**				
	Yes	68.2%	83.6%	76.3%	0.004
	No	23%	9.2%	15.7%	
	Don't Know	8.89%	7.2%	8.0%	
5	**Perceived impact of climate change on lifestyle**				
	Yes	99 (73.3%)	129 (84.9%)	228 (79.4%)	0.054
	No	20 (14.8%)	13 (8.6%)	33 (11.5%)	
	Don't Know	16 (11.9%)	10 (6.6%)	26 (9.1%)	

Participants in qualitative interviews speak to these impacts of climate change on their health, lifestyles and lives. For example, a participant discusses the ways in which rising temperatures and resulting heat waves, coupled with poor ventilation within the home and poor water access in the region are affecting various daily activities such as sourcing water and accessing cooling systems, and consequently leading to heat related illnesses:

We had just one borehole that we used to labour to get water from. It's the only one we had for a long time. By grace they brought another borehole to add but haven't opened it yet for us to see if we'll get water from it. They say our town, our lands have no water because it's too hot and dry... If we had electricity, we could get some cool air in our rooms... but see, there is no

electricity here. You can't stay indoors for long. And when you try to walk long distances you start to feel tired and dizzy… The heat is what causes the twisted neck disease (cerebrospinal meningitis [CSM]). If you try to stay here, the heat alone will kill you (Participant, All female FGD-3).

Other participants discuss how the lack of rain and dry nature of UWR also results in dry dusty winds and weather conditions, which subsequently affects activities such as street vending, with concomitant health implications:

Our biggest challenge is the dust. Because of our untarred roads. It's bad for us. The foods they sell by the roadside, as soon as a lorry or motorbike drives by, it creates dust which collects in the food. When this dust gets in, it contaminates the food. And when you are constantly breathing in this dust, it causes serious health problems (Participant, Mixed FGD-5).

Apart from the hot temperatures and dry dusty environments, participants add that the growing use of chemical fertilisers to boost agricultural productivity – amid declining soil fertility in UWR – also has serious effects on people's health. These fertilisers, according to participants, either aggravate existing/known diseases and/or introduce new ailments:

The changes are bringing lots of sicknesses to our bodies. Those of us with hypertension, our blood pressure keeps rising like that. Some say the changing weather and farming conditions are to blame. Now they use chemicals to fertilise the crops. When you eat these crops/foods, you end up with some sicknesses that you don't even know the source of. Your body becomes unwell and it is because of the food (Zinni, Woman, Bekyiellu, 30).

Many participants further emphasise the ways in which declining climatic conditions and accompanying negative effects on farming, food availability and economic dispositions of individuals/households in UWR are leading to increased emotional/ psychological distress and related physical health outcomes:

Back then, we used to get enough to eat, but now we don't. Do you know that I think about it a lot? I used to eat to my fill but now the land is not good, I don't get to eat. That brings sickness. You worry a lot and when you go to hospital, they will tell you have high blood pressure (Kaunsob, Woman, Bekyiellu, 60).

Finally, participants discussed the fact that despite the growing physical and mental health stressors brought on by these degrading climatic conditions, their access to, and options for, health treatment and care are also declining due to biodiversity loss. Thus, participants indicate that some ailments such as malaria, colds/flus, boils/cuts and fractures used to be treated at home using herbs. However, the worsening environmental conditions (poor rainfall and soil fertility, loss of wild plants) have led to the loss or extinction of some of these herbs, necessitating them to seek formal health care for almost every illness now.

> At first, you could easily go into the bush or farms to get herbs to treat yourself
>
> and household members who were ill. But now all those plants are gone. Some
>
> of them aren't plants that can be grown at home. But even if they were, where
>
> is the rain and land to nurture them? (Zunuo, Man, Zimuopare, 41).

These accounts speak to the growing biodiversity loss resulting from climate change across various geographical regions. In light of these impacts, participants were asked whether they believe climate change poses a threat to their lifestyles and lives. As shown in table 11, 76.3% of participants believe that climate could endanger their lives. Interestingly, considerably more men (83.6%) than women (68.2%) believe climate change poses a threat to their life, and a X^2 test revealed a statistically significant association between gender and perceived danger of climate change to life. Participants were also asked if they believe climate change could have an impact on their lifestyles. Close to 80% of participants indicate that they believe climate change could affect their lifestyles, and again more men (84.9%) than women (73.3%) report this threat to lifestyle.

4.3.4 Perceived Causes of Climate Change

This study also set out to understand participants' perceptions regarding the causes of global climate change. Non-migrants and return-migrants were therefore asked to identify the factors that they consider responsible for the changing environmental conditions observed in UWR and were provided the option of selecting multiple causes. The findings (see table 12 below) reveal that 93.4% of participants attribute the cause of changing climatic conditions in UWR to deforestation. Another 73.2% of participants (69.6% women and 76.3% men) identify bad farming practices as the cause of environmental changes, while 56.5% of respondents (62.2% women and 51.3% men) indicate that natural resource extraction

activities (e.g., gold and sand mining, oil and gas production) are responsible for the changing climatic conditions in the region. Some participants also attribute the causes of climate change to cultural factors such as the loss of communal reverence for natural resources (hurting the earth [38.3%]), and the transgression of cultural values (33.5%). A few participants identify population growth resulting from births and migration (29.6% and 20.2% respectively) as causes of climate change. Although few participants (15%) identify MLIs as a cause of climate change, notably more men (20.4%) than women (8.9%) are of the view that MLIs are a cause of climate change. A X^2 test showed a statistically significant association between gender and perception of MLIs as an underlying cause of climate change. This implies that more men perceive MLIs as a cause of climate change, compared to women. This finding may be rooted in gendered dynamics of land (and other resource) ownership among UWR residents, and how this interacts with climate change to shape lived experiences. Only a small proportion of participants (13.9%) believe that the environmental changes they are witnessing are the result of a supernatural being's/deity's will.

Table 12: Perceived Causes of Climate Change

No.	Characteristic/Variable	Gender		Total	X^2/Fisher's
		Women (n= 135) % / x̄(std)	Men (n=152) % / x̄(std)	(n=287) % / x̄(std)	p-value
	Underlying causes of climate change				
i	Deforestation	94.1	92.8	93.4	0.656
ii	Bad farming practices	69.6	76.3	73.2	0.202
iii	Resources extraction	62.2	51.3	56.5	0.063
iv	Hurting the earth	40.0	36.8	38.3	0.583
v	Transgressing cultural values	36.3	30.9	33.5	0.335
vi	Greenhouse emissions	37.0	27.6	32.1	0.088
vii	Overpopulation (births)	33.3	33.3	29.6	0.194
viii	Overpopulation (migration)	21.5	19.1	20.2	0.613
ix	Multilateral investments	8.9	20.4	15.0	0.006
x	God's will	15.6	12.5	13.9	0.456

Participants elaborated on these perceptions of climate change causes in qualitative interviews. For instance, when asked about what he thinks is/are the underlying causes climate change, a participant in an IDI says:

I travelled down and heard them talking about it. They said those who burn their bushes, it's the smoke and fire that rises to destroy the rubber; that's why sometimes clouds gather but because the rubber can't hold it, it doesn't rain and the clouds scatter again. It cannot rain. The sun will shine throughout that

period. If not because of human activities, the earth would still have been good. It's the fault of humans, let us not disturb God (Bertuurme, Zambobadi, 57).

As evidenced in Bertuurme's comment, some residents of UWR acknowledge the anthropogenic causes of climate change and are therefore cautious about attributing changing climatic conditions to a deity/god. In an FGD, another participant elaborates on how 'bad farming and natural resource management' practices among the local population are leading to environmental degradation.

During the olden days, when we prepared the land for cropping, we never felled the trees indiscriminately. Some trees are spiritual ones that can call down the rain or bring in the rainy season earlier. That way, you saw the crops growing fast and well too. But now, we cut down all the trees including the spiritual ones. The gods and spirits leave the trees, and the rain too gets annoyed and doesn't come early (Male participant, Mixed FGD-5).

The above quotation and the one before it highlight participants' perceptions regarding the role of human activities (e.g., bush burning, deforestation) in contributing to climate change. However, as shown in the quotes, even when participants recognise the anthropogenic causes of changing environmental conditions, they still mainly discuss these in connection to sociocultural or customary understandings of the environment. The influence of changing customary/traditional practices on deteriorating climatic conditions was therefore a recurring theme in qualitative interviews, as illustrated in the FGD quote below.

The other reason the rain is not coming is because of our rain chasing rituals. Nowadays when a person dies, they [mourners] chase away the rain because they don't want it to ruin the funeral ceremony. But previously, we sent the remains inside and when the rain stops, we bring it out and continuing mourning. But now they prefer to chase away the rain. That's why our rains have stopped (Participant, All female FGD-3).

Key informants were also consulted about their perceptions regarding the causes of global climate change. All key informants in UWR, similar to non-migrants and return-migrants, acknowledge that climate change is caused by human activities. However, key informants also tend to place the blame of these changing conditions on the livelihood activities of smallholders in rural areas. Thus, a key informant from MOFA says:

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… It's a result of charcoal burning which in recent times is discouraged by many advocates and studies protesting the logging of trees. That [charcoal burning] is their source of [rural dwellers] livelihood. Because of the sun, these days there's more heat than before. There's also more stress, so people find it difficult to engage in farming activities… The youth become lazy [sic] and don't even want to stress themselves in the hot sun to engage in other occupational businesses so they turn to tree logging. But with the land declaration issues, tree logging isn't a viable option anymore. (Key informant 7: MOFA).

These accounts by migrant groups and key informants are consistent with neoliberal discourses of climate change that place the blame of environmental degradation on individuals – particularly low-income groups and those living in vulnerability. This finding is concerning, given that low-income individuals and communities, as well as the world's most marginalised groups, are the least responsible for climate change and yet face the most barriers with respect to coping and adaptation.

4.3.5 Adaptation Strategies Towards Climate Change Effects

Finally, regarding the theme of climate change, this study sought to understand the coping and adaptation strategies that participants adopt in response to climate change effects, including whether or not they have the necessary resources to protect themselves from climate change effects. The findings in table 13 reveal that, while 77.7% of participants (75.6% women and 79.6% men) recognise that personal preparation against climate change effects can protect their lives, more than half of them (55.8%) report serious obstacles/ barriers to protecting themselves against the negative consequences of climate change – with slightly more women (60.7%) than men (51.3%) reporting this. When asked if they have the necessary information to prepare themselves for the impacts of climate change, only about a third of participants (33.8%) say they do. Further, only 19.2% of participants (20.7% women and 17.8% men) mention having a household plan to protect themselves against climate change effects. Follow up questions about the coping or adaptation strategies that participants plan to undertake in response to climate emergencies indicate that the majority of respondents (41.1%) plan to adopt a new farming method, 18.1% say they would reduce energy consumption, 17.8% say they will do nothing, and 16% indicate that they do not know

what adaptation or coping strategies they would undertake. Only 7.0% of participants identify migration as a coping strategy they would rely on, with slightly more women (8.2%) than men (5.9%) selecting this option. A X^2 test showed a statistically significant association between gender and coping strategies towards climate change. The low number of people in UWR who report having the necessary information and household plans to protect themselves against climate change, and the high number of people experiencing serious barriers to protecting themselves, is worrying given that climatic stressors are already disproportionately affecting people in this region.

Table 13: Climate Change Adaptation Strategies

No.	Characteristic/Variable	Gender		Total	X^2/Fisher's
		Women (n= 135)	Men (n=152)	(n=287)	p-value
		% / x̄(std)	% / x̄(std)	% / x̄(std)	
1	**Can personal preparation for climate change save life**				0.531
	Yes	75.6%	79.6%	77.7%	
	No	12.6%	8.6%	10.5%	
	Don't Know	11.9%	11.8%	11.9%	
2	**Serious obstacles/barriers to protection from climate change**				0.275
	Yes	60.7%	51.3%	55.8%	
	No	25.2%	31.6 %	28.6%	
	Don't Know	14.1 %	17.1%	15.7 %	
3	**Necessary information to prepare for the impacts of climate change**				0.066
	Yes	31.9 %	35.5 %	33.8%	
	No	57.0%	60.5 %	58.9%	
	Don't Know	11.1%	4.0%	7.3%	
4	**Household plan for protection during disaster/emergency**				0.438
	Yes	20.7 %	17.8 %	19.2 %	
	No	72.6 %	78.3 %	75.6%	
	Don't Know	6.7 %	4.0%	5.2%	
5	**Coping strategies for negative consequences of climate change**				0.013
	Adopt new farm method	37.8 %	44.1 %	41.1 %	
	Reduce energy consumption	15.6 %	20.4%	18.1%	
	Nothing	14.8 %	20.4%	17.8%	
	Don't know	23.7%	9.2 %	16.0%	
	Migrate	8.2 %	5.9 %	7.0 %	

Speaking to the reasons for the lack of information and resources to protect themselves against climate change, a participant describes the ways in which the rural nature of their communities and relatively small population size often causes them to be excluded from development programmes, including climate change education/sensitisation work.

We have not heard anything. Here they don't really tell us much about anything. They always say they don't recognise us as an independent community, so we don't know much about things. It is one of the educated ones who went out and came and told us and we heard about it [climate change].

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She is an Agric officer in town. She also came and pushed for this [borehole]. Can't you see this borehole, you see what I'm talking about, they said they didn't know there was a town here, hmm. (Kaunsob, Woman, Bekyiellu, 60).

The above quote demonstrates the neglect that rural communities in UWR experience regarding development programming, and helps to explain the barriers around coping/ adaptation that many in the region face. Although the low proportion of people who identify migration as a coping strategy towards climate change effects might seem counterintuitive, qualitative interviews helped to shed light on this finding. As shown in table 8 above, only 23.3% of people in UWR have never migrated in their lifetime, with the majority of these being women (27.4%), compared to 19.7% of men. Thus, as most residents in UWR have migrated at least once in their lifetime, they may have realised that migration does not meet their needs, hence their decision to return and settle in UWR, and their reluctance to rely on migration as an adaptation strategy in the future. For instance, in an IDI with Zunuo, he says:

When I sat down and thought very well about the situation, I realised it [migration] was not helping me. The few times I went to Kumasi to work, and compared to now that I no longer go, I see that I am quite better off staying at home [UWR] (Zunuo, Man, Zimuopare, 41).

Furthermore, for older adults, many of them say they are either too old to consider migrating, or previously migrated but returned to UWR as they grew older and could no longer engage in productive farming/economic activities in migration destination areas, as illustrated in the quotation below.

Given my current condition, if something falls on the ground and I don't struggle, I can't pick it up. Why will I now want to travel down south? The eyes cannot see, and I fell from a tree and my waist and shoulder are disturbing me, I cannot do anything. When I sit down and do not lean on something, I cannot sit, I am not strong what will I go and do? Will I even be able to see the road let alone find my way to go and board the car? I cannot migrate anywhere. (Saakom, Man, Dongkuolu, 90).

Given these limited coping and adaptation strategies, some residents of UWR have no option but to resort to formal and informal borrowing/loans to ensure sustenance. However, the poor agricultural productivity in the region implies that some of these loans cannot be

repaid, with some residents resorting to maladaptive solutions such as fleeing their communities. An IDI participant speaks to this.

> Now that I've harvested these groundnuts and there's nothing, as I'm uprooting
> and looking at them, I'm filled with pain. I'll have to throw most of them away.
> How do I pay back the monies I borrowed? We may have to rely on the animals
> we rear for upkeep this year… Last year one person took a loan on the crops
> and when it didn't do well he had to run away without his family. We don't
> think he'll return (Bertuurme, Man, Zambobadi, 57).

These findings underscore the inadequate coping/survival options available to residents of UWR. They further emphasise the limitations of migration as an adaptation strategy towards climate change effects, given that not everyone can afford to migrate, and even for those who manage to, migration may not meet everyone's needs. These findings therefore showcase the growing numbers of trapped populations in sending/origin areas experiencing severe climate change effects. They ultimately highlight the need for alternative, in-situ adaptation strategies towards climate change – such as livelihood diversification options – among rural communities in UWR.

4.4 Experiences of Multilateral Investment among Non-migrants and Return-migrants

4.4.1 Multilateral Investment Dynamics in UWR

An objective of this study was to understand how MLIs are interacting with climate change to influence the experiences of non-migrants and return-migrants in UWR. To do so, participants were asked questions about the presence and activities of MLI operations, and MLI setup processes within the region. Participants were also asked about perceived impacts of MLIs in the region, and how these investment ventures shape and are shaped by climate change effects and migration. The results in table 14 below show that only 19.5% of respondents in UWR know about the presence of an MLI in their community or region, with only 3.1% of participants stating that they work in some form of MLI. All 3.1% of participants engaged in MLI work are into commercial agriculture. Further, only 2.8% of participants indicate that a member of their family or household works in an MLI, and these family members are also engaged in commercial agriculture.

Table 14: Multilateral Investment Dynamics in UWR

No.	Characteristic/Variable	Gender		Total	X²/Fisher's
		Women (n= 135) % / x̄(std)	Men (n=152) % / x̄(std)	(n=287) % / x̄(std)	p-value
1	**Presence of multilaterals**				0.955
	Yes	20.0%	19.1%	19.5%	
	No	75.6%	80.0%	76.3%	
	Don't Know	4.4 %	4.0%	4.2 %	
2	**Work in/with multilaterals**				0.574
	Yes	3.0%	3.3%	3.1%	
	No	97.0 %	96.7%	96.9%	
3	**Area of multilateral work**				0.574
	Commercial agriculture	3.0%	3.3%	3.1%	
	Don't work in MLI	97.0%	96.7%	96.9%	
4	**Family/household member works in multilateral**				0.571
	Yes	3.0%	2.7%	2.8%	
	No	97.0%	97.4%	97.2%	
5	**Area of family member's multilateral work**				0.571
	Commercial agriculture	3.0%	2.6%	2.8%	
	Don't work in MLI	97.0%	97.4%	97.2%	

Speaking to the low presence of MLIs in UWR, many participants in qualitative interviews indicate that the rural and remote nature of their communities often affects their ability to learn about ongoing investment opportunities – similar to other development programmes (e.g., climate change campaigns). Hence, regarding this lack of knowledge of existing MLI operations, a participant in an FGD says:

> We haven't heard of any company that they've opened here in our town. We
> are just sitting here by ourselves. If they come and open and we see it, that's
> when we'll know. But we have not heard them say they are coming to open a
> company or some other operation here (Participant, All male FGD-4).

Participants add that the rural nature of their settlements, poor infrastructure development and the lack of desirable/preferred natural resources within their communities often precludes them from attracting MLIs and/or benefitting from MLI activities.

> Like my father said, because we don't have electricity in our town, even if a
> person wants to bring some company work here, the person will think to
> themselves, why should we come here? What will I do there? Even if they bring
> the investment here, they won't get any benefits/profits from it. So because of
> that no one has come here to do anything for us (Participant, All male FGD-4).

Some participants however mention that even though they personally do not know

about any MLI operations within their own communities, they have heard about some investment activities in neighbouring towns/communities, as captured in the IDI quote below.

> No, I've never heard of anything here… I heard that they've established dams in other communities, but it has not reached our town yet. I think it's the dams they shared that I heard about. But I have not heard of anything here in this community (Mercy, Woman, Zambobadi, 47).

Similarly, a community leader in an IDI discussion indicates that while their locality does not have any MLIs, he has heard about the opening of some new investment operations in a neighbouring village. The community leader adds that according to sources, the investment activities are specifically targeted at providing irrigation resources for on and off-season farming, to reduce the seasonal migration of people, particularly young men, from the region.

> We don't have timber here for them to log. But in Kokoligu they opened a dam for the young men who have been travelling down south so that they wouldn't migrate there and be struggling. The dam is to enable them to put up gardens so that they can be getting fresh vegetables to sell and support themselves. But for Kuselle here, they have not opened anything (Beyelke, Man, Kuselle, 38).

In a discussion with a key informant working with the field support services programme (FSSP) of Global Affairs Canada (GAC), he acknowledges that MLIs in the UWR are few compared to other parts of the country. However, he also notes that the region is beneficiary to some multilateral operations and activities, particularly internationally funded ones. He further notes that due to the region's extreme rates of poverty, high dependence on subsistence farming and poor climatic conditions, many of these MLIs tend to be agriculture-based. The key informant adds that some of these MLIs undertake their work through local governmental and NGO offices, and hence may not be easily identified as MLIs by community members.

> Bilateral, multilateral organisations are investing in agriculture, okay. Canada is one example. There are many multilateral organisations supporting climate change programs. Because of UWR's poverty level and the number of farmers who fall below the poverty line, some bilateral and multilateral organisations work there. They support farmers individually and collectively. In some cases, they do direct implementation and in other cases they work through the

support of government and some local NGOs. So you know, most farmers do

not even realize that the initiatives they're engaged in is coming from an MLI

(Key informant, FSSP of Global Affairs Canada [GAC], Accra).

These accounts speak to the minimal investment activities ongoing in UWR and the limited visibility of the few existing MLIs. They further showcase the poor livelihood diversification options for people living in the region, despite the rapidly degrading environmental conditions. However, as evidenced in the key informant quote, some MLI opportunities have started to trickle into the region, with many of these investments aimed at stimulating agricultural production and providing livelihood options outside of migration for people in rural areas of UWR, in light of climate change effects.

4.4.2 Perceptions around Multilateral Investment Processes in UWR

Another purpose of this study was to understand the processes that underlie the setup of MLIs in UWR. Given the limited presence of MLIs in the region and the very low number of people who work in/with MLIs, participants were asked about their perceptions regarding potential MLI operations/activities. Regarding perceptions around the setting up of MLIs, only about a quarter (25.1%) of participants indicate that MLIs have been on the rise in the region over the past five years (see table 15 below). Further, less than a third (30.3%) of participants are of the view that they would be personally informed about MLI deals within their community before their establishment, with a 10% difference in the proportion of women (35.6%) versus men (25.7%) who believe this. A X^2 test showed a statistically significant association between gender and perceptions of being personally informed about MLIs, with more women perceiving that they would be personally informed. Additionally, 21.6% of participants believe that only community leaders would be involved in MLI negotiation deals, with slightly more women (24.4%) holding this perception than men (19.1%). A X^2 test also revealed a statistically significant association between gender and perception of community leaders' sole role in the negotiation of MLI deals. This implies that women are more likely to indicate that only community leaders negotiate MLIs.

Still regarding MLI setup processes, 23% of participants are of the perspective that the entire community would actively negotiate MLI deals and another 29.6% (31.1% women and 28.3% men) report having trust in government officials/leaders to protect the interest of

community members regarding MLIs. Lastly, few participants (16.4%) report having concerns about potential MLI activities, and even fewer (14.3%) indicate that they have taken action to prevent potential MLI operations. These findings reveal that overall, the procedures that underlie MLI setups in UWR are not viewed in favourable terms by people in the region, given that fewer than a third of participants indicate an agreement with all items on the perception of MLI processes scale. These findings may appear contradictory, considering that irrespective of the unfavourable perceptions around MLI processes, only few participants (16.4%) report having concerns about the setting up of potential MLI operations. Nonetheless, they speak to a general quandary around MLIs among people in UWR, as discussed below.

Table 15: Perceptions around Multilateral Investment Processes

No.	Characteristic/Variable	Gender		Total	X^2/Fisher's
		Women (n= 135) % / x̄(std)	Men (n=152) % / x̄(std)	(n=287) % / x̄(std)	p-value
1	**Perception of MLI Processes in UWR**				
i	MLIs have been on the rise in past 5-yrs	25.9%	24.3%	25.1%	0.088
ii	Personally informed about MLIs in community	35.6%	25.7%	30.3%	0.044
iii	Only community leaders negotiate MLI deals	24.4%	19.1%	21.6%	0.014
iv	Community members actively negotiate MLI processes	23.7%	22.4%	23.0%	0.454
v	Trust in Government officials/leaders to protect interest of community members	31.1%	28.3%	29.6%	0.858
vi	Concerns about MLI operations	17.8%	15.1%	16.4%	0.291
vii	Taken action to prevent MLI operations	14.1%	14.5%	14.3%	0.567

Qualitative interviews help to shed light on some of these results regarding MLI setup dynamics. As mentioned by key informants in the previous section, despite the low presence of MLIs in UWR, the region is seeing a slight increase in MLI activities; and while some participants in qualitative interviews were optimistic that they would be involved in decision making around future/potential MLI deals, most of them were not. On the optimistic side, Nomu is of the view that all community members would need to meet to discuss MLI deals before they are or can be set up.

> We will sit and discuss. If an MLI comes, our leaders will inform us that this is what they intend to do for women and men here. Then everyone will gather to discuss and decide what to do before allowing them [MLIs] to come and set up. One person cannot decide; when you get the information, you must relay it and the women too will gather and decide (Nomu, Woman, Tuotangzu, 49).

Others like Gyile are however of the view that the local community would not be actively involved in negotiating MLI deals, and would likely need to rely on local leaders and second-hand information from other community members regarding the setting up of MLIs. Thus, according to Gyile, community members may only be brought into the picture in MLI deals after these arrangements have been finalised by the leaders.

Okay, when any investment comes, since they are the leaders, it will first get to them. They will assess it to see whether it is good or bad before they will now announce that anyone who can work should come around and find work. We will have to rely on word of mouth about these MLIs. After the leaders have finalised matters, you will then go and see if it meets your needs. If it does then you will also manage it like that (Gyile, Man, Dongkuolu, 38).

Another participant in an FGD supports this with his descriptions of how past projects within their community saw the involvement of only the chiefs of the area:

They came here some time ago and did a little work. They went and dug up some stuff, but we didn't hear from them again. When they came, they didn't tell us anything, they met with the chiefs, and they alone know what was discussed… We didn't hear anything. Therefore, we can't know what they came to do. They dug holes right from our homes down to the riverbank. They talked to the chiefs but we don't know about what (Participant, All male FGD-4).

Participants in the study also express mixed feelings about the role of government and other leaders in negotiating MLI deals that benefit rural communities in UWR. Again, while some say that they would trust government leaders to mediate favourable MLI deals on their behalf, others say they would not. To illustrate, in an FGD, participants express their disappointment about their relegation from government and other interventions that have been implemented in the region in the past. This has consequently led to a lack of trust that government officials are working to promote the interest of rural communities in UWR.

As we sit, we are supposed to be one people. But truth is, when interventions come, we in Bekyiellu are totally neglected. We usually don't know what has transpired among the government people. All that happens is, you go out and hear that this intervention was brought, but we know nothing about it. And by the time we hear about it, it is too late. The government people tell you all the

opportunities are gone (Participant, All male FGD-4).

Similar views are shared by a participant in another FGD who admonishes the neglect that her community faces and the lack of transparency around MLI and other development programmes in the region. The participant adds that nepotism by some government and community leaders often fuels this exclusion. Consequently, individual efforts by community members to take part in some investment opportunities end up being an exercise in futility.

> It looks as if government doesn't know we exist. We're just here by ourselves like strangers from Burkina. Yet we aren't French. Occasionally, we hear them say they're selecting women to gather Shea to pound and send to them [Shea processing company] for money. But only those who know people get that information. If we also decide to pick Shea, we don't know where the company is located. If you ask the shea pickers, they won't tell you. Our town doesn't benefit from government initiatives or support (Participant, All female FGD-3).

This ambivalence regarding the role of government/community leaders in promoting the interests of community members with respect to MLIs is further reflected in participants' responses about the potential impacts of MLI operations in their communities and the UWR.

4.4.3 Perceived Impacts of Multilateral Investment in the Upper West Region

This study sought to understand the impacts of MLIs on rural communities in UWR that are concurrently experiencing climatic degradation and high volumes of outmigration. As mentioned earlier, only a few participants (16.4%) report having concerns about potential MLI activities, with slightly more women (17.8%) reporting this than men (15.1%). Even fewer respondents (14.3%) indicate that they have taken some action to prevent potential MLI operations. However, when asked about their perceptions regarding the potential impacts of MLIs within their communities, participants held conflicting views. Overall, however, the findings reveal that more participants hold negative perceptions about the effects of MLI activities in their communities. As shown in table 16 below, 38.8% of participants are of the view that food produced by MLIs engaged in commercial farming within the region would be exported. Over a third (35.5%) of participants also believe that MLIs collapse local livelihoods, with more women (41.5%) than men (30.3%) holding this view. About a third of participants (33.1%) are further of the opinion that smallholders and local community members are the

worst affected by MLI activities, with notably more women (40.7%) than men (26.3%) holding this view. A X² test revealed a statistically significant association between gender and the perception that smallholders and local communities are worst affected by MLIs. This means that women are more likely to perceive MLIs as having a negative impact on smallholders.

Regarding the positive impacts of potential MLIs, less than a quarter (24.4%) of participants are of the view that local populations could earn more incomes from working in MLIs than in their traditional livelihoods, with 26.1% believing that food affordability could improve in UWR with the incomes that are earned from MLIs. Another 24.4% of respondents are of the perspective that MLIs could potentially reduce hunger within the UWR, with more women (29.6%) than men (19.7%) saying this. A X² test revealed a statistically significant association between gender and the perception that MLIs reduce hunger. Thus, more women report that MLIs may reduce hunger. Additionally, 22.3% of respondents are of the view that MLIs improve food availability – with slightly more men (25%) than women (19.3%) sharing this view. Also, 20.6% of participants believe that MLIs promote food security, while 20.2% and 20.9% of participants, respectively, believe MLIs provide more employment/income options and sustainable employment to smallholders.

Table 16: Perceived Impacts of Multilaterals

No.	Characteristic/Variable	Gender		Total	X² /Fisher's
		Women (n= 135) % / x̄(std)	Men (n=152) % / x̄(std)	(n=287) % / x̄(std)	p-value
1	**Perceived Impacts of MLIs in UWR**				
i	Food produced from commercial farming MLIs are exported	37.8%	38.8 %	38.3 %	0.107
ii	MLIs collapse local livelihoods	41.5%	30.3 %	35.5 %	0.095
iii	Smallholders and local community are worst affected by MLIs	40.7 %	26.3 %	33.1 %	0.024
iv	Food affordability improves with income from MLIs	25.9%	26.3 %	26.1%	0.338
v	Local populations earn more income from MLIs than traditional livelihoods	23.0%	25.7%	24.4 %	0.307
vi	MLIs reduce hunger	29.6 %	19.7 %	24.4%	0.041
vii	Food availability improves due to MLIs	19.3%	25.0 %	22.3 %	0.100
viii	MLIs provide sustainable employment to smallholder farmers	21.5%	20.4 %	20.9 %	0.544
ix	MLIs promote food security	22.2%	19.1 %	20.6 %	0.253
x	MLIs can provide more employment/income options	20.7%	19.7 %	20.2 %	0.446

In qualitative interviews, participants provide in-depth explanations for some of the responses recorded on the surveys, and discuss at length the pros and cons of potential MLIs

in the UWR. Thus, as captured in the surveys, some participants believe that MLIs could potentially be beneficial to people in the region given the current limited livelihood options outside of farming, as evidenced in John's quote below.

> They can help, in the sense that, most people don't have any hand work (trade) aside from farming. So when your crops don't do well, you will become worried because you don't have any alternative to rely on. So if they bring these kinds of MLI work, it can also help (John, Man, Zambobadi, 30).

Subsequently, participants in FGDs got into heated debates about the types of MLIs that could benefit their communities. While some advocate for agriculture-based MLIs, others propose more lucrative MLI ventures. For example, a participant in an FGD is of the view that the potential for increased incomes or revenue resulting from mining-based MLIs in the region is worthy of consideration.

> They considered opening a shea butter processing facility here, in which case people would collect the nuts and they'll [MLI] process them into shea butter. That will help... But the Shea butter only sells for 50 pesewas (about 5 US cents). But with diamond mining, a single diamond sells for about 30billion old cedis (5,400 USD), and they can give you half of the cut from that to also be managing with. You mean you don't want that but rather prefer the shea oil that sells for only 50 pesewas? (Participant, All male FGD-4).

Furthermore, participants like Beh-faame – while expressing hope about the potential benefits that MLIs could provide to people in the UWR – also call for caution in welcoming MLI activities to rural communities of UWR.

> If you are home and suffering, and they say they want to come and start something [MLI], you will also have to sit and reflect to see whether whatever they intend to do will be beneficial to you or it wouldn't. If you reflect and see that it will be good, you will say okay I also want it. But if you realise that when they open it, it will not be beneficial or it will end up destroying the town, you wouldn't be happy. But if they come and open and our children are getting jobs to help themselves, especially in their education, then we will be happy (Beh-faame, Woman, 80yrs, Dongkuolu).

This caution is supported by several other community members who insist that all

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potential MLIs must be critically vetted – to ensure that their advantages outweigh their disadvantages – before allowing them to commence operations. This ambivalence about MLIs mainly results from participants' experiences of witnessing the costs of living go up in some communities with MLIs, and other communities losing their lands, livelihoods and environmental landscapes to MLI activities – with examples from mining localities commonly referenced. A participant in an FGD therefore opines that, while the expensive cost of living associated with some MLI establishments is a reality she can live with, the destruction of natural resources is not.

> If they open MLIs that destroy our water bodies, it'll disturb us. We've seen it
> in other places. Mines come and take all the farms and dig up the whole area...
> It's true we're poor. But as for money, we can always work and get it. Some
> come and increase prices of things. But even with that, if I'm able to work and
> get money to buy stuff, even if it's expensive, I'll buy enough to eat for today.
> Tomorrow I'll wake up and go back and work for money to buy us something to
> eat again. But as for this our land and water, if they'll come and take away lands
> and pollute waters, as for that it will disturb us (Participant, All female FGD-3).

Given these concerns about the impacts of some MLI activities in rural localities, a few participants in the Lawra District indicate that their community had been approached with a mining deal some time back. However, the unpleasant experiences – including an increase in criminal activity – associated with mining operations and communities led them to reject this proposition to set up a mining enterprise in their area.

> This hill we live on, people came and proposed a mine. They said they found
> gold on our land. But the head of the land didn't agree. They went behind his
> back and talked to people to see if they could come in secret to work. We told
> everyone that if they see them, they should attack them. That's what we did
> and they ran away. We told them we don't need their mine; they'll destroy our
> land. We'll lose our water. The illegal workers will kill our livestock at night.
> Even now we aren't having it easy with thieves. We told them we didn't need
> it, and haven't heard anything again since (Bertuurme, Man, Zambobadi, 57).

Importantly, some participants also highlight the fact even when alternative or improved livelihood opportunities from MLIs and other development programmes are

brought to the UWR, non-residents from other regions are often recruited to come and engage in these projects, further marginalising rural residents of UWR.

> Months ago, when they came to pave the roads here, they brought people from
> different towns to work. Meanwhile we were next to them but they didn't
> employ us, instead hired contractors from elsewhere to come and work. They
> ended up doing a bad job. They left out our road; left it the way it is, and were
> working on other roads and receiving pay. But within this community, none of
> us was part. We were just sitting there like that (Participant, All female FGD-3).

Participants in the all-male FGD echo similar thoughts about the fact that an increased presence of MLIs in UWR might not necessarily translate into more jobs for residents of the region. Consequently, they add that even if lucrative ventures such as mineral mining were set up within their communities, the local populations may be excluded from working in these livelihoods, and will only end up bearing the negative consequences of these MLI operations.

> Even if they open the diamond work here, maybe we those in this town will not
> be employed. They'll bring people from different towns to be working, and we'll
> be here but won't be part of that work. And then they will still destroy our lands
> in addition; it'll be painful for us (Participant, All male FGD-4).

These findings emphasise the hesitancy that local populations in rural areas of UWR have towards MLI operations. On one hand, they recognise that MLIs could help to provide alternative livelihoods and improved income for residents. But on the other hand, they are wary of the potential negative impacts – such as increased crime, loss of livelihoods and environmental degradation – that MLIs could wreak on their communities. Given these mixed reactions regarding MLIs in UWR, and the rapidly worsening climatic stressors and livelihood options, participants were asked about the role of migration in aiding them to cope with these environmental and economic outcomes. The findings are presented below.

4.5 Experiences of Migration among Non-migrants and Return-migrants in UWR

In this section, I present the findings regarding the thematic area of migration. I begin by describing migration dynamics in UWR including migration types, duration and motives. I go on to present the differentiated experiences of non-migrants and return-migrants in the region, and conclude with the findings on the benefits and shortcomings of migration as a

coping strategy among residents of UWR.

4.5.1 Migration Dynamics in the UWR

As mentioned earlier, only 23.3% of survey participants report never having migrated in their lifetime (non-migrants), with more women (27.4%) identifying as non-migrants compared to men (19.7%). About a third of participants (33.5%) indicate that they have been resident in their communities for 20 years or more. However, a considerable proportion (22.0%) also say they have been resident in UWR for five years or less, implying that many are outmigrants who recently returned to the region. Non-migrants and return-migrants were asked about their main reason for choosing to remain in UWR. The majority (65.9%) say they have no interest in migrating (again), while close to a quarter (24.0%) identify care for their families as their main reason for staying. A few participants (5.9%) mention lack of resources needed to migrate as their reason for remaining, with more women (8.9%) than men (3.3%) providing this reason. Few (3.5%) participants indicate that they chose to remain in their localities to work, with slightly more men (5.3%) than women (1.5%) selecting this option. Lastly, a minute proportion of participants (0.7%) say they chose to remain in their localities due to health reasons.

Non-migrants in UWR were asked if they have intentions to migrate in the future, to which only 9.4% say 'yes' and 4.5% indicate they are uncertain. Return-migrants were asked about their main reason for previously migrating. The majority (41.5%) say they migrated to engage in subsistence farming, with considerably more men (55.3%) than women (25.9%) selecting this option. Less than 10% of respondents indicate that they migrated for reasons such as trading, MLI work, to access social services, to engage in government work and to flee climate change effects. Close to a quarter (24.4%) of respondents also say they migrated for 'other' reasons, with notably more women (31.1%) than men (18.4%) selecting this response. Participants were provided the option of outlining the other reasons for which they previously migrated, which I discuss below. A X^2 test showed a statistically significant association between gender and migration reasons/motives.

Return-migrants were further asked about their length of stay in migration destination areas before their return to the origin. The majority (43.1%) indicate that they resided in the destination area for five years or less, with considerably more men (50.7%) saying this than women (34.8%). Only 13.9% of participants report staying in their destination area for 11

years or more, with women making up almost twice (18.5%) the proportion of men (9.9%) who report this. These findings speak to the relatively short stay and temporary nature of out-migrations among return-migrants in UWR. A X^2 test revealed a statistically significant association between gender and migration length of stay, implying that women are more likely to stay longer in destination areas. Return-migrants in follow up questions were asked about their main reason for returning to the origin. The majority (62.7%) cite care for family as the reason for their return, with more men (67.8%) than women (57.0%) citing this. Few participants (5.9%) say they returned to UWR due to poor economic/ living conditions in the destination areas, with slightly more women (7.4%) than men (4.6%) reporting this. 5.9% of respondents say they returned to the origin due to health reasons.

Table 17: Migration Dynamics in the Upper West Region of Ghana

No.	Characteristic/Variable	Gender		Total	X^2/Fisher's
		Women (n= 135)	Men (n=152)	(n=287)	p-value
		% / x̄(std)	% / x̄(std)	% / x̄(std)	
1	**Migration status**				0.162
	Non-migrant	27.4%	19.7%	23.3%	
	Return-migrant	72.6%	80.3%	76.7%	
2	**Length of residence in current community**				0.114
	5 Years or less	24.4%	19.7%	22.0%	
	6-10 years	15.6%	22.4 %	19.2 %	
	11-15 Years	14.1%	12.5%	13.2%	
	16-20 Years	8.2 %	15.8%	12.2%	
	20 Years or more	37.8 %	29.6%	33.5 %	
3	***Reason for remaining in Locality**				0.149
	No interest in migrating	65.2%	66.5%	65.9%	
	To care for family	23.7%	24.3%	24.0%	
	Lack resources to migrate	8.9%	3.3 %	5.9 %	
	To work	1.5%	5.3%	3.5 %	
	Health reasons	0.7 %	0.7 %	0.7 %	
4	***Future migration intentions**				0.624
	Yes	8.2%	10.5%	9.4%	
	Don't know	3.7 %	5.3%	4.5%	
5	**† Main reason for migrating**				
	Subsistence farming	25.9%	55.3%	41.5 %	0.000
	Trading	15.6 %	4.0%	9.4 %	
	MLI-Commercial farming	9.6%	8.6 %	9.1 %	
	To access social services	5.9 %	7.9%	7.0%	
	Fleeing climate change effects	9.6 %	1.3 %	5.2 %	
	Government work	0.7%	4.0 %	2.4%	
	MLI-Mining	1.5 %	0.7%	1.1%	
	Other-babysitting and rite of passage	31.1%	18.4%	24.4%	
6	**† Length of stay during migration**				0.027
	5 years or less	34.8%	50.7%	43.1%	
	6-10 years	18.5%	13.8%	16.0%	
	11 years or more	18.5%	9.9%	13.9%	
7	**†Reason for return to origin**				0.297
	To care for family	57.0%	67.8%	62.7%	

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#		Women	Men	Total	p
	Poor economic/living conditions in destination	7.4%	4.6%	5.9%	
	Health reasons	6.7 %	5.3%	5.9%	
8	**Migration of household member**				0.920
	Yes	91.1 %	91.5 %	91.3%	
	No	8.9 %	8.6%	8.7 %	
9	**Gender of household migrant**				0.016
	Female	15.6 %	7.2 %	11.2%	
	Male	34.1%	48.0 %	41.5%	
	Both female and male	50.4%	44.7%	47.4%	
10	**Reason for migration of household member**				0.265
	Subsistence farming	39.3%	51.3%	45.6%	
	Other-Wage work	20.0%	13.8%	16.7%	
	Government work	15.6%	9.9%	12.5%	
	MLI-Commercial farming	10.4%	9.9%	10.1%	
	Trading	8.9 %	5.9%	7.3%	
	To access social services	5.2%	7.9%	6.6%	
	MLI-Mining	0.7%	1.3%	1.1%	
11	**Type of migration by household member**				0.131
	Temporary	46.7 %	50.0%	48.4%	
	Cyclical	15.6%	23.7%	19.9%	
	Permanent	22.2%	14.5%	18.1%	
	Other form	15.6%	11.8%	13.6%	

* Non-migrants only (67 [23.3%] of total sample)

†Return-migrants only (220 [76.7%] of total sample)

Aside from their individual migration, non-migrants and return-migrants were also asked if any member of their family/household has migrated. An overwhelming majority (91.3%) respond 'yes'. This speaks to the high volumes of out-migration among residents of UWR. When asked about the gender of the household emigrant, most participants (47.4%) indicate that they have both female and male household members as emigrants, while 41.5% say the household emigrant is male. Only 11.2% of participants say the household emigrant is female, with more women (15.6%) reporting this than men (7.2%). A X^2 test revealed a statistically significant association between gender and gender of household emigrant. This implies that more men in UWR households have emigrated compared to women.

Participants were further asked to provide the main migration reasons or motives of their household emigrants. Subsistence farming forms the main motive (45.6%), with more men (51.3%) selecting this compared to women (39.3%). Wage work is the next highest (16.7%), with more women (20.0%) reporting this than men (13.8%), and government work the third (12.5%) with again more women (15.6%) than men (9.9%) selecting this option. About 10% or fewer participants identify MLI work, access to social services and trading as the main reasons for the emigration of their household members. Finally, participants were asked to describe the type/form of migration that best characterises their household

member's emigration. Overall, the majority describe household members' migration as temporary (48.4%), while 19.9% and 18.1% describe these migrations as cyclical and permanent, respectively. Another 13.6% of respondents describe their household members' emigration as 'other', with many stating that they cannot readily categorise the form of migration (i.e., do not know if household member has migrated temporarily or permanently). More women report their household members' emigrations are either permanent (22.2%) or 'other' (15.6%), whereas more men describe these migrations as temporary (50%) or cyclical (23.7%). In the following sections, I present the qualitative findings on some of the characteristics and/or thematic areas described above.

4.5.2 Migration Trends, Volumes and Motives among UWR Residents

4.5.2.1 Increasing Volumes of Outmigration and Migration Motives/Reasons

In qualitative interviews, I sought to gain a better understanding of participants' responses to survey questions on migration dynamics. Regarding the rates/volumes of outmigration from UWR, many participants observe that although outmigrations from the region are a century-old phenomenon, these migrations have steadily been rising in response to the rapidly deteriorating climatic conditions and poor economic/livelihood options.

> There's a difference in the number of people migrating now. Previously farming
> was good, but now we don't get anything. When the farming season is over and
> you have nothing to do, your mind deceives you that if you travel down south,
> you'll get some small work to do and return home to help with the farming. So
> more people are running down south now (John, Man, Zambobadi, 30).

As highlighted in John's quote, subsistence work is an important reason for the growing outmigrations of people from UWR. Subsequently, in response to questions about the main reasons or motives for the growing emigration of people from the region, most participants cite declining climatic conditions. However, many add that despite the discomforts (e.g., rising temperatures) brought on by other climate change effects, contemporary outmigrations from the region are mainly for climate change-related sustenance, rather than to escape other climatic factors such as heat waves.

> More people are migrating down south because of farming. We don't get
> enough over here, that's why they're travelling down frequently… It doesn't

rain and when it finally does, it doesn't rain much and stops, even when our
crops aren't ready. If the young ones remain here with these conditions, we'll
all starve. That's why they have to migrate (Mercy, Woman, Zambobadi, 47).

Still with respect to migration motives, many participants in qualitative interviews state
that changes in land use – partly due to a growing population but still mainly emanating from
climate change effects – and resulting land scarcity often warrant that some people migrate
to other parts of the country in search of livelihood options, while others remain in UWR. A
community leader speaks to this:

Our numbers are growing but the land is the same. Now if you farm and don't
apply fertilizer, you won't get food. So you must farm twice the acreage to get
the same food you previously got for an acre. If we all remain here, the land is
not enough. And if those who migrate return to join their siblings, everyone will
be worse off. So if they get land over there, it's best to settle since things are
better there. If any issues arise at home, they can always come, resolve them
and go back. But if we all come and crowd at home, the land is small and
farming is difficult, we'll only worry ourselves (Beyelke, Man, Kuselle, 38).

Other participants like Nomu believe that some of the sociocultural factors (rooted in
customs and traditions) that previously restricted the movement of people have since eased,
thereby facilitating the movement of women and other individuals who previously could not
partake in outmigration trends. Speaking to these customs/traditions, Nomu says:

Previously, people were scared of migrating down south. They used to say that
some travelled and never returned, and their folks never saw them again. But
now people don't care. They say that if death is your fate, you'll surely die,
irrespective of where you are. So now people are migrating down south a lot,
and nothing is happening to them too (Nomu, Woman, Tuotangzu, 49).

Still regarding sociocultural norms, many participants add that the relaxation in
gendered customs around migration have also led to the growing movement of women from
the UWR (though some forms of migration remain male dominated), thereby contributing to
the rise in emigrations.

During our time, you couldn't migrate by yourself. They used to say that women
who travelled down south went to do basabasa (immoral activities) before

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returning. I only got the opportunity to migrate when my husband took me there. But now you people are lucky. Even 16-year-old girls can leave by themselves to go work in the chop bars (Mwinsom, Woman, Tuotangzu, 72).

Other participants however note that although the independent migration of young/ adult women is a comparatively recent phenomenon, many girls previously engaged in migration to other parts of the country, mainly to engage in babysitting work.

When I was a little girl, my aunt took me down south to look after her children. You know it was very common back then. But being there did not benefit me in any way. Because, you know, a borrowed child is a maltreated child (translated from local proverb: Bi zela en, bi dogra nu). I was there until my aunt said I had to return home [UWR] so I came back (Zinni, Woman, Bekyiellu, 30).

Participants also state that the age of first, independent migration has gradually decreased, thereby allowing people to migrate at way younger ages than they previously did.

Those days, it took us time before we travelled. But now they are just travelling there every day, even the very young ones are migrating. For me, when I started going to Kumasi, I was almost 20 old. But now even children of 10 or 15 years are all migrating... They migrate, return and migrate again, but I don't know what they go to do. Both boys and girls (Zunuo, Man, Zimuopare, 41).

Some participants also highlight the fact that, over time, migration out of UWR has come to be viewed as a rite of passage for young adults (particularly young men) in the region, as illustrated below.

Many young men have been migrating to also go and make something of themselves so that they can come back and take care of their people or marry... When I was younger, as soon as you came of age, they used to say also go and broaden your worldview and come back. So as soon as you become a man, you must migrate (Saakom, Man, Dongkuolu, 90).

Many participants nonetheless indicate that migration out of UWR remains a major avenue for residents of the region to cope with the extreme rates of poverty, and meet their food, basic and economic needs, as well as associated sociocultural expectations.

When the farming season is over, women, children, everyone; it's always

necessary to migrate. Even if you are attending school, but during holidays you must go do wage work to make money so that you can buy your school needs. Even those of us who are not students, when we finish farming it becomes necessary to go and wash bowls; you can make some small money to buy your children's clothes or soap to wash their clothes (Zinni, Woman, Bekyiellu, 30).

This last quotation emphasises how outmigration from UWR has become a necessary livelihood adaptation strategy, with almost everyone expected to partake in it for survival. Apart from the abovementioned reasons for the growing migrations of people from UWR, participants also discussed common but often overlooked motivations for relocating from the region. These include for educational purposes, social/economic remittances, exploration, knowledge acquisition, marriage/family reunification and to escape household conflict.

4.5.2.2 Decision Making on Migration

Participants were also asked about how migration decisions are arrived at. In response, some indicate that these decisions are made collectively as a family or household, while others state that migration decisions tend to be undertaken unilaterally by migrants. Speaking to the collective decision making on who migrates, an FGD participant says:

If you want to migrate, if you're in a household of about three, you sit together, talk, and come to the agreement that, say, two people should go to the bush [southern destination referred to as 'bush' due to ecological characteristics] while one remains to care for home (Participant, All male FGD-4).

On the other side of the fence, those who say migration decisions are made unilaterally note that this is mostly done by the youth in situations where adults in the household withhold permission. Subsequently, while many older adults admonish this sole decision making, younger adults feel that this is necessary for their own wellbeing.

Previously, our fathers took care of bride-price payment. But now, that burden falls on us. So even if your father tells you not to migrate, what you do is you run away and leave him. Later, you can send someone to come and tell him that you're not coming home again; that you'll only return when you get money to pay your prospective wife's bride-price (Male Participant, Mixed FGD-5).

Participants in qualitative interviews were further asked about the criteria used to

determine who migrates and who stays. Many indicate that traits such as good health, physical strength, patience, sense of responsibility/loyalty towards family, and frugality are the common traits that household members consider when selecting a potential emigrant, to ensure that the economic benefits of migration can be maximised.

> We look at who is strong, doesn't suffer from ill health, has patience, respects money, whose mind is here at home, who has the welfare of their parents and family at heart. They are the ones who can be focused when they migrate and who we can return with something beneficial (Participant, All male FGD-4).

Participants include that sometimes, those who possess these characteristics can nominate themselves to migrate. However, these desirable characteristics in future/ prospective migrants – while understandable for the economic security needs of households in UWR – also tend to be discriminatory towards people who do not meet these criteria, for example, those with chronic ailments, older adults and women. With reference to women, some participants in qualitative interviews acknowledge that these migration criteria tend not to favour them, as women are perceived to be weaker and hence unable to perform hard work in destination areas. Others also believe that even if women are chosen to migrate and subsequently raise enough money from working in destination areas, there is the risk that they would return to the migration origin only to marry and pass down these financial resources to their new families.

4.5.2.3 Trends and Types of Migration

Participants were further asked about the types or forms of migration that people from UWR typically engage in, and the settlement patterns of UWR migrants in destination areas. Regarding the types/forms of migration, many participants indicate that outmigrations tend to be temporary and/or cyclical, with people travelling to other parts of the country during the off season to engage in farming or wage work, and returning to the origin once the farming season in the origin comes around again (or that of the destination is over). Some participants however indicate that migrations from UWR are increasingly assuming a permanent nature, with many more people leaving the region never to return.

> Some travel down to work and return. But most I know have settled there permanently. They remain there because our land is a headache for us. Over here, they work but don't reap any benefits. That's why they always work there,

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get better produce, and settle there (Beh-faame, Woman, 80yrs, Dongkuolu).

A noteworthy theme that emerged during interviews, as one of the reasons for the increasingly permanent nature of recent outmigrations, is the fact that the impoverished nature of UWR often leads people to resort to 'begging' for survival. Consequently, many residents of the region tend to have high expectations that return-migrants (and the few economically advantaged/educated people in the region) would assist them in meeting their needs. This 'begging', however, often places significant burdens on migrants, and ultimately discourages many of them from returning to UWR. The poignant words of an FGD participant speaks to this.

> You see, the truth too is that we beg a lot. Hypothetically, as I've seen you, I want that long dress from you. If you don't give me that white dress, I will let the entire community know that Baada's daughter, my own daughter, when she came home and I begged her for money, she refused me [laughs]. It's because of our begging that even when the youth want to come home, but don't have enough money to help us, they can't. Our beggars are many, but it's the poverty that makes us beg too (Participant, All female FGD-3).

Residents of UWR also discuss an evolving dynamic in migrations, where some people actively maintain residence in both origin and destination areas. In this arrangement, emigrants alternate between UWR and their destination locations almost equally. They also plan around the rainy seasons of both origin and destination areas, and subsequently set and concurrently manage farms in both areas. Ultimately, these migrants tend to play important roles in decision making in both origin and destination households. Thus, for these migrants, both the origin and destination areas are given equal importance and considered home. Gyile speaks to this form of (pendulum) migration.

> It's easier for larger households, but many are doing it now. They usually plan; some will be over there working and others will be here. Those here at home, when they finish ploughing, they go to join those down south to farm too and come back later to stay, and they keep alternating (Gyile, Man, Dongkuolu, 38).

With respect to settlement patterns in destination areas, the majority indicate that the middle belt of Ghana is the destination of choice for most migrants due to the area's proximity to UWR. Most people also note that migrants tend to settle in rural areas of the middle belt,

given their need to access affordable lands for farming and cut down expenditures associated with urban living, to be able to save enough money.

> If you settle in town, you'll not get what you want and the small money you get, you'll spend it all. Jobs in town are not profitable too, that's why we go to the villages. There, they employ you on big maize farms. You eat your village food and save money, so when you get back, you can buy something big. But if you settle in town, if you earn GHS 1.00, you spend it and move to another place, earn GHS 2.00 and spend it again (Gyile, Man, Dongkuolu, 38).

Participants however add that many single/younger migrants often prefer to settle in urban destination areas to enjoy the benefits of urban living – for example access to better social amenities. Most participants also mention that the settlement patterns (urban or rural) of UWR emigrants is greatly influenced by their migrant social networks in destination areas, as many rely on these networks to access accommodation and jobs.

4.5.3 Differentiated Experiences of Non-migrants and Return-migrants in UWR

A goal of this study was to understand the differentiated experiences of non-migrants and return-migrants in UWR, including why some people migrate but others never do, why some emigrants return to the origin, and the (re)settlement experiences of non-migrants and return-migrants. Qualitative findings on these experiences are presented below.

4.5.3.1 Experiences of Non-migrants in the UWR

As shown earlier, more women (27.4%) than men (19.7%) identify as non-migrants. When asked about why they never migrated from UWR, most participants cite sociocultural norms and expectations, particularly care for family, as the reason they have always remained in the region. However, although both women and men reference sociocultural norms, there are gendered differences in reasons. For instance, non-migrant women talk about the fact that the independent outmigration of women in UWR has historically been discouraged. Thus, gendered/sociocultural notions of the impropriety of women's sole emigration were previously employed in the moral policing of female outmigration.

> I have always been stuck here. When I was younger, they said I couldn't migrate alone, because if I did, people in the town would say I had gone to spoil myself and I wouldn't get a husband. And then later they said, why does a grown-up

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woman like me want to migrate, that what will I go and do there? So I haven't

gone anywhere, I am just stuck here (Participant, All female FGD-3).

As highlighted in the above quote, gender is often invoked to contest the independent migration of women. And although this was more prevalent in the past, some participants note that such gendered constructions of migration are still sometimes used to discourage women's outmigration in contemporary times. Relatedly, gendered sociocultural norms around care for family are also cited by non-migrant women as important reasons why they never migrated from UWR.

As I sit, I am the female head of household. If I go, who will look after the house

and the little ones at home? I have to remain at home to be stirring TZ [Tuo

Zaafi, a local dish] for me and my old man to eat. If I go, who will look after him?

That's why I never migrated (Participant, All female FGD-3).

Paradoxically, the sociocultural norms that hinder women's outmigration encourage the movement of men for a variety of reasons including as a form of exploration and for the accumulation of assets for future marriage/family. This notwithstanding, gender is also considered within the context of factors such as age and family positioning to determine the men that migrate and those who stay. Consequently, some male participants discuss how their gender and positioning within the family necessitates that they remain in UWR to perform caretaking responsibilities.

I've never migrated because I'm the last son of the family. All my older brothers

migrated, so I had to stay and look after our home. We're responsible for our

home. If we all abandon our land and go to another's, ours will not do well. So

when some leave to find food, others need to stay to look after the place. That's

why I am here (Participant, All male FGD-4).

This finding speaks to how men are also burdened by gender norms and expectations, albeit in different ways than women. Lastly, some participants indicate that they never felt the need to migrate because other members of their household have already migrated and frequently remit food and money to them for sustenance in UWR.

Some of my children are there and others are here. If some hadn't migrated, I

wouldn't be getting food. But now, vegetables for instance, when they get

money, they buy ingredients and transport here to me. I want to stay here. I

already have sons there, why will I migrate? (Mercy, Woman, Zambobadi, 47).

When asked if their status as non-migrants affect their experiences of residing in UWR, some participants said it did not, and others note that they have no point of comparison because they have never migrated. A few participants however mention that their status as non-migrants occasionally leads to feelings of exclusion during discussions of migration experiences among return-migrants – particularly given that many in UWR have migrated at least once in their lifetime.

> Sometimes you hear them talking about Kumasi stuff, but what do you have to
>
> contribute? It makes you feel as if you aren't enlightened enough. But we all
>
> can't leave home for the bush, you see? (Female Participant, Mixed FGD-5).

However, many non-migrants remark that although they would have loved to have migrated at least once over the course of their lives, overall, they have no regrets about remaining in the origin. These findings speak to how people's status as non-migrants shape their experiences of residing in UWR, in ways that are distinct from those of return-migrants.

4.5.3.2 Experiences of Return-migrants in the UWR

Return-migrants in UWR were also asked about their experiences of migration, reasons for returning to the origin, and experiences of resettling into their communities. As mentioned, 80.3% of men and 72.6% of women identify as return-migrants. Regarding postmigration experiences, participants were divided about their experiences of residing in destination areas. While some indicate that they had had good lives in destination communities, others say that their experiences had not been pleasant overall. Speaking fondly of his experiences in Tarkwa, a mining town in southern Ghana, Saakom says:

> When I came of age, I travelled to Tarkwa to engage in mining... I was the one
>
> breaking the rocks with dynamites, what they use to blast rocks to extract gold.
>
> I did that for 19 years… It was helping me significantly. Every day they paid me
>
> a lot of money and at the end of the month they then paid me the actual salary
>
> which was also huge. It was a good time for me. I used to financially support my
>
> family and father who was alive at the time (Saakom, Man, Dongkuolu, 90).

Another return-migrant however speaks less fondly of her migration experiences in the destination area:

It didn't help me. I went to look after my aunt's kids. They promised to enrol me in school or a trade. When I got there, I realised it was a lie. Apart from watching the kids, I did nothing, gained no experience. When I reached my teens, she made me go help another person in her pito brewery business; from which I earned a little money to buy clothes and ingredients to cook for the family. Migrating didn't benefit me in any way (Puvila, Woman, Zambobadi, 55).

In follow up questions, participants were asked about their main reason for returning to UWR. Like non-migrants, many return-migrants also cite sociocultural reasons revolving around family responsibilities – such as care for orphaned children, family members with disabilities, the elderly, and/or widowed partners of siblings – as their main reason for returning. Furthermore, these sociocultural motives for returning also play out in gendered ways. To illustrate, women often identify caregiving responsibilities (for children, elderly/frail family members and people with disabilities) as a major reason for their return:

This small child (points to child with cerebral palsy), one of my sons gave birth to him down south and the mother abandoned him. I was home [UWR] during that period when they brought him to me. I had to stay to care for him. I thought he would walk, tried different herbs till I was tired. What will I do? Since he's not walking yet, I'm still boiling the leaves… I always think he [boy's father] will come home but nothing… He gave the child to me, I cannot migrate. If I do, what happens to my [grand] child? (Kyaapuorey, Woman, Zimuopare, 61).

Male return-migrants on the other hand often indicate that they had to return to UWR to assume responsibilities as heads of households when a sibling and/or previous head of household was sick, old/frail, or passed on.

I would still have been there. But my brother died and left his wife and children, and there was no one to look after them. So I left and came home. Someone has to watch over the household. I had no option but to leave the [mining] work and come settle here (Saakom, Man, Dongkuolu, 90).

However, as shown in the last few quotes, decisions to return to the migration origin sometimes straddle the line between voluntary and forced, particularly when social and gender norms determine who has the most say in (return)migration decisions. Consequently, gendered notions of the impropriety of migration are often invoked to discourage women's

continued emigration, even when other underlying motives are apparent.

> It was my husband that brought me back home. We had so many problems; he
> got married to a different woman, the widow of his deceased brother. They
> went and settled at Saamani while I was also struggling alone in the destination
> area, until they made me come home. It was not my intention to return. If I had
> my way, I would have remained there. But people were asking why an
> unmarried woman was there alone... I got back and did some introspection and
> realised I was growing older, I can't be travelling around like a child, I needed
> to settle down... I had travelled around for long and I was tired, I had to rest
> (Kaunsob, Woman, Bekyiellu, 60).

As evidenced by Kaunsob's comment, in addition to being asked to return against her will – despite her own preference for remaining in the destination area – narratives regarding who is 'fit' to be a migrant woman (constructed around age and marital status), eventually influenced her decision to reconcile herself with the fact that she needed to stop migrating. This compulsion to cease migrating, often engineered by male partners, is further discussed by Mwinsom when she says:

> My daughter, you know women's issues. It's the man that has the say. When
> he says you should come back home, what can you do? He's the head of the
> house; he owns you (sic). What will you do, will you say no, you wouldn't
> return? He took you there in the first place (Mwinsom, Woman, Tuotangzu, 72).

These accounts demonstrate the important role of conjugal relations, rooted in gendered and sociocultural dynamics, in decision making around (return)migration. Still regarding sociocultural norms, many return-migrants also cite a sense of responsibility towards their communities of origin, as well as the need to preserve and pass down customs and traditions, as reasons why they opt to return to the origin. Speaking to this sense of responsibility towards community, a participant in an FGD says:

> Even if your town is not nice, but when you roam around to earn your upkeep,
> at the end of the day you have to return and look after your town. After all, it
> is your homeland. So you need to return and take care of it. Your town is also a
> good place. You can't go and settle elsewhere (Participant, All male FGD-4).

Another participant adds to the need to remain in one's hometown, despite the

unfavourable conditions that may be present:

> Tarkwa was better; you could farm cassava, get everything there and be happy.
> But now look, because this is our home, that's why we're still living here. This
> afternoon if it hadn't rained, imagine, the way my head is aching. I have been
> feeling very hot. But I must stay here (Beh-faame, Woman, 80yrs, Dongkuolu).

Another participant also says of degrading customary practices, and the vital need to be resident in UWR in order to preserve and pass important customary rites and practices on:

> Those days, as soon as you came of age, they taught you how to brew pito, play
> the xylophone, make animal hides, smocks and so on. They also taught you how
> to sing dirges and perform funeral rites. These are all important things to know.
> But all of that is disappearing. That's why some of us must return home, so that
> we can keep these traditions going (Female Participant, Mixed FGD-5).

These findings showcase the centrality of sociocultural norms in migrants' decisions to return to their communities of origin. Apart from these, some participants identify ageing and ill health as their main reason for returning to the origin. According to them, their main motivation for migrating was to work and earn livelihoods. However, ill health in the destination area often posed challenges to attaining these migration goals. Similarly, given that ageing comes with a decline in physical strength, older migrants' ability to engage in productive work is usually affected, thereby warranting that they return.

> Travel down again for what (Laughing)? A 73-year-old, what work will I do in
> Kumasi? … If I was still strong, I would have considered it. But here I am, if I go
> I cannot plough any farm, I am tired and cannot do anything… If one of my
> children is working and invites me to come and he'll see me, then I'll go. If not,
> I cannot migrate for work again (Antom, Man, Zimuopare, 73).

In addition to these reasons, some participants mention that their resource-poor state affects their ability to effectively reap economic benefits from migration. This, coupled with the changing climatic conditions in southern destination areas as well, sometimes imply that their post-migration realities do not meet their pre-migration hopes of better agricultural and livelihood improvement, hence the decision to return.

> I have travelled around many places, in search of food and money… But because
> of poverty, you suffer to go but it's not much better there. And on top of that,

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the lands and rains over there are changing too. So we come back and manage

with our small farms here (Zunuo, Man, Zimuopare, 41).

For residents who emigrate to work in the formal sector (e.g., work in government and NGOs), many view returning to the migration origin after retirement as a form of rest and reward for their hard work during their employment tenure, as shown the FGD quote below.

With the educated ones, when they migrate, sometimes they don't even have

time to come home because they're working all the time. So when they go on

pension, they come back to rest (Participant, All female FGD-3).

Many return-migrants also acknowledge that although migration helps to provide them with better economic, educational and food security options, the process of leaving their town to settle elsewhere often leads to feelings of alienation due to their outsider status. Some participants add that the process of finding jobs, accommodation and learning the local languages/dialects of the destination area can be stressful. Given these struggles, and coupled with their separation from family and friends, returning to the origin sometimes comes with a peace of mind that they cannot attain in the destination areas.

It was difficult for me at first. I had to find my way around… I prefer to be back

home. Here, I farm and get some food to eat. I store some on the roof, and

occasionally climb up to go look at it and return. I also have people to chat with.

But over there, I was slaving for someone who didn't even appreciate it. It is

better to be back home (Female Participant, Mixed FGD-5).

Finally, return-migrants were asked about their experiences of resettling into the UWR, post-migration. In response, some participants like Kaunsob note that their resettlement has been relatively smooth, with extended family helping them through the process.

Before he also died, my husband's brother received me when I returned. Since

I settled in, I've had no issues with anyone. No one has ever come to disturb me

or pick a fight with me. Since this is my home, I sit in peace. If not because of

the poverty, there is no other issue (Kaunsob, Woman, Bekyiellu, 60).

However, other participants describe their resettlement experiences as challenging, citing the differences in social amenities, everyday activities, diets, company/social circles, and climatic conditions as some of the barriers to their resettlement process. Puvila recounts

her initial experiences of resettling into UWR.

> When I returned, it was difficult for me. I was very young when I left and wasn't
> used to life here. I stayed in the destination for so long, I got used to it and it
> became like my own town. I used to pound fufu every day to eat. But over here,
> where are the yams or ingredients?... But I eventually got over it and now I find
> my stay here enjoyable again (laughs) (Puvila, Woman, Zambobadi, 55).

Finally, non-migrants and return-migrants alike observe that emigrants who are employed in the government sector or other lucrative jobs in destination areas before returning tend to have the most trouble readjusting to their communities of origin. Several reasons are cited for this, including the fact that this demographic are typically away for longer periods of time (sometimes decades), become accustomed to certain lifestyles and social amenities that are difficult to come by in UWR, experience more boredom due to going from working 9-5 jobs every day to doing nothing, and also because some retire with little to no savings to cushion them during retirement. A community leader speaks to this:

> Although they [return-migrants] are from here, because they've been away for
> long, it's usually difficult for them to adapt. The lifestyles there and here are
> not the same. You can get something small for your pocket over there, but here
> you'll have to squeeze yourself. If you can't, your settlement here will be hard.
> Government workers seem to be the hardest hit. Some of them retire and come
> home with nothing. Many say that when they come home, they don't survive
> for very long due to the drastic change in lifestyle (Beyelke, Man, Kuselle, 38).

Given these varying accounts by non-migrants and return-migrants, I was further interested in finding out the overall benefits and drawbacks of migration as a coping strategy among residents of the UWR.

4.5.4: Impacts of Migration among Non-migrants and Return-migrants in UWR

Regarding the impacts of migration among residents of UWR, the results in table 18 below show that most participants (78.1%) perceive migration to be beneficial, with more men (81.6%) reporting this than women (74.1%). However, a few respondents (12.9%) say that migration affects them negatively, with notably more women (18.5%) than men (7.9%) saying this. Another 9.1% of participants say that migration does not impact them differently,

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with slightly more men (10.5%) than women (7.4%) selecting this option. A X^2 test revealed a statistically significant association between gender and perceived benefits of migration. This means that men are more likely to report benefitting positively from migration than women. Non-migrants and return-migrants were also asked about the greatest contribution of migration to their household. Most participants identify economic/financial benefits as the greatest contribution, with considerably more men (69.7%) than women (48.9%) selecting this option. Also, 15.3% of participants identify improved food security as the greatest contribution, with more women (20%) than men (11.2%) reporting this. 8.7% and 5.6% of participants, respectively, identify better health and educational outcomes as substantial contributions of migration to their households, while 10.5% say that migration has no benefits to their households, with more women (14.8%) than men (6.6%) saying this. A X^2 test revealed a statistically significant association between gender and perceived contribution of migration to the household.

Given the importance of migration in improving economic/financial outcomes and food security among non-migrants and return-migrants, follow up questions sought to understand participants' experiences of cash and in-kind remittances. Most (49.5%) indicate that they never receive remittances from family or household members in destination areas, while less than a third (30.7%) report receiving remittances. Specifically, 8.0% of respondents say they receive remittances weekly to quarterly, while 4.9% and 17.8%, respectively, report receiving remittances biannually and yearly. When asked to quantify the cash equivalent of annual remittances received, 21.6% of participants report receiving 1-199 GHS (0.18-35.8 USD), 5.9% say they receive 200-399 GHS (36-71.8 USD) annually, with only 5.2% saying they receive 400 GHS (72 USD) or above in remittances, yearly. Participants were also asked how frequently they remit family/household members in destination areas. The majority (59.2%) indicate that they never send remittances, while 9.1%, 4.9% and 13.2% of participants say that they send remittances weekly to quarterly, biannually, and yearly, respectively. When asked about the total cash equivalent of remittances sent, 16% indicate they send 1-199 GHS (0.18-35.8 USD) annually, 9.8% say they remit 200-399 GHS (36-71.8 USD), and only 2.1% indicate that they remit 400 GHS (72 USD) or more in a year. These findings highlight several things. First, they show the relatively low frequency of remittance exchanges among people in the migration origin and destination areas. Second, they reveal that although migrants in destination areas tend to remit their families in the origin more frequently and with more

food/monies overall, the flow of remittances is bi-directional, with people in origin areas also remitting migrants in destination areas. Third, the findings reveal that men in UWR tend to receive and send remittances more frequently, and also send larger remittances than women.

Table 18: Impacts of Migration among Non-migrants and Return-migrants

No.	Characteristic/Variable	Gender		Total	X²/Fisher's
		Women (n= 135) % / x̄(std)	Men (n=152) % / x̄(std)	(n=287) % / x̄(std)	p-value
1	**Benefits of migration**				0.023
	Positively	74.1%	81.6%	78.1%	
	Negatively	18.5%	7.9%	12.9%	
	No difference	7.4%	10.5%	9.1%	
2	**Greatest contribution of migration to household**				0.002
	Economic/financial benefits	48.9%	69.7%	59.9%	
	Improves food security	20.0 %	11.2%	15.3%	
	Better health	11.9 %	5.9 %	8.7%	
	Better educational outcomes	4.4%	6.6%	5.6%	
	No benefits	14.8%	6.6%	10.5%	
3	**Frequency of remittances RECEIVED**				0.172
	Never	48.9%	50.0 %	49.5%	
	Weekly to quarterly	7.4%	8.6%	8.0%	
	Biannually	3.0%	6.6%	4.9%	
	Yearly	15.6 %	19.7%	17.8%	
	No response or prefer not to answer	25.2 %	15.1%	19.9 %	
4	**Average annual amount of remittances RECEIVED (cash equivalent)**				0.064
	1-199 GHS	18.5%	24.3%	21.6%	
	200-399 GHS	7.4%	4.6%	5.9%	
	400 or above	2.2%	7.9%	5.2%	
	No response or prefer not to answer	71.9%	63.2%	67.3%	
5	**Frequency of remittances SENT**				0.882
	Never	57.0%	61.2%	59.2 %	
	Weekly to quarterly	8.9%	9.2%	9.1%	
	Biannually	4.4 %	5.3%	4.9%	
	Yearly	14.1 %	12.5%	13.2%	
	No response or prefer not to answer	15.6%	11.8%	13.6%	
6	**Average annual amount of remittance SENT (cash equivalent)**				0.052
	1-199 GHS	19.3%	13.2%	16.0%	
	200-399 GHS	5.2%	13.8%	9.8%	
	400 or above	1.5%	2.6%	2.1%	
	No response or prefer not to answer	74.1%	70.4%	72.1%	
*At the time of data collection: 1 USD = 5.48 GHS & 1 GHS = 0.18 USD					

I consequently sought to gain a deeper picture of the impacts of migration among non-migrants and return-migrants through qualitative interviews. As shown, most participants (78.1%) who responded to the surveys view migration as having positive benefits to people in UWR, with financial/economic benefits identified as the greatest contribution of migration to sending households. Speaking to these economic benefits, an FGD participant says:

We have no livelihoods here; no daily jobs to engage us, enable us to get money

to help ourselves, take care of our health and food issues, and cater to our children's education. But over there, they work and have livelihoods. From that, they earn some coins and share with us. Those coins help with our health, daily bread and school issues. Migration helps us (Participant, All female FGD-3).

Thus, several participants admit that remittances from migrants are used to purchase food and pay medical and other bills. Also, as mentioned earlier, many participants identify food insecurity – mainly due to poor farming conditions, lack of alternative livelihoods and resulting inability to afford food – as one of the major problems brought on by climate change and limited economic opportunities in UWR. As such, participants are appreciative of the role of migration in ameliorating food insecurity among residents of the region, as evidenced by the earlier quote by Mercy who says that her children frequently remit her with vegetables and food ingredients for her upkeep. These findings highlight the crucial role of migration in cushioning against food insecurity in UWR.

Furthermore, non-migrants and return-migrants discuss the role of migration in improving socioeconomic outcomes for people in UWR, mainly through better work opportunities in destination areas. Participants in qualitative interviews accordingly note that UWR migrants tend to have access to better health, educational and other opportunities in the destination areas as compared to the origin.

Those in the bush, in addition to food, they profit enough to help with their children's education. They also have better schools and the ability to support their children. But if they remain in this Dagara (UWR), they can't get anything to support the children's educational progress (Participant, All female FGD-3).

These advantages notwithstanding, many participants in IDIs and FGDs are also of the view that migration brings no benefits to people/communities in UWR, with some emphasising that the current high volumes of outmigrations are negatively affecting people in the region. Several reasons are provided for this. For instance, some participants believe that recent migrations are no longer carefully planned. Hence, the younger adults who migrate tend to do so for superfluous reasons and with no long-term goals in mind. Consequently, for some, the utility of recent migrations has faded compared to earlier ones.

It's not beneficial. What should I say? They don't tell anyone before leaving. They travel for two weeks, return and travel for another two weeks. They go to

roam and engage in various odd jobs, don't save any money, and the little they get, they buy fancy jeans and mobile phones to come back and show off. What benefits will that bring? There are no benefits (Antom, Man, Zimuopare, 73).

Antom's comment reveals the disappointment of some older adults in the youth of UWR who they believe display a lack of responsibility towards their families and communities, after migrating. This sense of disappointment is echoed by other participants like Bertuurme who remark that the younger adults sometimes migrate to avoid farming, and only return when the farming season is over. He says of his migrant sons:

If they at least farmed for me before going, then they'll know that there's food at home so there's nothing to worry about. But now when you send for them, they don't come. They'll leave you here to farm alone. As I sit, I'm not feeling well but I farmed by myself. But you'll struggle like this and one day, one of them comes home. If they say they want to take some food back, you can't say no. He's your child. That is how things are (Bertuurme, Man, Zambobadi, 57).

Thus, several residents of UWR are of the perspective that migrations are beneficial only when people have responsibly-minded family in destination areas – as discussed earlier and as emphasised in Mwinsom's quote below.

Those with people down south who are helping them, they benefit. But as for me, I don't have anyone to help or take care of me, I am by myself. My children don't mind me. When I get money, I hire youth to farm for me, I then sow and when I get something, I eat... My husband's brother has children who are married and taking care of their relatives. But I manage by myself. When I get something, I also eat from there (Mwinsom, Woman, Tuotangzu, 72).

Mwinsom's comment demonstrates the feelings of abandonment that some non-migrants and return-migrants may experience due to outmigrations. Consequently, participants indicate that migration can lead to the loss of family and community, and result in feelings of loneliness and isolation. For example, some residents lament that there are instances where family members migrate and go missing in destination areas, or never return to the origin until they are critically or terminally ill.

All my children have migrated. This one's (points to adult son) older brother is there. The elder-most brother migrated first; he never came back. We have no

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idea where he is. Maalde also went, we never saw him again until he was sick
and came home to pass on… Now Korbin too has refused to come, have you
seen? It's painful (Beh-faame, Woman, 80yrs, Dongkuolu).

Speaking to the impacts of migration among people in UWR, a key informant similarly
recognises the immense contributions of outmigrations in alleviating the extreme rates of
poverty, livelihood vulnerability and food insecurity in the region. However, this key
informant adds that growing emigrations are also negatively affecting the fabric of UWR
families and communities.

Some men migrate for opportunities elsewhere and leave behind wives and
children under the mercy of God and other natural conditions. Some women
also leave their children under the care of the aged, or even their husbands,
and run to urban areas. These children's upbringing is affected. The potential
to generate income in rural localities is wasted because they don't harness that
option but rather seek greener pastures in urban centres. Leaving affects their
culture, social upbringing, economy and community (Key informant 10: CARO).

This key informant quotation captures perceptions around the 'breakdown of the social
fabric of families and communities' in UWR (e.g., young men abandoning their families,
women leaving children with husbands or older adults), and highlights the disapproval that
youth and women's outmigration is sometimes met with. These key informant and participant
perspectives ultimately emphasise the different ways that diverse individuals and groups may
experience climate change, MLIs and migration in UWR based on their social identities. In the
section below, I discuss some additional gendered and intersectional considerations.

4.6 Gendered and Intersectional Experiences of Climate Change and Multilateral Investment among Non-migrants and Return-migrants in UWR.

As has been illustrated so far, climate change, MLIs and migration affect various
individuals and groups in unique ways. Thus, the findings from both qualitative and
quantitative data have showcased how factors such as gender, age, (dis)ability, among others,
shape the experiences of non-migrants and return-migrants in UWR. This section elaborates
on some gendered and intersectional considerations worthy of note. To begin, the combined
effects of climate change, limited MLI opportunities, poor livelihoods, and resulting high

volumes of outmigration are experienced in *gendered* ways among residents of UWR. For example, while women often talk about the loss of livelihoods from these issues as affecting their ability to perform caregiving responsibilities, men tend to discuss them in terms of their inability to meet breadwinning responsibilities, although there are overlaps in these roles and responsibilities. Commenting on how climate change and poor economic opportunities affect her ability to undertake the responsibilities expected of her, an FGD participant says:

> I wake up and either queue for hours at this borehole or travel many kilometres to harvest water for daily use. I return to sow or weed at the farm. I close from the farm, come home, and I must figure out how to get food for the family. Because once the man gives you the maize or millet, he's done. You must know how you'll get salt, pepper and oil to cook. We are responsible for the children's feeding, schooling, health and so on. If a child will go to school, the mother must figure out how. If the child needs uniforms, books, pencils, the mother will have to figure it out. Even if there's no food, you must ensure that your child eats before going to school and your husband gets to eat too. How can we do all these with the way our farming is going? (Female participant, Mixed FGD-5).

Many men also discuss how the combined impacts of climate change and limited MLI options affects their ability to undertake their responsibilities as household heads.

> The man can't be there and the woman will go out and solve problems. But where are we supposed to get the money? Now health insurance has come, if you have five children plus your wife, you're responsible for paying all their enrolment fees. If you don't and any of them falls sick and the hospital bill is huge, it's up to you to pay. The woman will sit there looking up to you… Even if she contributes, that is a debt you have incurred [unanimous agreement]. Even if you borrow from her to pay her own medical bills, but one day she'll ask you. If you're delaying in repaying, she'll say, "the money you borrowed from me to pay the hospital bill, have you refunded it?" (Participant, All male FGD-4).

These gendered similarities and differences in hardships notwithstanding, many participants, including men, acknowledge that women in UWR tend be worst affected by the declining climatic conditions, poor livelihoods and extreme poverty in the region, as this male FGD participant so emphatically states:

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What I've seen is, women lack the means. See, the rainy season comes, and we start farming. We struggle together, but once the crops mature and we harvest, they belong to us [men]. When we harvest the groundnuts, it's ours. So what strength would the woman have, let alone have money to help? If we shared ownership of the farm produce, that's different. But we keep it all. Therefore, men are better off… Yes, I admit that my wife provides free labour. When my wife farms for me, I don't give her anything. When she sows, I give her nothing. Apart from the little that she keeps to stir TZ and eat, that's it. When she harvests, it's mine. Everything in the storage is mine. When she's done planting, she is done. When the groundnuts are on the farm, they belong to both of us, but once they get home, she is no longer part (Participant, All male FGD-4).

These findings are supported by key informants who note that apart from farming, many of the other livelihood activities that women rely on for subsistence (e.g., charcoal burning, shea butter production) are greatly dependent on environmental/natural resources. Consequently, in addition to spending more time daily to source some of these raw materials to meet household energy, food and economic needs, women's livelihoods are also increasingly being blamed for the deteriorating climatic conditions in UWR. Thus, besides the already limited sustenance options available to women due to climate change effects, some community leaders have also now placed bans on the harvesting of these resources, further drastically affecting women's lives.

Women engage more in charcoal burning; it's their economic venture. But the logging of trees is now an issue… Adaptation innovations are being introduced, but those engaged in charcoal burning don't have access to some of these too, so their lives are affected. Recently, the chief banned women from harvesting shea fruit or even gathering the ones that have fallen on the ground. He says that's what's preventing the rains. So he announced that any woman caught gathering shea seeds should be reported to him (Key informant 12: UWR).

This key informant quote highlights how despite being severely affected by livelihood losses resulting from climate change, women in rural areas who depend on natural resources for their upkeep remain the most marginalised from emerging development opportunities as well. Some non-migrants and return-migrants add that the gendered marginalisation of

women is worse for widows and women headed households due to their need/expectation to perform both caregiving and breadwinning responsibilities, but yet lacking the resources to do so. Other participants note that widows and women headed households in rural communities of UWR are also more exposed to some of the vulnerabilities brought on by the changing socioeconomic and ecological conditions in the region.

> There's a rise in stealing because everyone must eat. But here we are, four widows in one house. Our husbands died and the sons have migrated. At night when we go to bed, we don't know what is happening. We all worry a lot about different issues. Once it's night-time, we have nothing more to say, we go inside and sleep. As we are sitting like this, how can four widows live alone? No. But there's no man in the home. We are all alone. If an intruder comes to pick a fight, what will we do? (Kaunsob, Woman, Bekyiellu, 60).

In response to these gendered manifestations of climate change, MLIs and migration, I found that the coping mechanisms employed by participants in dealing with these effects – e.g., declining food production, limited MLI options, high volumes of migration, economic deprivation and isolation – also tend to be gendered. For instance, Saakom describes his wife's ability to 'beg' for food to ensure their sustenance; a coping strategy that he cannot partake in by virtue of being a man.

> If I were a woman; women are not shy, they can beg. Right now, my wife is the one begging for us to eat. But for me a man who is also blind like this, where will I go to beg for food to come and eat? My worries are a lot and cannot be resolved, unless death. The day God will call me, that is the end. My problems are just there all the time (Saakom, Man, Dongkuolu, 90).

Saakom's comment highlights how social constructions of masculinity within UWR, and the need to perform this masculinity in accordance with cultural norms and expectations, affects the coping strategies available to men in the region. Consequently, some participants report that men tend to resort to alcohol consumption as a way to numb their hunger and suffering, despite the repercussions associated with this coping strategy.

> If people have money, will they ignore hunger and thirst, and be looking for alcohol? But if he can't get food, it's the bottle (drink) he'll go look for. After he [household head] drinks, he comes and is screaming and insulting the children.

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Why won't they run away to the bush? (Participant, All female FGD-3).

As shown in the participant quote above, alcohol becomes a substitute for men in UWR when food is unavailable. However, this maladaptive coping mechanism of excessive alcohol consumption sometimes leads to consequences such verbal abuse/assaults. This further drives the outmigration of youth/younger adults within the household in order to escape this abuse. Some participants add that apart from using alcohol to numb hunger pangs, many men also use it to still their feelings of inadequacy or perceptions of being failures.

> Sometimes when the children bring home bills/debts from school, maybe they
> ask them to pay fees, and their fathers cannot pay, he [father] will tell you that
> he'll be back. He goes to roam around and drink his Happy Man [local spirit].
> Even so, he comes home and beats you to prove to you that he's still the man
> of the house (Female participant, Mixed FGD-5).

The above quotation highlights the ways in which men's maladaptive coping strategies ultimately result in women and other household members facing both physical and verbal abuse and assault, despite being equally or more affected by hardships in UWR. Many women on the other hand mention that drinking is not an option for them, given the sociocultural stigma around women who engage in excessive alcohol consumption. Thus, the few women who do rely on alcohol to cope try to do so in secret. Regarding their own coping, some women report frequenting the hospital/clinic to access treatment in managing the extreme levels of stress they are experiencing from the challenging living conditions in the region.

> My daughter, I'm distressed. I roamed many clinics until they said it's anxiety. I
> worry all the time; I have no one to care for me. I'm physically unwell and when
> I went, he [doctor] said my mind is unwell too. He told me to stop worrying, I
> shouldn't be thinking too much, but I can't… But I think it's getting better. They
> gave me meds for the palpitations (Mwinsom, Woman, Tuotangzu, 72).

Apart from gender, *age* is another factor that shapes experiences of climate change, MLIs and migration. As discussed, older adults in UWR experience a myriad of challenges ranging from lacking the physical strength to farm, to being excluded from outmigration trends. During interviews, many older adults also indicate that they do not feel hopeful about finding employment in or benefitting from potential MLIs in the region, as these operations may likely aim to recruit younger adults who can engage in physically strenuous work.

We the aged, who will employ you? You can't throw a pickaxe or carry cement.

If I were young and strong, I could also try to get some money from it [MLI]. But

I'm no longer strong. In my opinion, those who are young and can work in them,

it'll help. But we the vulnerable, if there's any other assistance they can give us,

because these [MLI] may not help (Kyaapuorey, Woman, Zimuopare, 61).

In addition, many participants remark that MLI activities that potentially introduce physical hazards to their communities could have deleterious effects on their elderly population. Participants cite examples such as timber or sawmill operations that may leave logs and tripping hazards lying around, or mining ventures (and artisanal mining) that engage in hole digging, as some of the activities that they fear might negatively affect their elderly.

If only it [MLI] will be work that helps us. But if they're going to start some

galamsey (artisanal mining) work, it can't help us. Because most of our people

are old, and with galamsey, they dig big holes. One of the elderly people can

fall into one of these holes and we'll lose them (Participant, All male FGD-4).

Still regarding age, many older participants also engage in painful reminiscence about the loneliness and isolation that comes with watching one's peers all pass on. They add that in the past, such loneliness and isolation were not felt as deeply, since the elderly always had (grand/great grand) children within the home, or other extended household and community members, to keep them occupied and distracted. However, the recent high volumes of outmigrations, and increasingly permanent nature of these migrations, imply that many elderly people no longer have access to these familial and communal support systems, and must face this isolation and loneliness by themselves.

Most of us, we had our people. But they're all dead. At least if I had grandkids

talking to me every day. But my children have dispersed and set up families

over there. It makes you depressed. Who will now look after me now? When I

had people looking after me, but now they've all gone and left me. I'm old and

frail and can't do things decisions on my own. I don't have company to chat

with. I can't stop ruminating on those thoughts (Participant, All female FGD-3).

These accounts underscore the ways in which age might intersect with socioeconomic and ecological changes to affect the lives of older adults in UWR. In addition to gender and age, *chronic health ailments* may also influence a person's lived experiences of climate

change, MLI and migration in the origin area. For example, the sentiments of witnessing a gradual decline in physical strength/ability and resulting incapacity to work – as detailed by older adults – are shared by people living with chronic ailments. Thus, some non-migrants and return-migrants who have been diagnosed with chronic illnesses such as hypertension, diabetes, and depression/anxiety, as well as those experiencing chronic pain, remark that observing their physical abilities gradually deteriorate and watching themselves cease to be able to undertake various tasks that they previously did, is a very painful process.

> When I was strong, I worked and got something for myself and my children. But
> because of my hypertension and back pain, now I don't have the strength to
> work. God said we should work to eat; if you don't, you won't get any benefits,
> So as I sit and can't work, it disturbs me (Puvila, Woman, Zambobadi, 55).

Furthermore, people living with chronic ailments add that apart from their struggles of engaging in farming and/or finding work in UWR, they also tend to be excluded from migration opportunities, as their poor health makes them less preferred candidates during household migration decision making. Some add that even if they manage to migrate, their inability to engage in 'productive' livelihood activities in the destination area often warrants that they return to the origin.

> I used to migrate till I started having little illnesses here and there. Today my
> hand swells, tomorrow it's my leg. They told me to return and look after the
> house so that my younger brother could migrate instead. And I understood.
> Because what was I doing there anyway? (Participant, All male FGD-4).

Finally, people living with *disabilities*, and those caring for disabled family members, also express the unique ways that these disabilities affect their daily lives. For instance, an earlier quote from Kyaapuorey outlined how she had to stop migrating in order to care for her disabled grandson. Likewise, in a prior quote by Saakom, he expresses how losing his sight affects his ability to migrate, farm or undertake any livelihood activity. Most participants in interviews therefore acknowledge that people with disabilities and/or caregivers of disabled people tend to experience added levels of vulnerabilities brought on by climate change, MLIs and migration, as captured in the quotation below.

> We all suffer. But if you can run around to find food, the blind person can't. If
> you can walk to the station to board a lorry to Kumasi and find work, someone

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with a walking disability can't. If trouble comes and they announce that everyone should run for their lives, the one with a hearing disability won't hear it let alone run. So the sufferings are different (Male participant, Mixed FGD-5).

For some participants, however, it is not only poverty, gender, age, or disability that shapes their experiences in UWR, but a combination of all these factors. To illustrate, an earlier quote by Saakom describes his inability to 'beg' due to his gender as a man and the fact that he cannot see. In the quotation below, Beh-faame says of the intersections of experiencing poverty, being a woman and caring for her husband with a disability:

Having a person with disability in the household adds an extra burden of responsibility. For instance, as he is seated, he cannot see. I need to figure out how to get food for him to eat. His dirty clothes are way more than this, I have to figure out how to get soap to wash his clothes. But I don't have, and I also have no one to help me. What do I do? (Beh-faame, Woman, Dongkuolu 80).

Likewise, Saakom says of his experiences of losing everyone around him to old age and migration, and watching his own physical health and abilities decline amid deteriorating climatic conditions, food insecurity and widespread poverty:

I can't sleep at night. All my nine brothers are dead, I'm the only one left. I don't have strength to work. I can't see, so I can't go anywhere. I can't care for family. If I was at least getting food. I don't sleep (Saakom, Man, Dongkuolu, 90).

The above findings highlight the reality that most, if not all, people in UWR are experiencing extreme vulnerabilities brought on by their exposure to climate change, poor livelihood and sustenance options, high volumes of outmigration, loneliness and isolation. However, they also foreground the fact that despite this collective marginalisation, diverse individuals/groups also face unique challenges by virtue of their social identities/categories.

4.7 Overall Living Experiences in the Upper West Region, and Policy Recommendations

Given the sum of these experiences, non-migrants and return-migrants were asked to rate their overall quality of life in relation to others in the community, and state what they like and dislike the most about their communities. Participants were also asked to suggest policy recommendations based on their experiences. The findings in table 19 reveal that

17.1% of participants rate their lives as worse than their counterparts, with notably more women (23%) than men (11.8%) saying so. Another 17.8% indicate that their lives are about the same as others in the community, with more men (21.1%) than women (14.1%) reporting this. Lastly, most participants (65.2%) believe that their standard of living is better than others within the community, with slightly more men (67.1%) than women (63.0%) saying so. A X^2 test revealed a statistically significant association between gender and self-rated quality of life. These findings show that women may be more willing to describe their lives as deprived (worse) compared to men, possibly due to gender norms that place the responsibility of providing good standards of living on household heads, many of whom tend to be men.

Table 19: Self-rated Living Experiences among Non-migrants and Return-migrants in UWR

No.	Characteristic/Variable	Gender		Total	X^2/Fisher's
		Women (n= 135) % / x̄(std)	Men (n=152) % / x̄(std)	(n=287) % / x̄(std)	p-value
1	**Self-rated overall quality of life within community**				0.026
	Worse	23.0%	11.8%	17.1%	
	About the same	14.1%	21.1%	17.8%	
	Better	63.0 %	67.1%	65.2%	
2	**Like most about currently locality**				0.463
	Affordable housing	25.9%	28.3%	27.2%	
	Sense of belonging	23.0 %	19.1%	20.9%	
	Family agriculture	14.1%	21.1%	17.8%	
	Safe neighbourhood	17.0%	9.9%	13.2%	
	Social support	11.9%	13.8%	12.9%	
	Clean environment	4.4%	4.6%	4.5%	
	Nothing	3.7%	3.3%	3.5%	
3	**Dislike most about current locality**				0.112
	Poor jobs/livelihoods	61.5%	66.5%	64.1%	
	Poor social support and services	14.8%	5.3 %	9.8%	
	Poor climatic conditions	7.4%	10.5%	9.1%	
	Poor infrastructure	8.2%	8.6%	8.4%	
	Nothing	5.2%	4.0%	4.5%	
	Unsafe neighbourhoods	3.0%	5.3%	4.2%	

When asked about the features they like most in their communities, affordable housing, sense of belonging and family agriculture are the ones selected by most participants (27.2%, 20.9% and 17.8% respectively). Few participants (3.5%) say there is nothing about their communities that they like. Respondents were also asked to select the characteristics of their communities that they dislike the most. In response, the majority (64.1%) identify poor jobs and livelihoods, with another 9.8% and 9.1% of participants, respectively, naming poor social support/services and poor climatic conditions as their greatest dislikes. More men indicate poor jobs/livelihoods and poor climatic conditions (66.5% and 10.5%, compared to

61.5% and 7.4% of women) as their greatest dislikes, whereas more women select poor social support and services (14.8% compared to 5.3% of men) as their greatest dislike.

Speaking to these findings in qualitative interviews, many participants discuss the fact that despite the poor environmental conditions, limited jobs and high rates of poverty in UWR, residing in the region is advantageous to them because they at least enjoy free or very affordable housing. Additionally, many remark that they feel a sense of belonging and closeness (that is sometimes absent outside of UWR) with other community members. Lastly, some participants note that farming in their own hometowns relieves them of answering to anyone else (e.g., landowner) about their farming activities. For instance, regarding the sense of belonging in UWR, a return-migrant in an FGD says:

> If you go and sit on someone's land, irrespective of how hard you work, they'll never see you as one of their own. They won't treat you well. You can slave all day on their farms, but once they don't see you as their own, they'll not take care of you the way your people [UWR] will. Over here, you're at home. Even if things are terrible, but you're at home (Female participant, Mixed FGD-5).

Many participants therefore believe that with the introduction of suitable in-situ interventions that help mitigate or address climate change effects and the limited economic and livelihood options within the region, many more people would prefer to remain in UWR rather than emigrate for better opportunities.

4.7.1 Proposed Interventions and Policy Considerations

Based on this, participants in IDIs and FGDs were asked to propose interventions and suggest policy recommendations that could help to improve their lives in the migration origin. An overwhelming majority indicate that the provision of alternative livelihoods outside of farming would help to address most of the challenges facing them in UWR. Participants add that, excluding jobs that could potentially destroy the environment or harm people in the region, as shown earlier, they are open to any other employment options. Participants therefore suggest interventions such as the building of dams and irrigation systems to boost farming, the provision of start-up capital to undertake small businesses, trading and livestock rearing, and training in trades and crafts (dressmaking, pottery, weaving, textile production). Blue collar jobs like manufacturing, construction, and electrical and maintenance work are also livelihoods that participants suggest would benefit their communities. Furthermore,

residents advocate for subsidies on agricultural equipment and inputs to help reduce farming costs and boost agricultural production within the region. Lastly, participants add that the creation of more and better paying jobs for educated youth would ensure that their struggles in educating their children are paid off, and help to retain young adults in the region.

Participants however note that, in addition to the provision of jobs (e.g., from government, domestic/foreign investors), there needs to be options for older and physically frail people who cannot engage in paid economic activities to still meet their basic needs. Thus, as illustrated in an earlier quote from Kyaapuorey, some older adults in UWR may not benefit from potential MLI and related economic ventures if they lack the skills demanded or are too old to be productive workers. For such groups, social protection plans are more suitable. Several participants thus identify regular cash transfers and food distribution as interventions that could help. Some reveal that they have benefitted from cash transfers in the past, although these transfers tend to be irregular and sometimes cease without warning, as elaborated below.

> They used to help us a little to alleviate our worries, but it's been 6 months now and we haven't heard anything again, but I'm still waiting. I think they said someone (philanthropist) saw the problems in our town, the vulnerable people are many – like I'm struggling now and can't do anything – and decided to come forward to assist us. They [assistance] came for some time and we never heard again… If someone decides to help and is no longer doing it, can you follow up to ask why? So we are only waiting to see whether they'll come and call us to chief's place again to help us. (Kyaapuorey, Woman, Zimuopare, 61).

A follow up with key informants in UWR revealed this intervention to be part of the Livelihood Empowerment Against Poverty (LEAP) programme, a social initiative implemented by the Government of Ghana in 2008 to assist individuals and household living in extreme poverty and vulnerability with cash transfers and/or enrolment in the national health insurance scheme (NHIS). However, migrant groups and key informants alike state that despite designed as a bi-monthly cash transfer scheme, the LEAP's cash transfers have been very inconsistent. Many therefore recommend more consistent cash transfers as well as the regular distribution of food resources to people in rural areas to cushion them against poverty and food insecurity.

Many participants in UWR also identify better social amenities and infrastructure development as vital to improving their lives. With respect to social amenities, non-migrants and return-migrants mention potable water and communal/household electrification as the most important utilities they currently lack. Participants therefore indicate that providing them (rural communities) with more water sources and wiring electricity to their homes and communities would considerably reduce time spent accessing water and travelling to mill flour or charge mobile phones. They add that with electricity, some of them can afford to open businesses such as the sale of beverages, grinding mills and cold stores (frozen meats) as alternative/main livelihoods to supplement their income. They also note that electrification would enable them to access cooling systems within their homes particularly in light of rapidly rising temperatures.

In addition to water and electricity, participants mention that the provision of better roads (e.g., tarring existing roads and creating new ones) would go a long way to reduce commute times within their communities, particularly during health emergencies. They emphasise that tarred/paved roads would also drastically reduce their exposure to dust caused by the current untarred roads, and accompanying health ailments. Participants add that better roads would also help to reduce vehicular and pedestrian accidents that are presently pronounced in their communities due to potholes. Others note that developing their roads would help to facilitate trading activities with other towns/communities. In addition, participants call for better cellular network coverage in their localities. According to most, they often have to travel long distances just to make or receive telephone calls. This off-grid nature of rural communities in UWR has dire consequences, including limiting their access to friends and family outside the community, restricting access to news and other important information, and affecting their ability to relay critical information during emergencies. Many therefore agree that better cellular access in their communities would be extremely beneficial in connecting them to the rest of the country.

Furthermore, residents of UWR note that the region is in desperate need of more state-of-the-art medical facilities. They bemoan that in addition to being the only adequate health facility in the area, the Nandom hospital also remains under-resourced and understaffed. Many say that for serious medical conditions, they sometimes have to travel two hours to the regional hospital in Wa, which also suffers from overcrowding and understaffing. Participants therefore petition that building another hospital or two, equipping new/existing hospitals

with the necessary logistics to work effectively, and recruiting more medical personnel would contribute towards improving the health outcomes of people in UWR. In addition to these, participants note that setting up more facilities such as clinics, health centres and Community-Based Health Planning and Services (CHPS) compounds in the various rural communities – and ensuring that these facilities have the necessary resources to function – would go a long way to benefit people in the region. Lastly, non-migrants and return-migrants add that subsidising or eliminating health insurance enrolment fees for people in UWR would further alleviate the economic, sociocultural and health stressors they experience.

Outside of health, participants indicate that people in UWR – particularly those in rural communities – are in dire need of better schools and educational resources/facilities. For instance, many participants lament that despite their significant investments in their wards' education, the subpar and woefully under-resourced nature of schools (in terms of teachers and learning materials) in their communities often means that their children cannot make it beyond basic education, as shown in the quote below.

This whole area, there's only one basic school. We have no secondary schools. And even with this one school, sometimes there's only one teacher for all the students in class one to JHS 3. What can they learn? As for the little ones, they don't even have classrooms. Many sit under trees. With this kind of learning environment, where can our children go? (Female participant, Mixed FGD-5).

Participants therefore say that building more school structures, staffing these schools, and equipping them with the necessary learning materials would significantly boost their children's educational outcomes. Some add that, because the few students who manage to do well often have to travel outside their communities for further education, these improved educational systems may help to further reduce the push factors of emigration among residents of the region. Overall, participants observe that apart from the improvement to their lives, these interventions and development initiatives may also help in the long term to attract and retain human resources (e.g., doctors, nurses, teachers) who currently refuse postings to UWR due to the region's deprived state.

Key informants were also asked about the current state of interventions in UWR and potential ones that could help to improve the lives of residents of the region. In response, key informants acknowledge that UWR is already beneficiary to several interventions – including

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ones by MLIs – due to its resource-poor state. For instance, a key informant working in one of the Region's municipal assemblies calls attention to a donor partnership project by the European Union (EU) and Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ), that is aimed at stimulating agricultural growth UWR. Others include the Market Oriented Agriculture Programme (MOAP) that covers the entire UWR and parts of the North-East and Savannah Regions. According to a key informant, the MOAP focuses on developing value chains for crops like sorghum, rice, soya beans, groundnuts, tomatoes, cashew and mango. It is also targeted at building the capacity of farmers to produce the abovementioned crops, and connecting farmers to markets through aggregators, processors and other actors. Another component of the MOAP is aimed at promoting the planting of trees in UWR, as a way of protecting the environment and mitigating climate change effects. Finally, the MOAP is oriented towards improving infrastructural development (e.g., roads), to further boost agricultural chains in the region. Key informants recognise that the introduction/provision of improved seed and demonstration plots via these programmes has had immense benefits for farmers in UWR – through improving farm production and household incomes.

These initiatives notwithstanding, key informants admit that UWR remains one of the most impoverished regions in Ghana, with rural communities facing added marginalisation. This is attributable to several factors, paramount among which are corruption, state neglect and a lack of political will by leaders of the country to commit to lifting the region out of poverty. Other reasons include poor infrastructural development, the reluctance of government workers to accept postings to the region, poor remuneration of existing workers in UWR, limited/lack of resources such as vehicles and financial means to effectively meet institutional/organisational goals, and climate change effects. Apart from these, key informants also mention that there is sometimes a disconnect between the policies that are implemented by the Ghanaian government at the national level, and the actual needs of people or realities on the ground. Key informants cite the example of longstanding calls for better jobs and livelihoods by residents of UWR, versus a recent widespread campaign against (and criminalisation of) open defecation undertaken by the government in the region. Speaking to this disconnect between policies and reality, a key informant says regarding the building of dams as a climate change adaptation mechanism:

There's no difference between the dams they're proposing now and what they

were building in the 60s and 70s, long before we became conscious of climate

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change. Many of the newer dams are not climate compliant... If you're building dams as adaptation solutions to climate change, there must be a difference in the bank designs; so that they can withstand the weather and stronger running waters that can damage the fence. So, you see that even beyond budget fitness, if you look at it generally, what[dams] we are doing now cannot resist systems of gravity (Key informant, FSSP of Global Affairs Canada [GAC], Accra).

While key informants recognise that this disconnect sometimes results from budgetary constraints, they also add that the poor or subpar implementation of some of these projects is rooted in corruption, misappropriation of public/national funds, and nepotism. Thus, rather than invest the necessary capital into designing effective and sustainable interventions, funds are squandered, and/or the bids awarded to contractors that have close relationships with politicians or leadership – regardless of whether they possess the necessary qualifications to undertake these projects.

When asked about the strategies that could help enable officials of governmental and NGO institutions to perform their duties effectively, key informants mention policies such as better funding and provision of resources to departments in UWR, better infrastructural development, the provision of social amenities, and incentives to motivate workers in the region. According to them, these measures would ensure that officials have the means to adequately work towards promoting climate change adaptation mechanisms – e.g., provision of better-suited dams/irrigation facilities for off and on season farming – in UWR. They would also assist officials to reach rural populations with inputs and assets needed to boost farm productivity amid rapidly deteriorating environmental conditions. Lastly, it would aid in the establishment of alternative in-situ livelihoods for residents in the region. These strategies, key informants believe, would not only improve the quality of life of non-migrants and return-migrants in UWR, but also hopefully reduce the push factors of migration in the region.

4.8 Summary

In this chapter, I presented the findings on climate change, MLIs and migration among non-migrants and return-migrants in UWR. I began by outlining the sociodemographic characteristics of participants in the study. After this, I discussed the experiences of climate change among residents of UWR including knowledge/understandings of climate change,

perceived changes in climatic conditions and the impacts of climate change on people in the region. Following this, I described the presence (or lack) of MLIs (activities) within the region, as well as participants' perceptions about the advantages and disadvantages of potential MLIs. I went on to describe migration dynamics among non-migrants and return-migrants, including migration trends, types/forms, pre-migration decision making and post-migration settlement patterns. I also provided some background on why some never migrate out of UWR, and why others migrate but eventually return. Next, I highlighted the positive and negative impacts of migration as discussed by non-migrants and return-migrants in the study. I subsequently presented the findings on gendered and intersectional considerations as regards climate change, MLIs and migration among residents of UWR. I concluded the chapter with a description of participants' overall assessments of their quality of life in UWR, existing interventions in the region, and proposed policy recommendations from study participants.

CHAPTER FIVE (5)

FINDINGS: CLIMATE CHANGE, MULTILATERAL INVESTMENT AND MIGRATION AMONG NON-MIGRANTS AND RETURN-MIGRANTS IN THE MIDDLE BELT OF GHANA

5.1 Introduction

This chapter presents the study findings on climate change, MLIs and migration among migrants in middle belt receiving areas of Ghana. The findings are structured around the study objectives as well as major thematic areas that emerged during data analysis. The chapter contains six sections. In the first, I outline the sociodemographic characteristics of study participants. The second, third and fourth sections engage with the experiences of migration, climate change and MLIs respectively, among UWR migrants in the middle belt. In section five, I discuss the gendered and intersectional experiences of migrants as regards these phenomena and conclude the chapter (section six) with some proposed interventions and policy recommendations suggested by participants. Similar to chapter four, key informant perspectives are interspersed with those of migrants throughout the chapter. I begin by describing the sociodemographic characteristics of migrants in the study.

5.2 Sociodemographic Characteristics of Participants in UWR

In the middle belt, a total of 419 participants took part in this study. Of this number, 169 were women and 250, men. These include 381 participants in quantitative surveys (155 women and 226 men), 15 in IDIs (nine women and six men), 19 in FGDs (four women and 15 men) and four key informants (one woman and three men) working in governmental and non-governmental institutions within the middle belt. Excluding key informants, all participants in the middle belt identify as migrants. With respect to the survey, participants were recruited from 13 communities in four districts. These comprise 95 (24.9%) participants from the Dormaa East District, 91 (23.9%) from Dormaa Municipal, 77 (20.2%) from Sunyani Municipal, and the majority (118 representing 31%) from Wenchi District. Most participants (110 representing 28.9%) are aged 18-29. The second majority (106 comprising 27.8%) fall within the 30-39 age bracket, and the third (87representing 22.8%) in the 40-49 bracket. Those aged 50-59 number 58 and make up 15.2% of respondents, while the lowest proportion (20 representing 5.3% of the sample) are those aged 60 or older. Most participants (336 or 88.2%) identify farming as their primary occupation, with 15 (3.9%), 18 (4.7%) and nine (2.4%)

participants, respectively, identifying trading, government employment, and wage work as their main occupations. Only three participants (0.8%) say they work in/with an MLI.

Table 20: Participants Characteristics for Survey –Migration Destination/Middle Belt

No.	Characteristic	Frequency and Percentage		
		Women (n= 155) Freq (%)	Men (n= 226) Freq (%)	Subtotal (n=381) Freq (%)
1	**Gender**			
	Female	155 (40.7%)	-	155 (40.7%)
	Male	-	226 (59.3%)	226 (59.3%)
2	**District of Residence**			
	Dormaa East	39 (25.2%)	56 (24.8%)	95 (24.9%)
	Dormaa Municipal	25 (16.1%)	66 (29.2%)	91 (23.9%)
	Sunyani Municipal	37 (23.9%)	40 (17.7%)	77 (20.2%)
	Wenchi	54 (34.8%)	64 (28.3%)	118 (31%)
3	**Locality/Community**			
	Abonsrakrom	10 (6.5%)	24 (10.6%)	34 (8.9%)
	Antwikrom	14 (9.0%)	19 (8.41%)	33 (8.7%)
	Asuotiano	20 (12.9%)	32 (14.2%)	52 (13.7%)
	Atronie	18 (11.6%)	17 (7.5%)	35 (9.2%)
	Domeabra	14 (9.0%)	10 (4.4%)	24 (6.3%)
	Dormaa Akwamu	8 (5.2%)	11 (4.9%)	19 (5.0%)
	Tromeso	36 (23.3%)	49 (21.7%)	85 (22.3%)
	Twumkrom	6 (3.9%)	21 (9.3%)	27 (7.1%)
	Wamanafo	7 (4.5%)	8 (3.5%)	15 (3.9%)
	Wamfie	6 (3.9%)	8 (3.5%)	14 (3.7%)
	Koradasu	9 (5.81%)	8 (3.5%)	17 (4.5%)
	Kyeremasu	1 (0.7%)	11 (4.9%)	12 (3.2%)
	Taforo	6 (3.9%)	8 (3.5%)	14 (3.7%)
4	**Age**			
	18 – 29	48 (31%)	62 (27.4%)	110 (28.9%)
	30 – 39	46 (29.7%)	60 (26.6%)	106 (27.8%)
	40 – 49	37 (23.9%)	50 (22.1%)	87 (22.8%)
	50 – 59	21 (13.6%)	37 (16.4%)	58 (15.2%)
	60 and above	3 (1.9%)	17 (7.5%)	20 (5.3%)
5	**Occupation**			
	Farming	130 (83.9%)	206 (91.2%)	336 (88.2%)
	Trading	13 (8.4%)	2 (0.9%)	15 (3.9%)
	Civil Service	7 (4.5%)	11 (4.9%)	18 (4.7%)
	Other (wage work)	4 (2.6%)	5 (2.2%)	9 (2.4%)
	Multilateral work	1 (0.7%)	2 (0.9%)	3 (0.8%)
6	**Educational Status**			
	No education	89 (57.4%)	115 (50.9%)	204 (53.5%)
	Middle school	3 (1.9%)	10 (4.4%)	13 (3.4%)
	Primary	34 (21.9%)	39 (17.3%)	73 (19.2%)
	Junior High	17 (11%)	31 (13.7%)	48 (12.6%)
	Senior High	5 (3.2%)	16 (7.1%)	21 (5.5%)
	Tertiary	7 (4.5%)	15 (6.6%)	22 (5.8%)
7	***Income**			
	No Response	76 (49.0%)	76 (33.6%)	152 (39.9%)
	Below 999 GHS	53 (34.2%)	74 (32.7%)	127 (33.3%)
	1,000 – 1,999 GHS	8 (5.2%)	31 (13.7%)	39 (10.2%)
	2,000 – 4,999 GHS	9 (5.8%)	30 (13.3%)	39 (10.2%)
	5,000 – 9,999 GHS	8 (5.2%)	9 (4%)	17 (4.5%)

8	10,000 GHS and above	1 (0.7%)	6 (2.7%)	7 (1.8%)
8	**Marital Status**			
	Never married	17 (11%)	57 (25.2%)	74 (19.4%)
	Currently married	114 (73.6%)	164 (72.6%)	278 (73%)
	Divorced	7 (4.5%)	3 (1.3%)	10 (2.6%)
	Widowed	17 (11%)	1 (0.4%)	18 (4.7%)
	Prefer not to answer	-	1 (0.4%)	1 (0.3%)
9	**Disability**			
	Yes	7 (4.5%)	15 (6.6%)	22 (5.8%)
	No	148 (95.5%)	211 (93.4%)	359 (94.2%)
10	**Ethnicity**			
	Sissala	9 (5.8%)	14 (6.2%)	23 (6.0%)
	Brifo	14 (9.0%)	14 (6.2%)	28 (7.4%)
	Dagaaba	115 (74.2%)	182 (80.5%)	297 (78.0%)
	Waala	17 (11%)	16 (7.1%)	33 (8.7%)
11	**Religion**			
	Christianity	139 (89.7%)	190 (84.1%)	329 (86.4%)
	Islam	5 (3.2%)	13 (5.8%)	18 (4.7%)
	African Traditional Religion (ATR)	4 (2.6%)	16 (7.1%)	20 (5.3%)
	No Religion	7 (4.5%)	7 (3.1%)	14 (3.7%)

*At the time of data collection: 1 USD = 5.48 GHS & 1 GHS = 0.18 USD

Regarding education, more than half (204 comprising 53.5%) of all migrants in the study have not undergone formal education. Seventy-three (19.2%) participants have a primary education and 13 (3.4%) a middle school education. Also, 48 (12.6%) and 21 (5.5%) participants have schooled to the junior and senior high school levels, respectively, and 22 (5.8%) have undergone tertiary education. Most participants (152 representing 39.9%) prefer not to report their income or provide no response to the question on income. Among those who respond, the majority (127 participants or 33.3%) earn an annual income of 999 GHS (179.8 USD) or lower. Thirty-nine participants (10.2%) have an annual income of 1,000 – 1,999 GHS (180 – 359.8 USD), and another 39 (10.2%) make between 2,000-4,999 GHS (360 – 899.8 USD). Only 17 participants (4.5%) report an annual income of 5,000 – 9,999 GHS (900 – 1,799.8 USD), with very few (7 or 1.8%) earning an annual income of 10,000 GHS (1,800 USD) or above.

Most participants (278 representing 73%) are married, while 74 (19.4%) have never been married. Divorced and widowed participants number 10 (2.6%) and 18 (4.7%), respectively. However, although participants who identify as widowed are only 4.7% of the total sample, women make up 94.4% of migrants in this category. Twenty-two (5.8%) migrants in the middle belt report living with a disability. Dagaaba are the major ethnic group in the study, comprising 297 (78%) participants. The other ethnic groups are Sissala (23 participants, 6.0%), Brifo (28 participants, 7.4%) and Waala (33 participants, 8.7%). Finally, most migrants (329 representing 86.4%) identify as Christians, 18 (4.7%) as Muslims, 20 (5.3%) as African

Traditional Religion practitioners, and 14 (3.7%) say they do not identify with any religion. Please see table two (in methods chapter) for details of IDI participants in the middle belt. In the following sections, I outline the findings on migration, climate change and MLIs among migrants in the middle belt. I begin with the findings on migration dynamics.

5.3 Experiences of Migration in the Middle Belt of Ghana

5.3.1 Migration Dynamics in Middle Belt Destination/Receiving Areas

A purpose of this study was to understand experiences of migration among people from UWR who reside in middle belt destination areas. Specifically, I was interested in finding out migrants' motivations for emigrating, types of migrations embarked upon, and the effects of migration on individuals and households in the middle belt. The results in table 21 show that 21.5% of participants emigrated to the middle belt from UWR within the last five years, 18.1% within the last six to 10 years, 33.6% between 11 and 20 years ago, and 26.8% of respondents 20 or more years ago. When asked about their primary motive for migrating to the middle belt, the majority (76.4%) identify subsistence farming as their main reason, with slightly more men (77.9%) than women (74.2%) saying so. Only 6.3% of participants identify work in MLIs as their primary reason for migrating, with again more men (7.5%) selecting this compared to women (4.5%). In addition, 4.5% of participants say they migrated to undertake personal/individual commercial farming, with more men (6.2%) than women (1.9%) saying so, and 3.4% also say they migrated to the middle belt to access social services, with more women (5.8%) than men (1.4%) selecting this option. Only 1.8% of participants indicate that they migrated for government work, while 1.6% say they migrated for trading purposes. Slightly more women (3.2%) migrated for trading than men (0.4%). Finally, 6% of participants say they migrated for other reasons such as family/spousal reunification, to escape household conflict, to explore, among others. Women make up almost twice (8.4%) the proportion of men (4.4%) who state that they migrated for other reasons. A X^2 test showed a statistically significant association between gender and migration motives. Participants were also asked to indicate the type of migration that best describes their settlement in the middle belt. In response, the majority (53.3%) describe their migration as temporary, with more men (56.2%) than women (49%) saying so. Another 38.8% say their migration is permanent, with slightly more women (40.7%) than men (37.6%) indicating this. Few participants (4.2%) identify their migration as cyclical, and 3.7% say they do not know or are undecided.

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Table 21: Migration Dynamics in the Middle Belt of Ghana

No.	Characteristic/Variable	Gender		Total	X² /Fisher's
		Women (n= 155) Freq (%)	Men (n= 226) Freq (%)	Subtotal (n=381) Freq (%)	p-value
1	**Duration of migration to middle belt**				0.552
	1-5 Years	24.5%	19.5%	21.5%	
	6-10 Years	19.4%	17.3%	18.1%	
	11-20 years	31.0%	35.4%	33.6%	
	20 years or more	25.2%	27.9%	26.8%	
2	**Main reason for migrating**				0.010
	Subsistence farming	74.2%	77.9%	76.4%	
	MLI work	4.5%	7.5%	6.3%	
	Personal commercial farming	1.9%	6.2%	4.5%	
	To access social services	5.8%	1.8%	3.4%	
	Government work	1.9%	1.8%	1.8%	
	Trading	3.2%	0.4%	1.6%	
	Other	8.4%	4.4%	6.0%	
3	**Type/Form of migration**				0.360
	Temporary	49.0%	56.2%	53.3%	
	Permanent	40.7%	37.6%	38.9%	
	Cyclical	5.8%	3.1%	4.2%	
	Don't know	4.5%	3.1%	3.7%	
4	**Migrations within middle belt**				0.194
	Never	65.8%	62.0%	63.5%	
	Once	20.7%	16.4%	18.1%	
	Thrice	9.7%	16.8%	13.9%	
	Four or more times	3.9%	4.9%	4.5%	
5	**Main reason for relocation**				0.966
	Better farming conditions	23.9%	25.2%	24.7%	
	Employment in commercial farm	2.6%	3.5%	3.2%	
	Government work	1.9%	2.2%	2.1%	
	To access social services	1.3%	2.2%	1.8%	
	Other reasons	5.8%	6.6%	6.3%	
	Haven't moved	64.5%	60.2%	61.9%	
6	**Like most about migration origin (UWR)**				0.037
	Family agriculture	17.4%	28.3%	23.9%	
	Safe neighbourhood	19.4%	21.2%	20.5%	
	Sense of belonging	14.8%	17.7%	16.5%	
	Social support/capital	15.5%	13.3%	14.2%	
	Affordable housing	8.4%	6.6%	7.4%	
	Opportunity for small scale business	8.4%	5.3%	6.6%	
	Nothing	16.1%	7.5%	11.0%	
7	**Dislike most about migration origin (UWR)**				0.114
	Nothing	30.3%	16.4%	22.1%	
	Poor jobs/livelihoods	28.4%	33.2%	31.2%	
	Poor environmental conditions	17.4%	23.5%	21.0%	
	Scarce lands	5.2%	5.8%	5.5%	
	Unsafe neighbourhoods	4.5%	3.5%	3.9%	
	Lack of social services	3.2%	4.0%	3.7%	
	Bad infrastructure	3.2%	3.1%	3.2%	
	Other	7.7%	10.6%	9.5%	
8	**Intent to return to UWR**				0.661
	Yes	64.5%	67.3%	66.1%	
	No	20.0%	16.4%	17.9%	
	Unsure	15.5%	16.4%	16.0%	

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Participants were further asked if they have migrated within the middle belt since arriving from UWR. In all, 63.5% indicate that they have never migrated within the middle belt, while 18.1% say they have moved once, with slightly more women (20.7%) than men (16.4%) saying so. 13.1% of participants also report migrating thrice within the middle belt, with more men (16.8%) than women (9.7%) saying this. Only 4.5% of participants indicate that they have migrated four or more times within the middle belt. When asked about the primary reason for their relocation, the majority (24.7%) identify better subsistence/farming conditions as their main motive for moving. Also, 3.2%, 2.1% and 1.8% of participants, respectively, identify employment in commercial farming, government work and access to social services as their reasons for relocating. 6.3% of migrants say they relocated for other reasons such as hostility in previous communities, separation from a partner, spousal reunification, and preference for a change of environment.

Participants were also asked about the features that they like and dislike most about the migration origin (UWR). Most (23.9%) name family agriculture (or the option of working as a household) as their greatest like, with considerably more men (28.3%) than women (17.4%) saying this. Another 20.5% say that they like the safe neighbourhoods of the origin, while 16.5% indicate that they like the sense of belonging in UWR. 14.2% of participants say they like the social support/capital available to them in UWR, with 7.4% and 6.6% of participants also saying that they like the affordable housing and opportunity for small scale businesses in UWR, respectively. However, 11% of participants indicate that they like nothing about the migration origin, with notably more women (16.1%) than men (7.5%) saying so. A X^2 test showed a statistically significant association between gender and most liked feature of the migration origin.

With respect to dislikes, most participants (31.2%) identify limited jobs/livelihoods in the origin as their greatest dislike, with slightly more men (33.2%) than women (28.4%) saying this. Another 21% say they dislike the poor climatic/environmental conditions of UWR, with again slightly more men (23.5%) than women (17.4%) indicating so. A further 5.5% and 3.9% of participants, respectively, say that they dislike the scarce lands and unsafe neighbourhoods in UWR. While 3.7% of migrants say they dislike the lack of social services in UWR, 3.2% identify bad infrastructure as their greatest dislike and 9.5% name 'other' reasons (e.g., family conflict) as what they dislike about the migration origin. Many participants (22.1%) say they dislike nothing about the migration origin, with considerably more women (30.3%) than men

(16.4%) saying so. Finally, all migrants were asked if they have intentions to return permanently to the origin (UWR) at some point in their lifetime. The majority (66.1%) say they plan to return, while 16% indicate that they are unsure if they would return or not.

5.3.2 Migration Motives among UWR Migrants in the Middle Belt

In qualitative interviews, participants discuss these dynamics observed in the surveys in more depth. Speaking to their migration motives, many cite the poor climatic conditions and resulting poor returns on subsistence agriculture in UWR as their main motivation for migrating to the middle belt. According to many participants, deteriorating environmental conditions such as reduced/erratic rains and poor soil fertility make farming in UWR challenging, hence their decision to migrate.

> We all wanted to remain in UWR, but the farming wasn't going well. That's why
> some of us said if we all remain there, with the unreliable rains and poor soils,
> it'll be difficult for us. That's why we have come to sit here. So that whatever
> we get, we can go and look after those at home (Participant, All male FGD-1).

Relatedly, participants in interviews add that these declining climatic conditions and concomitant reduction in agricultural productivity are leading to high levels of food insecurity in UWR, which further pushed them to migrate.

> My husband and I came to find livelihoods. We were farming in UWR but then
> the place changed; when you farmed you got nothing. The hunger was
> becoming too much, so we came here to farm and get food (Kuu-ima, Woman,
> Twumkrom, 43).

In addition to poor farming conditions, many migrants note that there are very few livelihood diversification options outside of subsistence farming for residents of UWR. A participant thus describes his decision to migrate to the middle belt to work in commercial farming due to the lack of alternatives in UWR.

> The farming at home wasn't going well and there was no other work, so I came
> to find a job. I first settled on Dumasi/Siaku land in Dagadu for 9 years before
> coming here. It's the forest work I'm chasing. We heard that they had opened
> the forest to farm large tracts of maize for sale. That's why we migrated here
> (Pupiello, Man, Atronie, 59).

As evidenced by Pupiello's comment, the opportunity to engage in alternative livelihood activities serves as a major motive for migrating. Participants add that the poor climatic/farming conditions and limited livelihood avenues in UWR are exacerbated by the extreme rates of poverty within the region. Thus, for many, migration to the middle belt is the most suitable way to escape deprivation and suffering in the origin, and ensure better outcomes for themselves and their families.

> It's suffering that made us run here to do by-day[8]. The suffering got to us. Our
> fore-parents, the place was good for them, but not anymore. After our parents
> died, everything went with them. The children we're giving birth to, we want
> better lives for them. So that those of us who couldn't go to school, we'll be
> able to put our children through school. But there's nothing in UWR. That's why
> we ran here to do by-day (Dambio, Man, Abonsrakrom, 59).

Outside of the motives captured in survey responses, migrants also discuss other important reasons for migrating to the middle belt. As similarly raised by participants in UWR, some migrants note that the lands in UWR are not plentiful enough for everyone to farm on. This, coupled with the deteriorating farming conditions, implies that there is a growing demand for more lands. Consequently, to ease the pressure on existing land resources in UWR, some residents must emigrate to other parts of the country for other opportunities.

> Remaining in the village, we are too many and can't all get farmlands. If we stay
> together, we won't be able to get enough to help one another. So some of us
> must leave. That's why we decided to separate ourselves from those at home
> to make a living and support one another (Female participant, Mixed FGD-2).

Outside of livelihoods, some participants indicate that the quest to explore is their main reason for migrating to the middle belt, particularly given that migration has become a rite of passage for many in UWR. For instance, Antuna speaks to her experiences of feeling excluded from migration patterns among her peers, which subsequently informed her decision to also emigrate from the origin.

> I was home for too long and my colleagues would migrate and return, and I was
> just there. I was herding cattle at the river, and all the time they would travel

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[8] By-day is local jargon for daily wage work.

to do wage work and come back to meet me at home. That's why I also came

to see what's here that makes them migrate (Antuna, Woman, Tromeso, 48).

Similar to Antuna's need to explore and gather experiences that help her fit in with her colleagues, other participants indicate that migration out of UWR is an avenue to experience other places and cultures, and broaden their world view, as shown in Felicity's quote below.

When you sit at one place, you can't do much. But when you go elsewhere, you

get some knowledge to add to what you have. And it's not only new knowledge

that you take back home, you also find something to take back help yourself

(Felicity, Woman, Tromeso, 37).

In addition to these reasons, some participants say that they migrated to escape unfavourable situations – such as a lack of independence and/or family conflict – in the migration origin.

When I was back home, today I wake up and it's a problem with my parents-in-

law, tomorrow it's problems with my sisters-in-law. It was too much. I had to

move aside to find some peace and quiet (Sung, Woman, Atronie, 49).

Many migrant women also say that they migrated to the middle belt mainly because of (or to join) their spouses/partners. Some migrant women thus indicate that their partners first migrated to middle belt receiving areas and subsequently asked that they join them. Others mention that they first migrated as young girls for purposes such as babysitting. While in the destination area, they met their prospective partners and either moved in, or relocated to different communities, with them. Zenebia provides an example of this.

I was a child when I left UWR. I went to babysit for someone in Tamale and I

met my husband there. But I had to go back home for him to come and marry

me. So I did, and after we got married, we relocated to Drobo to farm (Zenebia,

Woman, Dormaa Akwamu, 38).

Subsequently, while some migrant women and men indicate that decisions to migrate as a couple are usually made together by the partners involved, a few women mention that the decision to migrate was undertaken unilaterally by their male partners, and the reason for migrating was never communicated to them.

I came here with my husband. He died two years ago but I had to remain. He

never told me why he wanted us to move here… Okay, if you are there and your

husband brings you somewhere, you wouldn't be able to know what is worrying

him or what motivated him to move (Lebkaa, Woman, Tromesu, 48).

These accounts highlight the diversity of migration motives among migrants from UWR in middle belt receiving communities. Similarly, participants also provide varied reports of their settlement and/or relocation experiences within the middle belt as discussed below.

5.3.3 Settlement and Relocation Patterns among Migrants in the Middle Belt

Participants were asked about their reasons for choosing to settle in their respective communities. Most migrants indicate that their decision to settle in rural areas is mainly informed by their resource-poor state and the fact that they migrated for farming purposes. Hence, given that farmlands and costs of living are much more affordable in rural areas, settling in these communities seems like the most practical idea.

Okay, we are poor people and we've come to work and find something to take

care of ourselves and our families. We can't come and live in town. Can we

afford to rent lands in town? No. So we have to come and hide here in the

village and earn our living (Sung, Woman, Atronie, 49).

With respect to entry and settlement into receiving communities, many migrants say that they often rely on their social networks – most of whom are established migrants – to facilitate their entry into their settlement communities and subsequently help them access lands for farming. For instance, according to Christy, her uncle welcomed her family when they arrived in the middle belt and helped them in their search for farmland.

When we arrived, my uncle met us at the lorry station and brought us here. He

later introduced us to the forest caretaker who gave us permission to farm

there. And so far, our stay here has been good. The people like and respect us,

and we reciprocate it (Christy, Woman, Dormaa Akwamu, 25).

While some migrants report settling into the first communities they visited, others say they had to transit at different communities before finding one that meets their needs. As shown in the survey, 36.5% of migrants have relocated at least once within the middle belt, with 4.5% of participants stating that they have migrated four or more times. Migrants provide a variety of reasons for relocating within the middle belt including for better farming

conditions, to access more affordable lands, to join a partner/spouse, to gain some distance from a partner/spouse after a separation, among others. For instance, speaking to his quest for better farming conditions, a participant says of his migrations within the middle belt:

> I came and stayed in Kyiraa for a year. I farmed there but I didn't stay. I didn't even get the maize, my friend and me. I left there and went to Pobie. I was there for 6 years; I was struggling to get good land to farm on. They always gave us the unfertile ones. Later something bad happened, and I left there and came here (Kaa-ir, Man, Twumkrom, 55).

As shown in Kaa-ir's quote, the unfertile lands in Pobie motivated him to relocate, although some unsuitable social issues were also contributory factors. In addressing some of these social issues, another participant talks about his experiences of needing to relocate within the middle belt due to the unfavourable living and working conditions that he found himself in, when he first arrived.

> My friends and I migrated together. Our landlord, an Akan who trades in Wa, personally came and saw us for farm labour. That's why we followed him here. Seven of us slept in one room. Every week, each of us worked once. So in a month, we worked 4 times. Later they changed it to twice a week which was physically exerting. When we protested, they said, "you don't know anything, you've had things easy and you're crying". So we left and everyone did their own thing after. That's how I relocated here (Bio-naasa, Man, Tromeso, 80).

In addition to unfavourable working conditions, some participants also report that they relocated from their settlement communities in the middle belt due to troubles they faced in those communities, as shown below.

> We settled here because we're searching for money and peace. In our roaming, we weren't at peace in the places we initially settled, which is why we left. When we got here, we didn't get any troubles, so we stayed. This place is most suitable for us in our search for daily bread (Kanyiri, Woman, Atronie, 45).

Some participants add that although trouble in host communities might be unpleasant, it usually is not enough reason to leave. The decision to relocate only becomes imperative if, in addition to hostility, farming conditions are adverse as well.

> If you're in a town and the people don't want you but the land wants you, you

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can stay. As we've settled here, nothing bad has come between us. It's only
sometimes we experience tensions with the non-migrants. We see it and try to
settle our differences, but sometimes we don't come to a consensus. However,
the land doesn't hate us, so we still stay (Kaa-ir, Man, Twumkrom, 55).

Finally, regarding migrations within the middle belt, some participants note that they relocated after a relationship changed or ended. To minimise (conjugal) tensions in such situations, a partner or both parties usually decide that one party migrates elsewhere. A participant in a polygamous relationship describes her experiences of relocating to another community within the middle belt to minimise household conflict.

We were two wives. My rival was elsewhere. Later she came to join us in Donye.
And there were issues. So our husband found another place here for us. The
plan was to alternate visits to him. But after I returned from my last visit, my
rival went to Donye and didn't return here. And we can't live together. That's
why I'm here (Antuna, Woman, Tromeso, 48).

These accounts highlight the variety of reasons why migrants from UWR relocate within the middle belt.

5.3.4 Volume and Forms of Migrations in the Middle Belt

Participants were also asked about the volume of UWR migrants within their settlement communities. Many note that the volume of migrations to rural communities in the middle belt is steadily increasing. As mentioned, participants cite poor farming conditions in the origin and the availability of affordable and relatively fertile lands in receiving communities as pull factors of recent migrations. An established migrant in Tromeso says:

I've been here 14 years. When I first arrived, some Dagara were here but we
weren't many. But now I can say that Dagara are three times the population of
other migrants in this community. In some communities we even outnumber
the Akan. We're all running here for land to farm, because we don't have them
at home (Bang-bio, Man, Tromeso, 62).

Many participants acknowledge that a good proportion of migrations to the middle belt are assuming a permanent nature, although many UWR migrants also engage in temporary and cyclical forms of migration.

Migrants from UWR were many here, some left and new migrants came to join

us. Some come to do by-day and return. It's been a while since new migrants

came to settle here permanently. The earlier migrants are the ones that are still

here. Some come and live for only a year to do their by-day. They come to get

a little money or food. Once they do, they return (Kanyiri, Woman, Atronie, 45).

These accounts by participants emphasise the growing reliance on migration to the

middle belt as a coping and survival strategy among many people from UWR, and the diverse

patterns and motives that underlie these migrations.

5.3.5 Impacts of Migration among Migrants in the Middle Belt

Given the reliance on migration as a coping strategy among UWR residents, I sought

to understand its impacts among migrants in the middle belt. Overall, most participants

(84.8%) say that migration benefits them positively, with slightly more men (86.9%) than

women (81.9%) saying this. However, 10.5% and 4.7% of participants, respectively, state that

migration impacts them negatively or makes no difference to their lives, with slightly more

women saying so for both. When asked about the greatest contribution of migration to their

households, most participants cite economic/financial benefits (64.8%), with notably more

men choosing this compared to women (69.9% versus 57.4%). Another 20% mention

improved food security as the greatest contribution of migration, with considerably more

women (25.8%) than men (15.9%) reporting this. 5.3% and 4.2% of participants, respectively,

say that migration offers them better educational and health outcomes. Lastly, 5.8% of

participants indicate that migration brings them no benefits, with women making up almost

twice (8.4%) the proportion of men (4%) who say this. A X^2 test revealed a statistically

significant association between gender and the greatest contribution of migration.

Since economic benefits and food security emerged as dominant contributions of

migration, I was interested in understanding how these benefits shape remittances among

migrants in the middle belt. When asked about how frequently they send remittances to

family in UWR, 13.7% of participants indicate that they never do, with more women (20%)

than men (9.3%) saying this. Another 14.4% say they remit weekly to four times a year, with

slightly more men (15.9%) than women (12.3%) saying this. 8.7% and 24.7% of migrants say

they remit biannually and yearly, respectively, and 38.6% provide no response or say they

prefer not to answer. A X^2 test revealed a statistically significant association between gender and frequency of sending remittances, implying that a person's gender influences how often they send remittances. Regarding the average amount of remittances sent, the majority (36%) say they send 1-199 GHS (0.18-35.8 USD) annually, 10.5% state they send 200-399 GHS (36-71.8 USD), and 6.3% report sending 400 GHS (72 USD) or more in a year.

Table 22: Impacts of Migration among Migrants

No.	Characteristic/Variable	Gender		Total	X^2/Fisher's
		Women (n= 155) Freq (%)	Men (n= 226) Freq (%)	Subtotal (n=381) Freq (%)	p-value
1	**Benefits of migration**				0.435
	Positively	81.9%	86.7%	84.8%	
	Negatively	12.3%	9.3%	10.5%	
	No difference	5.8%	4.0%	4.7%	
2	**Greatest contribution of migration to household**				0.034
	Economic/financial benefits	57.4%	69.9%	64.8%	
	Improves food security	25.8%	15.9%	20.0%	
	Better educational outcomes	5.2%	5.3%	5.3%	
	Better health	3.2%	4.9%	4.2%	
	No benefits	8.4%	4.0%	5.8%	
3	**Frequency of remittances SENT**				0.050
	Never	20.0%	9.3%	13.7%	
	Weekly to quarterly	12.3%	15.9%	14.4%	
	Biannually	9.0%	8.4%	8.7%	
	Yearly	23.2%	25.7%	24.7%	
	No response or prefer not to answer	35.5%	40.7%	38.6%	
4	**Average annual amount of remittance SENT (cash equivalent)**				0.362
	1-199 GHS	36.1%	35.8%	36.0%	
	200-399 GHS	8.4%	12.0%	10.5%	
	400 or above	4.5%	7.5%	6.3%	
	No response or prefer not to answer	51.0%	44.7%	47.2%	
5	**Frequency of remittances RECEIVED**				0.330
	Never	40.0%	42.0%	41.2%	
	Weekly to quarterly	3.2%	3.5%	3.4%	
	Biannually	6.5%	2.7%	4.2%	
	Yearly	11.0%	8.0%	9.2%	
	No response or prefer not to answer	39.4%	43.8%	42.0%	
6	**Average annual amount of remittances RECEIVED (cash equivalent)**				0.250
	1-199 GHS	16.1%	12.4%	13.9%	
	200-399 GHS	4.5%	1.8%	2.9%	
	400 or above	0.7%	1.3%	1.1%	
	No response or prefer not to answer	78.7%	84.5%	82.2%	

*At the time of data collection: 1 USD = 5.48 GHS & 1 GHS = 0.18 USD

Migrants were also asked how often they receive remittances from family in UWR, and the average amount of remittances received annually. In response, 41.2% say they never receive remittances. A few (3.4% and 4.2% respectively) say they receive remittances weekly to quarterly, and biannually, with slightly more women indicating so for both. 9.2% of

migrants report receiving remittances yearly. With respect to the average amount, 13.9% say they receive 1-199 GHS (0.18-35.8 USD) and 2.9% indicate that they receive 200-399 GHS (36-71.8 USD) – with slightly more women reporting this than men for both categories. Only 1.1% of participants say they receive 400 GHS (72 USD) or more in remittances from family.

5.3.5.1 Benefits of Migration

Speaking to the benefits of migration in qualitative interviews, several migrants acknowledge that being in the middle belt is preferable to remaining in the origin, given the pronounced hardships and limited economic options in UWR. For instance, Christy says:

> This place is better than back home. Here, anything we want, we get. Things are too hard back in Dagara. But here, if you work hard, you'll get something. That's why we've settled here (Christy, Woman, Dormaa Akwamu, 25).

Participants therefore indicate that their stay in the middle belt is beneficial to them because they have more livelihood options within and outside of farming. These livelihood alternatives subsequently offer them the opportunity to sustain themselves and cater to their children's educational and everyday needs. For instance, speaking to the possibility of obtaining wage work in the middle belt, a participant says:

> Being here is helpful. You can get by-day to do and help the children. I've realised that the by-day at home [UWR] is not as lucrative as over here. But here, even if the breadwinner cannot help, if you do a little by-day, you can also cater for the children's schooling (Tiere-bio, Woman, Tromeso, 50).

Many migrants add that climatic/farming conditions in their destination areas are also a relative improvement over those in UWR. As a result, several participants note that food insecurity is less prevalent in the middle belt compared to the migration origin.

> OK, I won't lie to you. It's money we struggle to get. But as for food, no. If for nothing at all, I enter my farm to harvest cassava and mushrooms and pound fufu for my kids and me to eat. As for hunger, I can't lie to you. Since I've been here, I haven't ever gone to bed hungry (Kuu-ima, Woman, Twumkrom, 43).

Participants further state that due to their own relatively improved food, livelihood and economic options in the middle belt, they are sometimes able to send both cash and in-kind (e.g., food, clothes, fertilisers) remittances to their families in UWR.

Migrating here helps me and my household back in UWR. For instance, right now if we get to eat and they don't, we can send them something. If they have a problem there and we are okay here, we can send them something to help. If it's also very hard for us here and they have the means, they help us from there (Kanyiri, Woman, Atronie, 45).

As evidenced in Kanyiri's quote, remittances from migrants in the middle belt are useful for cushioning families in UWR against food and financial insecurity. And in instances where migrants need help as well, their families also send them remittances. This supports the accounts of UWR residents regarding the reciprocity of remittances. The bi-directional benefits of migration extend to non-migrants in receiving areas as well. To illustrate, many migrants assert that apart from the benefits that migration brings to them and their families in UWR, their presence in the middle belt is also advantageous to individuals and communities in these destination areas through their contributions to food production and communal development. Speaking to migrant contributions at the individual level, a participant says:

Our stay here helps non-migrants. I don't own land here, I live in someone's house. When I farm a bit of yam, I must give the house owner some. Whatever food I have, when I'm eating, I give the landlord some of it. And maybe I'm able to farm, but some [non-migrants] cannot. So if a non-migrant comes to beg me for food, won't I give them some? (Dambio, Man, Abonsrakrom, 59).

Dambio subsequently adds that apart from these contributions at the individual/ household level, migrants also contribute towards communal and development activities within the receiving communities that they settle in.

When they announce communal labour, we go. There was no hospital when we came, and they wanted to bring a hospital. We all paid money for the hospital services... We're creating a road to connect the two communities... When there's a funeral and they're contributing, if non-migrants are contributing 1 GHS, that's what we also give, if it's 2 GHS, we must also contribute. We help them a little, and they know it (Dambio, Man, Abonsrakrom, 59).

Still regarding the benefits of migration for both migrants and non-migrants in middle belt receiving communities, a key informant observes that many migrants express satisfaction about residing in their destination communities. The key informant adds that the presence of

migrants is also welcomed in host communities due to the human capital (specifically wage labour) that they bring.

> Many migrants I meet express satisfaction about their stay. They say they're well received, and many have been here for decades now. Non-migrants are also happy to get cheap labour from migrants. But in recent times, economic conditions here badly affect the wages of migrants. The establishment of more industrial/commercial operations has led to meagre wages/salaries. So I'll say earlier migrants had it better (Key informant 11: Ideas Path Consult).

As shown in the key informant quote above, although support for UWR migrants – due to the labour they provide for farming and other industries in middle belt destination areas – may be considered a good thing, there is also the tendency to exploit this labour, which consequently becomes a disadvantage to UWR migrants in receiving societies.

5.3.5.2 Drawbacks of Migration

The above-mentioned benefits notwithstanding, some participants in the middle belt indicate that migration also disadvantages them in some ways. For example, speaking to the contributions that migrants provide to receiving communities, some participants note that these contributions come at the cost of forgoing similar communal/development activities in the migration origin – although these benefits of migrants to settlement communities are sometimes overlooked.

> Now that I'm here, I cannot do communal labour in my own hometown. There are some donations in my hometown that I don't even contribute to. However, here, some days they can ask you to do something and if you don't, they'll take you through the law [penalise you]. Therefore, the things we do here are more helpful to them than our hometown (Pupiello, Man, Atronie, 59).

Some participants add that due to the lack of recognition and appreciation of their positive contributions to the middle belt, migrants sometimes face hostility from people in receiving communities.

> Sometimes they randomly provoke us. Even in our everyday interactions, they try to make us aware that we're different from them. They often think of us as slaves [sic] who've come to live in their town, although our stay here benefits

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them a lot. Their work, we do it. Their lands, we farm for them. We farm their lands to ensure that some of them get food to eat. It helps them but they don't realise it (Nde, Man, Atronie, 42).

Participants further state that hostility from non-migrants sometimes translates into exploitative working conditions for migrants in the middle belt, as shown below.

The agreement is, they give you the farm to work on and the produce is shared in three parts. The owner takes one or two, and you take one or two, depending on the arrangement. But sometimes, even the little that they'll give you to also give to your wife to stir TZ, they're unwilling to. But once we don't have other options, there's nothing we can do (Dambio, Man, Abonsrakrom, 59).

Other migrants observe that these exploitative circumstances have dire effects on their agricultural productivity in the middle belt. Many add that these effects are exacerbated by declining climatic and farming conditions in their receiving communities that affect their ability to meet their migration goals of livelihood improvement.

Things used to be good, but now I don't know. The year we arrived, it rained in the 2nd month and we planted. By the 6th month, the corn matured. If our food ran out, by June we had a new store of food. Sometimes even on Christmas day it rained. But now, four months after Christmas it doesn't rain. It doesn't get to the 10th month and it stops raining. The crops suffer. The way we used to harvest produce; you knew it rained for long. Things are different now. So our migration benefits are reducing (Felicity, Woman, Tromeso, 37).

Some participants note that these deteriorating climatic conditions and poor returns on farming are accompanied by rising costs of living in the middle belt, further hindering their ability to reap the benefits of migration.

My stay here used to be beneficial. I could harvest corn and send to the people at home to eat. Even if we had nothing, at least we sent corn. Even when I relocated here, I used to send corn. After some time, things changed. The farming is getting bad and things are expensive. Remitting corn is difficult. So now so we rather send money for fertiliser to farm over there and help themselves. When things were easier, we could help with food, but now that the car fare is high, we aren't able to (Dambio, Man, Abonsrakrom, 59).

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As evidenced in Dambio's quote, changing economic conditions in the middle belt are affecting his ability to remit food to his family in UWR like he previously did. Similar narratives are offered by other participants who lament that the growing hardships in receiving areas are affecting their ability to sustain remittances to their families in UWR.

> At first, every time I got something small, I sent it home for them to cater for the house. My parents are tired, they can't do anything. So I was the one helping them. But now I don't even get for myself. Hmm… it's embarrassing. When I get small, I send, and if I don't have, I cry my poverty to them. (Kaa-ir, Man, Twumkrom, 55).

Lastly, participants note that by migrating to the middle belt, they sometimes trade better food and economic opportunities for less desirable sociocultural outcomes. A few participants observe that the change in family/household dynamics postmigration sometimes results in waywardness among children in the middle belt compared to those in UWR.

> I worry about the children. See the girl I called over, my daughter Pam, if she were a man, I wouldn't cry as much. But she's difficult. She's very intelligent. If she picks up a bible to read, you'll clap for her. Same with the Quran. But she never puts her mind to good things. She dropped out of school despite our advice. She listens to no one. If we were home, she wouldn't have turned out this way. The household is larger in UWR, and people help you advice your children. The children listen better in UWR (Bio-naasa, Man, Tromeso, 80).

Given these differentiated experiences of migration among people in the middle belt, I was interested in knowing whether migrants have intentions to remain permanently in destination communities or return to the origin (UWR) at some point.

5.3.6 Intentions to Return or Settle Permanently

5.3.6.1 Reasons for Return

As shown in the surveys, about two-thirds of migrants indicate that they intend to return to UWR at some point in their lifetime, while 17.9% say they plan to remain in destination areas permanently. When asked about intentions to return or stay in qualitative interviews, migrants provide varied reasons for their decisions. For those who plan to return, many indicate that they will stay in the middle belt for as long as possible to farm and raise

their children. However, once their 'productive' days are over, they will return to the origin.

> We came for greener pastures. So when we get it, we'll return. But over the
> next few years, I'll remain here and be managing. After the children are grown
> and I can't farm anymore, I'll go home. After all, I don't own land here. So I'll go
> to my hometown. There, whether I'm farming or not, the children I have here,
> I'll also leave the rest to them and go rest (Pupiello, Man, Atronie, 59).

Some participants also mention that they owe a sense of responsibility to the migration origin. Hence, deciding to never return would be tantamount to abandoning their home. Bang-bio therefore notes that once his farming days are done, he has to return to the origin.

> I cannot abandon my home! It's compulsory to return. This isn't where the
> children come from, so I'll take them back to my father's home. They can then
> decide to migrate on their own afterwards, if they want to (Bang-bio, Man,
> Tromeso, 62).

Similar sentiments regarding the sense of responsibility towards home (UWR) are expressed by Kanyiri. However, Kanyiri adds that this responsibility is sometimes rooted in sociocultural expectations that an older adult remains in, or returns to, UWR to ensure that a household head is always present.

> As for returning, I will. That's my town and I can't abandon it. I can't stay I
> wouldn't go to my hometown. But for now, I can't tell whether I'll be here a
> while longer or not. Something may come up unexpectedly, say the household
> head passes, and I'll have to go and stay at home as the oldest woman to head
> the household. It'll be compulsory for me to go home. I can't say I'll live in
> someone's town forever (Kanyiri, Woman, Atronie, 45).

For participants who are undecided about returning, many often weigh the pros and cons of returning. For example, some participants observe that proximity to home (UWR) is helpful, as it enables them to spend more time with their families in the origin and makes it possible or easier for them to be present during emergencies. However, they also note that given the extreme poverty in UWR, returning may not always be the most practical decision. In the quote below, Felicity weighs the pros and cons of returning versus remaining.

> There's nothing in UWR, but that's my home. If you go sit at home, no matter
> how much you suffer but you're home. However, because I've migrated, my

mind tells me I must go back to my home. But being here, if an issue arises and they send for me, I can afford the lorry fare. I can go check if my parents are sick. I can afford medicine. If I get food to eat, I also give them some. But being here, I'm also far away from them (Felicity, Woman, Tromeso, 37).

Some migrants' – particularly women's – indecision about remaining or returning is also rooted in their limited decision-making power. Thus, according to the participant below, although she may prefer to remain in the destination area, ultimately it is her husband who can decide that.

OK, my husband brought me, so if he says he's going, I don't have my own power to say I wouldn't go. He's the one taking me back home. If he says we should go, I will ask him where and we'll go (Tiere-bio, Woman, Tromeso, 50).

These participant accounts emphasise the complexities underlying the decision to return to the migration origin or remain in the destination area, as further depicted below.

5.3.6.2 Reasons for not Returning

For participants who plan to remain in the migration destination, this decision is not always clearcut or voluntary. To illustrate, many migrants (e.g., in the earlier comment by Pupiello) indicate that the reason they are undecided about returning to the origin or remaining in the middle belt is because they migrated for a purpose (livelihood improvement). Hence, so long as that purpose is unachieved, they cannot afford to return. And for many migrants, the changing climatic conditions and resulting poor returns on farming in destination areas are a major contributory factor to their inability to return.

No one migrates here with the intention of staying long. We come to get a little and return. But you arrive and get nothing to take back. The land is spoiled, the rains have reduced. When I first came, I could harvest 100 bags of corn, but now I don't get up to 20 bags. What I thought I would come and do, I came and got stuck. I can't go back just yet. Recent migrants come and meet us, but it's the same suffering that brought us all. It's not as if some have the means and just decide to still be here. When you go to the market to trade, don't you return home once you're done trading? (Dambio, Man, Abonsrakrom, 59).

The narrative of feeling stuck is widespread among migrants in the middle belt and

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particularly among those who report being undecided about returning. For instance, some female participants discuss how losing their partners in the middle belt makes their decision or ability to return to the origin more difficult.

> Nothing is as joyous as being in your own home. It's my husband, when we arrived, we lost him and one of my children. But we were already here. I don't have the means to take the children back to UWR. So, I must manage here. They [children] will have to take me back. As I'm here, if they have the means and can take me home today, I'll be very happy. My children can keep roaming. Anytime they visit home, I'll take care of them (Lebkaa, Woman, Tromesu, 48).

Similar sentiments are expressed by other migrants who say that given the option, they would like to return. However, their inability to reap enough benefits from migration – as well as their current responsibilities in receiving communities – prevents them from returning. Some add that apart from their own desire to return, their families in UWR would also prefer to have them remain in the origin, given the void that their absence creates.

> As for Dagara, if I get today, I'll want to go back [laughs]… But where I've reached now, I have a wife and children. How to get the strength to return is my problem. But, my thoughts are really in Dagara. I haven't gotten what I was hoping for. My family back home, if they could, they would make me return, that'll make them happier. They see that staying here, well it helps in some respects, but it also leads to the decay of so many things back at home. My remittances help. But if I were home, that would have been a way to support. Now there are voids there that need to be filled (Nde, Man, Atronie, 42).

Some participants therefore say that if their migration needs remain unmet, they would have to remain in the destination area. These accounts demonstrate the crucial role that economic gains play in migration, relocation and return decisions. They also highlight the centrality of favourable climatic/agricultural conditions in achieving these gains. Based on this, I was interested in exploring migrants' experiences of climate change in the middle belt.

5.4 Experiences of Climate Change among Migrants in the Middle Belt

5.4.1 Climate Change Awareness and Knowledge

A goal of this study was to explore experiences of climate change among migrants in

middle belt receiving areas of Ghana, including awareness or knowledge of climate change, experiences and impacts of climatic/environmental change, and adaptation strategies employed in coping with the negative consequences of climate change. The results in table 23 show that 40.9% of migrants in the middle belt have never heard about climate change. In assessing knowledge of climate change, an additive scale (index) was constructed from 12 statements that participants were asked to indicate their levels of agreement with (see chapter four for details). The scale reliability coefficient was 0.9225, meaning that all items on the scale strongly measured the same construct (i.e., knowledge of climate change). The average scores for the index were calculated, and the results show a mean score of 28.41, with similar mean scores for women (28.11) and men (28.62).

Table 23: Climate Change Awareness and Knowledge

No.	Characteristic/Variable	Gender		Total	X²/Fisher's
		Women (n= 155) Freq (%)	Men (n= 226) Freq (%)	Subtotal (n=381) Freq (%)	p-value
1.	**Ever heard about global climate change or global warming**				
	Yes	58.2%	59.7%	59.1%	0.745
	No	41.9%	40.3%	40.9%	
2.	**Knowledge of climate change**				
		28.11 (5.10)	28.62 (5.55)	28.41 (5.37)	

Speaking to their awareness and/or knowledge of climate change in qualitative interviews, many participants confirm that they have not heard about climate change throughout their stay in the middle belt. Participants attribute this lack of awareness to their secluded settlement patterns in migrant hubs/communities, most of which lack social amenities like electricity and as such tend to hinder their access to information, news and other resources. For instance, Christy says:

> Okay, because we don't have electricity here, I don't really watch television. So
> I've never heard about climate change. I don't know about it, you'll have to tell
> me (Christy, Woman, Dormaa Akwamu, 25).

However, similar to those in UWR, some contextualisation of the term 'climate change' was necessary in conveying its meaning to participants to better situate discussions around it. For participants who report knowing about climate change, many of them mention that they first learnt about it through either the media (television or radio) or community visits by people conducting research and/or climate change sensitisation campaigns. For example, after some context was provided, a participant says:

Oh yes, I know about it. A woman came here some time ago; she's a small girl, just like you. She asked us the very questions you're asking now, and we responded. Then she told us about this thing you're describing. When she was done, she left and said she would get back to us (Kanyiri, Woman, Atronie, 45).

Hence, even for participants who initially indicate that they have never heard about climate change, the further contextualisation of the term by the research team often results in the acknowledgement that they do know about it, just not as 'climate change'.

5.4.2 Changes in Climatic/Environmental Conditions in the Middle Belt

I was also interested in understanding migrants' perceptions around the state of climatic conditions in the middle belt and whether they have noticed any changes in these conditions. The findings in table 24 below show that, overall, 82.9% of participants have noticed a change in temperature over the last 10 years. When asked about the types of temperature changes observed, 68.2% of participants note that temperatures are getting hotter, with slightly more men (69.9%) reporting this than women (65.8%). However, 21.3% of participants also say that temperatures are getting colder, with more women (26.5%) than men (17.7%) saying this. A X^2 test revealed a statistically significant association between gender and the perception that temperatures are getting colder. Another 31% of participants indicate that they have observed longer hot spells, with slightly more women (35.5%) saying this compared to men (27.9%). While 12.1% of migrants say they have noticed longer cold spells, with slightly more women (15.5%) than men (9.7%) saying so, 27.3% also indicate that they have noticed rapid temperature changes in the middle belt.

Furthermore, about 83% of migrants report noticing a change in rainfall start times, with the majority (69.6%) noting that the rains tend to start late. 83.2% of participants also report observing changes in the end time of rainfall, and most (57.7%) say that the rains tend to end early and abruptly – with more men (61.5%) than women (52.3%) reporting this. Additionally, 61.2% of migrants say that the overall rainy seasons are shorter, with notably more men (65%) than women (55.5%) saying this. Finally, most (77.2%) participants indicate that they have noticed changes in the quality of farmlands over the last decade, with more men (80.1%) than women (72.9%) indicating so. Subsequently, 84.3% of migrants observe that farmland quality in the middle belt has gotten worse or much worse over the last decade.

Table 24: Perceived Changes in Climatic/Environmental Conditions

No.	Characteristic/Variable	Gender		Total	X²/Fisher's
		Women (n= 155) Freq (%)	Men (n= 226) Freq (%)	Subtotal (n=381) Freq (%)	p-value
1	**Noticed temperature changes in past 10 years**				
	Yes	82.6%	83.2%	82.9%	0.889
	No	12.9%	13.3%	13.1%	
	Don't Know	4.5%	3.5%	3.9%	
2	**Temperature changes observed**				
	Getting hotter	65.8%	69.9%	68.2%	0.398
	Getting colder	26.5%	17.7%	21.3%	0.040
	Longer hot spells	35.5%	27.9%	31.0%	0.115
	Longer cold spells	15.5%	9.7%	12.1%	0.091
	Rapid temperature changes	27.1%	27.4%	27.3%	0.942
3	**Changes in rainfall STARTING TIME over past 10 years**				
	Yes	81.3%	84.1%	82.9%	0.712
	No	14.8%	13.3%	13.9%	
	Don't Know	3.9%	2.7 %	3.2%	
4	**Kinds of changes in rainfall STARTING TIME**				
	Starts early	27.7%	25.2%	26.3%	0.599
	Starts late	67.1%	71.2%	69.6%	
	Don't Know	5.2%	3.5%	4.2%	
5	**Changes in rainfall END TIME over past 10 years**				
	Yes	81.9%	84.1%	83.2%	0.450
	No	14.2%	14.2%	14.2%	
	Don't Know	3.9%	1.8%	2.6%	
6	**Kinds of changes in rainfall END TIME**				
	Ends early and abruptly	52.3%	61.5%	57.7%	0.193
	Ends late and abruptly	28.4%	22.1%	24.7%	
	Don't Know	19.4%	16.4%	17.6%	
7	**Overall length of rainy season**				
	Shorter	55.5%	65.0%	61.2%	0.167
	Longer	27.7%	21.2%	23.9%	
	Don't Know	16.8%	13.7%	15.0%	
8	**Change in farmland quality over past 10 years**				
	Yes	72.9%	80.1%	77.2%	0.236
	No	21.3%	16.4%	18.4%	
	Don't Know	5.8%	3.5%	4.5%	
9	**Overall observed change in farmland quality**				
	Better/much better	18.7%	13.7%	15.8%	0.189
	Worse/much Worse	81.3%	86.3%	84.3%	

In qualitative interviews, participants were asked to elaborate on their experiences of changing climatic and weather conditions in the middle belt. With respect to temperature changes, a participant in an IDI says:

> When I first arrived, the sun wasn't as intense as it is now. The sun has changed, now it shines a lot. We've been here a long time and we used to have more shade from the sun than we do now… Yes, the sun and heat are different now (Kanyiri, Woman, Atronie, 45).

Apart from the change in temperatures, participants also state that rainfall patterns within the middle belt are changing, with many explaining that the rainfall seasons have become erratic, often starting late and ending early. Participants add that the volume of rainfall has also dwindled compared to when they first migrated.

> The rains are unreliable now. It takes long for the rains to start, and it ends early too. Sometimes you sow and the things start to germinate and suffer. Even this year, we didn't think the maize will do well, because it took a long time for it to rain. We really struggled for a while (Kaa-ir, Man, Twumkrom, 55).

As shown in the above quote, these changing rainfall patterns are affecting migrants' farming activities in the middle belt. In addition to the changes in temperature and rainfall, participants further observe that the fertility of soils in the area are rapidly deteriorating as well, as shown in the FGD quote below.

> Initially when you farmed, you need not apply any chemicals to get good yields. But now if you don't apply chemicals, you won't get anything. So the way I see it, the land is spoiled. Yes, the strength of the land is finishing. If you farm and don't get something to mix, the amount of food that you want, you won't get (Participant, All male FGD-1).

Given these accounts by migrant farmers, I sought to gain a more detailed understanding of how climate change is affecting migrant livelihoods and other facets of migrants' everyday lives and experiences in middle belt destination areas.

5.4.3 Impacts of Climate Change among Migrants in the Middle Belt

Regarding climate change impacts, the findings in table 25 below show that close to half (46.2%) of all participants have witnessed a drought over the last decade, with slightly more men (48.2%) than women (43.2%) reporting this. Participants were also asked about climatic factors that pose health threats to them. Overall, infectious diseases (49.1%), stress/anxiety (48%), water quality impacts (46.5%) and heat stroke/exhaustion (46.5%) are the health impacts that most participants identify as risks to their health. Only cancer and drowning are identified by less than 40% of participants as risks to their health. I constructed an additive scale (index) using the 10 health impacts of climate change shown in table 25 and calculated the mean scores of perceived climate change related health risks by gender. With

a scale reliability coefficient of 0.9376, the results show a close margin in the mean scores of women (23.90) and men (23.48) regarding health risks of climate change. Given these responses, migrants were asked if they perceive the impacts of climate change as threats to their lives and lifestyle. About 80% of participants believe that climate change can endanger their lives, with slightly more women (81.9%) than men (78.3%) saying this, while 85% are of the view that climate change could affect their lifestyles.

Table 25: Perceived Impacts of Climate Change

No.	Characteristic/Variable	Gender		Total	X²/Fisher's
		Women (n= 155) Freq (%)	Men (n= 226) Freq (%)	Subtotal (n=381) Freq (%)	p-value
1	**Droughts in the past 10 years**				
	Yes	43.2%	48.2%	46.2%	0.528
	No	48.4%	45.6%	46.7%	
	Don't Know	8.4%	6.2%	7.1%	
2	**Perceived health risks of climate change**				
i	Infectious diseases (e.g., dengue, West Nile Fever, Malaria, pandemic flu etc.)	50.3%	48.2%	49.1%	0.263
ii	Stress or anxiety	49.7%	46.9%	48.0%	0.334
iii	Water quality impacts	44.5%	47.8%	46.5%	0.216
iv	Heat stroke/exhaustion	47.1%	46.0%	46.5%	0.266
v	Water-borne diseases	48.4%	43.8%	45.7%	0.291
vi	Air quality impacts	43.2%	43.4%	43.3%	0.301
vii	Respiratory illness	41.3%	42.0%	41.7%	0.140
viii	Sunburn	39.4%	42.9%	41.5%	0.556
ix	Cancer	34.8%	35.4%	35.2%	0.466
x	Drowning	36.1%	35.0%	35.4%	0.125
3	**Perceived level of health impact of climate change**				
		23.90 (4.58)	23.48 (4.99)	23.65 (4.82)	
4	**Perceived danger of climate change to life**				
	Yes	81.9%	78.3%	79.8%	0.637
	No	11.0%	14.2%	12.9%	
	Don't Know	7.1%	7.5%	7.4%	
5	**Perceived impact of climate change on lifestyle**				
	Yes	84.5%	85.4%	85.0%	0.917
	No	7.7%	8.0%	7.9%	
	Don't Know	7.7%	6.6%	7.1%	

Participants elaborate on the impacts of climate change on their livelihoods and wellbeing in qualitative interviews. As alluded to in the previous section, many migrants in the middle belt lament that deteriorating climatic conditions are affecting their ability to undertake productive farming. To illustrate, a participant discusses the ways in which changes in rainfall in the destination area are affecting his ability to attain his migration goals of personal commercial farming.

Previously, rainfall was good. When we sowed, our crops did well. We were

here when people planted cocoa and it did well. So I said to myself, let me also try cocoa farming, there's more money in that… However, later in the years, when I also started planting cocoa, they all died because the dry season comes quickly. It doesn't rain the way it used (Nde, Man, Atronie, 42).

Apart from the effects on commercial farming, many migrants note that the degrading environmental conditions, specifically reduced and erratic rains, are also affecting their ability to engage in subsistence farming.

It used to rain way more than it does now. If you check, it's this year the rain has even done something for us. It wasn't like this. It used to rain up until Christmas. But lately, the maize and groundnuts, even during the rainy season they don't do well for us. Our food is going down. At first, when we farm the maize, plantain, cocoyam, pepper and garden eggs, we got enough food. But not anymore (Pupiello, Man, Atronie, 59).

Apart from the rapidly declining rainfall, many migrants also observe that changing soil conditions are affecting their agricultural productivity within the middle belt, as shown below.

The land used to be good, when you farmed, irrespective of how small the land was, it was fertile, so the crops did well. If you would have gotten one bag of maize, you got two… But now, the land is not good. Even if you want, farm from here all the way over there, but you wouldn't get the produce the way you want it (Kanyiri, Woman, Atronie, 45).

Kanyiri's comment highlights how the degrading soils in the middle belt are leading not only to poor returns on farming, but also changes in land use – as people in the area must resort to farming larger tracts of land to reap the same amount of harvests. Migrants therefore indicate that in recent times, they often spend more money to lease extra lands and purchase fertilisers and other farm inputs to boost productivity. However, given the resource-poor state of many migrants, the only way to afford this is to borrow the money; loans that they sometimes have challenges paying off.

You want to invest in your land so that you can farm and get something. But you don't have the money. So you're compelled to borrow from someone. But because the farming conditions are bad, it affects your harvest. And now you're in financial debt, on top of everything else (Male participant, Mixed FGD-2).

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Some participants add that due to these rapidly changing climatic conditions and the resulting effects on farm productivity, their ability to remit to their families in UWR is affected. This notwithstanding, there is still the expectation among family in UWR that migrants remit.

> We try to assist with food. Sometimes even if we don't have money to transport foodstuff, we send them mobile money to buy food and help themselves. That's what we do. But some of our folks at home, they think we always have money. They randomly call for money. If you don't have, you must borrow and send it. Then later you work to pay back that loan (Male participant, Mixed FGD-2).

Subsequently, migrants acknowledge that due to the growing hardships of residing in the middle belt, they sometimes rely on remittances from their families in UWR as well.

> We came to work and help them. But see, because of these poor farming conditions, now they're the ones helping us. They equally assist us when we're hard up. They send us mobile money to help buy cutlasses for farming (Female participant, Mixed FGD-2).

However, as indicated in an earlier quote by Kaa-ir, many migrants feel a sense of shame in receiving remittances from their families in UWR, given that for many, their main motive was to migrate and earn better livelihoods to be able to help their households in UWR. Some migrants therefore indicate that they try to minimise contact with family in UWR to reduce the burdens that come with financial requests and conceal the fact that they are not doing as well as they had hoped in the middle belt. These feelings of failure regarding remittances extend to migrants' other roles and responsibilities in the middle belt such as food provision and the payment of medical and educational bills. In particular, many participants talk extensively about how their poor return on farming is affecting their ability to cater to their children's educational needs.

> If you farm and get something, you can take care of your child, but now you farm and get nothing. The child might think that their father has the means but has chosen not to take care of them. That worries us. After all, it's because of you the child is in the world, so you must find a way to care for them so they'll not blame you one day. But the poverty; we get nothing from farming. So if you have a child in school and you don't take care, they'll drop out. They may even go wayward and start to mess things up. Sometimes if you're not careful, they'll

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even come home and add to your worries (Pupiello, Man, Atronie, 59).

As shown in Pupiello's comment, the inability to undertake productive farming and meet familial expectations often leads to feelings of worry both regarding being perceived as a failure, and witnessing one's children go wayward. Worrying thus emerged as a dominant theme in migrants' discussions of the impacts of climate change on their lives in the middle belt. For some participants, this worry occasionally escalates into feelings of emotional and mental distress, as captured in the quote below.

> It really affects you mentally. If a child is somewhere and calls you for money, it worries you. You worry because you don't have, and have to figure out how you can get money to send them to take care of their schooling. I worry about how to get the money. Because I know the child is worried as well. They are also hard up. How can I not worry? (Tiere-bio, Woman, Tromeso, 50).

Still regarding the theme of worrying, another participant discusses how climate change and concomitant effects cause him to worry about several different things, consequently leaving him in a poor mental state.

> The changes worry me and my family. In the farm, you end up deceiving yourself. You'll suffer and work but there's no profit. What you're supposed to get, you don't... It brings a lot of worries... Our motive was to come and find something and return home. When you come, you don't get the livelihood improvement you want. You work and get so tired, hoping to get some money to do what you want... Your mind isn't always in the best state. That's why I said initially that if I had the chance, I'd prefer to be back home, you see. But it's all about money. If I had the money, I could pack my things and go. But there's no money. It brings a lot of worry to us, it's no joke (Nde, Man, Atronie, 42).

The above quotation demonstrates the distress that migrant farmers face because of changing climatic conditions in the middle belt. Thus, as Nde notes, his migration goals of livelihood improvement have not been met. However, although being in the middle is proving challenging, his ability to return to the migration origin is also affected because he lacks the resources to embark on return migration.

5.4.4 Perceived Causes of Climate Change among Migrants

Migrants in the middle belt were asked about their perceptions regarding the underlying causes of global climate change. In response, most (75.9%) participants identify deforestation as the cause, with slightly more men (77.9%) than women (72.9%) selecting this. Bad farming practices (40.4%) and resource extraction (24.4%) are also in the top three causes selected by participants. Transgressing cultural values is identified by 22.4% of respondents, with slightly more men (23.9%) than women (19.4%) choosing this option. God's will (17.1%) as a cause of climate change is also in the top five options selected by migrants, with slightly more women (20%) than men (15%) choosing this.

Table 26: Perceived Causes of Climate Change

No.	Characteristic/Variable	Gender		Total	X²/Fisher's
		Women (n= 155) Freq (%)	Men (n= 226) Freq (%)	Subtotal (n=381) Freq (%)	p-value
1	**Underlying causes of climate change**				
i	Deforestation	72.9%	77.9%	75.9%	0.265
ii	Bad farming practices	41.3%	39.8%	40.4%	0.774
iii	Resource extraction	25.2%	23.9%	24.4%	0.777
iv	Transgressing cultural values	19.4%	23.9%	22.1%	0.294
v	God's will	20.0%	15.0%	17.1%	0.206
vi	Greenhouse emissions	12.9%	18.1%	16.0%	0.171
vii	Overpopulation (births)	16.1%	12.4%	13.9%	0.300
viii	Multilateral investments	14.8%	12.0%	13.1%	0.412
ix	Hurting the earth	9.7%	15.0%	12.9%	0.124
x	Overpopulation (migration)	10.3%	11.5%	11.0%	0.717

Speaking to the causes of climate change in qualitative interviews, several participants indicate their uncertainty about what might be causing the changing climatic/environmental conditions that they are witnessing. And for migrants who report having some awareness about climate change, many discuss the ways in which smallholder farming activities are contributing to these changing environmental conditions.

> They say it's the medicines we use on the land, that's why the food is gone and the cocoyam and others are all burnt. But we must apply chemicals because the soils aren't as fertile as before. Initially there were many trees; their leaves fell on the ground and served as fertiliser. But now they cut down the trees and some have died, so there are no leaves to fertilise the soil. That's what I've heard, but I don't know if it's true or not (Antuna, Woman, Tromeso, 48).

Furthermore, similar to their counterparts in UWR, some migrants also attribute the

cause of climate change to a decay in social norms, customs and traditions, as shown in Bio-naasa's quote below.

> The people here don't look after the waters anymore. The water has taboos, but many don't follow them. They do whatever they want. At first, women who've developed breasts don't go into the river. They stand somewhere and someone fetches the water for them. But now all those taboos are being broken, why wouldn't these changes happen? Now most of the wells are silted. Previously, around Christmastime, the river brought black fishes. Not anymore. The river used to flood during the rainy season making the movement of cars difficult. But now all that doesn't happen. It's the fault of the people. And the elders of the town too do nothing about it (Bio-naasa, Man, Tromeso, 80).

Thus, Bio-naasa recognises the contributory role of poor environmental management practices on degrading climatic conditions, although these practices are ultimately linked to social norms and customs, as well as poor leadership. The role of poor leadership as a cause of climate change is a central theme that emerged in interviews in the migration destination. For instance, related to Bio-naasa's admonition that the inaction of local leaders is affecting their community's river, other participants also attribute blame for climate change to the national leadership.

> Climate change as I see it, the world wasn't like this. When we first arrived, the place wasn't like this. When JJ was in power, we got nothing. From there, Kuffuor came and it was a little better. Atta Mills came and we saw nothing. But now that Akufo-Addo has assumed presidency, the world is completely spoiled. Now if there's no one by your side to assist you, you'll get nowhere. Akufo has spoilt the place; we don't know where we stand (Kaa-ir, Man, Twumkrom, 55).

Key informants were also asked about their perceptions regarding the causes of climate change, to which they opine that farming and other subsistence activities among rural dwellers are contributory factors. A key informant with the Environmental Health and Sanitation Department (EHSD) adds that natural resource extraction activities such as sand winning (extraction of sand) also play a major role in climate change, as captured below.

> The felling of trees and sand winning leads to flooding when it rains. Also, trees give us oxygen and so if you're continuously felling them, one day we may not

have oxygen to breath. Apart from that, lots of products are made from Shea. So imagine if we don't have Shea trees anymore, the economic benefits we'll lose. Human activities cause environmental degradation, and there are social and economic consequences to these changes (Key informant 9: EHSD).

These findings showcase the fact that many migrants and key informants in the middle belt recognise anthropogenic factors as major causes of climate change. And although many participants ascribe these causes to the activities of the local population, they also recognise the immense economic, social and health impacts that these deteriorating climatic conditions have on rural dwellers. The findings further demonstrate the frustration of many rural farmers about the neglect of local and national-level leadership in dealing with the climatic stressors that are greatly affecting local populations.

5.4.5 Adaptation Strategies Towards Climate Change Effects in the Middle Belt

Given these experiences of climate change among migrants in the middle belt, I was interested in knowing the coping and adaptation strategies available to them in dealing with these negative effects. The findings in table 28 show that, although 74.5% of respondents believe that personal preparation can save their lives from adverse climatic impacts, more than half (60.6%) report experiencing serious obstacles/barriers to protecting themselves against climate change. When asked if they have the necessary information to prepare themselves for the impacts of climate change, less than a third (29.1%) of participants indicate that they do, with slightly more men (30.5%) than women (27.1%) saying so. Further, only 13.1% of migrants say they have a household protection plan for climate disasters/ emergencies. When asked about the coping mechanisms they would undertake in response to severe climatic impacts, most (28.4%) state that they would adopt new farming methods, with considerably more men (32.7%) than women (21.9%) saying this. Another 24.9% say they would migrate again, with slightly more women (27.7%) than men (23%) indicating this. 5.5% of migrants say they would reduce energy consumption as a coping strategy, with slightly more men (7.7%) than women (2.6%) saying this. Many participants (27.3%) however indicate that they would do nothing, with notably more women (35.5%) than men (21.7%) saying so. Finally, 13.9% of participants say they do not know what they would do, with slightly more men (15%) than women (12.3%) reporting this. A X^2 test showed a statistically significant

association between gender and potential coping strategies towards climate change effects.

Table 27: Climate Change Adaptation Strategies

No.	Characteristic/Variable	Gender		Total	X² /Fisher's
		Women (n= 155) Freq (%)	Men (n= 226) Freq (%)	Subtotal (n=381) Freq (%)	p-value
1	**Can personal preparation for climate change save life**				0.235
	Yes	74.8%	74.3%	74.5%	
	No	19.4%	15.5%	17.1%	
	Don't Know	5.8%	10.2%	8.4%	
2	**Serious obstacles/barriers to protection from climate change**				0.909
	Yes	59.4%	61.5%	60.6%	
	No	31.6%	29.7%	30.5%	
	Don't Know	9.0%	8.9%	8.9%	
3	**Necessary information to prepare for the impacts of climate change**				0.140
	Yes	27.1%	30.5%	29.1%	
	No	66.5%	58.0%	61.4%	
	Don't Know	6.5%	11.5%	9.5%	
4	**Household plan for protection during disaster/emergency**				0.829
	Yes	13.6%	12.8%	13.1%	
	No	83.2%	82.7%	82.9%	
	Don't Know	3.2%	4.4%	3.9%	
5	**Coping strategies for negative consequences of climate change**				0.004
	Adopt new farm method	21.9%	32.7%	28.4%	
	Nothing	35.5%	21.7%	27.3%	
	Migrate	27.7%	23.0%	24.9%	
	Don't know	12.3%	15.0%	13.9%	
	Reduce energy consumption	2.6%	7.5%	5.5%	

In qualitative interviews, many participants note that they currently have limited information about how to protect themselves from climate change, and possess even more limited resources to protect themselves. Migrants attribute these poor adaptation options to their secluded settlement patterns in migrant hubs, which tend to be in remote rural areas. Other participants note that their outsider status in receiving communities further limits their access to informational and other (climate change) resources, as they are often excluded from programmes within their communities. Regarding their exclusion from a climate resilient farming intervention undertaken in their community, a participant says:

> Even if help comes, because you're a migrant, if you're not lucky, the non-migrants give you nothing. They don't see you as part of their town's people, so getting assistance is difficult. Last year for instance, they came and did the cocoa demonstration here. How to nurse and sustain them in these conditions. The migrants, we weren't part. Some of us are also interested in planting cocoa, but we weren't part. When it came, they left us out (Nde, Man, Atronie, 42).

Participants therefore recognise that they might need to rely on individual adaptation strategies in dealing with climate change effects. For many migrant farmers, increasing their use of agricultural inputs appears to be the most viable solution.

> If we get the medicine to pump our crops and they bear more fruits, we can sell some of the produce and buy more inputs to further boost our maize yields… If it continues this way, we'll get the maize medicine, then it'll be better for us (Female participant, Mixed FGD-2).

Other participants note that outside of increased input use, they might need to migrate (again) if climate change effects keep worsening with resulting impacts on their farming.

> You hope to come and fill your basket and return. If I'd gotten what I wanted from Wenchi, I would've gone back [UWR]. But I didn't, that's why I ran to Buoku. But it wasn't better. I didn't get what I wanted, that's why I came here. But it's still the suffering... Since I was able to run when things weren't good for me, if I realise things aren't improving for me here, I'll move again… But you can't be wandering too far away from home (Dambio, Man, Abonsrakrom, 59).

Thus, for many migrants, given that their relocation to the middle belt is a coping strategy towards poor farming conditions in UWR, they anticipate that migration might be the most suitable adaptation option to climate change effects, in the future. Many participants note that these strategies – i.e., investing in inputs to boost farm production and/or migrating (again) – are the most feasible for them, as their resource-poor state limits the adaptation options available to them.

> There isn't much we can do. As you've seen for yourself, we don't have lights here. So how can I say I'll reduce my use of electricity? Charcoal and firewood too are the only fuel I use to cook, I can't afford a gas cooker. So I can't say that I'll stop using these things (Christy, Woman, Dormaa Akwamu, 25).

These participant accounts highlight the limited coping strategies available to rural migrants, and emphasise the growing vulnerability of rural farmers' lives and livelihoods within the context of climate change. Given this, I sought to find out the livelihood alternatives outside of subsistence farming available to migrants in middle belt receiving areas.

5.5 Experiences of Multilateral Investment among Migrants in the Middle Belt

5.5.1 Multilateral Investment Dynamics in the Middle Belt

This study sought to understand experiences of MLIs/DaFIs among migrants in the middle belt. Overall, 34.7% of migrants know about the presence of an MLI within their community or in neighbouring ones. However, only 8.7% work in an MLI. While 7.6% of migrants indicate that they work in commercial agriculture MLIs, 0.8% say they work with mining/biofuel MLIs. Slightly more women (8.4%) work in commercial farming MLIs, and only men (1.3%) work in mining/biofuel MLIs. Migrants were also asked if a member of their household works in an MLI, to which 7.1% respond yes. Most migrants' household members engaged in MLI work are also into commercial agriculture (6.0%), compared to mining and biofuel (1.1%).

Table 28: Multilateral Investment Dynamics in the Middle Belt

No.	Characteristic/Variable	Gender		Total	X² /Fisher's
		Women (n= 155) Freq (%)	Men (n= 226) Freq (%)	Subtotal (n=381) Freq (%)	p-value
1	**Presence of multilaterals**				0.584
	Yes	34.8%	34.5%	34.7%	
	No	56.8%	59.7%	58.5%	
	Don't Know	8.4%	5.8%	6.8%	
2	**Work in/with multilaterals**				0.875
	Yes	8.4%	8.9%	8.7%	
	No	91.6%	91.2%	91.3%	
3	**Area of multilateral work**				0.381
	Commercial agriculture	8.4%	7.1%	7.6%	
	Mining or Biofuel	-	1.3%	0.8%	
	Don't work in MLI	91.6%	91.6%	91.6%	
4	**Family/household member works in multilateral**				0.995
	Yes	7.1%	7.1%	7.1%	
	No	92.9%	92.9	92.9%	
5	**Area of family member's multilateral work**				0.824
	Commercial agriculture	6.5%	5.8%	6.0%	
	Mining or Biofuel	0.7%	1.3%	1.1%	
	Don't work in MLI	92.9%	92.9%	92.9%	

Participants discuss these MLI/DaFI dynamics in the middle belt in more depth during qualitative interviews. To begin, more established migrants indicate that there is a noticeable increase in MLIs in their communities of residence, while recent migrants note that there are comparatively more MLIs in the middle belt than in UWR. When asked if she knows of any MLI/DaFI in her community, a participant remarks:

There's a big company here, in a settlement called project. The company is named project too. They farm coffee and palm nuts for export. It's owned by

an Akan, but a migrant manages the place. Some migrants work there, including

my older brother… If I had the option, I would've liked to work in project too

(Christy, Woman, Dormaa Akwamu, 25).

However, some migrants indicate that they do not know about any MLI operations within their own communities, although they have heard about ongoing MLI activities in neighbouring ones.

None of the jobs you've described have been opened here in Atronie. There's

a gold mine in the next community and they wanted to open another one here,

but the people refused. So they haven't opened any MLI here to employ people.

Farming is the only thing we do (Nde, Man, Atronie, 42).

Speaking to MLI/DaFI dynamics in the middle belt, a key informant also observes that rural communities in the area are seeing an increase in investment activities, many of which operate in the natural resource sector.

There are foreigners dealing in the wood/timber industry. They log, process and

transport wood to urban centres for export or sale. These corporations operate

in the deeper forested communities. People who need urgent solutions to their

problems opt to work for these companies for ready cash. Many however

maintain their farms for sustenance because some complain they aren't paid

well in these jobs. But it's quicker than waiting to sell seasonal harvests for the

same amount of money to solve pressing issues (Key informant 3: CowTribe).

Given the relatively noticeable presence of MLI in rural migration destinations, I was interested in exploring participants' perceptions of the processes that underlie MLI activities in communities where they operate. For migrant destination communities that currently have no MLIs, I sought to understand participants' perspectives about potential MLI establishments.

5.5.2 Perceptions around Multilateral Investment Processes in the Middle Belt

Overall, 29.9% of migrants report noticing a rise in MLIs over the last five years, with slightly more women (31.6%) reporting this than men (28.8%). A X^2 test revealed a statistically significant association between gender and perceived rise in MLIs, meaning that women are more likely to report a rise in MLIs. Concerning the processes that underlie MLI establishment,

27% of participants say that they are personally informed or believe community members would be personally informed about MLIs, with slightly more men (28.8%) than women (24.5%) saying this. However, 30.7% (30.3% women and 31% men) believe that only community leaders would negotiate MLI deals that come to their communities. A X^2 test showed a statistically significant association between gender and the perception that only community leaders negotiate MLI deals. This implies that slightly more men in the middle belt perceive that only community leaders negotiate MLIs.

Table 29: Perceptions around Multilateral Investment Processes

No.	Characteristic/Variable	Gender		Total	X^2/Fisher's
		Women (n= 155) Freq (%)	Men (n= 226) Freq (%)	Subtotal (n=381) Freq (%)	p-value
1	**Perception of MLI Processes in UWR**				
i	MLIs have been on the rise in past 5 years	31.6%	28.8%	29.9%	0.003
ii	Personally informed about MLIs in community	24.5%	28.8%	27.0%	0.062
iii	Only community leaders negotiate MLI deals	30.3%	31.0%	30.7%	0.004
iv	Community members actively negotiate MLI processes	22.6%	28.8%	26.3%	0.008
v	Trust in Government officials/leaders to protect interest of community members	31.6%	31.4%	31.5%	0.071
vi	Concerns about MLI operations	26.5%	27.9%	27.3%	0.045
vii	Taken action to prevent MLI operations	17.4%	19.9%	18.9%	0.004

Furthermore, 26.3% of participants report that community members actively negotiate MLI deals, with slightly more men (28.8%) than women (22.6%) reporting this. A X^2 test revealed a statistically significant association between gender and the perception that community members actively negotiate MLIs. Thus, more men perceive that community members actively negotiate MLIs. Participants were also asked if they trust government officials or leaders to protect the interests of community members regarding MLI operations, to which 31.5% say they do. When asked if they have concerns about MLIs, 27.3% of migrants (26.5% women and 27.9% men) respond yes. A X^2 test showed a statistically significant association between gender and concerns about MLI operations. This means that men are likely to have concerns about MLI operations. Lastly, migrants were asked if they have taken any action in the past to prevent MLI operations. In response, 18.9% say they have, with slightly more men (19.9%) than women (17.4%) indicating so. A X^2 test showed a statistically significant association between gender and taking action to prevent MLI operations. This implies that men are more likely to take action to prevent MLI deals than women.

In qualitative interviews, some migrants indicate that MLIs have steadily been

increasing since their arrival in the middle belt. When asked if they are personally informed about these MLIs before they are set up or commence operation within their communities, many participants respond in the negative. Some migrants believe that their outsider status has a role to play in this.

> They don't tell us anything. They started a cocoa nursing project; by the time
> we realised it, only non-migrants were recruited, no migrant was included…
> That's the issue; if it has to do with helping the town, they force us to. But when
> there are opportunities, they don't tell us (Pupiello, Man, Atronie, 59).

For the few participants who say that they are personally informed about MLI establishment and activities, many note that it is imperative to inform local populations and/or landowners about prospective investments, given that these MLIs may likely require permission and communal resources to undertake their work.

> They call everyone in the village to tell us. Because you can't go into someone's
> town and start doing whatever you want without their knowledge. You have to
> consult with them, then the landowners can give you the permission to go
> ahead and start the work (Bang-bio, Man, Tromeso, 62).

Some participants however state that although the local population is informed before MLIs are established, community members do not actively partake in decision making or negotiation regarding MLIs. Thus, the chiefs and community leaders are the only ones that meet to discuss these ventures.

> They only select some people to meet on that. Not everyone can go. The town
> has its chief, linguist [translator], and advisors; they attend those meetings. And
> after their follow ups, they decide if they [MLI] can start their project. The entire
> townspeople don't go for those meetings (Pupiello, Man, Atronie, 59).

Consequently, many migrants note that they have little influence in negotiating MLI deals, with some attributing this to the fact that they lack centralised migrant leadership in their settlement areas to advocate on their behalf.

> I don't know much about decision making here; the towns aren't the same.
> They may say you're a migrant and so won't consult you. If we had a recognised
> chief, then maybe they would call the migrant chiefs and their assistants to
> discuss such matters. But so far only the Frafras have enskinned [elected] a

chief. But we the Dagara haven't enskinned one (Kanyiri, Woman, Atronie, 45).

Given these perceptions around the setting up of MLIs, and migrants' limited role in deciding on these MLIs, I was interested in understanding participants' overall experiences regarding the impact of potential or existing MLIs within their middle belt communities.

5.5.3 Perceived Impacts of Multilateral Investment among Migrants in the Middle Belt

With respect to the impacts of MLIs, as shown in table 30 below, most participants (40.2%) are of the view that MLIs erode local livelihoods, with slightly more women (42.6%) than men (38.5%) saying so. Many migrants (39.9%) further believe that smallholders and the local community are worst affected by MLI operations. However, 36.2% of participants also perceive that local populations can earn more income from MLIs than their traditional livelihoods, with slightly more women (37.4%) than men (35.4%) indicating this. Another 30.7% of migrants are of the view that MLIs provide sustainable employment to smallholder farmers, with again slightly more women (32.9%) than men (29.2%) saying so. A X^2 test showed a statistically significant association between gender and the perception that MLIs provide sustainable employment to smallholders. This means that women are more likely to believe that MLIs provide sustainable employment. Furthermore, 30.2% of migrants believe that food produced from agriculture-based MLIs will be exported, while 24.7% perceive that MLIs can provide more employment and income options. A X^2 test showed a statistically significant association between gender and the perception that MLIs provide more employment/income options, implying that men are more likely to believe MLIs improve employment/income options. Moreover, 25.5% of participants are of the perceptive that higher incomes from MLIs (can) improve food affordability, with slightly more men (26.6%) than women (23.9%) indicating so. A X^2 test showed a statistically significant association between gender and the perception that MLI incomes improve food affordability. This shows that men are more likely to perceive MLIs as improving food affordability. 24.9% of migrants perceive that food availability improves with MLIs, while 22.8% believe that MLIs reduce hunger, with slightly more men (24.3%) than women (20.7%) indicating so. Lastly, 22.1% of participants are of the view that MLIs promote food security.

Table 30: Perceived Impacts of Multilaterals

No.	Characteristic/Variable	Gender		Total	X²/Fisher's
		Women (n= 155) Freq (%)	Men (n= 226) Freq (%)	Subtotal (n=381) Freq (%)	p-value
1	**Perceived Impacts of MLIs in UWR**				
i	MLIs collapse local livelihoods	42.6%	38.5%	40.2%	0.531
ii	Smallholders and local community are worst affected by MLIs	40.0%	39.8%	39.9%	0.261
iii	Local populations earn more income from MLIs than traditional livelihoods	37.4%	35.4%	36.2%	0.063
iv	MLIs provide sustainable employment to smallholder farmers	32.9%	29.2%	30.7%	0.036
v	Food produced from commercial farming MLIs are exported	29.7%	30.5%	30.2%	0.054
vi	Food affordability improves with income from MLIs	23.9%	26.6%	25.5%	0.025
vii	Food availability improves due to MLIs	24.5%	25.2%	24.9%	0.072
viii	MLIs can provide more employment/income options	23.9%	25.2%	24.7%	0.017
ix	MLIs reduce hunger	20.7%	24.3%	22.8%	0.271
x	MLIs promote food security	21.9%	22.1%	22.1%	0.127

Participants in qualitative interviews hold divided opinions about the impacts of MLIs, although overall, many are sceptical about the positive benefits that MLIs could have for migrants in rural destination communities. For participants who perceive that MLIs (will) have a positive impact on migrants in the middle belt, many cite the potential for alternative livelihoods and added income as benefits that MLIs could provide.

They [MLIs] will be helpful for us because if we have other jobs besides farming, we can engage in those and still farm. At the end of the month, we can get something small from there and still get something from our farm. All this can come together to help us (Bang-bio, Man, Tromeso, 62).

Some migrants also indicate that, although they may lack the necessary requirements (e.g., physical strength) to engage in MLI work themselves, the existence of MLIs within their communities could still have benefits for their families and other younger migrants, who in turn could leverage these opportunities to help care for their older relatives.

It [MLI] would help because, if they open a company, jobs might come from there. As you [interviewer] are here, if you get some work in that company, I'm an old woman. If you get something from there and come to visit me next time, you can say, 'oh mother, have some of this money'. So if they open a company and our young ones get work, I'll be happy (Lebkaa, Woman, Tromesu, 48).

Some participants observe that in addition to providing jobs for younger migrants, MLI opportunities may potentially help to keep migrant youth engaged, and subsequently reduce their chances of engaging in criminal and other harmful behaviours as well.

MLIs can help a lot in the sense that, our children who would probably have been roaming aimlessly, they'll also have some work to keep them occupied. If they go to work and earn money, maybe if they would have gone to take someone's thing to make ends meet, they wouldn't take it again. Have you seen? They'll also get something to eat, so that'll help (Nde, Man, Atronie, 42).

These benefits notwithstanding, migrants in the middle belt, similar to their counterparts in UWR, also caution that potential MLI deals must be carefully evaluated to ensure that any proposed deals do not come at a negative cost to the local community.

I think MLIs may help, but we must all meet to discuss. Or else, as I'm sitting here saying these things, my husband isn't here, maybe his opinion is different… Before the MLI comes, some discussions have to go into it. They can't just come and say we should take it. It may come with terms and conditions, and if we know we can go by them, we'll accept the help. But if we know it'll be better to remain in our poverty, we'll stay in our poverty (Kanyiri, Woman, Atronie, 45).

Some migrants express hesitancy about the potential benefits that MLIs can bring to their lives. For instance, some participants are of the view that even if MLIs come to their communities, they may not benefit from them due to their low educational status, as captured in the quotation below.

The Ahafo Mines is close to us, in the next community. But no one I know is employed there. The way it is, it's work for the literates. Some of us haven't been to school so we can't even tune our minds to working there… Hmm, have you seen? Everything now involves literacy. If they come looking for workers, because I haven't gone to school, they wouldn't pick me… If it's farm work, maybe that one I can do. But we those that haven't been to school, there are many jobs that even if you go, they'll turn you away (Nde, Man, Atronie, 42).

Similarly, some participants also express concerns that if MLI opportunities come to their communities, their activities may be targeted at specific groups of people, in which case not everyone resident in the community might benefit from them.

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Okay, opportunities differ. Maybe the jobs they bring would only be for disabled people. Or they may come and after looking at me, they'll tell me I'm ineligible. Maybe if I had the opportunity to work, I would have gotten small to eat. But they can come and say that where I've gotten to, because of my age, I can't be part (Lebkaa, Woman, Tromesu, 48).

In addition to concerns about accessing potential MLI opportunities, some migrants observe that MLI activities may have implications for migrants' own ability to access lands for farming. For example, speaking to his experiences of residing in a community where an MLI recently set up a commercial farming operation, Dambio says:

They [MLI] have caused us not to get lands anymore. The landowners refuse us and sell to the company to farm cocoa and cashew. So now, in this town if you don't have money, it's difficult to get land... Therefore, we're not happy about remaining here because of these changes. It's no longer like before. Even the farming to share, now people aren't willing to give you their land and you'll farm and share in three places (Dambio, Man, Abonsrakrom, 59).

As shown in Dambio's comment, MLI operations in rural communities may result in increased challenges in securing lands for subsistence farming. Participants add that apart from the difficulty in securing new land – when MLIs commence work in their destination communities – some migrant farmers have also had their lands seized due to the ripple effects of MLI activities.

A company came and they took back all our farmlands. The landowners used to grow cocoa, but the lands are dry and unconducive for cocoa. The company came from Drobo and started farming cashew. They saw them farm the cashew and it did well, so the landowners also started growing cashew. Now they hire wage labour to farm and they sell the proceeds. So many lands have been taken back from the migrants for cashew farming (Kuu-ima, Woman, Twumkrom, 43).

Participants note that in addition to the increased and uneven competition for lands, some MLI activities also lead to a rise in the cost of living. These conditions eventually cause resource-poor migrants to relocate from rural communities in which MLIs operate.

We were at Kenyasi, Goomu-Koforidua. We migrated there long before the Newmont people [Ahafo Mines] came. After they came, the price of everything

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went up. Land we used to rent for 200 GHS (36 USD), sometimes you go and they tell you 1,000 GHS (180 USD). And that's even if you'll even get the land. The bread we used to buy for 1 GHS went up to 4 GHS. We had to run over here (Female participant, Mixed FGD-2).

Still other participants indicate that some MLI activities tend to pose threats or hazards to the safety of people within the destination communities that they operate in.

Sometimes they block the roads with their machines and trucks. It becomes risky crossing the road because if a vehicle is coming, you can't see far ahead. One day, a truck that comes to load the wood nearly fell on us on our way home from the farm, but for the fact that we ran very fast for our lives (Female participant, Mixed FGD-2).

Apart from these unfavourable outcomes associated with MLIs, participants also observe that some MLIs tend to engage in exploitative labour practices, as described below.

They [workers] are supposed to work and they'll pay them monthly. But sometimes they work for two or three months without pay. And when they try to complain, the managers tell them that if they're no longer interested, they can leave, because they'll get new people to come and work. That's what I heard (Christy, Woman, Dormaa Akwamu, 25).

Besides these downsides of MLI ventures, some migrants further lament that even if favourable MLI opportunities are brought to their communities of residence, migrant groups may be excluded from these opportunities due to their outsider status.

The non-migrants here, in fact, they're not [good] people. Even if MLIs come, they'll keep it secret. They'll keep the jobs to themselves. If they bring opportunities to help everyone here, you find that they only do it for their own group. That's why we said we would need to get a big person to represent us. If we get a big person, we'll take him to the chief's palace so that when there's anything, we'll be able to hear about it... We're planning to get a chief and linguist; they've cheated us too much (Bio-naasa, Man, Tromeso, 80).

Finally, some migrants express a lack of interest in working with MLIs in their communities. According to them, their main reason for migrating to the middle belt is to

engage in farming. This, coupled with the low social capital/support that they have in receiving communities, implies that migrants cannot afford to take risks regarding their livelihoods. However, as shown in some of the previous accounts, MLIs are considered a risk.

> I know about that sawmill company. But I also know that I am a farmer. Once I farm, that's it. I can't go and be picking up sticks/logs, that's not why I migrated here… If I try to lift any wood and I break my back/waist, my children will be there by themselves, and the woman cannot help them. That work, I can't do it. Some migrants work there, but those working there, they have many people by their side. I don't. I'm the only one here. If something happens, who's my help? The one person who could have come from home [UWR] doesn't even have the lorry fare to come (Kaa-ir, Man, Twumkrom, 55).

Thus, as shown in the findings above, MLIs, climate change and migration are experienced in diverse ways by individuals and groups based on factors such as educational and migration status, age, familial/social support, among others. In the next section, I elaborate on some gendered and intersectional experiences worthy of consideration.

5.6 Gendered and Intersectional Experiences of Climate Change, Multilateral Investment and Migration in the Middle Belt

Migration, climate change and MLIs are experienced in differentiated ways based on migrants' social identities/categories. Many participants thus discuss the ways in which their migrant and outsider status affects their experiences of climate change and MLI in middle belt receiving communities. To illustrate, some participants say that their *migrant status* causes them to experience *ethnic discrimination* in their communities of residence, as shown below.

> We came to trade in the market, and it became hard for us [proverb]. No one thought to leave their home and come sit in another person's town to be subjected to insults. They call you proud and whatnot. But it's because we've not gotten what we came for, that's why we stay despite the insults. We're not happy but there's nothing we can do... It's not my wish to leave my home to come here and it isn't the government that brought me here, I'm not a teacher. I came to beg and eat or do by-day (Dambio, Man, Abonsrakrom, 59).

Some participants note that their migrant status and the discrimination they face as

outsiders ultimately affects their experiences of farming in the migration destination, particularly in light of rapidly deteriorating climatic conditions.

> If I weren't a migrant, things may have been different. As a migrant from elsewhere, I don't have farmland, you see?… It's someone's land I beg for to farm on. When I harvest, I share with him; that's our biggest problem now that the farming isn't going well. If I had my own land, even if I get two bags of maize, it's all mine. If I get nothing, I know I have no food. I wouldn't be as worried. But once you rent the land, you must farm and share with the owner. You can't go and tell him 'I didn't get any food this year' (Nde, Man, Atronie, 42).

Relatedly, participants add that being migrants limits their farming privileges and aggravates the stress of farming within the context of climate change. A participant speaks to his experiences of feeling restricted to his receiving community for farming reasons, while his non-migrant landlord earns passive income off of him.

> I beg for land to farm and things are no longer going the way they used to. But I must remain here. However, a non-migrant has his land... he can pick a bus, go alight in Wa and be doing whatever he wants over there. He knows that come what may, he'll get some food and money from the farm workers to spend. But I don't have that option (Pupiello, Man, Atronie, 59).

Still regarding migration status, many participants indicate that their position as outsiders further inhibits their ability to benefit from alternative livelihood options in the middle belt, including opportunities from MLIs, as elaborated in the FGD quote below.

> In the neighbouring community, they opened a mining company. But the way things are, when you go, they tell you there are no opportunities for you. Especially when you are an illiterate [sic] and a migrant, and you don't know anything. When you go, even watchman work they won't give you. In Tronie here, it's a sawmill they opened. They also took non-migrants to work and later said all vacancies were filled. That's what I've also observed from where I sit (Participant, All male FGD-1).

Some female participants however add that, despite their collective marginalisation as migrants in middle belt receiving communities, migrant women sometimes have it worse due to the intersections of their outsider status and *gender*.

Even if they come to start some company here, it's the leadership that will sit down and express their opinions. And most of them tend to be men. But you a woman, no one will call you to come and listen to anything. They'll say it's their town, and the women cannot be part (Kanyiri, Woman, Atronie, 45).

In addition to being excluded from decision making within their local communities, some migrant women further state that they also experience limited decision-making power within their households. For some, this inability to contribute to important family decisions subsequently affects their livelihood activities in the middle belt.

We moved here from Drobo for better farming opportunities. But since we arrived, he [husband] hasn't been serious. The maize and pepper we used to farm, now he doesn't. He claims he wants to farm cocoa and sell. But the conditions here are unfavourable for cocoa. But when I try to talk, he shuts me up. It's because I'm a woman. If I were a man, it wouldn't have been like that. If I were a man, I wouldn't be looking up to another person for my daily bread. I would've been doing my own work (Zenebia, Woman, Dormaa Akwamu, 38).

Aside the limited decision-making power, Zenebia's comment also highlights the abusive behaviours that some migrant women endure from their partners in the middle belt. Several migrant women note that the poor livelihoods, experiences of ethnic discrimination and persistent poverty that migrants face in receiving communities sometimes causes their male partners to resort to alcohol consumption as a coping strategy. This consequently has negative outcomes for migrant women and children within such households.

Some of our men are our problems too. Maybe you and the man work hard together, and when he gets something from the farming, he drinks with it. He ignores the children's school issues and drinks with it. When he also has a problem, he uses it as an excuse to drink. That worries the women and children (Tiere-bio, Woman, Tromeso, 50).

Migrant women note that irrespective of their partners' abusive behaviours – as well as their lack of productivity and cooperation regarding farming and other familial issues in the middle belt – women often have limited say in decisions about whether to remain or return to the migration origin. Some migrant women therefore report feeling 'trapped' in their destination communities.

My husband no longer does the things he used to do. It's difficult living with him now. But I can't also go and leave my children since they're still schooling. It's by-day I'm doing to care for the children now. I'm not happy here. I'd rather leave. But seeing as the children are already in school, if I say I'm going to leave, it's the children I'll worry. Because their schooling will be destroyed. So I can't. I'll have to be patient and take care of them, if the children get somewhere, then I'll know what to do (Tiere-bio, Woman, Tromeso, 50).

This sense of being trapped is echoed by other female participants within the middle belt in discussions about their experiences of climate change, MLIs and migration. To illustrate, a migrant woman who is widowed describes her experiences of feeling trapped in her destination community.

Our stay here is different now that I'm widowed. When my husband was alive, there were more hands to farm. But he isn't here anymore, and my son is too young to farm. He doesn't have the strength to work like his father used to. That's why I said if I had the option, I would go back home. But I don't have the means to return (Lebkaa, Woman, Tromesu, 48).

The above quotes showcase how gender might intersect with *marital status* to influence experiences of migration. In addition to migrant/outsider status, gender and poverty, many participants also report that their *age* often shapes their experiences of residing in destination communities. For example, some older adults say that they receive limited support from their children in the middle belt, which affects their ability to afford some basic needs.

I no longer have the strength to farm. I'm not able to walk. If not, I have land. My son who's stronger and can farm says he wouldn't come close to me; I've tried to no avail for him to come and farm. If he farms, we'll get to eat, and he'll get some to sell, but he says no. It's other people that come to take the land to farm and sometimes give me small to eat. There is nothing here for me, I'm not able farm, likewise my wife (Bio-naasa, Man, Tromeso, 80).

Participants therefore indicate that the combination of these vulnerabilities they face in their destination communities leads to feelings of distress. However, because of their limited social support in receiving communities, migrants are sometimes unable to share these feelings within a safe space.

You end up distressed because you keep overthinking. But because it involves painful memories or experiences, when you try to confide in people, they'll say you're either drunk or have a mental health problem. So when the thoughts come, you do nothing but keep it in your head quietly. You'll keep it until your death, then, you'll say it before leaving (Kaa-ir, Man, Twumkrom, 55).

During discussions with a key informant working at the Gender Desk, she acknowledges that climate change, MLI and migration play out in gendered and intersectional ways among rural dwellers (including migrants) in the middle belt, as captured below.

The experiences differ. For example, youth tend to migrate more than the aged and children. Men mostly decide on migration, seldom in consultation with their wives. If you look at climate change, women are more vulnerable. Climatic conditions are also harsher on older migrants as they suffer directly because they engage more in subsistence farming to care for their families. In terms of access and use of resources/opportunities, women are more disadvantaged, whereas younger migrants are better received in MLI work as they're more vibrant. So younger migrants receive wages/salaries and a pretty fixed monthly income, and experience little to no changes in their livelihood due to climate change, except that the MLI does layoffs (Key informant 5: Gender Desk).

Given these findings among participants regarding the impacts of migration, climate change and MLIs on migrants' lives, I was interested in understanding how migrants rate their overall living standards in the middle belt. I was also interested in finding out the current state of interventions, as well as potential interventions and policy recommendation that can benefit migrants.

5.7 Overall Living Experiences among Migrants, and Policy Recommendations

Migrants in the middle belt were asked to rate the sum of their experiences in relation to others within their communities, and identify the traits of their destination communities that they like and dislike the most. Participants were also asked to suggest policy recommendations based on their experiences in the middle belt. The findings in table 32 below show that 15.8% of migrants rate their lives as worse than that of other community members, with slightly more women (18.1%) than men (14.2%) reporting this. Another 24.7%

of participants say that their lives are about the same as that of other community members. The majority (59.6%) of migrants however describe their lives as better than those of other community members, with slightly more men (61.1%) than women (57.4%) saying this.

Table 31: Self-rated Living Experiences among Migrants in the Middle Belt

No.	Characteristic/Variable	Gender		Total	X² /Fisher's
		Women (n= 155) Freq (%)	Men (n= 226) Freq (%)	Subtotal (n=381) Freq (%)	p-value
1	**Self-rated overall quality of life within community**				0.578
	Worse	18.1%	14.2%	15.8%	
	About the same	24.5%	24.8%	24.7%	
	Better	57.4%	61.1%	59.6%	
2	**Like most about currently locality**				0.151
	Family/subsistence agriculture	41.3%	42.9%	42.3%	
	Better weather	18.7%	16.4%	17.3%	
	Employment in commercial farm	7.1%	10.6%	9.2%	
	Sense of belonging	3.9%	9.3%	7.1%	
	Safe neighbourhood	6.5%	7.5%	7.1%	
	Social support	5.2%	4.0%	4.5%	
	Affordable housing	3.9%	1.8%	2.6%	
	Nothing	13.6%	7.5%	10.0%	
3	**Dislike most about current locality**				0.108
	Poor infrastructure	13.6%	22.1%	18.6%	
	Ethnic discrimination	19.4%	15.5%	17.1%	
	Poor jobs/livelihoods	14.8%	12.8%	13.7%	
	Poor climatic conditions	13.6%	12.0%	12.6%	
	Poor social support and services	4.5%	6.6%	5.8%	
	Unsafe neighbourhoods	3.2%	7.5%	5.8%	
	Scarce lands	3.9%	4.9%	4.5%	
	Nothing	27.1%	18.6%	22.1%	

Concerning the traits that they like most about their settlement communities, family/ subsistence agriculture (42.3%) and better weather (17.3%) are chosen by most participants. Employment in commercial farming is selected by 9.2% of migrants, with slightly more men (10.6%) than women (7.1%) choosing this. Sense of belonging and safe neighbourhood tie as the fourth highest, each selected by 7.1% of participants. However, slightly more men (9.3%) than women (3.9%) pick sense of belonging. 10% of migrants report that there is nothing about their community that they like, with more women (13.6%) than men (7.5%) saying so. Regarding the features that they dislike, many participants (18.6%) identify poor infrastructure, although notably more men (22.1%) than women (13.6%) pick this. Another 17.1% of migrants identify ethnic discrimination as the feature they dislike, with slightly more women (19.4%) than men (15.5%) choosing this. 13.7% and 12.6% of participants, respectively, choose poor jobs/livelihoods and poor climatic conditions as what they dislike

most. However, many migrants (22.1%) also say that there is nothing about their receiving communities they dislike, with notably more women (27.1%) than men (18.6%) saying so.

Speaking to these findings in qualitative interviews, many migrants note that despite the rapidly deteriorating climatic conditions in the middle belt as well, farming conditions in their destination communities are still an improvement over those in UWR. Participants add that these better weather conditions enable them to engage in relatively more productive subsistence agriculture, and remit to their families in UWR.

> What I like about being here is that it helps me. Because the land and rains are better, I can farm and I get to eat. Sometimes I send something small to my people back home. So I will say that my stay here is helping me. If it wasn't helping, I would have gone back home (Antuna, Woman, Tromeso, 48).

Thus, as shown in Antuna's quote, the ability to ensure sustenance is what she likes most about residing in the middle belt. Other migrants add that besides subsistence farming, people in the middle belt also tend to have better alternative livelihood options (e.g., commercial farming) compared to UWR. In addition to these better livelihoods, participants – particularly those who reside in migrant hubs/niches – also say that they feel a sense of belonging and enjoy some social support from their fellow migrants, which is a desirable feature about their receiving communities.

> Okay, I can say I have support here. Since we're all Dagaaba that have come to live together, we act as each other's keepers. Even if this person comes from one part of Dagao and that person comes from a different town, but once we've all met here, if anyone has a problem, we come together to help. Maybe someone's family isn't here with them, but once we speak the same language and come from the same place, we help each other (Nde, Man, Atronie, 42).

Some participants observe that due to the support that migrants offer/receive from one another in their destination communities, those whose farming/livelihood activities might not be going well can rely on other migrants for food and assistance.

> All the migrants here are doing their own work. So if one year your farm doesn't do well and you can't get to eat, and your colleagues get to eat, they'll also give you some. It's all about helping each other. We don't have ill intentions towards one another here (Kanyiri, Woman, Atronie, 45).

Regarding the features about their communities that they dislike, many migrants mention that poor infrastructure development in their rural destination communities affects their access to basic/important social amenities.

What I don't like about this place is that, in other places they have electricity, water, good schools, a hospital, police station and other things. Those communities are lucky. But we those here, we don't have any of that, which makes our stay here difficult (Felicity, Woman, Tromeso, 37).

Apart from poor infrastructure development, many migrants also identify ethnic discrimination as the characteristic of their destination communities that they dislike the most. As shown in earlier quotes and in the one below, the perception of migrants as outsiders within their receiving communities ultimately affects their access to resources, including social amenities.

Some of them find our presence here annoying. Their actions imply that they don't need migrants in their communities. We wanted to build a toilet that would have benefitted us all. But they thought it was only for us [migrants]. So they seized their tools that we borrowed to build the toilet. Now we must go into the Teak plantation because we don't have a toilet… The committee people came for their tools, but migrants cannot squabble with non-migrants. So we're praying that to get some money and buy our own digging tools. Then we'll beg for a plot of land elsewhere. If they give it to us, we can also build our toilet (Female participant, Mixed FGD-2).

In another community, some migrants indicate that apart from restricting their access to amenities within their destination communities, their outsider status also tends to inhibit their access to social and other interventions that come to their localities.

I want to give you an example of the bias against us. Sometime ago, we were asked to dig a manhole for the community. The NDC people later brought second hand clothes to thank us. When they came, they handed them over to the non-migrants, who selected the good ones and gave the rest that they didn't want to us. So usually when any interventions come, we only hear about them after everything is taken (Zenebia, Woman, Dormaa Akwamu, 38).

Given these overall experiences of participants in their communities of residence in

the middle belt, I was interested in finding out the current state of local and national level interventions, and potential ones that could promote the wellbeing of migrants in receiving societies.

5.7.1 Proposed Interventions and Policy Considerations

With regards to the current state of interventions available to migrants, key informants state that there are presently no interventions specifically targeted at migrants in rural areas. A key informant adds that the closest to an intervention aimed solely at migrants in the middle belt was a prior campaign that sought to encourage migrants to return to their communities of origin, as described below.

> I don't really know of any interventions specifically for migrants. There was however a period where migrants from the northern part of the country were encouraged to go back to their originating communities so that they could be supported financially to start petty trading such as beads and soap making, batik tye-and-dye, shea butter extractions, smock weaving etc. Apart from this, I know of nothing else (Key informant 3: CowTribe).

Migrants in the study were therefore asked about potential interventions that could help to improve their stay in the middle belt and promote their overall wellbeing. Many suggest that, given their main motive of migrating for subsistence farming, the provision of subsidised and affordable inputs would enable them to reap better farm harvests and subsequently meet their basic and other needs. Participants mention that in addition to affordable inputs, the valorisation of agriculture in rural areas, and connecting migrant farmers to other actors within the agricultural value chain, would help to promote migrants' livelihoods.

> We came here to search for money. This year, our corn sales didn't go well. The corn went for 2 GHS (0.36 USD) per bowl. How can you take care of four children with that? Even if you sell two or four bags, you can't buy food and cater for your children's schooling. So migrants need to be prioritised; we do most of the farming here. If they can help us with inputs and marketing, or financial help so we can farm on a large scale. If I used to farm one acre, but with help I'm able to farm five, even if they buy the corn at 2 GHS a bowl, but I'll know that I have 20 bags. If I sell all the 20 bags, it can help (Kanyiri, Woman, Atronie, 45).

Furthermore, migrants in rural areas suggest that providing them with livelihoods outside of farming would go a long way to improve their economic and financial options/outcomes in receiving communities.

> If they bring other jobs here, we could get to work and our financial problems
> will reduce. We won't continue to struggle like we're doing now, especially if
> our farming isn't going well. Also, those who'll be responsible for recruiting the
> workers shouldn't discriminate between Dagara and Akans. They should just
> say, 'we've brought you all work'. Anyone who brings their name, if you go and
> they're able to train you to do the work, and you know that you can do it, it'll
> be good (Pupiello, Man, Atronie, 59).

Thus, for Pupiello, alternative livelihoods outside of farming would be beneficial for migrants, although anti-discrimination conditions might need to be attached to such opportunities to ensure that migrants are not excluded from these alternative livelihoods. Similar views are expressed by another participants who recommends the need for interventions specific to only migrants, as general interventions may not be made accessible to them.

> It will help to have interventions for only migrants. And if they bring help for us,
> they must put it in the hands of migrants. That way, we can be sure that we'll
> get it. But if the intervention comes and is placed in the hands of non-migrants,
> we wouldn't get it (Zenebia, Woman, Dormaa Akwamu, 38).

Outside of their livelihoods, migrants also call for better educational systems in their rural communities of residence, as well as educational subsidies that can help them to meet their children's schooling needs.

> If they can help us take care of the child's school, we'll be happy. Because with
> this supposed free education, now you even spend more money buying school
> items and paying other little fees. So our biggest issue is the school… We also
> need better schools; all the schools here are not good. The children complete
> and can't further their education. So if they bring us more schools and teachers
> too, we'll be happy (Tiere-bio, Woman, Tromeso, 50).

Apart from the above-mentioned interventions relating to better farming opportunities, livelihood diversification options, anti-discrimination policies and better educational systems,

many migrants opine that regular cash transfers would tremendously benefit them.

> If they can help, it would be money. As we stand, I need to build a house, but I
> don't have the money to go home and build. So money is our problem. I'm here
> because of money. If I had money, do you think I would've settled here? I
> would've stayed at home with my parents so that they can enjoy my value. But
> I'm here because I need money (Bang-bio, Man, Tromeso, 62).

Finally, migrants in the middle belt indicate that there is the need for better leadership at both the local and national levels, to ensure that populations living in vulnerability are prioritised in development issues.

> I've checked and what I've seen is that, the world, at first even if they said the
> land had caught fire, we had leaders who would follow up. If they see that the
> land isn't good, they would try to work on that. But right now, even when you're
> suffering, the leaders don't care. This influences the local populations too.
> Everyone sits in their home and doesn't care what's happening. That means
> each one is on their own (Kaa-ir, Man, Twumkrom, 55).

These views are shared by key informants in the middle belt who also suggest that there is the need for more political will by local and national governments in addressing the issues facing rural and migrant communities in Ghana. According to them, this political commitment will ensure that departmental agencies and organisations are equipped with the necessary resources to effectively carry out their duties regarding issues of climate change, MLIs and migration.

5.8 Summary

This chapter outlined the findings on climate change, MLIs and migration among UWR migrants in the middle belt of Ghana. I began by presenting the sociodemographic characteristics of migrants in the study. Following this, I described migration dynamics among participants in the middle belt, including patterns, types/forms and settlement experiences. I also highlighted the positive and negative impacts of migration as discussed by migrants in the study. Next, I discussed the experiences of climate change among migrants, including knowledge/understandings, perceived changes in climatic conditions and the impacts of climate change on migrants in receiving areas. After this, I presented the findings on

MLIs/DaFI in the middle belt. Specifically, I described the presence and activities of MLIs in rural communities where migrants reside, as well as participants' perceptions about the benefits and drawbacks of (potential) MLIs. I subsequently presented the findings on gendered and intersectional consideration regarding climate change, MLIs and migration among migrants in rural middle belt receiving areas. I concluded the chapter with a discussion of participants' overall assessments of their lives in destination communities, the current state of intervention for migrants in the middle belt, and proposed policy recommendations as suggested by participants.

CHAPTER SIX (6)

DISCUSSIONS AND CONCLUSION

6.1 Introduction

In this chapter, I discuss the study findings among migrants, non-migrants and return-migrants in the migration origin (UWR) and destination (middle belt), and conclude the dissertation. I begin the chapter with an overview of study findings, after which I discuss the findings on migration, climate change, MLIs, and the gendered and intersectional considerations of these phenomena in depth. I situate these findings within the literature and theoretical framework(s) that anchor my study. Following this, I propose some policy recommendations based on my research findings, after which I discuss the limitations of my study, provide directions for future research, and conclude the dissertation.

6.2 Overview of Study Findings

This dissertation examined the experiences of climate change, MLIs/DaFIs and migration among people in rural communities of the UWR and middle belt of Ghana. A mixed methodological approach involving qualitative (IDIs, FGDs and contextual observations) and quantitative (surveys) data was used. Data were collected from multiple stakeholders including migrant groups – i.e., migrants in the middle belt, and non-migrants and return-migrants in UWR – and key informants. The study is grounded within the transformative and pragmatic paradigms. It also adopts a mixed theoretical approach that combines the interdisciplinary theoretical/conceptual frameworks of FPE (overarching theory), feminist postcolonial theories, feminist political economy, intersectionality and (livelihood) vulnerability, to situate participants' experiences.

Regarding climate change, the findings show that rural dwellers in both the origin and destination areas have low awareness/knowledge of climate change as a technoscientific term, although those in the destination area have a slightly better awareness. However, despite this low awareness of the official terminology of 'climate change', participants in both areas demonstrate an in-depth lived understanding of the changing climatic conditions in their communities of residence. Thus, most migrant groups report noticing a difference in weather conditions including changes in temperature, rainfall patterns and volumes, and soil fertility. Participants add that these changes are leading to high temperatures, although those in the

origin report a more drastic rise in temperatures than migrants in the destination. Additionally, migrants, non-migrants and return-migrants also report a significant decline in farm productivity, mainly resulting from the reduction in rainfall, poor soil fertility, and the growing incidence of pests and diseases. These climatic changes have dire impacts on livelihoods, as well as physical and mental health outcomes of migrant groups. Although rural dwellers in both sending and receiving communities report a persistence of poverty resulting from these poor farming conditions, those in the migration origin (UWR) tend to report higher levels of food and water insecurity.

With respect to MLIs, people in the migration origin (UWR) report a low presence of MLIs in their settlement communities compared to their counterparts in the middle belt. Regardless of the relatively higher presence of MLIs in the destination area, however, very few migrants report working in MLIs, similar to non-migrants and return-migrants in the origin. For those in UWR, their low MLI participation is attributable to the low presence of MLIs, which many say is a result of the rural nature of their communities, as well as the endemic poverty, poor infrastructure, and lack of desirable resources in the region. Migrants in the middle belt on the other hand cite factors such as their outsider status and low educational attainment as barriers to finding work in MLIs. People in both the origin and destination areas add that they have little involvement in deciding/negotiating MLI deals within their localities, as these tend to be undertaken solely by the chiefs and leaders of their respective communities. Participants in both areas were also divided about the impacts of existing or potential MLIs on their communities, although overall, many did not perceive MLIs very positively. For those who are of the view that MLIs are/may be beneficial for rural populations, many cite the possibility of increased and better jobs and incomes, alternative livelihood opportunities, and improved food availability/affordability as positive outcomes. Those who view MLIs in a negative light on the other hand provide reasons such as a rise in cost of living, discrimination/bias in MLI hiring, and unfair competition over lands in communities where MLIs operate as reasons for their scepticism of MLIs. Other reasons include exploitative labour practices, a rise in criminal activity and the destruction of lands, water bodies and natural resources in localities where MLIs operate.

Migrants, non-migrants and return-migrants were asked about how climate change and MLIs interact to influence migration, and the role of migration in helping them to cope with poor economic/livelihood options – partly resulting from climate change and their low

participation in MLI activities. The findings reveal that climate change effects are currently the biggest driver of outmigration among people in UWR. MLIs on the other hand are not a major driver, as most rural migrant groups (perceive that they) lack the necessary/desirable qualities for engaging in MLI work, and hence few migrate with MLI employment intentions. In the origin (UWR), most people report migrating at least once in their lifetime for a variety of reasons, with subsistence farming forming the dominant motive. Others include land use changes, trading, wage work, babysitting, spousal reunification/separation, exploration and as a rite of passage. For those who have never migrated, care for the family, a sense of responsibility to their communities and UWR, and social norms rooted in gender, age and family positioning were cited as the reasons why they never did. Migrants in the destination provided similar migration motives as those in the origin. A considerable proportion of migrants also indicate that they have had to relocate at least once within the middle belt in search of better opportunities to help them achieve their migration goals. Most participants acknowledge that migrations from UWR to the middle belt are increasingly becoming permanent, although a substantial number of people also engage in temporary and cyclical forms of migration. A few people report engaging in an emerging form of migration that may best be categorised as pendulum, where migrants maintain residences in both the sending and receiving areas and spend their time equally between both places. Most participants perceive migration as having positive benefits, with many identifying economic/financial improvement, food, better health and better educational outcomes as the greatest contribution of migration to their lives. These benefits notwithstanding, some participants also say that migration has negative or no impacts on them. For those in UWR, many discuss the negative effects of migration in terms of declining remittances, the loss of social capital and support, irresponsible behaviours among younger migrants, and neglect from family in the destination areas. In the middle belt, many identify climatic changes and a resulting decline in farm productivity, poor/exploitative working conditions, isolation, discrimination due to their outsider status, and the loss of some sociocultural privileges (e.g., help in raising children) as the drawbacks of migration. Notably, very few people in the origin have intentions to migrate in the future, while most migrants in the middle belt say they plan to return to the origin at some point – despite having been resident in the middle belt for decades.

In both the origin and destination areas, experiences of climate change, MLIs and migration play out in gendered and intersectional ways. For instance, non-migrants and

return-migrants in UWR observed that factors such as gender, age, health status, (dis)ability and family structure tend to affect their capacity to engage in productive farming in the context of poor climatic conditions. These factors further affect rural dwellers' ability to benefit from MLI work and partake in migration trends. Migrants in the middle belt also noted that factors such as migrant/outsider status, gender, age, marital status and family structure shape their experiences of engaging in productive farming amid climate change effects. These factors further influence migrants' access to alternative employment options such as MLIs, and affect their ability to reap their premigration hopes of livelihood alternatives. Consequently, migrants, non-migrants and return-migrants report that the combined effects of climate change, MLIs and migration in both sending and receiving areas lead to poor food and water insecurity, ethnic discrimination, isolation and loneliness, poor educational outcomes, the reproduction of poverty, and poor physical and mental outcomes. Ultimately, although all migrant groups report experiencing collective marginalisations brought on by these phenomena, these vulnerabilities are experienced in differentiated ways depending on their social identities/locations. Key informant perspectives helped to elaborate on rural dwellers' experiences of climate change, MLIs and migration. In the following sections, I interpret and discuss the findings around the thematic areas described above.

6.3 Interpretation of Findings and Discussions

6.3.1 Climate Change Experiences Among Rural Sending and Receiving Communities

As mentioned, people in both the migration origin and destination areas demonstrate low awareness or knowledge about climate change as a technoscientific term – with close to half of all participants saying that they have never heard about 'climate change'. This low awareness is, however, likely a function of the fact that no specific word or term for climate change exists. This may be attributable to climate change being an evolving process rather than a static occurrence, and perhaps because the local population have never anticipated that such changes would happen on a global scale. Thus, while the concept of 'Ware' (literally translated drought) exists in local dialects, it only captures temporary dry spells. Also, despite being the closest in lexicon, 'Teng-Liebo' (directly translated as world change) evokes more religious and sociocultural connotations rather than physical changes in the environment, therefore failing to adequately capture climate change. Subsequently, although most migrant groups recognise the role of humans in causing the changing climatic conditions they are

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witnessing, many tend to discuss this human involvement within the context of sociocultural norms and traditions (e.g., 'immoral' sexual activities, poor water management and funeral practices). Moreover, even for participants who demonstrate sound knowledge of climate change, many ascribe its causes to smallholder practices such as increased fertiliser use, tree felling and bush burning, with some community authorities even attributing climate change causes to shea picking by women. These perceptions are buttressed by key informants who also attribute climate change causes to livelihood activities among rural dwellers. This low awareness, the lack of local terminology for 'climate change' (despite being one of the world's most pressing contemporary crises), and placing the blame for global climate change on resource-poor populations is concerning.

FPE and postcolonial theories help to unpack how 'low knowledge' and current framings of global climate change reinforce inequalities around environmental/ecological issues through the subjugation of local knowledges, and by limiting resource-poor groups' rights to environmental resources. Thus, as indicated in chapter two, FPE revolves around three tenets: gendered *science and knowledge production*, *political participation and grassroots organising*, and gendered *rights and responsibilities over natural/environmental resources*. Viewed through an FPE and postcolonial lens, therefore, dominant climate change narratives place the blame of environmental degradation on marginalised communities in the Global South, while also painting these communities as 'lacking' knowledge of climate change. This skews knowledge production as regards climate change towards western/Eurocentric, technoscientific and androcentric ways of knowing. And the fact that local populations in the Global South (e.g., rural communities of Ghana) presently do not have established climate change protocols further reinforces these skewed narratives with concomitant effects. Thus, in Ghana, official procedures (conferences, research, literature) around climate change are predominantly led by the country's elite (i.e., high socioeconomic status), most of whom have undergone a western(ised) education. Consequently, local knowledge about climate change in the country is produced within a Eurocentric (rather than localised) knowledge paradigm (this study being an example). As a result, the ability to translate/incorporate local or context-specific understandings of climate change into broader global conversations, and vice versa, becomes challenging due to these paradigm differences and as further manifested through the lack of local terminology. These structures therefore limit the involvement of grassroots populations in climate change conversations with interrelated negative consequences.

First, it is established that smallholder activities, and resource-poor communities, contribute the least to global carbon build up (Bee et al., 2015; Gaard, 2015; Mattoo & Subramanian, 2012). Instead, practices such as the military industrial complex, industrial agriculture (meat, oil palm production), some natural resource extraction, fast fashion, and other lifestyle and consumption patterns of affluent individuals, communities and nations are the greatest contributors to GHG emissions and climate change (Conca & Wallace, 2013; Samaras, Nuttall, & Bazilian, 2019; Wiedmann et al., 2020). To illustrate, the US military alone is tagged the largest consumer of hydrocarbons globally (Belcher et al., 2020; Samaras et al., 2019). As such, fostering knowledge practices within local settings that falsely place the blame of climate change on low-income/smallholder populations can be labelled a form of symbolic violence – a non-physical violence exerted on an individual or group with the unknowing complicity of these persons (Bee et al., 2015; Bourdieu, 1979; Gaard, 2015; Spivak, 2003). Thus, as evidenced in this study, rural dwellers and resource-poor groups end up blaming themselves or others in their communities for climate change because they are unaware (due to poverty and a lack of access to education) of who and what is primarily to blame for climate change. Nonetheless, participants are actually right when they cite sociocultural factors as a major cause of climate change. However, it is social processes such as global politics, economics and decision making, as well as the culture of capitalism and consumerism – rather than the sociocultural activities that participants identify – that are to blame.

Second, several studies show the linkage between climate change awareness and important outcomes such as enhanced adaptive capacities, engagement in developing climate-friendly societies, increased global cooperation to address climate problems, and intensified pressure on national and global leaders to create new and meet existing multilateral goals regarding climate change (Grundmann, 2007; Kuthe et al., 2019; Marshall et al., 2013). Thus, it could be argued that the low climate change knowledge and misinformation that unduly blames resource-poor groups in Ghana for climate change is obstructing the ability of these climate-affected individuals and communities to hold local and national leadership more accountable for the environmental degradation presently wreaking havoc on their livelihoods and survival. It also hinders the ability of local populations to mobilise and push the government of Ghana to develop more climate-friendly policies and interventions to mitigate the climatic stressors facing rural populations. Hence, an important step towards addressing the problem of climate change in local settings is to, first, name the

problem. This is particularly important in countries such as Ghana, as well as other parts of the world (e.g., Canada, the US), where political leadership continue to make economic decisions that have dire ecological consequences for local populations based on political elites' own vested interests. For instance, in May 2022, it was revealed that a deceased member of the ruling government had willed/gifted several portions of Ghana's very few remaining rainforests and wetlands to family and friends (GhanaWeb, 2022; The Fourth Estate, 2022), and a few years ago, the Ghanaian government went ahead with a bauxite mining deal in a protected rainforest, despite protests from the local community and other civil society organisations (GhanaWeb, 2021; Modern Ghana, 2018).

Third and importantly, the ability to name the cause of the changing environmental conditions that are currently devastating rural and farming livelihoods is an important step towards centring the voices of these marginalised groups in local and international conversations around climate change. Thus, without the ability to officially ascribe rural dwellers' livelihood challenges to climate change (because they cannot name the problem), the experiences of these local populations as regards climate change may continue to be invisible in academic (as well as some policy and practitioner) spaces. This mainly results from the exclusionary nature of current climate change knowledge and resulting challenge of linking rural and smallholder evidence/experiences of environmental degradation to climate change. The fact that knowledge about climate change is still largely limited to a 'specialist' scientific and policy audience, rather than more widely and publicly available works, also makes the existing evidence of climate change among rural dwellers less accessible. Furthermore, because the scientific literature on climate change is mostly in English (and to a limited extent, a few other colonial languages such as French and Spanish), it compounds the marginalisation or outright silencing of the voices of people who bear the biggest brunt of climate change effects. All of these outcomes reinforce the invisibility of local knowledges and intrinsic experiences of climate change, thereby compromising the design of grassroots-informed and better suited climate change interventions.

As the study findings show, the fact that migrant groups have a low awareness of 'climate change' neither precludes them from holding an intrinsic wealth of knowledge about climatic changes, nor bearing the brunt of these climatic effects. For instance, most rural dwellers in sending and receiving communities have noticed a rise in average temperatures, reduced and erratic rainfall, deteriorating soil fertility, increased incidence of pests and

diseases, and a decline in agricultural productivity. These findings are consistent with those of other studies which show that climatic conditions – such as the ones observed in this study – are worsening in various rural communities across the world (Armah, 2015; Ung, 2016; Warner & Afifi, 2014). These findings also align with meteorological reports of changing weather conditions in Ghana (Owusu & Waylen, 2013). They therefore highlight the importance of complementing technoscientific reporting of climate change with indigenous or local accounts, as these local perspectives are based on first-hand and historical lived experiences of the environment (Duerden, 2004; Makondo & Thomas, 2018; Zvobgo et al., 2022). Nonetheless, although all participants in this study report experiencing deteriorating climatic conditions, residents in UWR talked more about the effects of heat waves on their lives than those in the middle belt. Also, migrants in destination areas report relatively better, albeit still declining, climatic conditions compared to those in the origin. These findings buttress those of earlier studies – including FPE scholarship – which show that climate change effects are/will be experienced differently by individuals and communities even within the same localised region. Thus, factors such as geographical location, vegetation and geopolitical conditions all shape manifestations of climate change (Rocheleau et al., 1996; Rydin, 2006; Vaz-Jones, 2018).

Rural dwellers in this study further discussed how the observed changing climatic conditions are affecting them. For most people in origin and destination areas, the loss of livelihoods is the biggest effect of climate change on their lives. This is amplified within the context of limited livelihood diversification options, and the low socioeconomic or resource-poor status of participants. This is consistent with much of FPE theorising and prior studies which postulate that individuals and groups with the least access to environmental and economic resources currently shoulder a disproportionate burden of global climate change effects, with dire consequences on their livelihoods and lives (Baada et al., 2020; Kansanga & Luginaah, 2019; Sato & Soto Alarcón, 2019; Vaz-Jones, 2018). In addition to the loss of livelihoods, many participants, especially those in the origin, also report growing levels of food and water insecurity. This again supports earlier research and national census reports which indicate that the UWR has some of the highest rates of poverty, and food and water insecurity, nationally and globally (see Luginaah et al., 2009; Ghana Statistical Service, 2015; Peprah et al., 2015; Atuoye and Luginaah, 2017; Benebere, Asante and Odame Appiah, 2017). Consequently, many in the region rely on migration and remittances for survival (Atuoye et al., 2017; Kuuire et al., 2013; Stoler et al., 2021). However, although migrants in the middle

belt report relatively better food and water security, some indicate that they are also experiencing a gradual decline in food production, thereby affecting their nutritional levels and ability to remit to their families in UWR, consistent with earlier studies (Baada, Baruah, & Luginaah, 2019; Baada et al., 2020; Kuuire et al., 2013; Kuuire et al., 2016).

In addition to the loss of livelihoods and food/water insecurity, other climatic conditions and/or associated effects such as heatwaves, dry dusty weather, increased pesticide use, and rising emigrations from the UWR are leading to poor physical and mental health outcomes like hypertension, distress/anxiety, and isolation and loneliness. Several participants also indicate that climate change puts them at an increased risk of infectious and water borne diseases, heat stroke or exhaustion, and respiratory illnesses. Thus, many people, particularly in UWR, discussed how the hot temperatures in their communities are affecting their ability to undertake their livelihoods and perform everyday activities such as walking. This finding aligns with previous studies which show that rising temperatures are one of the greatest health risks posed by climate change, with particularly dire effects on working populations who spend a significant amount of their time outside their homes in search of livelihoods (Lundgren et al., 2013; Sherwood & Huber, 2010). In addition, many participants note that the dry dusty winds associated with hot weather are potential food contaminators and a cause of respiratory illnesses and CSM in UWR, consistent with the findings of earlier studies such as Antabe et al. (2017), Codjoe and Nabie (2014) and Trumah, Ayer and Awunyo-Vitor (2015). Also, as mentioned earlier, in response to climatic stressors, many in UWR rely on migration to the middle belt as a coping strategy. And while this provides some economic and food relief for migrants and their families, participants in both the origin and destination areas observed that they often experience isolation and loneliness due to either the loss of family, or their outsider status. This again supports the findings of studies in Ghana and elsewhere regarding the link between (climate) migration and isolation/loneliness in both sending and receiving communities (Braimah & Rosenberg, 2021; Stoler et al., 2021; Torres & Casey, 2017).

FPE and the vulnerability framework help to shed light on these findings. FPE highlights how individuals' or communities' access to resources may influence their exposure to and adaptation towards environmental issues, including health impacts of climate change (Jackson & Neely, 2014; King, 2010; Rocheleau et al., 1996). The vulnerability framework on the other hand illuminates how ecological, socioeconomic, political and cultural factors shape a

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population's disposition to hazards that threaten their lives, as well as their ability to cope with and recover from these (Alexander, 2013; Anderson & Woodrow, 1989; Chambers, 1983). Thus, for rural migrant groups in Ghana, structural factors such as their geographical positioning and natural environment, uneven economic development and impoverishment, and poor built environment/infrastructure development all affect their climate related health risks. Also, individual characteristics such as low socioeconomic and outsider (for migrants in destination communities) status heighten migrant groups' vulnerability to the negative health effects of climate change. Moreover, in addition to predisposing them to climate change health risks, these unfavourable structural and individual level factors further affect the ability of these populations to cope with and recover from these hazards. These findings are particularly concerning within the context of UWR where, similar to other SSA and low-income countries, scholars warn about the impending calamity of the double burden of disease, although others suggest that a triple burden might be more accurate (Adjaye-Gbewonyo & Vaughan, 2019; Frenk & Gómez-Dantés, 2011; Marmot & Bell, 2019).

This double burden of disease refers to the struggle in low-and-middle-income settings to deal with infectious diseases such as malaria, typhoid, hepatitis, among others, that are still widespread and burdening health systems, while also attending to the increasing prevalence of non-communicable diseases (NCDs) like cardiovascular illnesses (e.g., hypertension), diabetes and cancers brought on by changing diets and lifestyles (Agyei-Mensah & De-Graft Aikins, 2010). However, researchers such as Frenk and Gómez-Dantés (2011) suggest that SSA is in fact experiencing a triple burden of disease. The authors define this triple burden as the co-occurrence of infectious diseases, NCDs, and issues directly relating to globalisation (e.g., health consequences of climate change, uneven development, inequalities). Other scholars such as Mitchell et al. (2016) and Turana et al. (2021) classify this triple burden as the presentation of infectious diseases, NCDs and mental health issues. My study findings on the health impacts of climate change are therefore concerning, as prior studies identify food insecurity, poverty and social inequalities as leading causes of mental health illnesses in SSA, and in UWR specifically (Atuoye & Luginaah, 2017; Jafree & Mustafa, 2020). Furthermore, Atuoye and Luginaah (2017) found in UWR that food insecurity interacts with high rates of outmigration to cause poor mental health, particularly among older women. Yet, as shown in this study, despite being more exposed to climate-related health challenges, rural dwellers' structural and individual vulnerabilities (e.g., deteriorating climatic conditions, low agricultural

productivity, limited alternative livelihoods, poor health care systems, endemic poverty, ethnic discrimination, etc.) greatly hinder their ability to cope with and survive these hazards.

Furthermore, regardless of these severe impacts of climate change already being faced by rural migrant groups, the findings of this study show that they have limited coping and adaptation strategies available to them. Thus, while many participants recognise the great risks posed by climate change, and the fact that personal preparation can save their lives against climate change effects, most of them indicate that they lack the informational, economic and other resources needed to protect themselves against these effects. This is consistent with the findings of other studies in countries such as Cambodia and Tanzania which show that rural dwellers tend to have limited coping and adaptation strategies towards climate change (Armah, 2015; Atuoye et al., 2021; Ung et al., 2016). Consequently, in both the origin and destination areas, participants identify the adoption of new farming methods, reduction in energy consumption and migration as the coping strategies that they will rely on in response to climate change effects – although notably more migrants in the middle belt than return-migrants and non-migrants in UWR select migration as a coping mechanism. This may be because non-migrants and return-migrants in the origin do not find migration helpful in meeting their needs of livelihood improvement, as further discussed below, and therefore do not consider migration a suitable adaptation strategy.

Another noteworthy finding is that a significant proportion of rural dwellers indicate that they either do not know what coping/adaptation strategies they will undertake, or will do nothing, in response to climate change effects. The theories of FPE and vulnerability again help to situate these findings. To begin, migrant groups' resource-poor state means that they have very limited buffers against climate change in the first place. These limited buffers and the persistence of poverty further imply that these groups get caught in a cycle where their vulnerability affects their ability to adapt, and their poor adaptation heightens their vulnerability (Anderson & Woodrow, 1989; Wisner, Blaikie, Cannon, & Davis, 2004). Moreover, as FPE theorising shows, environmental knowledge, resource rights and ownership, organising/mobilisation, and adaptive capacities are all interconnected (Elmhirst et al., 2017; Rocheleau et al., 1996). Therefore, the fact that rural populations who already have the least amount of environmental resources are the ones experiencing the brunt of climate change effects is consistent with assertions by FPE theorists that power, privilege and resource ownership ultimately determine how environmental issues are experienced at the local level

(Rocheleau et al., 1996; Sato & Soto Alarcón, 2019; Truelove, 2011). It is regrettable that rural and smallholder populations who already consume an extremely minute proportion of the world's energy are considering further reducing their energy consumption as an adaptation strategy. However, as some participants rightly note, a reduction in energy consumption is not a realistic adaptation option for them, as most do not even own/use electricity or other energy expending gadgets in the first place. Also, this expectation that rural and resource-poor populations reduce energy consumption is extremely inequitable, as most are unlikely to ever own a private vehicle or travel by air. Importantly, the fact that even UWR migrants fleeing climate change effects still end up facing these same climate events in their middle belt settlement communities speaks to the social reproduction of vulnerability, and the reality that rural and resource-poor migrant groups endure livelihood, health and other vulnerabilities at both starting (pre-migration) and end (post-migration) points (Baada et al., 2020; Kelly & Adger, 2000; O'Brien et al., 2004).

6.3.2 Experiences of MLIs Among Migrants, Non-Migrants and Return-Migrants

Given the effects of climate change on farming and other livelihoods, this study sought to understand how MLIs interact with climate change to shape rural lives. As indicated, about a third of migrants in the middle belt report the presence of MLIs in their communities, compared to 19.5% of people in UWR. In both the origin and destination areas, very few participants indicate that they work in an MLI, with most of these MLI workers engaged in commercial agriculture. In UWR, no participants were employed in mining or biofuel MLIs, and in the middle belt, only male migrants work in these sectors. FPE, as well as political economy, postcolonial theories, intersectionality and the vulnerability framework all help to situate these findings. As espoused by political economists, the implementation of social policies and initiatives are often underpinned by the political and economic interests of societies' leadership, many of whom belong to the elite classes (Keynes & Jevons, 1912; Marx, 2010; Poole, 2011). Consequently, these elites are motivated to undertake decisions based on their vested interests, and that have the potential to further their own political and economic gains.

At the macro level, African countries – including Ghana – have become the hub of global investments due to their 'untapped' natural and human resources (Atuoye et al., 2019; Robertson & Pinstrup-Andersen, 2010). Thus, the promise of economic profit/benefits is what attracts international investors to the continent, and the types of investment deals that are

negotiated are greatly dependent on the political relationships of source and destination countries. At the national level, decisions of where to direct investments in Ghana are further shaped by the economic and political interests of Ghanaian leadership. Given that many emerging investment opportunities tend to be in the natural resource sector, the presence of favourable natural/environmental resources serves as a deciding factor in the establishment of MLIs. As such, in Ghana, the fact that more participants in southern/middle belt areas of the country report a higher presence of MLIs than those in UWR is not surprising, given the south's ecological and economic advantage. Moreover, scholars have argued that most development initiatives in Ghana are centred in the southern sector, and many trace these uneven development patterns to the colonial era when British traders prioritised southern Ghana due to its favourable natural resources and proximity to sea ports (Abdulai & Hulme, 2015; Songsore, 1979; Songsore & Denkabe, 1995). These (neo)colonial patterns have persisted since the country gained independence, partly resulting from the fact that most of Ghana's leadership have hailed from this part of the country, and therefore continue to make decisions that stand to benefit them politically and economically (Abdulai & Hulme, 2015).

Hence, first, the decision to direct contemporary investment opportunities to southern Ghana is likely informed by the area's more desirable natural/climatic conditions. The geographical positioning and climatic features of UWR, on the other hand, makes it less attractive to potential investors. This finding is consistent with earlier studies such as Sauer and Pereira Leite (2012) who show that the presence of natural resources is a major attraction for foreign investments. They also support those of Kuusaana (2017) who found that most natural resource-based investment opportunities in Ghana are in the southern sector. Second, as investments tend to be profit-oriented, the presence of favourable markets is another factor that influences siting decisions. Consequently, the under-developed infrastructure of UWR – like most of northern Ghana – further serves as a disincentive to investors who may have concerns about their ability to recoup invested capital. Third, in addition to the existence of favourable natural and built resources, investment decisions are also significantly influenced by elite interests, as mentioned prior. The decision to site most investment opportunities in southern Ghana may therefore be rooted in the vested interests of the country's leadership, who may be looking to ensure that southern communities where they hail from can benefit from these growing investment opportunities, and help these political elites to maintain their southern voter base – the country's majority population. These

findings buttress those of Abdulai and Hulme (2015) who argue that these development patterns are also the result of the fact that people from northern Ghana have few political representatives who can advocate on their behalf, and even the few appointed to leadership positions usually find themselves in lower political offices with less power and privileges to influence major national decisions.

At the local level, I found that rural dwellers have little involvement in decision making regarding MLI processes, with most participants indicating that community leaders tend to make these decisions on their behalf. Situating these findings within political economy and the vulnerability framework, it could be argued that rural dwellers' marginalised positioning within their communities (and the country) affects their ability to rise to positions of leadership and/or advocate for themselves by lobbying for favourable development programmes within their communities. It could also be argued that due to the power, political and economic benefits that minority elites enjoy by implementing decisions that favour them, there is little motivation on their part to involve local populations in decision-making around MLIs, particularly if local groups' preferences risk stripping elites of their own benefits (Abdulai & Hulme, 2015; Kansanga & Luginaah, 2019; Lavers, 2012). For instance, in UWR, a community authority blamed local women's shea picking for the lack of rainfall in the region, and subsequently banned women from collecting shea seeds/fruits. Upon close examination, however, it possible that the recent establishment of a shea processing facility in that same community may have informed the leader's decision, as the community's elite stand to benefit financially from supplying shea seeds directly to the processing company. Hence, it could be argued that climate change is being used by more powerful groups as an excuse or weapon with which to suppress local economic initiatives. Lastly, although most people in the study report low involvement in MLI processes, there were differences based on locality of residence. For example, while many migrants in Tromeso say they are informed about MLIs in their community, most in Atronie say they are not. These differences may be due to factors such as varied cultures in the respective settlement communities, the population of migrants within these localities (e.g., Tromeso is a UWR migrant hub and has a larger migrant population), and the types of leadership in these communities.

With respect to the impacts of MLIs, I found in both the sending and receiving areas that very few migrant groups are employed in them, even when MLIs are operational in their communities or neighbouring ones. Many cited exclusionary or discriminatory employment

polices as barriers to finding work in MLIs/DaFIs. Specifically, most participants identified their low levels of education, lack of physical strength/ability, age, migrant status, and lack of information on MLI operations as possible reasons for their low employment rates. The theories of vulnerability and intersectionality help to explain these findings. Thus, the intersections of migrant groups' identity categories such as their geographical location (northern Ghana/remote rural migrant hubs), low educational and economic status, outsider status and for some age, make them particularly vulnerable to exclusion from MLI opportunities. Subsequently, even the very few UWR residents/migrants who find work in these ventures tend to experience exploitation in terms of low and irregular wages and poor working conditions. These findings are consistent with earlier studies which show that marginalised groups such as ethnic minorities, people of low socioeconomic status and older adults have challenges accessing work in DaFI due to their poor social capital and the discriminatory attitudes of some employers towards these individuals and groups. And even when they are employed, they may find themselves in exploitative working conditions (Gemelas et al., 2022; Kansanga, 2017; Kuusaana, 2017; Stypińska & Nikander, 2018).

Furthermore, aside their exclusion from MLI employment, study participants also note that some MLI activities threaten their livelihoods and lives. In particular, the loss of lands, water bodies, and other natural resources are the most serious concerns that participants in this study hold about MLI activities. In the migration origin, residents often talked about the loss of lands in relation to the fact that their resource-poor state makes them particularly vulnerable to losing their already limited livelihoods to land (and other environmental) degradation associated with some MLIs. In the destination area, many discussed the loss of lands in relation to either having their farmlands seized with the advent of MLIs, or facing unfair competition over lands in settlement communities where MLIs operate. These findings corroborate those of other studies in Ghana, as well as in countries such as Brazil, Tanzania and Malawi, which show that local populations may experience land disenfranchisement and conflict in communities where DaFI operate – with migrants and women experiencing an added level of marginalisation due to their weak land rights (Atuoye et al., 2021; Chinsinga, Chasukwa, & Zuka, 2013; Kuusana, 2017; Sauer & Pereira Leite, 2012). Apart from the loss of land, many also discussed the potential contamination or depletion of water and other natural resources as undesirable outcomes of MLI activities. Several participants drew attention to the fact that they have witnessed other rural communities undergo an increase in

environmental and health hazards, and lose their lands, water bodies and livelihoods to some MLIs and associated artisanal or 'illegal' activities. Consequently, these fears have created scepticism among local populations about prospective MLI outcomes within their communities. This finding is consistent with those of earlier studies which found that some agricultural, mining, and biofuel MLIs may lead to a rise in environmental and health issues in communities where they operate (Antabe et al., 2017; Hilson, 2007).

Lastly, rural dwellers indicated that some MLIs are accompanied by increased costs of living and criminal activities. Study participants emphasised that the rise in illicit activities in communities where MLIs operate is mostly a function of the need to survive amid limited livelihoods, living cost hikes and extreme poverty. It may also be argued that the exclusionary hiring policies of some MLIs leads to a reinforcement of resource-poor groups' vulnerabilities, as many cannot access such opportunities in their communities of residence. This further widens inequalities which, coupled with the high cost of living and endemic poverty, causes a rise in alternative survival strategies (e.g., 'illegal'/artisanal mining, petty theft, etc). This finding both supports and contrasts those of earlier studies such as Bu, Luo and Zhang (2022), Papathanassis (2016) and Prillaman (2003) which highlight the connection between foreign investment, economic inequalities and crime, but which tend to either focus on broader level crime such as corruption, or seemingly blame weak anti-crime policies, rather than inequalities, for increased crime rates. People in rural sending and receiving communities add that these poor livelihood outcomes – due to climate change and exclusion from MLI opportunities – affect their ability to afford basic and social needs such as health and educational services, further reinforcing the extreme rates of poverty among these groups.

Nevertheless, many people in both the sending and receiving regions also show an appreciation of the potentially positive impacts that MLIs could have on their lives. The provision of alternative livelihoods outside of farming is the most cited benefit of (potential) MLIs among rural dwellers, with others also identifying higher incomes, avenues to keep the youth engaged, and community/infrastructural development as positive benefits that MLIs could bring to their localities. These findings highlight the fact that MLIs by themselves may not necessarily be a negative thing; instead, it is the poor implementation and monitoring of these MLIs that often result in the associated negative outcomes reported by participants. For instance, as the findings show, although many rural populations believe that smallholders may be worst affected my MLIs in terms of land rights, and that most of the food produced from

commercial MLIs may be exported, the local population is also cognisant of the fact that their ability to earn higher and alternative incomes from MLIs could improve their purchasing power and associated food availability/affordability. This finding is consistent with other studies across the world (see Govereh & Jayne, 2003; Kuma et al., 2019; Li, Gan, Ma, & Jiang, 2020) that have found that the relationship between MLIs and local livelihoods is not always a zero sum game. For example, the aforementioned studies found that rather than eroding local food security, equitable incomes from commercial agriculture MLIs tend to promote local people's access to better food (options). Hence, more equitable MLI implementation at the broader/national level may help to minimise the current geographical inequalities underpinning MLI establishments in Ghana. Similarly, equitable and anti-discriminatory policies at the community level would go a long way towards addressing the current MLI employment inequalities. Furthermore, measures such as instituting safety nets that protect the resource and labour rights of local populations regarding MLIs, a commitment to ensuring that MLIs meet their corporate social responsibilities (CSRs – e.g., community development, skills and capacity building of local populations, on-the-job training, resource-sharing mandates), transparent environmental impact assessments, requirements to train and employ local workers, and better monitoring of MLI operations within Ghana would significantly help to maximise their benefits and minimise their drawbacks. This may help to alleviate the concerns that many rural dwellers currently have about MLIs, and promote equity in MLI activities.

6.3.3 Migration Experiences in the Origin and Destination Areas

Given the rapidly deteriorating climatic conditions, limited MLIs and resulting poor livelihood options in UWR, several people in sending (UWR) and receiving (middle belt) areas report that migration is one of the most relied on coping strategies for dealing with the climatic and economic distress in UWR – with most participants indicating that they have migrated at least once in their lifetime. For many, low agricultural production due to climate change effects, limited non-farm livelihoods, food insecurity, and small-scale food and livestock trading (in local markets) are the main reasons why they emigrated from UWR. This is consistent with the findings of numerous studies which identify migration as a major strategy that most climate-affected populations globally will rely on for adaptation and survival (Afifi et al., 2016; Baada et al., 2020; Kuuire et al., 2016; McLeman & Smit, 2006).

Climate-related migration notwithstanding, the findings also reveal that migration motives may extend beyond the search for livelihoods to include other sociocultural reasons such as the lack of family/communal lands to cater to all residents, informal work opportunities such as babysitting, to escape household conflict, family reunification, as a rite of passage, for exploration, and to access educational and social amenities. This finding also supports earlier scholarly work which emphasise the diversity underlying migration decisions and motives (Abdul-Korah, 2008; de Haas & van Rooij, 2010; Kristensen & Birch-Thomsen, 2013; Suksomboon, 2009). Irrespective of these diverse migration motives, however, the findings do emphasise the growing reliance on migration as a coping/survival strategy towards climate change effects among rural and farming populations in Ghana.

Furthermore, the study findings show that, similar to migration motives, migration decision making is underpinned by a variety of factors such as gender, age, family structure, health status and social networks. Specifically, I found that the migration of younger adults, men and those perceived to be of optimum health tends to be encouraged, compared to that of older adults, women and people perceived to be of poor health. The theory of intersectionality helps to explain the ways in which people's social identities (e.g., gender, age, health status) influence their ability to undertake migration – even in response to severe environmental/livelihood impacts. This finding buttresses those of earlier studies by de Haas and Fokkema (2010), Jong (2000), Saha, Goswami and Paul (2018) and Wang et al. (2010) who contend that norms and household power dynamics greatly influence decisions regarding who can migrate, with those wielding more power (e.g., men and older adults) having a greater say. However, my study findings differ from these earlier studies because, despite wielding more power in household decisions, I found that older adults' migration still tends to be defined by gender, social and communal norms regarding the propriety and impropriety of migration. Moreover, younger adults in this study sometimes subverted household authority to embark on independent migration when a household consensus could not be reached.

Due to the heavy reliance on migration as a coping strategy, most UWR residents have migrated at least once in their lifetime (return-migrants) mainly for the motives discussed above. Return-migrants in UWR cite sociocultural duties around caring for family, the assumption of household responsibilities, and gendered notions of the impropriety of migration as reasons for their return to the origin. Some also indicated that migration did not meet their needs/goals of livelihood improvement, hence the decision to return. These

findings showcase the fact that many people who migrate may eventually return to their communities of origin, although this is often less highlighted in scholarly studies on migration (see notable exceptions such as Al-Solaylee, 2021; Arowolo, 2000; de Haas, Fokkema, & Fihri, 2015; Ge, Resurreccion, & Elmhirst, 2011; Nguyen-Akbar, 2014). Despite the high outmigrations from UWR, however, the findings show that a few people (non-migrants) have never emigrated from the region in their lifetime. Similar to return-migrants, non-migrants in this study also cited gender and sociocultural norms/expectations as why they never emigrated. These reasons include care for family, the need to perform household head responsibilities and the discouragement of (older) women's sole migration. Other reasons include ageing and poor physical health. While some non-migrants indicate that their decision to remain is/was voluntary or mutually agreed upon – in line with Mallick and Schanze's (2020) concept of 'voluntary non-migration' – others say their non-migration status is involuntary, with some describing themselves as 'stuck' in the origin. These findings emphasise the crucial role of gender and sociocultural norms in shaping migration patterns, consistent with earlier migration studies (Baada & Najjar, 2020; de Haas & Fokkema, 2010; Resurreccion & Van Khanh, 2007; Tacoli & Mabala, 2010). They also underscore the fact that not everyone who wants to migrate may be able to, especially in climate-affected and/or impoverished areas – as argued by emerging migration scholarship on trapped populations (Ayeb-Karlsson, Smith, & Kniveton, 2018; Mallick & Schanze, 2020; Nawrotzki & DeWaard, 2018).

People in both sending and receiving areas noted that rural communities of the middle belt are their preferred settlement destination due to the middle belt's relative geographical proximity to UWR and its comparatively better climatic/farming conditions. Other important reasons include the availability of more affordable farmlands in this area and the presence of existing migrant networks to facilitate the movement of newer migrants, including their entry and settlement into rural destination communities. These findings are similar to those of prior studies that examined north-south settlement dynamics among UWR migrants in Ghana (Abdul-Korah, 2006; Baada et al., 2019; Kuuire et al., 2016; Lobnibe, 2010; Luginaah et al., 2009). Furthermore, the findings show that migrations from UWR to the middle belt are assuming a permanent nature, as evidenced by reports among UWR residents that some family/community members who emigrated decades ago have never returned to origin, and by those of migrants in the middle belt which show that the majority have been in their destination communities for decades now. However, people in both sending and receiving

areas also note that many people from UWR are still engaging in temporary and cyclical forms of migration, as well as newer forms that best fall under what de Haas and Fokkema (2010) term pendulum migration, where migrants maintain residence in origin and destination areas, and both are equally considered home. It could be argued that all of these emerging migration dynamics are geared towards enabling UWR migrants to maximise the benefits of migration for themselves and their families and, hence, migrants will ultimately undertake the type of migration that best suits their needs.

Regarding impacts, overall, the findings show that migration has immense benefits for people in both sending and receiving communities. Thus, many mentioned better climatic conditions, relatively improved agricultural production and improved food security as the major benefits that migration brings to their lives. This is especially important for many in UWR given the severe climate change effects, limited economic livelihoods, and the fact that existing lands in the region are not plentiful enough to meet the needs of the growing population. This finding supports Gosnell and Abrams (2011) assertion that environmental and socioeconomic factors often interact with land use changes to influence population migration. Several participants added that due to the improved agricultural and economic outcomes that they reap from migration to the middle belt, they are better able to afford educational, health, and other social and basic needs. Migrant groups acknowledge that cash and in-kind remittances also play a vital role in helping them to meet their families' needs. These findings support those of earlier studies in Ghana and the Global South more broadly which show that migration is a useful avenue for enabling people to meet food, economic and social needs (Afifi et al., 2016; De Haas, 2005; Kuuire et al., 2016; Luginaah et al., 2009).

These benefits notwithstanding, the findings also reveal that migration may have negative effects on people in both sending and receiving communities. For instance, in the origin, I found that migration sometimes leads to the loss of family and community, and associated social support/capital. This has implications for the social and economic development of migrant sending communities. Furthermore, many in the origin report increased levels of isolation and loneliness due to the growing outmigration of people from UWR – with particularly dire effects on older and frail adults. This finding buttresses those of other studies which have found that migration may present serious demographic, social and economic challenges – including the loss of human resources/capital – to sending communities that have high levels of outmigration (Abdul-Korah, 2011; Awumbila, Owusu, &

Teye, 2014; Baada & Najjar, 2020). They are also consistent with previous studies which have found that migration may increase isolation, loneliness and distress among people (particularly older adults) whose families have emigrated (Braimah & Rosenberg, 2021; H. de Haas & Fokkema, 2010; H. de Haas & van Rooij, 2010; Torres & Casey, 2017). These outcomes are likely exacerbated by the perceptions of some people in the origin that recent migrations are unplanned and undertaken with no long-term goals or economic benefits. This, coupled with the fact that some of the youth who emigrate never return, leads some non-migrants and return-migrants to feel neglected/abandoned.

In the destination area, many migrants also discussed the fact that the rapidly deteriorating climatic conditions in their settlement communities are affecting their ability to meet their migration goals of livelihood improvement. Thus, some participants indicate that they have had to relocate a couple of times within the middle belt in search of better farming opportunities. Furthermore, migrants in the middle belt lamented that their outsider and/or ethnic minority status often affects their access to farming opportunities (e.g., fertile lands) as well as off-farm employment options (e.g., MLIs). This subsequently limits migrants' livelihood and economic options in destination areas, further hindering their achievement of their migration goals. Apart from these effects on livelihoods, participants also observed that their migrant/outsider status affects other aspects of their lives such as access to informational, economic, social and other resources. To begin, many noted that their rural settlement patterns tend to cut them off from the larger towns, thereby inhibiting their access to climate change, agricultural extension services and other informational resources due to the reluctance of workers to travel to these remote communities. Additionally, migrants stated that their outsider status also results in their exclusion from some communal and social events/processes such as decision making and agricultural/livelihood opportunities that are brought to their communities. Migrants therefore observed that the combination of all of these factors not only leads to feelings of exclusion, but also impedes their ability to reap productive benefits from migration and subsequently assist their families in UWR (e.g., through remittances). These findings support those of earlier studies which found that migrants and ethnic minorities tend to experience exclusion in receiving communities where they reside, ultimately affecting their economic, social and health outcomes in these destination areas (Asanin & Wilson, 2008; Baada et al., 2020; Kansanga & Luginaah, 2019; Sano, Kaida, & Swiss, 2017).

Given these benefits and drawbacks of migration, migrants in the middle belt were asked about their intentions to stay or return to the origin (UWR). The majority indicated that they had intentions to return eventually – with many stating that they would return once their migration goals were met. A few migrants said they planned to remain in their destination areas permanently, with a substantial proportion also stating that they were undecided about whether to return to the origin or remain in the destination area permanently. Many migrants cite reasons such as a sense of belonging in UWR, the desirability to reside with/near family, and a sense of responsibility towards their home communities and region as why they wanted to return. For migrants who were undecided about returning or remaining (and a few of those who plan to remain), the main reason underpinning this decision is the fact that they have not accumulated enough assets or met their migration goals, and hence lack the resources needed to return to the origin. These findings echo those of earlier studies in Ghana and similar contexts in the Global South which found that some migrants prefer to remain in their destination areas even when things are not going well for them, due to the fear of being perceived as failures who could not endure the migration process or optimise migration opportunities (Abdul-Korah, 2006; Baada et al., 2020; de Haas, Fokkema, & Fihri, 2015; Lobnibe, 2008). Consequently, many people in the destination area also described themselves as 'stuck', further supporting the concept of trapped populations. However, this narrative of being stuck in destination areas is less discussed in the migration literature, as dominant discourses tend to portray all migrations as successful and final goal attainments, contrary to migrants' lived realities (Baada et al., 2019; Lobnibe, 2008). Importantly, for migrants who plan to remain in the destination permanently, many named the relatively better climatic/ farming conditions and livelihood options as their motivation for wanting to stay.

FPE, postcolonial theories, intersectionality and the (livelihood) vulnerability framework help to explain these findings regarding the impacts of migration in rural sending and receiving areas of Ghana. First, the poor ecological conditions of UWR – combined with its (neo)colonially-rooted histories of under-development and economic impoverishment – makes outmigration from the region the most obvious adaptation strategy for many. However, UWR migrants' resource-poor status, grounded in their interlocking vulnerabilities, implicitly reproduces similar vulnerabilities in both sending and receiving areas. In the origin, the intersections of UWR's geographical positioning, poor ecological conditions, neocolonial legacies, low representation in national politics, poor economic livelihoods, resulting

impoverishment, and consequent high levels of outmigration heighten the susceptibility of non-migrants and return-migrants to persistent poverty. In the middle belt, the intersections of migrants' outsider and ethnic minority status, remote settlement patterns, resource-poor state, declining climatic conditions, and exclusion from MLIs/alternative economic employment also results in the reproduction of poverty and vulnerability in the destination. Yet, the ability of some migrants to return to their place of origin is curtailed by economic and sociocultural barriers and/or expectations. These findings ultimately emphasise rural migrant groups' vulnerability at both starting and end points, as their ecological, economic, political and social disadvantages reinforce their exposure to marginalisation devoid of effective adaptation options (Abdulai & Hulme, 2015; Crenshaw, 2018; O'Brien et al., 2004; Poole, 2011; Rocheleau et al., 1996; Songsore, 1979; Wisner, 2016). These findings highlight the fact that migration may be a less viable coping strategy for some disadvantaged groups, and underscores the limitations of migration as an adaptation strategy. Ultimately, that migrants fleeing climate change effects end up facing these again in their destination communities emphasises the fact that migration may not be a sustainable solution to climate change stressors among some climate-affected communities, particularly resource-poor ones.

6.3.4 Gendered and Intersectional Considerations of Climate Change, MLIs and Migration

Overall, the study findings show diverse gendered experiences regarding climate change, MLIs and migration among migrants, non-migrants and return-migrants. For example, in the middle belt, more women report that temperatures are getting colder, but more women also say they have noticed longer hot spells. Also, while more women migrants indicate that they lack the necessary information to prepare for climate change impacts, or that they would do nothing in response to climate change effects, more men say that they have the necessary information to protect themselves against climate change, but also say that they do not know what they would do in response to climate change effects. With respect to MLIs, more women in the origin report that they are personally informed about them and believe that MLIs can reduce hunger, but more women also indicate that smallholders are worst affected by MLIs. Other examples include the fact that more men in UWR are less likely to adopt migration as a coping strategy, and yet more men than women also say migration has positive benefits. While these findings may appear dissonant or contradictory on the surface, they possibly point to the general ambivalence and unpredictability of participants'

realities and decisions/choices around climate change, MLIs and migration. Thus, it could be argued that these study findings highlight the fact that irrespective of gender, all individuals and communities in rural sending and receiving areas of Ghana are already bearing the brunt of global climate change, MLI-related inequalities, and migration and associated outcomes. However, these collective vulnerabilities notwithstanding, the study findings show that climate change, MLIs and migration are still experienced in gendered and intersectional ways, pointing to how individuals' social categories inevitably shape their experiences of these phenomena by ameliorating or exacerbating their marginalisation.

For instance, the findings reveal that the loss of livelihoods resulting from climate change are experienced in gendered ways. Thus, while women discussed climatic hardships in relation to their inability to perform caregiving roles such as cooking, sourcing water, engaging in small scale businesses (shea production), and caring for children's and other family members' needs, men discussed climatic stressors in reference to their inability to perform breadwinning roles like engaging in productive farming, affording income for household bills and large purchases, and reaping enough economic benefits to return and care for their families in UWR (for migrant men). Furthermore, the findings demonstrate the added vulnerabilities that women face due to their limited or insecure rights to agricultural resources (e.g., land, farm produce), despite investing equal or more labour into farming as their male partners. This finding is consistent with earlier studies which show that women's contribution to agriculture remains undervalued and un(der)paid, and thus limits their rights/control over farm resources and incomes (Diaz & Najjar, 2019; Doss, 2010; FAO, 2012; Najjar et al., 2017). Moreover, the findings highlight the ways in which climate change exacerbates time poverty for women in rural areas, as they must now spend more time queuing for or travelling to access water and other supplies for household use, consistent with earlier studies (Arora, 2015; Hyde, Greene, & Darmstadt, 2020; Kes & Swaminathan, 2006).

With regard to MLIs, I found that although both female and male rural migrant groups tend to be excluded from decision making, men fare a little better because MLI deals are negotiated by community leaders, many of whom are men. Also, many participants point to the fact that their exclusion from MLI opportunities may be based on their lack of physical strength and/or low levels of education. Again, these exclusion/inclusion criteria may favour men a bit more, due to widespread perceptions that women are physically weaker (see Najjar et al., 2018), and the fact that more men in UWR have undergone (or have higher levels of)

formal education compared to women (Ghana Statistical Service, 2013; also see results on sociodemographic charactersistics). These findings notwithstanding, women in this study appear to hold more favourable perceptions of MLIs and the potential benefits that they can provide to rural communities, compared to men. This may be rooted in gendered dynamics regarding land and other resource ownership, as well as how these play out within the context of MLI operations in communities experiencing rapidly deteriorating climatic conditions. Thus, possibly, because women already have so few rights over land and natural resources, they are more optimistic about MLIs since they have more to gain and less to lose. This finding supports those of other studies which have found that women tend to view opportunities from DaFI in a more favourable light than men (Atuoye et al., 2021; Kuusaana, 2017).

With respect to migration, decisions, trends and outcomes also play out in gendered ways. For instance, more men than women in UWR have migrated at least once in their lifetime. Furthermore, despite the considerable changes in gender/social norms that make the independent migration of women more acceptable, contemporary migration decisions still tend to favour the movement of men compared to women. These findings are consistent with earlier migration research which show that men's independent migration is perceived more favourably than women's (de Haas & Fokkema, 2010; Lobnibe, 2008; Resurreccion & Van Khanh, 2007). These findings possibly explain why more women in UWR consider migration as a potential adaptation towards climate change effects than men. Accordingly, due to the relative ease of men's sole migration and the higher numbers of men who have migrated in the past in response to climate change, perhaps these men have found that migration does not meet their needs, as compared to women whose lower emigration rates make them more hopeful that migration can help to meet their climate-related needs. Lastly, I found that more women than men expressed feelings of being stuck or trapped in both the origin and destination areas, likely due to their limited decision-making power in migration processes.

The study findings further reveal gendered coping strategies in response to the combined effects of climate change, MLIs and migration in both origin and destination areas. Specifically, I found that gendered notions around masculinity and male roles/responsibilities leave men with limited coping strategies towards the stressors brought on by the loss of livelihoods. Hence, some men in the study note that their gender prevents them from 'begging' for food or sharing their feelings of distress with others. Moreover, men who cannot meet these expectations tend to resort to alcohol misuse as a coping strategy for numbing

their worries. This supports Kelbert and Hossain's (2014) assertion that the inequalities brought on by rapid globalisation leads to 'poor man's patriarchy' – "a washed-out version of ancient male privileges, but yoked to responsibilities poor men can rarely meet" (p.20). They also support the findings of earlier studies in UWR and other SSA contexts (see Luginaah, 2008; Luginaah & Dakubo, 2003; Ragetlie, Hounkpatin, & Luginaah, 2021) which have found that men tend to resort to alcohol misuse as a way to cope with food insecurity, economic deprivation and the inability to meet social demands and rigid gender norms/roles. However, unlike the findings of Luginaah (2008) and Luginaah and Dakubo (2003), fewer women in this study acknowledge using alcohol as a coping strategy due to norms that stigmatise alcohol misuse among women, and the few who drink to cope often do so in secret. Nonetheless, as noted by Luginaah and Dakubo (2003) and Ragetlie et al. (2021), the use of alcohol as a coping mechanism results in severe negative consequences such as the diversion of already limited household resources, exacerbation of food insecurity, gender and sexual based violence, and the spread of infectious diseases – with women and children being the worst affected. Some women in this study also report seeking medical care in managing the physical (e.g., hypertension) and mental (anxiety, panic attacks) health manifestations of their distress, caused by their inability to meet motherhood responsibilities. These findings are consistent with reports of the rise in distress and mental health illnesses associated with climate change, economic inequalities, migration and other globalisation processes (Cunsolo & Ellis, 2018; McNeill et al., 2017; Sharma, 2016; Torres & Casey, 2017).

Apart from gender, the study findings also highlight the ways in which other axes of marginalisation such as age, (dis)ability, family structure, and marital, migrant and health status may exacerbate the vulnerability of rural dwellers to climate change, MLIs and migration effects. To illustrate, in both the origin and destination areas, participants discussed how ageing and a gradual decline in physical health/strength affects their ability to undertake productive farming, as well as limits their options for MLI employment and migration. Similarly, people with disabilities and those caring for people with disabilities report that they face added levels of vulnerability including a lack of resources to care for themselves or family, potential exclusion from MLI opportunities, and an inability to migrate. Likewise, many noted that poor physical health may position an individual as an unideal migrant, and for migrants, chronic ailments often serve as a major reason for returning to the origin. Chronic ailments and poor health also affect people's ability to undertake productive farming, particularly

within the context of rapidly deteriorating climatic conditions. Family structure and marital status were also found to influence who migrates, return migration options, the ability to accomplish migration goals, the kinds of work that a person can engage in, and personal/household safety in these resource-poor settings – with widowed women being particularly affected. Finally, migrant/outsider status was found to influence access to environmental, economic and social resources, with many migrants saying that they often experience marginalisation in accessing land, jobs and social support in destination communities due to their minority status. Importantly, however, the findings of this study show that for some individuals and groups, vulnerability is not a one-way traffic where either their gender or age, disability, migrant status, etcetera affects their experiences of these contemporary crises. Instead, various aspects of their identities that are co-constitutive of one another (e.g., Beh-faame who is an older, resource-poor, return-migrant woman, caring for her disabled husband by herself in the impoverished postcolonial UWR) shape their overall experiences. This speaks to the interlocking rather than additive nature of the vulnerabilities that people in this study face (Crenshaw, 2018; Mollett & Faria, 2013; Sundberg, 2017).

FPE, feminist postcolonial theories, feminist political economy, intersectionality and vulnerability theories all help to better situate these findings. For instance, feminist postcolonial theories help to explain the ways in western or Eurocentric ideals of family structure and gender roles may leave postcolonial subjects and societies struggling to meet the rigid gender norms associated with these structures. Yet, the pressures of these norms – devoid of the privileges of western patriarchal societies – ultimately results in feelings of frustration and distress among the resource-poor women and men who cannot attain such idealised gendered expectations (Davis, 2003; Kelbert & Hossain, 2014; Reina Lewis & Mills, 2003; Struckmann, 2018). The findings also highlight how the (neo)colonial legacies that have created the current north-south economic and infrastructural inequalities in Ghana continue to sustain these through the low representation of UWR people in national politics, and the vested economic decisions that the country's policymakers (most of whom hail from southern Ghana) continue to make regarding MLIs/DaFIs. Consequently, the intersections of rapidly deteriorating ecological conditions and economic deprivation rooted in (neo)colonial histories as well as the political/economic interests of the country's elites, makes outmigration from UWR the most obvious coping strategy for people in the region. However, the endemic poverty among UWR migrants and declining climatic conditions in the middle belt just means

that migrant groups' vulnerabilities are reproduced or exacerbated at both the origin and destination areas. These theoretical/conceptual frameworks also emphasise the added marginalisations that women and other minority groups with weak property, resource and decision-making rights undergo, thereby further limiting their adaptation options towards these crises. Notwithstanding these exacerbated marginalisations, however, it is also important to acknowledge the unique ways that women and other rural dwellers express their agency within ecological, economic and sociocultural constraints. Ultimately, these findings highlight the importance of paying attention to how gender and other intersectional identities mediate experiences of climate change, MLIs and migration among people in rural sending and receiving communities of Ghana.

6.4 Policy Interventions and Recommendations

Based on these findings, I offer some broader policy suggestions in addition to the interventions and recommendations provided by study participants in chapters four and five. First, there is a crucial need for the development of local terminology for globalisation processes such as climate change and MLIs/DaFIs. This could be undertaken as a collaborative effort by institutions such as the Institute of National Languages, Ghana Educational Service, the Ministry of Environment, and the local and regional councils/governments of Ghana. Developing these terminologies would be extremely helpful for bridging current knowledge gaps on issues of climate change and MLIs between local/grassroots populations and global actors, and go a long way towards collating and institutionalising grassroots knowledge of these contemporary processes.

Concerning climate change, there needs to be more (frequent) informational campaigns and updates in rural areas to provide rural dwellers with the relevant information about the factors presently shaping their livelihoods, health and general wellbeing. Given the important influence of religious and sociocultural norms on rural communities' perceptions of environmental issues, sensitisation campaigns must take these norms into account to design and provide contextually/culturally relevant climate change information and interventions. Furthermore, there is the urgent need for up-to-date meteorological/weather reports at the national level to better measure climatic changes within Ghana. This will be useful for complementing local experiences of climate change, and aid in climate change mobilisation,

advocacy and negotiation efforts at the communal, national and global levels. Importantly, it is critical to develop state-of-the-art climate change adaptation interventions (e.g., resilient dams and irrigation systems, jobs in emerging renewable/clean energy industries) to provide rural populations with livelihoods during and after the farming season, and outside of agriculture. Other potential interventions include agricultural extension services that focus on water-resistant crops and adaptive farming techniques. To ensure accessibility to these interventions, such extension services must also seek out and serve marginalised groups such as migrants and women farmers. One way to achieve this is to train more migrants and women as extension agents. It is also vital to involve rural dwellers in the design of these climate change adaptation strategies to ensure that implemented interventions are not disconnected from the actual needs of the local population.

With respect to MLIs, it is important to have more equitable geographical distributions of these at the national level. As the study findings show, the lack of basic structures/ necessities in rural communities of UWR likely explain the limited presence of MLIs, as investors fear that they may not recoup capital invested let alone make any profits in the region. Given this, concerted efforts by the government of Ghana to improve infrastructure and amenity development – e.g., good roads, educational and health facilities, electricity, and decent housing – may serve as a pull factor for future MLIs. Furthermore, investing in human capital development in UWR through better schools, improved staffing, and scholarships/ tuition waivers would go a long way to ensure that people in UWR can develop the skills and expertise required for MLI employment. MLIs can also support this by investing in training and capacity building in the region. In the long run, this human capital development may also improve the representation of UWR people in national political offices to lobby for more equitable MLIs. Additionally, providing incentives for MLIs/DaFIs to set up in UWR could encourage prospective investors to direct their attention to this area. Tax breaks may be one way to go about this. However, these tax breaks must be implemented in a manner that does not further disadvantage local populations. For example, providing breaks from national rather than local (i.e., district, assembly, community) level taxes would ensure that these tax breaks are not borne by resource-poor communities. Other options could include legislating the payment of additional local level taxes, as these are more easily accessible than the national taxes paid into the central government's consolidated funds. Alternatively, the Ghanaian government could mandate that the equivalent of national taxes on MLIs be instead

directed towards developmental projects by these MLIs in rural communities where they operate. Such efforts may (re)assure MLIs that contributing to community development or investing in resource-poor settings would not necessarily take a toll on their profit margins. Nonetheless, the development of basic infrastructure/amenities in UWR by the government is a crucial first step as without this, even tax breaks might not be enough incentive for MLIs.

Still regarding MLIs, there also needs to be more comprehensive and transparent environmental impacts assessments of MLIs/DaFIs within Ghana. This may be achieved by involving local community members in impact assessments to ensure that these go beyond just the physical or scientific effects of MLIs, to include social and cultural impacts as well. With regards to transparency, it is important for national and local leaders to be honest about MLI activities in Ghana and the respective localities, to avoid misleading community members and/or diverting economic opportunities and resources from these MLIs. Outside of impact assessment, community members further need to be consulted and updated continuously with relevant information regarding MLI operations, to ensure that local elites do not continue to solely negotiate MLIs, and in ways that only benefit them. In addition to addressing the scepticism that rural dwellers have about MLIs, these in-depth community engagements could also go a long way to guarantee that MLIs are implemented in socioculturally sensitive ways and maximise their benefits for rural communities. It is also important to institute specific MLI job quotas for local community members. For example, national and local governments can require that MLIs employ at least 30-40% of workers from local communities, and also include quotas for minorities and marginalised groups such as people with disabilities, women, older adults and migrants. Lastly, there is the need for more stringent mandates and better monitoring to make certain that MLIs meet their CSRs in communities where they operate. These CSRs could include social infrastructure/amenity development mandates (e.g., provision of roads, schools, electricity, water, health facilities), as well as the establishment of scholarships and provision of other necessities within the communities MLIs operate in. However, it is important to add that MLIs should be mandated to undertake these development initiatives regardless of whether their CSR strategies require them to. Importantly, these CSRs must be based on consultations – e.g., through outreach events – with community members, and should be a continuous rather than one-time process. This engaged feedback process would ensure that CSRs are not disconnected from the actual realities or needs of local people. Additionally, such CSR-based outreach events could help to

build MLIs' cultural competency/sensitivity, promote their understanding of how local cultures may shape employment processes, and build more trust for MLIs among people in rural sending and receiving areas of Ghana.

With regards to migration, it is important to promote equity by providing individuals and groups who would like to migrate with the option of doing so. In the origin (UWR), this could be done through community sensitisation campaigns targeted at further breaking down the social and gender norms that still inhibit some people's migration goals. And for resource-poor persons who cannot afford migration costs, a programme aimed at subsidising migration expenses (e.g., through reduced transportation costs) would also be helpful. In middle belt destination areas, similar programmes/interventions aimed at welcoming migrants, providing them with economic resources to facilitate their settlement, and promoting migrants' access to affordable and subsidised lands and housing would be beneficial. Apart from this, sensitisation campaigns directed at addressing the discrimination and marginalisation that migrants face in settlement communities due to their minority/outsider status would contribute towards making their transition and settlement experiences smoother. These programmes would also help to improve migrants access to employment and other economic resources including good farmlands and MLI opportunities in destination areas.

Nevertheless, the study findings emphasise the fact that MLIs and migration may not be suitable coping strategies for all persons. This showcases the urgent need for in-situ social protections and safety nets such as cash transfers, basic income support, pensions, and free or highly subsidised health care and education in rural sending and receiving communities. In both the UWR and middle belt, the MLI recommendations outlined above – coupled with these safety nets such as basic income support – could help to improve equitable alternative livelihood options for people in these areas. This would aid in ensuring that residents who want to move out of agriculture can do so. However, the valorisation of agriculture is also critical for promoting agricultural livelihoods in rural sending and receiving areas, and changing current attitudes about agriculture as a livelihood of last resorts. This valorisation could include incentivising the youth and other groups to venture into farming. For example, highly subsidised or free equipment and inputs, land allocation schemes, subsided loans/ financial capital and direct extension services could help to reduce costs and diminish agricultural risks for existing and new farmers. Furthermore, promoting farmers' ability to transform their produce into value added goods (e.g., establishing food processing factories

in rural areas, connecting farmers to important actors [like exporters] within the agricultural value chain) would help to not only reduce harvest season food spoilage, but also translate into more income for farmers. This would further assist in improving food security by lowering the cost of off-season foods and ensuring food availability all year round. Infrastructure development in rural areas (particularly road networks) is also immensely useful for helping farmers to transport their produce to urban markets where they can earn more profits on their goods and again reduce post-harvest losses. Also, the current annual National Farmer's Day ceremony could be made into a biannual event and reproduced at the communal level to recognise and incentivise new and existing farmers, and make agriculture a career of choice. Governments, aid organisations and NGOs can also enable this valorisation by supporting efforts to raise public awareness about the contribution of agriculture and farmers to national economies and to society at large.

For older or frail adults as well as people living with disabilities and chronic illnesses who cannot work, cash transfers and pensions would be extremely beneficial in helping them to meet their basic needs. Last but importantly, it is pertinent to promote rural dwellers' access to information on how to access existing and news services/interventions available to them. This is important because many participants in this study indicated that even if interventions were brought to their communities, they have no idea how to access them. Therefore, promoting rural dwellers' access and rights to ecological, economic and sociocultural information and resources would go a long way to improve the wellbeing of migrants, non-migrants and return-migrants in sending and receiving areas of Ghana.

6.5 Limitations of the Study and Directions for Future Research

6.5.1 Limitations of the Study

This study has helped to further our understandings of the ways in which climate change, MLIs and migration shape the experiences of people in rural sending and receiving communities of Ghana. Despite these contributions, it is not without limitations. To begin, the cross-sectional nature of my quantitative data limits my study findings to associations and precludes the ability to establish cause-effect relationships or infer causality. Furthermore, because I did not perform advanced or multivariate statistical tests, it is not possible to rule out the role of confounding factors in influencing the results observed. Given this, the quantitative results of this study must be interpreted with caution. With respect to the

qualitative strand, despite my best efforts to stimulate and encourage lengthy conversations with all participants, some tended to be shy or reserved, often resulting in shorter interviews. Also, many participants demonstrated signs of research fatigue, with a few verbally sharing these concerns with me. As such, some IDIs were truncated by participants who either felt tired/disinterested or perceived that this study had nothing new to offer them that previous studies have not already done. These factors may have consequently influenced my final data.

In addition, both the qualitative and quantitative components of this study rely on self-reported data. This, coupled with the fact that participants were asked to recall information/ experiences from several years ago, means that the findings stand the risk of recall bias (i.e., errors relating to differences or accuracy in reporting/recollecting past events). However, although this may have affected the data gathered, scholars such as Summerfield (1998, 2000) and Wallach Scott (1999) argue that participant reports during interviews – much like all lived experiences – are always shaped by memory and discourses, and hence can never be regarded as fully accurate nor inaccurate. Moreover, in recognition of this risk of recall bias, I ensured to include probes in both qualitative and quantitative interviews to help mitigate this potential limitation. Relatedly, it is possible that my positionality as both an insider and outsider to this study may have caused some participants to narrate their experiences based on what they thought I wanted to hear (Baruah, 2009). Lastly, it is likely that my positionality may have caused me to overlook some important information and cues during data collection, analysis and writing. For example, my own lived experience as a UWR migrant may have caused me to miss some nuances in participants' accounts of their experiences in rural destination areas due to my assumption of a shared migration experience. Furthermore, my insider status and gender may have made some migrant men reluctant to discuss their experiences in detail with me due to the patriarchal gender norms in UWR that encourage stoicism among men. To minimise these risks, I made certain that my data analyses accounted for not only the verbal information provided by participants, but also contextual observations of research spaces and general surroundings. This is in line with calls by scholars such as Bourdieu (1996) and Power (2004) that researchers approach their interview spaces and data as co-constructed realities by both the researcher and study participants. I also ran some de-anonymised data by other researchers to reduce the risk of overlooking or misinterpreting the data. For example, during data transcription, I consulted researchers at my partner institution (UDS) who are also skilled speakers of the local Ghanaian languages with portions of interview audio and transcribed

text to be ensure that meanings were not missed in interview transcripts. I also consulted my secondary supervisor who hails from UWR about the meanings of some words that I was unsure of.

Other potential limitations of this study include the fact that the lack of local terminology for concepts like climate change and MLIs may have resulted in some meanings being lost in translation and/or a higher possibility of imposing Eurocentric meanings on participants' accounts. This speaks to cautions by researchers such as Ravishankar (2020) and Greenblatt (2021) about the risks of linguistic (neo)colonialism during research encounters, despite researchers' best intentions. To minimise this, I ran my research guides and some de-anonymised transcripts by skilled speakers to reduce impositions and loss of meaning. With respect to theoretical limitations, despite my best efforts to review the relevant academic conversations/literature around the theoretical and conceptual frameworks employed in this study, it is possible that I may have missed some critical or recent advancements in these frameworks. Likewise, it is possible that I may have overlooked some literature around my study topic due to the rapidly evolving nature of issues of climate change, MLIs and migration.

The practical challenge of accessing some remote rural communities and my inability to recruit enough female RAs limited my goal of promoting representation and/or the participation of women in this study. Furthermore, although I took care to account for varying vulnerabilities and intersectional experiences, it is possible that I may have missed some unique experiences. Hence, policymakers need to consider that despite being conducted among rural dwellers in migrant sending and receiving communities, the findings of this study may not be applicable to all individuals and/or migrant groups in these settings. Similarly, although using a mixed methods approach helped me to paint a broader picture of my study topic and increases the generalisability of my study findings, there are still distinct geopolitical and sociocultural complexities underlying the findings of this study. As such, caution must be used in extrapolating these findings to similar contexts within SSA and the Global South more broadly.

6.5.2 Directions for Future Research

This study achieved its goal of examining how climate change and MLIs simultaneously shape rural-rural migration experiences among people in sending and receiving communities of Ghana. This notwithstanding, it also raises some critical questions and themes that I could

not pursue further due to time, budgetary and institutional constraints. To this end, it would be helpful for future studies to adopt a comparative approach towards studying climate change, MLIs and migration in Ghana. This would involve examining the experiences of both migrants and non-migrants in middle belt destination areas to uncover the similarities and differences in experiences regarding these contemporary crises. It may also be useful to undertake similar comparative studies in other rural settings in SSA to gain a broader picture of these experiences, and understand the similarities and differences across countries. In addition, given that many rural dwellers report feeling distressed due to the combined effects of climate change, MLI inequalities and migration, it would be beneficial for future studies to further explore the linkage between climate change, MLIs/economic investments, and mental health outcomes among people in rural migrant sending and receiving communities of Ghana. Finally, as most participants discussed the limited adaptation options available to them and the resulting use of alcohol in numbing their worries, future studies could look to better understand the coping strategies employed by rural dwellers in dealing with the combined effects of climate change, livelihood inequalities and migration, as well as the use of alcohol and other substances in coping with these stressors.

6.6 Conclusion

This dissertation examined how climate change, MLIs and migration simultaneously affect the lived experiences of people in rural sending (UWR) and receiving (middle belt) communities of Ghana. The findings highlight the devastating effects that climate change is already having on farming livelihoods in these communities. They also show how the inequitable distribution/implementation of, and unequal access to, MLI opportunities worsen rural migrant groups' vulnerabilities. Consequently, although many climate-affected individuals and communities rely on migration as a coping strategy, the findings show that migration has its limitations and may therefore be an unsustainable adaptation strategy for many in these resource-poor settings. Importantly, this study has emphasised that climate change, MLI and migration effects affect diverse individuals and communities differently based on factors such as geographical location, resource privilege/access, socioeconomic status, gender, age, (dis)ability, among others. Irrespective of these differentiated vulnerabilities, ultimately, very few are spared the negative consequences of these

contemporary crises. Thus, while the timing, outcomes and gravity may differ for various individuals, the dire effects of these crises are widespread and causing immense distress in rural sending and receiving communities that greatly depend on environmental/natural resources for livelihoods and survival. These disproportionate burdens notwithstanding, more equitable ecological/environmental, political, economic and social decisions can go a long way towards mitigating the effects of these contemporary crises on migrants, non-migrants and return-migrants living in vulnerability.

Simultaneously, more drastic and time-sensitive multilateral solutions are required by governments globally to mitigate climate change effects, ensure equitable MLI opportunities and maximise the positive outcomes of migration for climate-affected and economically deprived populations. As argued by Biermann and Boas (2008), McMichael, Barnett and McMichael (2012), and Torres and Casey (2017), wealthy/industrialised nations have a moral responsibility to mitigate climate change and its effects on marginalised groups. These nations are also obligated to promote adaptive capacities – e.g., investing in renewable and clean energy initiatives, facilitating safe and orderly migration – among individuals, groups and communities that are bearing the brunt of climate change consequences. Governments of industrialised nations and/or countries with the highest emissions must therefore take greater responsibility for reducing emissions and paying for adaptation and resilience efforts in lower-income countries. There also needs to be more accountability and ramifications at the global level for high-income/industrialised countries that fail to meet their agreed upon climate finance mandates. Importantly, it is critical for climate change, as well as related migration and economic livelihoods solutions, to be approached from an equity lens. As argued by Pelling and Garschagen (2019), climate change initiatives must focus on the bottom few percent rather than average outcomes. Local and global leaders must also work to better highlight the link between poverty and climate change risks, and promote public information around these. These governments and policymakers must also put the needs of people living in vulnerability first, to better ensure equity in climate adaptation (Pelling & Garschagen, 2019). Without these drastic efforts, the 'business-as-usual' or even incremental approaches to these contemporary crises will only serve to exacerbate and prolong the suffering that many individuals and communities in Ghana and similar contexts in SSA and the Global South are already facing.

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APPENDICES

Appendix A: Ethics Approval Forms

Date: 3 October 2019

To: Dr. Bipasha Baruah

Project ID: 114437

Study Title: Examining the Dual Effects of Climate Change and Multilateral Investment on Agrarian Migration in Ghana

Short Title: Climate Change, Multilateral Investment and Migration in Ghana

Application Type: NMREB Initial Application

Review Type: Delegated

Full Board Reporting Date: November 1 2019

Date Approval Issued: 03/Oct/2019

REB Approval Expiry Date: 03/Oct/2020

_____

Dear Dr. Bipasha Baruah

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the WREM application form for the above mentioned study, as of the date noted above. NMREB approval for this study remains valid until the expiry date noted above, conditional to timely submission and acceptance of NMREB Continuing Ethics Review.

This research study is to be conducted by the investigator noted above. All other required institutional approvals must also be obtained prior to the conduct of the study.

Documents Approved:

Document Name	Document Type	Document Date	Document Version
2_Final_Verbal_2019_Letter of Informed Consent - Focus Groups	Verbal Consent/Assent	24/Sep/2019	3
2_Final_Verbal_2019_Letter of Informed Consent - Interviews	Verbal Consent/Assent	24/Sep/2019	3
2_Final_Verbal_2019_Letter of Informed Consent SURVEYS	Verbal Consent/Assent	24/Sep/2019	3
2_Written_Final_2019_Letter of Informed Consent - Focus Groups	Written Consent/Assent	24/Sep/2019	3
2_Written_Final_2019_Letter of Informed Consent - Interviews	Written Consent/Assent	24/Sep/2019	3
2_Written_Final_2019_Letter of Informed Consent SURVEYS	Written Consent/Assent	24/Sep/2019	3
2019_Announcement	Recruitment Materials	31/Aug/2019	1
2019_Confidentiality Agreement	Written Consent/Assent	31/Aug/2019	2
2019_Des_FGD Guide_Migrants	Focus Group(s) Guide	12/Jul/2019	1
2019_Des_IDI_Guide_Migrants	Interview Guide	12/Jul/2019	1
2019_Des_Interview Guide - Key Informants	Interview Guide	12/Jul/2019	1
2019_Letter of Invitation NGO, KeyPersons, Community Leaders	Recruitment Materials	31/Aug/2019	1
2019_Or_FGD_Guide_Migrants	Focus Group(s) Guide	12/Jul/2019	1
2019_Or_IDI Guide_Migrants	Interview Guide	12/Jul/2019	1

2019_Or_Interview Guide - Key Informants	Interview Guide	12/Jul/2019	1
2019_SURVEY_Migrant NEW_BB	Online Survey	12/Jul/2019	1
2019_SURVEY_Migrant NEW_BB	Paper Survey	12/Jul/2019	1
FGD_2019 Letter of Invitation	Recruitment Materials	31/Aug/2019	1
IDI_2019 Letter of Invitation	Recruitment Materials	31/Aug/2019	1
Survey_2019_Letter of Invitation	Recruitment Materials	31/Aug/2019	1

No deviations from, or changes to the protocol should be initiated without prior written approval from the NMREB, except when necessary to eliminate immediate hazard(s) to study participants or when the change(s) involves only administrative or logistical aspects of the trial.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario. Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB. The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Please do not hesitate to contact us if you have any questions.

Sincerely,

Kelly Patterson, Research Ethics Officer on behalf of Dr. Randal Graham, NMREB Chair

Note: This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).

UNIVERSITY FOR DEVELOPMENT STUDIES

Tel: 03720-93382/26634/22078
Email: registrar@uds.edu.gh
Website: www.uds.edu.gh

Our Ref: UDSIRB/001/20

P. O. Box TL 1350
Tamale, Ghana

Your Ref:...................................

OFFICE OF THE REGISTRAR

Date: 4th March, 2020

JEMIMA NOMUNUME BAADA

DEPARTMENT OF WOMEN'S STUDIES AND FEMINIST RESEARCH

LAWSON HALL, ROOM 3243

UNIVERSITY OF WESTERN ONTARIO

CANADA

ETHICAL APPROVAL NOTIFICATION

With reference to your request for ethical clearance on the research proposal titled '**examining the dual effects of climate change and multilateral investment on agrarian migration in Ghana**' I write to inform you that the University for Development Studies Institutional Review Board (UDSIRB) found your proposal including the consent forms to be satisfactory and have duly approved same. The mandatory period for the approval is six (6) months, starting from 5th March to 5th September, 2020.

Subject to this approval, you are please required to observe the following conditions:

1. That the anonymity of the respondents shall be guaranteed as mentioned in the consent forms.
2. That you will acknowledge the source of the data collected in any publication related to this research.
3. That you will submit a field report and a copy of the research report to the UDSIRB.
4. That you may apply to the UDSIRB for any amendments relating to recruiting methods, informed consent procedures, study design and research personnel.
5. That you will strictly abide by the code of conduct of this University.

Please do not hesitate to refer any issue (s) that you may deem necessary for the attention of the Board.

Thank you.

Prof. Herbert Kwabla Dei

Chairman, UDSIRB

Cc: file

Western 🛡️

Project Title: Examining the Dual Effects of Climate Change and Multilateral Investment on Agrarian Migration in Ghana.

Principal Investigator: Dr Bipasha Baruah (Supervisor)

                                Department of Women's Studies and Feminist Research,

                                University of Western Ontario

Primary Researcher: Jemima N. Baada (PhD student)

                                University of Western Ontario

<u>Invitation to participate in a survey</u>

I am Jemima Baada, a PhD student working under the supervision of Dr Bipasha Baruah in the Department of Women's Studies and Feminist Research at the University of Western Ontario, Canada. We are currently conducting a study which seeks to examine the dual effects of climate change and multilateral investment on agrarian migration in Ghana, in order to understand how changing environmental conditions and growing multilateral investments are influencing rural migration trends and livelihoods. This would help to further our understanding about the ways in which agrarian migrant communities experience the effects of climate change and the presence of multilateral investments.

This study is important because it seeks to understand the opportunities and constraints faced by migrants in the middle belt (Brong Ahafo, Bono East, Ahafo and Ashanti Regions), and non-migrants and return migrants in the Upper West Region. The findings of this study will also help to highlight how to better leverage growing multilateral investments to improve the lives of rural communities. The findings from this study may help propose ways of empowering migrant communities in line with the United Nations Sustainable Development Goals. In addition, the findings may inform the design of interventions and social policies to reduce inequalities and improve the lives of agrarian migrant communities

The study uses surveys, in-depth interviews and focus group discussions. By this letter, you are being invited to take part in a **survey only**. The survey covers questions on migration dynamics, experiences with farming and other employment opportunities, health access, social support and gender relations, household food security, and demographic information. If you agree to take part in this study, you are agreeing to be asked a series of questions by the researcher for a maximum time of one hour. With your permission we will record your responses onto the questionnaires. Information collected will be stored in a password secured cabinet at all times. Personal identifiers such as your name and address (if applicable) are required for arranging meetings and making follow ups where necessary. The primary researcher and her supervisor will be the only ones with access to identifiable information. The information collected will be used for purposes of the study only and all data will be encrypted and stored for a maximum of 7 years, after which they will be permanently deleted.

Representatives of The University of Western Ontario Non-Medical Research Ethics Board may require access to your study related records to monitor the conduct of the research.

Participating in this research means that you are 18 years or older and have voluntarily agreed to take part in the study. There are no known risks or harm associated with this study. However, it is anticipated that some participants may feel uncomfortable talking about their personal lives. Your participation in this research is entirely of your own volition and you have the right not to answer any questions you don't want to answer. You also have the right to withdraw from the study at any point and there are no consequences to doing so. The information you provide will be treated with the utmost confidentiality. A copy of this letter of participation and consent will be made available to you, as well as final results of the study. You do not waive any legal right by signing this consent form. You will be compensated with GHS 18 (CAD 5) for your participation.

A summary of results will be given to Dr. Galaa, Dean of Faculty of Integrative Studies at UDS (Tel: XXXXXX), who will then disseminate findings to communities where the study was conducted. You can also contact Dr Bipasha Baruah if you are interested in getting feedback on study results.

Should you need more information, clarification of issues or verification of information, you can contact the primary researcher (Ms Jemima Baada) or her supervisor, Dr Bipasha Baruah using the contact information below.

Thank you for considering participating in this study. Please proceed to the next page if you agree to participate.

Dr Bipasha Baruah   Jemima N. Baada
Women's Studies and Feminist Research   Women's Studies and Feminist
Research
The University of Western Ontario   The University of Western Ontario
Room 3244, Lawson Hall   Room 3242 Lawson Hall
Email: XXXXXX   Email: XXXXXX
Tel: XXXXXX   Tel: XXXXXX

CONSENT FORM - SURVEY

Principal Investigator: Dr Bipasha Baruah (Supervisor)

Department of Women's Studies and Feminist Research,

University of Western Ontario

Primary Researcher: Jemima N. Baada (PhD student)

University of Western Ontario

Examining the Dual Effects of Climate Change and Multilateral Investment on Agrarian Migration in Ghana.

I have read the Letter of Information, have had the nature of study explained to me, and all questions have been answered to my satisfaction and I agree to participate.

Do you agree that you agree that we can write down responses you provide during the survey interview? :   □ Yes   □ No

Do you give permission to allow for the use of de-identifiable data collected from this interview for statistical analysis?   □ Yes   □ No

Participant Name _____   Participant Signature_____

Date_____

Researcher's Name_____   Researcher's Signature_____

Date _____

This letter is yours to keep for future reference.

Dr Bipasha Baruah   Jemima N. Baada
Women's Studies and Feminist Research   Women's Studies and Feminist Research
The University of Western Ontario   The University of Western Ontario
Room 3244, Lawson Hall   Room 3242 Lawson Hall
Email: XXXXXXX   Email: XXXXXX
Tel: XXXXXXX   Tel: XXXXX

Appendix C: Letter of Announcement

Study Project Announcement: "Examining the Dual Effects of Climate Change and Multilateral Investment on Migration in Ghana"

The University of Western Ontario, Canada, working in collaboration with the University for Development Studies, Ghana, is conducting a study on the experiences of migrant communities regarding climate change and multilateral investments (MLIs) in Ghana. Specifically, we seek to understand the experiences of migrants in the middle belt of the country regarding their motives for migrating, and their experiences in receiving communities. We also want to understand the experiences of non-migrants and return migrants in the migration origin (the Upper West Region [UWR]), including why some people do not migrate, and why others return to the migration origin.

What is the purpose of the study?
- To explain experiences of migrants, non-migrants and return migrants regarding climate change and MLIs in sending and receiving societies.
- To understand the challenges and opportunities available to migrants, non-migrants and return migrants.
- To understand how to better leverage MLIs to mitigate the effects of climate change on vulnerable migrant communities.

Who is a potential participant?
- People who have migrated from the UWR to middle belt destinations (Brong Ahafo, Bono East, Ahafo and Ashanti Regions).
- Non-migrants and return migrants in the migration origin (UWR).
- Community leaders.
- Officials of governmental and non-governmental organisations working in migrant communities and in the areas of climate change and MLIs in the country.

NOTE: All participants should be 18 years and older and have been resident or working in the area for not less than 2 years.

Why should you participate?

Your participation will contribute to understanding the lived experiences of migrant communities regarding climate change and MLIs, and how to better leverage growing MLIs in the country to promote the wellbeing of vulnerable populations such as environmental migrants.

How can one participate?

To participate, please contact the primary researcher through the following details:
Tel: XXXXXX
Email: XXXXX

When will the study take place?

From August 2019 to August 2020

Where will the study take place?
- In the migration origin (UWR), middle belt destinations (Brong Ahafo, Bono East, Ahafo and Ashanti Regions) and the national capital (Greater Accra Region).
- Study activities will take place in accessible spaces based on the preference of participants.

Your participation is entirely voluntary and there is no risk or harm for participating in this study. Your identity and information provided in this study will be kept confidential and only used by the researcher for the purpose of the study. Migrants, non-migrants and return migrants will be compensated for their participation with GHS 18.00 (CAD 5.00) per person for surveys, and GHS 36.00 (CAD 10.00) per person for interviews. Key informants working with governmental and non-governmental organisations will not be compensated.

Thank you in anticipation of your participation!

Appendix D: In-depth Interview Guides

In-depth Interview Guide – Non-migrants and Return-migrants (Upper West Region)

A. Basic Information
1. Age
2. Level of Education
3. Marital Status
4. Community
5. District
6. Occupation

B. Migration experiences
7. Tell me about your experiences of migration.
   (Probes: Who migrates? What are the main reasons for migrating? What would you say is the estimated proportion of emigrants? Where do migrants go? How are the migration patterns like? Are migration patterns changing? What do migrants do at destination areas?)
8. Tell me about the effects of outmigration on you and sending communities in the Upper West Region.
   (Probes: Does outmigration affect you, your household and the community positively or negatively? How? How does outmigration influence your human, economic, cultural, social and environmental capital? Are different groups differently affected by outmigration?)
9. Tell me about your experiences as a non-migrant or return migrant.
   (Probes: Why did you choose to remain in the Upper West or return to the region? What have been your experiences of remaining/resettling into the community? How would you evaluate your decisions to remain/return to the Upper West? Do you have plans to leave the region (again) in the future?

C. Environmental experiences of migrant sending communities in the Upper West Region
10. Tell me about environmental conditions in the region.
    (Probes: What do you know about climate change? How are weather and soil conditions in the region? How are these weather conditions affecting you, your household and the community? How do they affect agriculture for you? How do they affect your physical and psychosocial health, and food security? How do they affect your everyday activities? Are these weather conditions changing? How? Do these environmental conditions affect you/other individuals and communities differently?)
11. Tell me about how these environmental conditions influence outmigration.
    (Probes: How do environmental factors affect decisions to migrate, migration processes and destinations, and types/dynamics of migration (cyclical, return and permanent migrations) for you and other community members?)

D. Experiences of multilateral investments among migrant sending communities in the Upper West

Region

12. Tell me about multilateral investments in the region.
    (Probes: How much do you know about multilateral investments? What areas do they operate in? How do they operate? How do they affect you and other individuals in the community? How do they affect the community and region at large? How do they influence your access to environmental, economic, health and sociocultural resources? How do they influence employment and agriculture? How do they influence your overall physical and psychosocial health?)

13. Tell me about how multilateral investments affect your experiences of migration in the region.
    (How do they affect decisions, processes and outcomes of emigration and immigration for you and your household? How do they affect your life as a non-migrant or return migrant? How do multilateral investments and migration affect your experiences at the communal level?)

E. Challenges and opportunities among migrant communities in the Upper West Region

14. What challenges do you face as an individual in a community with high levels of migration?
    (Probes: what environmental, economic, health and sociocultural challenges do you face? How do you experience these challenges at the individual, communal and regional levels? How do you handle these challenges?)

15. What opportunities are available to you as an individual and as a community?
    (Probes: opportunities regarding environmental, economic, health and sociocultural wellbeing. How are these opportunities presented at the individual, communal and regional levels? What is your awareness level about these opportunities and how to utilise them? How do you utilise these opportunities?)

F. Gendered and intersectional experiences of climate change, multilateral investment and migration in the Upper West Region

16. How does your gender affect your experiences of climate change, multilateral investment and migration?
    (Probes: Regarding decision making and processes? With respect to challenges and opportunities? In regard to accessing and utilising resources/opportunities? Regarding outcomes?)

17. How do other aspects of your identity affect your experiences of climate change, multilateral investment and migration?
    (Probes: Your age, ethnicity, religion, socioeconomic status, (dis)ability? Regarding decision making and processes? With respect to challenges, and access to and utilisation of resources/opportunities? Regarding outcomes?)

G. Local and national interventions/policies for promoting the wellbeing of migrant sending communities in the Upper West Region

18. Tell me about the interventions currently available to help improve your individual wellbeing and that of your community.
    (Probes: interventions in the area of environmental, economic, health and sociocultural wellbeing?

At the individual, communal and regional levels? What your level of awareness about these interventions? What is the reach of these programmes? How do you utilise these interventions?)

19. What specific actions could specific organisations implement to improve your individual and collective wellbeing?

(Probes: what areas should these interventions be targeted at? What should be the level of reach? What individuals or groups should these interventions target? Should these individuals/groups have different access to these interventions?)

20. How can existing programmes, institutions and structures be better leveraged to promote your individual wellbeing and that of the community?

(Probes: For example, multilateral investments? Governmental and non-governmental organisations? Local knowledges? Emerging knowledge?)

Thank You

In-depth Interview Guide – Migrants (Middle Belt Migration Destinations)

A. Basic Information

1. Age
2. Level of Education
3. Marital Status
4. Community
5. District
6. Occupation

B. Experiences of migration in middle belt destination areas

7. Tell me about your experiences of migration.

    (Probes: Why did you migrate? Of all the reasons which is most important? Why did you settle in this region/community? What do you currently do here in the destination area? What would you say is the estimated proportion of migrants from the Upper West here in this community? How are migration patterns? Are these patterns changing?)

8. Tell me about how migrating here has affected you.

    (Probes: Has migrating out of the Upper West affected you positively or negatively? How about your household and community back in the origin? How do you think your immigration here affects the receiving society? How has migrating here influenced your human, economic, cultural, social and environmental capital? Are your experiences similar/different than those of other migrants?)

C. Environmental experiences of migrant receiving communities in the middle belt

9. Tell me about environmental conditions in this region.

    (Probes: What do you know about climate change? How are weather and soil conditions here? How are these environmental conditions affecting you? How do they affect agriculture and food security? How do they affect your physical and psychosocial health? How do they affect your everyday activities? Are these environmental conditions changing? How? Do these environmental conditions affect you and/or other individuals in the communities differently?)

10. Tell me about how these environmental conditions influence your experiences as a migrant,

    (Probes: How did environmental factors affect your decision to migrate? How did they influence your migration processes and your choice of settling here? How do environmental conditions influence the types/dynamics of migration [cyclical, return and permanent migrations] – that you engage in?)

D. Experiences of multilateral investments among migrants in receiving societies

11. Tell me about multilateral investments in this region.

    (Probes: How much do you know about multilateral investments? What areas do they operate in? How do they operate? How do they affect you and others in the community? How do they affect communities and the region at large? How do they influence your access to environmental,

economic, health and sociocultural resources? How do they influence employment and agriculture? How do they influence your overall physical and psychosocial health?)

12. Tell me about how multilateral investments affect your experiences as a migrant here in the middle belt.

(How did they affect your decisions, processes and outcomes of migrating and settling here? How do they affect your access to resources as a migrant? How do they affect your livelihood, health and overall wellbeing?

E. Challenges and opportunities among migrants in the middle belt

13. What challenges do you face as a migrant in this community?

(Probes: what environmental, economic, health and sociocultural challenges do you face? How do you experience these challenges at the individual, communal and regional levels? How do you handle these challenges?)

14. What opportunities are available to you as a migrant in this community?

(Probes: opportunities regarding environmental, economic, health and sociocultural factors. How are these opportunities presented at the individual, communal and regional levels? What is your awareness level about these opportunities and how to utilise them? How do you utilise these opportunities?)

F. Gendered and intersectional experiences of climate change and multilateral investment among migrants in receiving societies

15. How does your gender affect your experiences of climate change and multilateral investment as a migrant here in the middle belt?

(Probes: Regarding decision making and processes? With respect to challenges and opportunities? In regard to accessing and utilising resources/opportunities? Regarding outcomes?)

16. How do other aspects of your identity affect your experiences of climate change and multilateral investment as a migrant?

(Probes: Your age, ethnicity, religion, socioeconomic status, (dis)ability? Regarding decision making and processes? With respect to challenges? In regard to accessing and utilising resources/opportunities? Regarding outcomes?)

G. Local and national interventions and policies for promoting the wellbeing of migrants in middle belt destination areas

17. Tell me about the interventions currently available to help improve your wellbeing as a migrant.

(Probes: interventions in the area of environmental, economic, health and sociocultural wellbeing? At the individual, communal and regional levels? What is the level of awareness and reach of these interventions? How do you utilise these interventions?)

18. What specific actions could specific organisations implement to improve your individual wellbeing and that of other migrants here in the middle belt?

(Probes: what areas should these interventions be targeted at? What should be the level of reach? Which individuals or groups should these interventions target? Should these individuals/groups

have different access to these interventions?)

19. How can existing programmes, institutions and structures be better leveraged to promote your individual wellbeing and that of other migrants?

(Probes: For example, multilateral investments? Governmental and non-governmental organisations? Local knowledges? Emerging knowledge?)

Thank You

Appendix E: Focus Group Discussion Guides

Focus Group Discussion Guide – Non-migrants and Return-migrants (Upper West Region)

A. Basic Information

1. Age
2. Level of Education
3. Marital Status
4. Community
5. District
6. Occupation

B. Migration experiences

7. Tell me about your experiences of migration.

   (Probes: Who migrates and who stays? What are their (or your) main reasons for migrating or not? What is the estimated proportion of emigrants? Where do migrants go? What do migrants do at destination areas? How are migration patterns like? Are migration patterns changing?)

8. Tell me about the effects of outmigration on you and sending communities in the Upper West Region.

   (Probes: Does outmigration affect you and the community positively or negatively? How? How does outmigration influence human, economic, cultural, social and environmental capital in the region? Are different groups differently affected?)

9. Tell me about your experiences as non-migrants or return migrants.

   (Probes: Why did you choose to remain in the Upper West or return to the region? What have been your experiences of remaining in or resettling into the community? How would you evaluate your decisions to remain/return to the Upper West? Do you have plans to leave the region (again) in the future?

C. Environmental experiences of migrant sending communities in the Upper West Region

10. Tell me about environmental conditions in the region.

    (Probes: What do you know about climate change? How are weather and soil conditions? How are these weather conditions affecting you and the community? How do they affect agriculture? How do they affect physical and psychosocial health, and food security? How do they affect your everyday activities? Are these weather conditions changing? How? Do these environmental conditions affect you or other individuals and communities differently?)

11. Tell me about how these environmental conditions influence your experiences with migration.

    (Probes: How do environmental factors affect decisions to migrate, migration processes and destinations, and types/dynamics of migration (cyclical, return and permanent migrations) for you and other community members?)

D. Experiences of multilateral investments among migrant sending communities in the Upper West

Region

12. Tell me about multilateral investments in the region.

    (Probes: How much do you know about multilateral investments? What areas do they operate in? How do they operate? How do they affect you and others in the community? How do they affect communities and the region at large? How do they influence your access to environmental, economic, health and sociocultural resources? How do they influence employment and agriculture? How do they influence your overall physical and psychosocial health?)

13. Tell me about how multilateral investments affect your experiences of migration in the region.

    (How do they affect decisions, processes and outcomes of emigration and immigration? How do they affect you as non-migrants and return migrants? How do they affect your individual and collective experiences with migration?)

E. Challenges and opportunities among migrant communities in the Upper West Region

14. What challenges do you face in this community?

    (Probes: what environmental, economic, health and sociocultural challenges do you face? How do you experience these challenges at the individual, communal and regional levels? How do you handle these challenges?)

15. What opportunities are available to you in this community?

    (Probes: opportunities regarding environmental, economic, health and sociocultural factors. How are these opportunities presented at the individual, communal and regional levels? What is your awareness level about these opportunities and how to utilise them? How do you utilise these opportunities?)

F. Gendered and intersectional experiences of climate change, multilateral investment and migration in the Upper West Region

16. How does your gender affect your experiences of climate change, multilateral investment and migration?

    (Probes: Regarding decision making and processes? With respect to challenges and opportunities? Access to and utilisation of resources/opportunities? Regarding outcomes?)

17. How do other aspects of your identities affect your experiences of climate change, multilateral investment and migration?

    (Probes: Your ages, ethnicities, religion, socioeconomic status, (dis)ability? Regarding decision making and processes? With respect to challenges, and access to and utilisation of resources/opportunities? Regarding outcomes?)

G. Local and national interventions and policies for promoting the wellbeing of migrant communities in the Upper West Region

18. Tell me about the interventions currently available to help improve your wellbeing and that of the community.

    (Probes: interventions in the area of environmental, economic, health and sociocultural wellbeing?

At the individual, communal and regional levels? What is the level of awareness and reach? How do you utilise these interventions?)

19. What specific actions could specific organisations implement to improve your individual wellbeing and that of the community?

    (Probes: what areas should these interventions be targeted at? What should be the level of reach? Which individuals or groups should these interventions target? Should these individuals/groups have different access to these interventions?)

20. How can existing programmes, institutions and structures be better leveraged to promote your individual and collective wellbeing?

    (Probes: For example, multilateral investments? Governmental and non-governmental organisations? Local knowledges? Emerging knowledge?)

Thank You

Focus Group Discussion Guide – Migrants (Middle Belt Migration Destinations)

A. Basic Information

1. Age
2. Level of Education
3. Marital Status
4. Community
5. District
6. Occupation

B. Migration experiences

7. Tell me about your experiences of migration.

    (Probes: Who migrates? Why did you migrate? Of all the reasons for migrating what is the main one? How did you come to learn about the migration destination and why did you choose to move here? How was the migration journey and settlement process? What is the estimated proportion of Upper West migrants in middle belt destinations? What are the migration patterns? Are migration patterns changing?)

8. Tell me about how your migration here has affected you.

    (Probes: How has migrating here affected you as individuals? How do you think your presence here affects the receiving communities? How does your relocation here affect your households back in the Upper West Region? How has migration influenced your human, economic, cultural, social and environmental capital in these receiving areas? Are there similarities and differences in your individual and collective experiences as migrants?)

C. Environmental experiences of migrants in receiving areas

9. Tell me about environmental conditions in this region.

    (Probes: What do you know about climate change? How are weather and soil conditions? How do these environmental conditions affect your engagement in agriculture? How do they affect your physical and psychosocial health, and food security? How do they affect your everyday activities? Are these weather conditions changing? How? Do these environmental conditions affect you or other individuals and communities differently?)

10. Tell me about how these environmental conditions influence your lives as migrants.

    (Probes: How did environmental factors affect your decisions to migrate? How did they affect your migration process and choice of settlement destination? How do they influence the types/dynamics of migration [cyclical, return and permanent migrations] that you engage in? How do they affect your settlement experiences including your access to and utilisation of resources? How do these environmental conditions affect your livelihoods and health as migrants?)

D. Experiences of multilateral investments among migrants in the middle belt

11. Tell me about multilateral investments in the receiving societies.

(Probes: How much do you know about multilateral investments? What areas do they operate in? How do they operate? How do they affect you and other individuals in the community? How do they affect communities and the region at large? How do they affect your access to environmental, economic, health and sociocultural resources? How do they affect your employment and agricultural activities? How do they influence your overall physical and psychosocial health?)

12. Tell me about how multilateral investments affect you as a migrant.
(How did they affect your decision to migrate? How did they influence the processes of migration and your settlement into the receiving societies? How do they affect your everyday activities here in the middle belt? How do they affect your access to resources as migrants? How do they influence your livelihood options and overall health and wellbeing? How do they affect your individual and collective experiences as migrants?)

E. **Challenges and opportunities among migrants in receiving areas**

13. What challenges do you face as migrants here in the middle belt?
(Probes: What environmental, economic, health and sociocultural challenges do you face? How do you experience these challenges at the individual, communal and regional levels? How do you handle these challenges?)

14. What opportunities are available to you as migrants in the middle belt?
(Probes: opportunities in environmental, economic, health and sociocultural avenues? How are these opportunities presented at the individual, communal and regional levels? What is your level of awareness about these opportunities and how to utilise them? How do you utilise these opportunities?)

F. **Gendered and intersectional experiences of climate change and multilateral investment among migrants in the middle belt**

15. How does your gender affect your experiences of climate change, multilateral investment and migration here in receiving societies?
(Probes: Regarding decision making and processes? With respect to challenges and opportunities? In regard to accessing and utilising resources/opportunities? Regarding outcomes?)

16. How do other aspects of your identities affect your experiences of climate change and multilateral investments as migrants?
(Probes: Your ages, ethnicities, religions, socioeconomic status, (dis)ability etc.? Regarding decision making and processes? With respect to challenges? Access to and utilisation of resources/opportunities? Regarding outcomes?)

G. **Local and national interventions and policies for promoting the wellbeing of migrants in middle belt receiving areas**

17. Tell me about the interventions currently available to help improve your individual and collective wellbeing as migrants here in the middle belt.
(Probes: interventions in the areas of environmental, economic, health and sociocultural wellbeing?

At the individual, communal and regional levels? What is the level of awareness and reach regarding these interventions? What are your experiences of utilising these interventions?)

18. What specific actions could specific organisations implement to improve your individual and collective wellbeing as migrants?
(Probes: what areas should these interventions be targeted at? What should be the level of reach? Which individuals or groups should these interventions target? Should individuals/groups have different access to these interventions?)

19. How can existing programmes, institutions and structures be better leveraged to promote your individual and collective wellbeing as migrants, particularly for the rural poor and women?
(Probes: For example, multilateral investments? Governmental and non-governmental organisations? Local knowledges? Emerging knowledge?)

Thank You

Appendix F: Survey Questionnaire

General Information		
REGION _____ CODE_____ NAME OF LOCALITY _____ CODE_____ NAME OF DISTRICT _____ CODE_____		CODE
LOCATION: (1 = RURAL 2 = URBAN)		…|_____|
LOCALITY CHARACTERISTICS: (1 = LARGE TOWN, 2 = SMALL TOWN, 3 = VILLAGE)		…|_____|
No.	**Question**	**Response Option**	**Code**

No.	Question	Response Option	Code
	MIGRATION DYNAMICS		
1	I am a ……………………………… **IF MIGRANT, SKIP TO Q 13**	Non-migrant……………………1 Return migrant……………………2 Migrant …………………………... 3	…|_____|
	Origin (Upper West Region) – Non-migrants and Return Migrants		
2	Have you lived in this area for the last 5 years?	Yes ……………………….. 1 No …………………………2	…|_____|
3	How long have you lived in this area?	0-5 years …………………… 1 6-10 years…………….…..…2 11-15 years…………….……3 16 – 20 years ……………….4 21 years or more…………… 5	…|_____|
4	Why did you choose to remain in your locality? **(FOR NON-MIGRANTS ONLY)**	To care for family ……………...1 To work ……………………...…2 No economic resources to migrate…3 No networks to facilitate migration ..4 No interest in migrating ……………5 For health reasons …………………6 Other (please specify) ………………………………… 97	…|_____|
5	Do you plan to migrate from the Upper West Region in the future? **(FOR NON-MIGRANTS ONLY)**	Yes …………………… 1 No ……………………...2 Maybe …………………..3 Don't know ……………98	…|_____|
6	How long did you migrate for before returning? **(FOR RETURN MIGRANTS ONLY)**	Less than a year ……………… 1 1 – 2 years ……………….…..2 3 – 5 years …………………….3 6 – 10 years …………………..4 11 years or more ……………..5 Other, please specify ………………………………… 97	…|_____|
7	What was your main reason for migrating? **(FOR RETURN MIGRANTS ONLY)**	For subsistence farming……………..1 For commercial farming ……………2 For mining work …………… …......3 To work in energy/fuel production… 4 Employment in civil service ………..5 Avoid natural disaster………………6 Access social services (education, health) ………………………………...7 Trading …………………………..8 Other (please specify) ………………………………… 97	…|_____|
8	Why did you choose to return to your locality? **(FOR RETURN MIGRANTS ONLY)**	To care for family ……………...1 To work …………………….…..2 Poor economic resources in migration destination ……………………….3 Poor social support/networks in migration destination …………...4 Poor living conditions in migration destinations ………………..……5 For health reasons ……………..6 No reason …………………… 7 Prefer not to answer …………….99	…|_____|

9	Has any member(s) of your household migrated to another region/community/country?	Yes ……………….…....…1 No……….…………....…2 Prefer not to answer...…....…99	…|_____|
10	If yes, what was their main reason for migrating?	For subsistence farming…………….1 For commercial farming ……………2 For mining work …………… ….....3 To work in energy/fuel production… 4 Employment in civil service ………..5 Avoid natural disaster………………6 Access social services (education, health) ……………………..…7 Trading ……………………….…..8 Other (please specify) ………………………. 97	…|_____|
11	Which of these best describes their (your relative's) form of migration?	Permanent migration ………….1 Temporary migration………… 2 Cyclical migration …………….3 Don't know …………………98 Other., please specify ……………………….. 97	…|_____|
12	What is the gender of the migrant?	Female ………………..……1 Male…………………..……2 Both male and female ………..3	…|_____|
Migrants in Destination (middle belt)			
13	When did you migrate to the middle belt?	Record years: Year(s):_____ Month(s)_____ (convert years to month…………..)	
14	Which of these best describes your form of migration?	Permanent migration ………….1 Temporary migration………… 2 Cyclical migration …………….3 Don't know …………………98 Other., please specify ……………………….. 97	…|_____|
15	Which district in the Upper West Region did you migrate from?	Wa Municipal ………………1 Wa West …………………..2 Wa East ……………………3 Nadowli/Kaleo …………… 4 Jirapa …………………….5 Lawra ………………….…6 Nandom ……………….…7 Lambussie/Karni …………..8 Sissala West ………………9 Sissala East ………………10 Daffiama/Bussie/Issah…….11 Don't know ………....……98 Prefer not to answer...…....99	…|_____|
16	What was your main reason for migrating to the middle belt?	For better subsistence farming ……1 For commercial farming …………2 For mining work …………… …….3 Work in energy/biofuel production... 4 Employment in civil service ….…...5 Avoid natural disaster……………6 Access social services (education, health) ………………………...7 Trading ………………………..8 Other (please specify) ………………………. 97	….|_____|
17	Have you migrated within the middle belt?	Yes …………………....….…1 No……….…………....….…2 Prefer not to answer.…....…99 **(If NO Skip to Q21)**	….|_____|
18	How many times have you migrated within the middle belt?	Record number of times: _____	
19	When did you migrate to your present location if you ever migrated within the middle belt?	Record years: Year(s):_____ Month(s)_____ Don't know ………........................98 Prefer not to answer..……………......99	
20	What was the main reason for your last migration in the middle belt?	For better subsistence farming ……1	

		For commercial farming …………2 For mining work …………… .…….3 Work in energy/biofuel production.. 4 Employment in civil service ….…...5 Avoid natural disaster……….……6 Access social services (education, health) …………………………...7 Trading …………………………..8 Other (please specify) …………………………… 97	….|_____|
21	What did you like most about the migration origin (Upper West)?	Nothing……………………..……1 Business ……………….…………...2 Employment on commercial farm….3 Family agriculture………….4 Social support/capital………….5 Clean environment ………………6 Affordable housing………………7 Safe neighborhood………………8 Other (please specify) ………………………………... 97	…|_____|
22	What did you dislike most about the migration origin (Upper West)?	Nothing…………………….…..…1 Poor jobs/livelihoods………………2 Natural disaster……………………3 Poor environmental conditions…….4 Bad infrastructure (roads, drains)…..5 Lack of social services…………….6 Unsafe neighborhoods……………..7 Other (please specify) ……………………………. 97	…|_____|
23	Do you plan to return to the migration origin (Upper West)?	Yes ………………… 1 No …………………...2 Maybe …………………3 Don't know ……………98	…|_____|
Migrant sending and receiving communities			
24	Would you say that migration affects your household	Very positively………………1 Quite positively ………………2 No difference…………………3 Quite negatively………….....4 Very negatively ………………5	…|_____|
25	What is the greatest contribution of migration to you/your household?	Financial benefits ………………1 Better health ……………………2 Food security …………………3 Prestige …………………………4 Better educational outcomes…….5 Better sociocultural outcomes …...6 Other (please specify) …………………………… 97	…|_____|
26	What is your main source of livelihood?	Subsistence farming………….1 Commercial farming …………2 Mining work …………… .……3 Work in energy/biofuel production...4 Employment in civil service ….…...5 Trading …………………………6 Other (please specify) ………………………… 97	….|_____|
27	What do you like most about your current locality?	Nothing……………………..……1 Employment in mining..………...…2 Employment on commercial farm….3 Family agriculture ………………4 Social support …………………..5 Clean environment ………………6 Affordable housing………………7 Safe neighborhood………………8 Other (please specify) ……………………………... 97	…|_____|
28	What do you dislike most about your current locality?	Nothing…………………………..1	

		Poor jobs/livelihoods………………2 Natural disaster……………………3 Poor environmental conditions…….4 Bad infrastructure (roads, drains)…..5 Lack of social services……………..6 Unsafe neighborhoods……………..7 Other (please specify) ………………………...…………97	…|_____|
29	How do you rate your household's quality of life relative to others in your village?	The worst……………. 1 Among the worse……. 2 About the same ……… 3 Better …………………… 4 The best ………………….5	…|_____|

<div align="center">CLIMATE CHANGE DYNAMICS</div>

Perceived impacts

30	Have you heard about global climate change or global warming?	Yes ……………………… 1 No ………………………...2 **(If NO, Skip to 33)**	…|_____|
31	On a scale of 1 to 5 (lowest to highest) please indicate your level of agreement with the following statements. Climate change causes the following types of environmental impact:	1. Heat waves (prolonged episodes of hot weather)	
		2. More frequent storms and cyclone	
		3. Drought condition or water shortage	
		4. Forest fire	
		5. Coastal erosion	
		6. Average temperature increase	
		7. Infectious diseases (e.g. dengue, malaria, West Nile Fever, pandemic flu etc.)	
		8. Sea-level rise	
		9. Flooding	
		10. Reduced food production	
		11. Loss of wildlife habitat	
		12. Economic decline	

Perceived health risks

32	On a scale of 1 to 5 (lowest to highest) please indicate your level of agreement with the following statements. Climate change poses a risk to the health of coastal population in any of the following ways:	1. Heat stroke or heat exhaustion	
		2. Water quality impacts	
		3. Drowning	
		4. Water-borne diseases	
		5. Infectious diseases (e.g. dengue, West Nile Fever, Malaria, pandemic flu etc.)	
		6. Air quality impacts	
		7. Respiratory or breathing problems	
		8. Sunburn	
		9. Cancer	
		10. Stress or anxiety	

Mitigation and Adaptation

33	Do you believe climate change could affect your way of life or lifestyle?	Yes …………………………… 1 No ………………….………...2 Don't know ……………………98	…|_____|
34	Do you believe that climate change can endanger your life?	Yes …………………………… 1 No ………………….………...2 Don't know ……………………98 **(If NO, Skip to 43)**	…|_____|
35	Are there serious obstacles and barriers to protecting yourself from negative consequences of climate change?	Yes …………………………… 1 No ………………….………...2 Don't know ……………………98 **(If NO, Skip to 37)**	…|_____|
36	On a scale of 1 to 10 (lowest to highest) please rate the major obstacles to protecting yourself from negative consequences of climate change.	1. Don't know what steps to take to protect myself	
		2. Lack the skill required	
		3. Don't have the personal energy or motivation	
		4. Don't have the time	
		5. Don't have the money or resource	
		6. Lack the help from others	
		7. Feel that I don't make a difference anyway	

		8. Don't believe in climate change	
		9. Believe the government will protect me from climate change	
		Others, specify 97	
37	Can personal preparation for climate change save your life?	Yes ………………………... 1 No ……………………………..2 Don't know …………………..98	…|_____|
38	Do you think you have the information necessary to prepare for the impacts of climate change?	Yes ………………………... 1 No ……………………………..2 Don't know …………………..98	…|_____|
39	Do you think that you have the ability and power to protect yourself from adverse effects of climate change?	Yes ………………………... 1 No ……………………………..2 Don't know …………………..98	…|_____|
40	Does your household currently have a plan for what to do to protect yourself and your family in the events of a disaster or emergency? Such a plan might include how you would evacuate your home, or how to stay in contact with other family members.	Yes ………………………... 1 No ……………………………..2 Don't know …………………..98	…|_____|
41	Some households have emergency kit that includes such items as first aid kit, thermometers, flashlight and batteries, food that won't spoil, sufficient drinking water, and other essential things people need to live for at least three days in the events of a disaster or emergency. Does your household have this type of emergency kit?	Yes ………………………... 1 No ……………………………..2 Don't know …………………..98	…|_____|
42	What strategies do/will you employ to deal with the negative consequences of climate change?	Migrate ………………………... 1 Reduce energy consumption…… 2 Adopt new farming methods …….3 Nothing …………………………..4 Other (please specify) ……………………………… 97	…|_____|
43	Have you noticed any changes in temperature over the past 10 years? **(If NO, Skip to 45)**	Yes …………………..1 No………………….. 2 Don't know …………98	…|_____|
44	[IF YES] What changes have you observed? **(Select all that apply)**	Getting hotter ………….…..1 Getting colder ………………2 Longer spells of hot temp….. 3 Longer spells of cold temp…..4 Shorter spells of hot temp… ..5 Shorter spells of cold temp….. 6 Rapid change in temp………..7 Other, please specify ……………..…………….. 97 Don't know………………. 98	…|_____|
45	Have you noticed changes in the STARTING TIME of rainfall over the 10 past years? **(If NO, Skip to 47)**	Yes ………………………1 No ……………………… 2 Don't Know …………….98	…|_____|
46	[IF YES] What kind of changes in the STARTING TIME of rainfall have you noticed?	Starts early ………..… 1 Starts late ……………2 Don't Know …………98	…|_____|
47	Have you noticed changes in the END TIME of rainfall over the 10 past years? **(If NO, Skip to 49)**	Yes ……………1 No ……………2 Don't Know …… 98	…|_____|
48	[IF YES] What kind of changes in the END TIME of rainfall have you noticed?	Ends early ………….....1 Ends late ………………….2 Ends early and abruptly …..3 Ends late and abruptly ……..4 Other (Please Specify) ………………………... 97 Don't Know ………………..98	…|_____|
49	Overall, how would you describe the length of the rainy season?	The same ………………..1 Shorter …………………..2 Longer …………………..3 Don't Know ……………..98	…|_____|
50	Have you experienced any droughts in the past 10 years?	Yes ……………1 No ……………..2 Don't Know …… 98	…|_____|
51	In your estimation, has the quality of farmland changed in the past 10	Yes …………………1	

	years? **(If NO, Skip to 53)**	No …………….....2 Don't Know …………98	…|_____|
52	[IF YES] How would you describe the observed change in the quality of farmland?	Much better ……………... 1 Better …………………... 2 Worse …………………... 3 Much Worse ……………..4	…|_____|
53	What do you think are the underlying causes of environmental/climate change? **(Please select all that apply)**	Deforestation …………………….....1 Multilateral investments ………....2 Overpopulation (births) ………… 3 Overpopulation (migration) ……..4 Greenhouse emissions …………...5 Illegal resources extraction ………6 Transgressing cultural values ……..7 Hurting mother earth ……………..8 God's will ………………………..9 Bad farming practices ……………10 Other (Please Specify) ………………………………...97 Don't Know ………………..98	…|_____|
54	Do you think anything can be done to prevent further environmental change?	Yes ……………1 No ……………..2 Don't Know …… 98	…|_____|
55	If yes what do you think should be done?	Build Drainage Channel…………. 1 Provide Water/ Sewerage Disposal Systems …………………………..2 Stop Illegal Sand/other Mining … 3 Clear Clogged Canal …………….. 4 Enforce Environmental Regulation ..5 Build Quality Houses ……………. 6 Improve Urban Planning ………… 7 Other, please specify ……………………………. …97	…|_____|
	MULTILATERAL INVESTMENTS DYNAMICS		
56	Do you know if multilateral investment operations (e.g. Commercial farming, mining work, energy/biofuel production) are taking place in your community or district?	Yes ……………1 No ……………..2 Don't Know …… 98	…|_____|
57	Do you work in a multilateral investment operation (e.g. Commercial farming, mining work, energy/fuel production)? **(If NO, Skip to 62)**	Yes ………………………. 1 No ……….…………...2 Don't know ……………..…98 Prefer not to answer …….. 99	…|_____|
58	Which of these areas can your job be classified under?	Commercial agriculture ………… 1 Mining ……………………….2 Biofuel production ………………3 Don't know ………………..98 Prefer not to answer ………… 99 Other, please specify ………………………… 97	…|_____|
59	Does any member of your family/household work in a multilateral investment operation (e.g. Commercial farming, mining work, energy/biofuel production)? **(If NO, Skip to 62)**	Yes ………………………. 1 No …………………..…….2 Don't know ……………..98 Prefer not to answer …….. 99	…|_____|
60	If yes to question 62, what is their gender?	Female ………………... 1 Male …………………..2 Other, please specify …………………………… 97	…|_____|
61	Which of these areas can his/her (your relative's) job be classified under?	Commercial agriculture ………… 1 Mining ……………………….2 Biofuel production ………………3 Don't know ………………..98 Prefer not to answer ………… 99 Other, please specify ………………………… 97	…|_____|
	PERCEIVED IMPACTS OF MULTILATERAL INVESTMENTS		
62	*Perception of Multilateral Investment Process*		

		Agree	Neutral	Disagree	Refused

		Strongly	Somewhat	Neither	Strongly	Somewhat	
62a	Multilateral investments have been on the rise in past 5 years	1	2	3	4	5	99
62b	I am informed orally about multilateral investments in my community	1	2	3	4	5	99
62c	Only our community leaders take part in negotiating multilateral deals	1	2	3	4	5	99
62d	Our community members actively engage in negotiating multilateral investment processes	1	2	3	4	5	99
62e	I trust government officials to protect the interest of smallholder farmers and village members in multilateral deals	1	2	3	4	5	99
62f	I have concerns about the processes used in multilateral investment operations in my area	1	2	3	4	5	99
62g	I have taken some action to prevent multilateral deals or protect our traditional lands/businesses	1	2	3	4	5	99
63	*Perceived impact of multilateral investments on livelihood and food security*						
63a	Multilateral investments collapse local livelihoods (e.g. smallholder farming)	1	2	3	4	5	99
63b	Smallholder farmers and local community members are worst affected by multilateral investment	1	2	3	4	5	99
63c	I have more employment and income options due to the presence of multilateral investments	1	2	3	4	5	99
63d	Multilateral operations provide sustainable employment to smallholder farmers	1	2	3	4	5	99
63e	Local populations earn more income from working in multilateral investment than their traditional livelihoods	1	2	3	4	5	99
63f	Food produced from multilaterals engaged in commercial farming are exported	1	2	3	4	5	99
63g	Food availability has improved because of activities of multilaterals	1	2	3	4	5	99
63h	Food is now more affordable for local populations because of improved incomes and food availability resulting from multilateral operations	1	2	3	4	5	99
63i	I experience less hunger now than 10 years ago because of activities of multilateral investments	1	2	3	4	5	99
63j	I am more food secure now than 10 years ago because of the activities of multilateral investments	1	2	3	4	5	99
64	*Perceived impact of multilateral investments on health and wellbeing*						
64a	The environment (including forest and natural resources) means a lot to me and other local populations	1	2	3	4	5	99
64b	The environment (including land) is a holy and spiritual being, providing us good health and protection from harm and disasters.	1	2	3	4	5	99
64c	Natural environment is a medium through which we keep in touch with our ancestors and gods	1	2	3	4	5	99
64d	Natural environment has cultural and traditional importance	1	2	3	4	5	99
64e	I feel strongly connected to the environment in my traditional community	1	2	3	4	5	99
64f	Disasters and droughts are occurring because the environment is desecrated	1	2	3	4	5	99
64g	I feel there is poor health because our environment is being abused	1	2	3	4	5	99
64h	I feel stressed and sick because we have lost	1	2	3	4	5	99

	our natural environment						

COMMUNITY WELLBEING							

Part I: "A place to live"

65	**Personal Safety**	Agree		Neutral	Disagree		Refused
		Strongly	Somewhat	Neither	Strongly	Somewhat	
65a	I feel safe to undertake activities at night (be alone at home, walk alone outside, leave my bicycle/car outside)	1	2	3	4	5	99
65b	I feel safe living in this area overall	1	2	3	4	5	99
66	**Service and facilities**						
66a	I'm satisfied with the services provided by the local school	1	2	3	4	5	99
66b	I'm satisfied with the services provided by the local health facilities	1	2	3	4	5	99
66c	I'm satisfied with the facilities available for children in this village	1	2	3	4	5	99
66d	I'm satisfied with the support services in this village	1	2	3	4	5	99
66e	Overall, I feel satisfied with the facilities and services available in my village	1	2	3	4	5	99
67	**Built environment**						
67a	My village is clean	1	2	3	4	5	99
67b	My village is a beautiful place	1	2	3	4	5	99
68	**Environmental loading**						
68a	I'm satisfied with the quality of roads in the village/street	1	2	3	4	5	99
68b	I'm satisfied our roads are safe and less congested	1	2	3	4	5	99
68c	I'm satisfied with the dust level on our roads	1	2	3	4	5	99
68d	I'm satisfied with the noise level from our roads	1	2	3	4	5	99
68e	I'm satisfied with the overall quality of the environment in my village	1	2	3	4	5	99
69	**Environmental management**						
69a	I'm satisfied with the management of our natural resources (eg. water, minerals)	1	2	3	4	5	99
69b	I'm satisfied with sustainability of our local farm lands	1	2	3	4	5	99
69c	I'm satisfied with our overall management of the natural environment for the future	1	2	3	4	5	99

Part II: "An economic community"

70	**Income sufficiency**						
70a	My household income is enough for household expenses	1	2	3	4	5	99
70b	My household income supports the standard of living that my household wants	1	2	3	4	5	99
70c	The cost of living does not impact much on our household income	1	2	3	4	5	99
71	**Economic Activities**						
71a	There are good jobs in my village	1	2	3	4	5	99
71b	Local traditional businesses are doing well under activities of multilaterals	1	2	3	4	5	99
71c	Overall, I'm satisfied with employment and business opportunities in my village	1	2	3	4	5	99

Part III: "A political community"

72	**Community decision making and trust**						
72a	The local government informs us about governance and decisions about my village	1	2	3	4	5	99
72b	There are opportunities to voice out concerns about my village	1	2	3	4	5	99
72c	I'm satisfied with how decisions affecting my village are made	1	2	3	4	5	99
72d	I have trust and confidence in my village leaders	1	2	3	4	5	99

72e	I have trust and confidence in my local government	1	2	3	4	5	99
72f	Overall, I trust my village leaders to protect our traditional environment	1	2	3	4	5	99
73	**Trust in decisions of large companies**						
73a	Multilateral investment actors involve our village members in decision making	1	2	3	4	5	99
73b	I trust multilateral investment actors in my village	1	2	3	4	5	99
Part IV: "A social community"							
74	**Community and social interaction**						
74a	I help out a local village group at least once every week	1	2	3	4	5	99
74b	I attended several village events in the past year	1	2	3	4	5	99
74c	I am an active member of a social group (e.g. youth group, religious group, farmer group) in my community	1	2	3	4	5	99
74d	I have regularly participated in communal activities	1	2	3	4	5	99
74e	I have regularly visited my friends	1	2	3	4	5	99
74f	I have regularly been in touch with my friends through phone and other means of communication	1	2	3	4	5	99
75	*Community spirit and cohesion*						
75a	People in my community can rely on one another for help	1	2	3	4	5	99
75b	People in my community work together to solve community problems	1	2	3	4	5	99
75c	My community welcomes newcomers	1	2	3	4	5	99
75d	My community welcomes people of other ethnicity and cultures	1	2	3	4	5	99
75e	My community engages everyone no matter who they are	1	2	3	4	5	99
75f	Overall, I am satisfied with the community spirit in my community	1	2	3	4	5	99

		GENDER AND LIVELIHOOD	
76	In your household who contributes most of the income?	Children………………… 1 Male Head/Father ………..2 Female Head/Mother……..3 Male relative……………….4 Female relative……………5 Don't know …………….98 Other, specify …………………………..97	….|_____|
77	In your household who contributes THE SECOND MOST of the income?	Children………………… 1 Male Head/Father ………..2 Female Head/Mother……..3 Male relative……………….4 Female relative……………5 Don't know …………….98 Other, specify …………………………..97	…|_____|
78	In your household, who is considered to be in charge of decision making?	Everyone contributes equally …….1 Male head/Father …………………2 Female head/Mother ……………...3 Both father and mother ……………4 Male relative ………………………5 Female relative ……………………6 Other (Please Specify) …………………………….... 97	…|_____|
79	In your household who makes decisions about making large household purchases? (Example: Vehicle, furniture etc.)	Everyone contributes equally …….1 Male and Female Heads decide together …………………………..2 Mostly the Males …………………3	…|_____|

		Mostly the Females ………………4 Other (Please Specify) ………………………..……...97	
80	In your household who makes decisions about making household purchases for daily needs?	Everyone contributes equally …….1 Male and Female Heads decide together ……………………………..2 Mostly the Males …………………3 Mostly the Females ………………4 Other (Please Specify) ………………………..……...97	…|_____|
81	In your household who makes decisions about visits to distant families and relatives?	Everyone contributes equally …….1 Male and Female Heads decide together ……………………………..2 Mostly the Males …………………3 Mostly the Females ………………4 Other (Please Specify) ………………………..……...97	…|_____|
82	In your household who makes decisions about what food to eat each day?	Everyone contributes equally …….1 Male and Female Heads decide together ……………………………..2 Mostly the Males …………………3 Mostly the Females ………………4 Other (Please Specify) ………………………..……...97	…|_____|
83	In your household who usually makes decisions on paying for any health-related expenses?	Everyone contributes equally …….1 Male and Female Heads decide together ……………………………..2 Mostly the Males …………………3 Mostly the Females ………………4 Other (Please Specify) ………………………..……...97	…|_____|
84	In your household who usually makes decisions on employment/jobs?	Everyone contributes equally …….1 Male and Female Heads decide together ……………………………..2 Mostly the Males …………………3 Mostly the Females ………………4 Other (Please Specify) ………………………..……...97	…|_____|
	HEALTH STATUS AND ACCESS TO HEALTH CARE SERVICES		
85	In general, compared with other people of your age, how do you describe your health at the moment?	Poor Fair Good Very good Excellent	…|_____|
86	In the past 12 months, have you ever been diagnosed with any of these diseases? (Please select all that apply)	None …………………….0 Malaria ……………….1 Pneumonia ……………. 2 Hepatitis ……………….3 Skin conditions …………4 Tuberculosis …………….5 Heart disease/CVD ………6 Cancer …………………..7 Hypertension …………... 8 Cholera ………………… 9 Diabetes ………………10 Others (specify) ……….. 97 Prefer not to answer …… 99	…|_____|
87	How would you rate your ability to handle the day-to-day demands in your life, for example, work, family and volunteer responsibilities?	Poor …………………..1 Fair …………………..2 Good …………………..3 Very good …………… 4 Excellent ……………….5 Don't Know …………… 98	…|_____|
	HEALTH AND WELL-BEING – ADAPTED FROM THE SHORT-FORM-12 HEALTH SURVEY, VERSION 2		
	This survey asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities. For each of the following questions, please mark an X in the one box that best describes		

	your answer.					
		1 Excellent	2 Very good	3 Good	4 Fair	5 Poor
88	1. In general, would you say your health is:					

		1 No, not limited at all	2 Yes, limited a little	3 Yes, limited a lot
89	**2. The following questions are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?**			
	a. Moderate activities, such as moving a table, sweeping, walking around your house?			
	b. Farming, walking long distances, running, carrying heavy loads?			

		1 None of the time	2 A little of the time	3 Some of the time	4 Most of the time	5 All of the time
90	**3. During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of your physical health?**					
	a. Accomplished less than you would like					
	b. Were limited in the kind of work or other activities					

		1 None of the time	2 Most of the time	3 Some of the time	4 A little of the time	5 All of the time
91	**4. During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?**					
	a. Accomplished less than you would like					
	b. Did work or other activities less carefully than usual					

		1 Not at all	2 A little bit	3 Moderately	4 Quite a bit	5 Extremely
92	5. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?					

		1 None of the time	2 A little of the time	3 Some of the time	4 Most of the time	5 All of the time
93	**These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks . . .**					
	a. Have you felt calm and peaceful?					
	b. Did you have a lot of energy?					
	c. Have you felt downhearted and depressed?					
	7. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting friends, relatives, etc)?					

	SOCIO-DEMOGRAPHIC INFORMATION	

Now will like to ask you questions about yourself and your household (Q94-Q120)

94	What is your age?	—————————	…|_____|
95	What is your gender?	Female …………………1 Male ……………………2 Other, Specify …………..3 Prefer not to answer ……..99	
96	What is your marital status?	Never married …………...1 Currently married………..2 Divorced………………3 Widowed...………………4 Don't know ………....……98 Prefer not to answer..…....99	….|_____|

97	What is your highest level of education?	No education……………..1 Middle School……………2 Primary education………..3 Junior Secondary edu….....6 Senior Secondary edu……4 Tertiary education...……...5 Other, Specify ……………97 Prefer not to answer……...99	….|_____|
98	What is your household's main occupation ?	Farming……………………..1 Trading……………………..2 Civil Service………………..3 Employed in multilateral (mining, biofuel, commercial agriculture) Other (specify)……………97 Don't know ………....…..98 Prefer not to answer…….....99	….|_____|
99	Do you have a disability? **(If NO, Skip to 101)**	Yes ……………………..1 No ……………………..2 Prefer not to answer …. 99	….|_____|
100	How would you classify your disability?	Visual impairment ………2 Hearing impairment ……..3 Wheelchair user …………4 Other, please specify …………………………… 5	
101	How many people in total live in your household?	_____ Don't know ………....…..98 Prefer not to answer……...99	…|_____|
102	How many of the people in your household are children?	_____ Don't know ………....…..98 Prefer not to answer……...99	…|_____|
103	How many of the children are under five years?	_____ Don't know ………....…..98 Prefer not to answer……...99	…|_____|
104	What is your religion?	Christianity...…………….1 Muslim...…………………2 Traditionalist...………….3 No religion...……………..4 Other (specify) ..………..97 Don't know ………....…..98 Prefer not to answer……...99	….|_____|
105	Ethnicity	Sissala………….....………1 Waala……………....………2 Brifo…………...………….3 Dagaaba……………....……4 Other (Northern)…….....….5 Other (Southern)……....…..6 Other (Specify)…………….97 Don't know ………....…..98 Prefer not to answer……...99	….|_____|
106	What is your annual household income?	Record………………….. Don't know ………....…..98 Prefer not to answer……...99	….|_____|
107	Which one of the following housing types best describes the type of dwelling this household occupies? **DO NOT READ ALOUD SELECT ONE AND RECORD**	House...………………….1 Traditional dwelling/homestead………2 Compound house…………3 Room in house……………4 Hut/Shack...………………5 Other (specify) ……...…..97 Don't know ………....…..98 Prefer not to answer……...99	….|_____|
108	Does your house have electricity?	Yes……..……………….1 No…….…………………2 Don't know ………....…..98	….|_____|

		Prefer not to answer...…....99	
109	Does your house have running water?	Yes.…………….…….……1 No…..……………….2 Don't know …………...…..98 Prefer not to answer...….…99	….|_____|
110	Does your household have a radio set?	Yes.……………….……1 No…..………………2 Don't know …………...…..98 Prefer not to answer...….…99	….|_____|
111	Does your household have a TV set?	Yes.……………….……1 No…..………………2 Don't know …………...…..98 Prefer not to answer...….…99	….|_____|
112	Does your household have a bicycle?	Yes.……..……………1 No…..………………2 Don't know …………...…..98 Prefer not to answer...….…99	….|_____|
113	Does your household have a motor?	Yes.……..……………1 No…….……………2 Don't know …………...…..98 Prefer not to answer...….…99	….|_____|
114	Does your household have a car?	Yes.…….…….…..……1 No…….………………......2 Don't know …………...…..98 Prefer not to answer...….…99	….|_____|
115	Do you have a toilet in your house?	Yes.…….……………...1 No…….………………...2 Don't know …………...…..98 Prefer not to answer...….…99	….|_____|
116	What is the main floor material of your house?	Tiles.…………….…….…1 Ceramics/terrazzo…….……..2 Cement….…..……..………3 Mud/gravel…..……..……..4 Other (specify)……………97 Don't know …………...…..98 Prefer not to answer...….…99	….|_____|
117	What is your status in the house you reside?	Owner.………………….1 Tenant.……….…………2 Relative's house…….…..…3 Other (specify)…...….……97 Don't know …………...…..98 Prefer not to answer...….…99	….|_____|
118	Does this household own any livestock?	Yes.…….…..…………...1 No..………………………..2 Other (specify)……...….…97 Refused.……….…...…....99 Don't know …………...…..98 Prefer not to answer...….…99	….|_____|
119	How many of the following types of animals does your household have?	Goats	
		Pigs	
		Cattle	
		Donkey	
		Sheep	
		Chicken	
		Other (Specify)	
120	Which of the following best describes the household structure? **DO NOT READ ALOUD- ASK ABOUT HOUSEHOLD TYPE AND CIRLCE ONLY ONE ANSWER**	Female Centered (No husband/ male partner in household, may include relatives, children, friends)..............................1 Male Centered (No wife/ female partner in household, may include relatives, children, friends)...…………2 Nuclear (Husband/ male partner and wife/ female partner with or without	

	368	children)..………………..3 Extended (Husband/ male partner and wife/ female partner and children and relatives)..………………..4 Polygamous (husband with more than one wife)..……………………5 Other (specify) ..………..97 Don't know ………....…...98 Prefer not to answer..…....…99	….|_____|

Appendix G: Key Informants Guide

In-depth Interview Guide for Key Informants (Migration Origin)

Respondent's ID # …………………..

    A. Basic Information

1. Age
2. Sex
3. Position/Organisation
4. Number of years in current position
5. District

    B. Migration motives and migrant population characteristics in the Upper West Region

6. Tell me about the outmigration of people from the Upper West Region.

   (Probes: Who migrates? What are the main reasons for migrating? What is the estimated proportion of emigrants? What are the migration patterns? Are migration patterns changing? Where do migrants go? What do migrants do at destination areas?)

7. Tell me about the effects of outmigration on sending communities/regions in the Upper West.

   (Probes: Does outmigration affect the community positively or negatively? How? How does outmigration influence human, economic, cultural, social and environmental capital in the region? Are different groups differently affected?)

8. Tell me about the experiences of non-migrants and/or return migrants.

   (Probes: Why do some people remain in the Upper West or return to the region? What are their experiences of remaining in or resettling into the community? Do non-migrants face different challenges or opportunities than return migrants? How do these non-migrants and return migrants navigate the challenges/opportunities they encounter?

    C. Environmental experiences of migrant sending communities in the Upper West Region

9. Tell me about environmental conditions in the region.

   (Probes: How much do you know about climate change? How are weather and soil conditions? How are these environmental conditions affecting individuals and communities? How do they affect agriculture and food security? How do they affect physical and psychosocial health? How do they affect everyday activities? Are these weather conditions changing? Do these environmental conditions affect individuals and communities differently?)

10. Tell me about how these environmental conditions influence outmigration.

    (Probes: How do environmental factors affect decisions to migrate, migration processes and destinations, and types/dynamics of migration e.g., cyclical, return and permanent migrations?)

    D. Experiences of multilateral investments among migrant sending communities in the Upper West Region

11. Tell me about multilateral investments in the region.

(Probes: How much do you know about multilateral investments? What areas do they operate in? How do they operate? How do they affect individuals and communities in the region? How do they influence access to environmental, economic, health and sociocultural resources? How do they influence employment and agriculture? How do they influence overall physical and psychosocial health?)

12. Tell me about how multilateral investments affect migration in the region.
(how do they affect decisions, processes and outcomes of emigration and immigration? How do they affect non-migrants and return migrants?)

E. **Challenges and opportunities among migrant sending communities in the Upper West Region**

13. From your work, what challenges do communities with high migration rates face?

(Probes: what environmental, economic, health and sociocultural challenges do they face? How are these challenges presented at the individual, communal and regional levels? How are these challenges handled?)

14. What opportunities are available to communities in the Upper West Region?
(Probes: opportunities regarding environmental, economic, health and sociocultural factors. How are these opportunities presented at the individual, communal and regional levels? What is the awareness level about these opportunities? What is the level of reach?)

F. **Gendered and intersectional experiences of climate change, multilateral investment and migration in the Upper West Region**

15. How do experiences of climate change, multilateral investment and migration affect different genders?

(Probes: Regarding decision making and processes? With respect to challenges? In terms of accessing and utilisating resources/opportunities? Regarding outcomes?)

16. How do experiences of climate change, multilateral investment and migration affect people of different identities or sociodemographic categories?
(Probes: People of different ages, ethnicities, religions, socioeconomic status, (dis)ability? Regarding decision making and processes? With respect to challenges? In terms of access to and utilisation of resources/opportunities? Regarding outcomes?)

G. **Local and national interventions and policies for promoting the wellbeing of migrant communities in the Upper West Region**

17. Tell me about the interventions currently available to help improve the wellbeing of communities in the Upper West Region.

(Probes: interventions in the area of environmental, economic, health and sociocultural wellbeing? At the individual, communal and regional levels?)

18. What specific actions are you (or your organisation) implementing to improve the wellbeing of communities in the region?
(Probes: what areas are these interventions targeted at? What is the level of reach? What individuals or groups do you target? Do these individuals/groups have different access to these interventions?)

19. How can individuals/groups utilise these interventions?

20. What new interventions are needed to promote the wellbeing of agrarian communities in the region?
(Probe: interventions in the area of environmental, economic, health and sociocultural wellbeing? At the individual, communal and regional levels?)

21. How can existing programmes, institutions and structures be better leveraged to promote the wellbeing of migrant communities and rural poor, particularly women?
(Probes: For example, multilateral investments? Governmental and non-governmental organisations? Local knowledges? Emerging knowledge?)

Thank You

In-depth Interview Guide for Key Informants (Middle Belt Migration Destinations)

Respondent's ID # ………………….

22. **Basic Information**
   23. Age
   24. Sex
   25. Position/Organisation
   26. Number of years in current position
   27. District

28. **Migrant population characteristics and settlement patterns in the middle belt**
   29. Tell me about the immigration of people to this area.
      (Probes: Who migrates here? What are their main reasons for migrating? What is the estimated proportion of immigrants here? Where do migrants come from? What are the migration patterns? Are these migration patterns changing? What do migrants do at destination areas?)
   30. Tell me about the effects of immigration on migrants and receiving communities/regions in the middle belt.
      (Probes: How do migrants fare in receiving regions? Does immigration affect the receiving communities positively or negatively? How? How does immigration influence human, economic, cultural, social and environmental capital in the region? Are different groups differently affected by immigration in the middle belt?)

31. **Environmental experiences of migrants in the middle belt**
   32. Tell me about environmental conditions in the region.
      (Probes: What do you know about climate change? How are weather and soil conditions? How are these environmental conditions affecting individuals and communities? How do they affect agriculture and food security? How do they affect physical and psychosocial health? How do they affect everyday activities? Are these weather and soil conditions changing? Do these environmental conditions affect individuals and communities differently?)
   33. Tell me about how these environmental conditions influence the lives of migrants in the area.
      (Probes: How do environmental factors affect migrants in receiving societies? How do they affect migration settlement patterns in these destination areas? How do they affect the types/dynamics of migration; cyclical, return and permanent migrations? How do they affect the livelihoods of migrants? How do they affect migrants' health and wellbeing?)

34. **Experiences of multilateral investments among migrants in receiving communities of the middle belt**
   35. Tell me about multilateral investments in the region.
      (Probes: How much do you know about multilateral investments? What areas do they operate in? How do they operate? How do they affect individuals and communities in the region? How do they

influence access to environmental, economic, health and sociocultural resources? How do they influence employment and agriculture? How do they influence overall physical and psychosocial health?)

36. Tell me about how multilateral investments affect migrants in the region.

(Probes: how do they affect immigration patterns and settlement? How do they affect migrant activities in destination areas? How do they influence migrants' access to environmental, economic, health and sociocultural resources? How do they influence migrants' livelihoods? How do they affect migrants' physical and psychosocial health? How do they affect migrants' food (in)security?

37. **Challenges and opportunities among individual migrants and migrant communities in the middle belt**

38. From your work, what challenges do migrants/migrant communities face?

(Probes: what environmental, economic, health and sociocultural challenges do they face? How are these challenges experienced at the individual, communal and regional levels? How are these challenges handled?)

39. What opportunities are available to migrants/migrant communities in middle belt destinations?

(Probes: opportunities in environmental, economic, health and sociocultural areas? How are these opportunities presented at the individual, communal and regional levels? What is the awareness level about these opportunities?)

40. **Gendered and intersectional experiences of climate change, multilateral investment and migration in receiving societies of the middle belt**

41. How do experiences of climate change, multilateral investment and migration affect different genders in receiving societies?

(Probes: Regarding decision making and processes? With respect to challenges? In terms of access to and utilisation of resources/opportunities? Regarding immigration outcomes?)

42. How do experiences of climate change, multilateral investment and migration affect migrants of different identities/sociodemographic categories?

(Probes: How do experiences differ based on age, ethnicity, religion, socioeconomic status and (dis)ability? Regarding decision making and processes? With respect to challenges, and access to and utilisation of resources/opportunities? Regarding migration outcomes?)

43. **Local and national interventions and policies for promoting the wellbeing of migrants in middle belt destination areas**

44. **Tell me about the interventions currently available to help improve the wellbeing of migrants from the Upper West Region.**

(Probes: interventions in the areas of environmental, economic, health and sociocultural wellbeing? At the individual, communal and regional levels?)

45. What specific actions are you (or your organisation) implementing to improve the wellbeing of

individual migrants and migrant communities in receiving societies?

(Probes: what areas are these interventions targeted at? What is the level of reach? Which individuals or groups do you target? Do these individuals/groups have different access to these interventions?)

46. How can individuals/groups utilise these interventions?

47. What new interventions are needed to promote the wellbeing of agrarian migrants in receiving regions?

(Probes: interventions in the areas of environmental, economic, health and sociocultural wellbeing? At the individual, communal and regional levels?)

48. How can existing programmes, institutions and structures be better leveraged to promote the wellbeing of migrant communities and rural poor, particularly women?

(Probes: For example, multilateral investments? Governmental and non-governmental organisations? Local knowledges? Emerging knowledge?)

Thank You

Appendix H: Curriculum Vitae (CV)

Name: Jemima Nomunume Baada

Post-secondary   The University of Western Ontario
Education and   London, Ontario, Canada
Degrees: 2016-2017 MA

                                       University of Ghana
                                       Legon, Accra, Ghana
                                       2008-2012 BA

Honours and   Vanier Canada Graduate Scholarship (Vanier CGS)
Awards: 2019-2022

                                       International Development Research Centre (IDRC) Hopper-Bhatia
                                       Canada Fellowship
                                       Research Grant
                                       February 2020 - November 2020

Related Work   Teaching Assistant
Experience   The University of Western Ontario
                                       2016-2022

Selected Publications:
Baada, J. N., Antabe, R., & Sano, Y. (2021). Differentiated agrarian vulnerabilities and generalized national responses to COVID-19 in the Upper West Region of Ghana. *Journal of Agrarian Change*, 1-16.

Baada, J. N., Baruah, B., Sano, Y., & Luginaah, I. (2021). Mothers in a 'Strange Land': Migrant Women Farmers' Reproductive Health in the Brong-Ahafo Region of Ghana. *Journal of Health Care for the Poor and Underserved*, 32(2), 910-930.

Baada, J. N., Baruah, B., & Luginaah, I. (2020). Looming crisis–changing climatic conditions in Ghana's breadbasket: the experiences of agrarian migrants. *Development in Practice*, 1-14.

Baada, J. N., & Najjar, D. (2020). A review of the effects of migration on the feminization of agrarian dryland economies. Journal of Gender, *Agriculture and Food Security (Agri-Gender)*, 1- 12.