New Opportunities or Further Marginalization?

An Exploratory Research about the Processes and Patterns behind Rural to Rural Mobility in the Upper West Region of Ghana

Maxime Hofstede

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Author

Maxime Hofstede

S1025377

Master Human Geography

Migration, Globalisation and Development

Nijmegen School of Management

Radboud University Nijmegen

Supervisor

Dr. Lothar Smith

Department of Human Geography

Nijmegen School of Management

Radboud University Nijmegen

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Summary

Migration is happening all over the world and migratory movements shape the livelihoods of many people. As most studies focus on rural to urban movements this research has shed new light on the migration debate by focusing on rural to rural movements. Several studies have indicated the importance of rural-rural migration in developing countries. However, not much is known about the causes, patterns and consequences of these movements. By looking with a mobility perspective instead of a migration perspective, this research has included all possible movements that can happen within a rural context. The goal of this research is to understand mobility patterns in the Upper West Region (UWR) of Ghana facing increasing climate change.

The study was done through a grounded theory approach making use of both quantitative and qualitative data. The data was collected during a period of two months fieldwork in Jirapa district, Ghana. By combining qualitative data with personal field notes, a framework of rural livelihoods in the UWR of Ghana was constituted. Subsequently, data from questionnaires was used to analyse and test mobility patterns. This was done in twofold, first a division between rural-urban movements was made and second, a division between rural-rural movements within northern Ghana and movements elsewhere was made. Tests were performed to determine the link between the destination and individual and/or household characteristics. The data did point out a strong rural-rural pattern with the main reason being farming for males and for rural-rural mobility within northern Ghana the main reason was marriage amongst females. Next to individual and/or household characteristics, the effect of climate change was analysed. Literature suggested irrigation facilities as an adaptation strategy for climate change and to reverse the dependence on mobility. However, after analysing the data no significant relation between irrigation facilities and mobility was found.

This study concludes that rural-rural mobility patterns are much more complex than they at first sight appear. Besides that, when implementing certain systems to reduce poverty one needs to be sure what it will actually bring to local communities. In this case irrigation systems provided an option to bring more capital by which other income sources can be achieved, e.g. mobility.[1]

[1] All pictures, figures and tables used in this thesis are form the author's own source, unless stated otherwise

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Chapter 1

Introduction

”Our work is not found in the urban areas; you do not have business to do in an urban area; small scale mining and crop cultivation are mostly done in rural areas and that is why we migrate there. One requires some level of skills to work in the urban centers. For instance, if you have some level of education you may be able to find some white-collar job or establish your own business if you have a start-up capital. However, most of us have no skills and no education and so we migrate to the rural centers where no skills or education is required for one to fit in.” (Tangnaa (32), focus group, February 13, 2020).

New opportunities or further marginalization? Migration is often discussed, either in a positive or a negative way. The most discussed form of migration is international migration, people moving from one country to another. However, a substantial part of migration happens within a country: internal migration. When discussing internal migration, most people refer to rural to urban migration. The pattern of rural to urban migration emerges because of the hope of better labour opportunities in cities and differences in the levels of poverty between the rural and the urban (Anarfi, Kwankye, Ababio & Tiemoko, 2003). Cities are often perceived as constituting a better place than rural areas, but rapid urbanisation, insufficient labour opportunities and limited facilities to cope with an increasing urban population, is leading to the creation of slums (Owusu, Agyei-Mensah & Lund, 2008). Next to this a large part of the urban African economy consists of the so-called ’informal economy’. The informal economy is often seen as equal to unskilled and thus easy to access for migrants (Chen, 2012). So when informal equals unskilled, why are there migrants from rural areas that cannot cope in a city or even go there in the first place? The quotation of Tangnaa shows that, apparently, even in the informal economy some level of skills is required, a level of skills that most people in rural economies lack. Seeking better livelihood opportunities in rural areas rather than urban areas, might therefore be a

good decision and might bring better opportunities for people like Tangnaa. Rural to rural migration is a form of internal migration which is often forgotten. However, Lucas (2007) argues that rural-rural migration is more common than rural-urban migration in lower income countries. Still, very little is known about the patterns, causes and consequences of rural-rural migration. Nevertheless, this could be of importance for development studies. Moreover, Jarawura and Smith (2015) recognize the importance of rural-rural migration in their article about climate change-induced migration in northern Ghana. They state that rural-urban migration is given more attention because of governance related issues in cities. This focus on rural-urban migration fails to recognize the potential of rural-rural migration as an adaptation strategy, in the case of Ghana, to climate change-related issues. In their research about internal migration Castaldo, Deshingkar and McKay (2012) also look at Ghana and present some facts and figures about migration in Ghana. These numbers are retrieved from the Ghana Living Standards Survey (GLSS 5) and state that of all internal migrants most move from rural to other rural regions, making rural-rural migration the largest type of internal migration in Ghana (Rademacher-Schulz, Schraven & Mahama, 2014).

Does rural-rural migration lead to new opportunities or further marginalization for people living in the Upper West Region (UWR) of Ghana? Are (potential) migrants making a smart choice when migrating to a rural area instead of an urban area? Because they know they lack the necessary skills to cope in an urban area and are therefore better off in rural areas. Or are they making their position worse and does rural-rural migration cause further marginalization of a population already lacking some level of skills and education?

This research provides insight into how these rural-rural migration patterns are established and how this affects rural livelihoods and the communities left behind, focusing at the UWR of Ghana. To include all possible migration patterns that could come up during the research, this research focuses not on migration, but rather on mobility. Looking at rural-rural migration with a mobility perspective enriches the research and gives new insights into the subject.

1.1 Aim of the research and research question

The aim of this research is to gain knowledge on rural to rural migration patterns. However, as said before, the research question will not focus on migration, but rather on mobility. Though, throughout the research and especially in the literature review, migration and mobility are used interchangeably, this is because most literature focuses on migration rather than mobility. In order to get a complete view of all that is constituting rural to rural migration, the research question focuses on different forms

of mobility and their effect on livelihood opportunities. This research aims to answer the following research question:

How do various forms of rural to rural mobility affect livelihood opportunities of communities in the Upper West Region of Ghana facing increasing climate change?

To answer the research question three sub-questions are formulated. The first sub-question delves into rural livelihoods in the UWR of Ghana. Before researching rural-rural mobility it is important to gain knowledge on how households and livelihoods are constituted. Livelihood opportunities can have considerable influence on mobility patterns. Therefore, the first sub-question is used to make a framework of how rural livelihoods are constituted in the UWR of Ghana.

1. How are rural livelihoods constituted in the Upper West Region of Ghana?

The second sub-question is broadly about prevailing mobility patterns in the UWR of Ghana and thus entails different factors behind mobility. This sub-question delves into the reasons to move from a rural area to another rural area. It also focuses on the differences of permanent or temporary mobility. The difference of permanent or temporary mobility is important to recognize, because it can influence people's notion of belonging or the effect outgoing migration has on a community. This question also tracks down whether people consciously choose to move from one rural area to another instead of moving to an urban area, or if it is just their only option to go to another rural area. Besides that, it focuses on the difference between moving to north or south Ghana.

2. What are the prevailing rural to rural mobility patterns in the Upper West Region of Ghana?

The final sub-question is about the aspect of rural livelihoods and the effects migrants have on the community left behind. The aim of this question is to obtain knowledge about the way rural-rural mobility influences rural livelihoods of the residents left behind in the community. Does rural-rural mobility improve the lives of the people left behind, for example through remittances? Or does rural-rural mobility have negative effects on the community of origin? Besides that, this question also focuses on possible adaptation strategies and their effect on mobility and thus the community.

3. How does rural to rural mobility influence the migrants livelihood and that of their households in the community of origin?

The three sub-questions are answered first and give knowledge about mobility patterns in a rural-rural context. These questions also help determine whether there is a need to develop new theories about rural-rural mobility or whether existing theories about (rural-urban) migration can be adapted to fit the processes behind rural-rural mobility.

1.2 Societal relevance

This research focuses on rural-rural mobility patterns in the UWR of Ghana. Most of the focus regarding mobility is on rural-urban migration. The focus on rural-urban migration has tended to ignore the fact that urban areas are nowadays not the dominant destination for migrants from rural areas. According to Mberu (2005), rural to rural migration is, in fact, the most important type of internal migration. Besides, Lucas (2007) found that rural-rural migration is more common than rural-urban migration, especially in low income countries. Although these researches are some years old, a more recent research by Rademacher-Schulz et al. (2014) found the same pattern: migration flows in Ghana reveal a powerful seasonal rural-rural migration pattern, with the main destinations being the rural areas of the Brong Ahafo and the Ashanti region. These findings show the importance of focusing on rural-rural migration, as they constitute a substantial part of migration flows in Ghana. Nonetheless, Jarawura and Smith (2015) found that most policy documents barely give attention to rural areas as recipients of migrants. This seems to be part of a conception of rural livelihoods being on the decline. Rural areas are mostly seen as sending areas and thus they are given no role of importance in governance approaches. Policymakers mostly focus on urban areas but since there are barely any jobs for migrants in cities and urban areas, there should be a policy encouraging rural-rural migration (Yaro, 2006). Jarawura and Smith (2015) also argue about the potential of rural-rural migration as a more effective way of adaptation to climate change for rural people. Rural regions should be given a role of importance to play in governance approaches to offset the impact of climate change-induced migration (Jarawura & Smith, 2015).

Hence, this research is of importance because there is a strong pattern of rural to rural migration in Ghana. However, policymakers fail to recognize the importance of this pattern. This research can encourage policymakers to focus their attention on rural areas and the benefits that rural-rural migration can bring to people living there.

1.3 Scientific relevance

As said in the previous section, most studies addressing on migration focus on rural-urban migration. Only a few studies briefly touched upon rural-rural migration as a migration pattern, although, rural-rural migration is just as important as rural-urban migration in developing countries (Jarawura & Smith, 2015; Lucas, 2007; Mberu, 2005; Rademacher-Schulz et al., 2014). To only focus on rural-urban migration leaves a great part of migration undiscovered. Especially in development studies the focus on rural-rural migration is of importance. According to Lucas (2007), rural-rural migration is most common in low income countries, nonetheless, very little is known about the causes, patterns and consequences. The research of rural-rural migration can thus influence existing development studies. The focus on rural-rural migration is not only necessary for development studies, subsequently, this research can add to the already existing theories about migration. Current theories on migration focus primarily on rural-urban migration, which means they are not covering all migration patterns. In his research, Mberu (2005) also emphasizes the need to bring rural-rural migration into greater focus. Of course there are some studies that do focus on rural-rural migration, those studies mainly focus on seasonal migration between regions (Anarfi et al., 2003). However, Jarawura and Smith (2015) found that people in the UWR of Ghana also engage in other practices that involve travelling from one place to another to diversify their income, for example bush-farming. Because most studies look at these patterns from a migration perspective, they tend to ignore other important patterns that could also emerge. Unlike most studies, this research does not have a migration perspective, but rather a mobility perspective. Since most studies primarily focus on migration, they could overlook movements that happen on a smaller scale, but are still important for rural livelihood diversification. Looking at movements with a mobility perspective provides a next level to help explore the richness of movements in rural areas.

Migration is debated extensively in literature, with its main focus on rural-urban migration they often tend to overjump the fact that rural-rural migration is just as important. What all studies (rural-urban and rural-rural) have in common when looking at movements, is that they look from a migration perspective, as said before, this study provides a new insight to the migration debate, since it has a mobility perspective. Next to this, with its main focus on the UWR of Ghana it can provide as a first base study for mobility patterns all over West Africa and rural areas elsewhere in the world.

1.4 Structure

In this first chapter the research was introduced and the research question was stated. Besides, it has shed light on the societal and scientific relevance of the research. The next chapter - chapter two - gives an overview of the existing literature necessary for answering the research question. Chapter three describes the methodology of this research and delves into the methods that were used during the research. Additionally, chapter three reflects on the methods that were used. Chapters four, five and six analyse the results of this research. Where chapter four and six are mostly used to describe the field and outcomes, chapter five analyses the result by testing them. The thesis ends with chapter seven, which offers an answer to the research question by providing a conclusion and discussion. The chapter closes with recommendations for further research and policy.

Chapter 2

Mobility versus migration

To research rural-rural mobility, it is essential to define rurality, mobility and all that comes with it, this will be done in the following chapter. The chapter starts with giving an overview of rural households and livelihoods in Ghana. The second section addresses the changing climate of Ghana and the consequences this brings for people's livelihoods. The next section will look at prevailing migration patterns and the last section sheds light on the consequences migration brings. This chapter closes with a conceptual framework, this framework provides an overview of all factors leading to rural-rural mobility.

2.1 Living and working in Ghana

When thinking of rural households, surely one will have some thoughts about their livelihoods and the way their household is constituted. To be clear, this first paragraph will shed light on these concepts and will portray a picture of livelihoods in the UWR of Ghana.

People living in the UWR of Ghana are called The Dagaaba and they speak the language Dagaare. Traditionally the Dagaaba live in houses of moulded soil roofed with logs and twigs packed over with earth. The floors and walls are plastered with a mixture of mould, cow dung and an extract of shea-butter, which makes the floors and walls waterproof (Nanbigne, 2004). The Dagaaba live in domestic groups comprising males, married women and their children. When speaking of a family, the Dagaaba includes not only spouses and their children, but all who are descended from the same ancestor (Nanbigne, 2004). That is why, this research studies not the family, but rather the household. In his study about livelihood activities in rural northern Ghana, Yaro (2006) looked at the spatial, structural and functional characteristics that form a household.

This led to the following definition of a household in northern Ghana:

> ”The household as constituting a group of people who own the same productive resources, live together and feed from the same pot. The members usually constitute a man, his wife and their children, but instances of households with single men and women are found.” (Yaro, 2006, p.129).

The definition of Yaro is a good starting point when looking at households, however when studying mobility, the definition is too limited. How about a daughter that eats from that same pot, but only once a week, because all the other days she works at a farm some hours away. Or how about a brother who only comes home every three months, but gives most of his income to the family and in that way adds to the resources of the household? In developing countries, such as Ghana, household constructions are often complex (Posel, Fairburn & Lund, 2006). Not only are they complex in the way that they often contain a more diverse group of family members than a nuclear (two-generation) household, but more importantly, people classified as members of the household can also be non-resident for some part of the year (Posel et al., 2006). Particularly those household members who reside outside the community for some part of the year are interesting when studying mobility. Family members residing outside the community often add to the households´ livelihood in the form of remittances (Lucas, 2007). A livelihood includes the assets (including materials as well as social resources), capabilities and activities necessary for a means of living (Scoones, 1998).

In the West African Sahel region most of these activities necessary for a means of living are found in the agricultural sector as the majority of the rural population depends on subsistence and small-scale farming for their livelihood (Liehr, Drees & Hummel, 2016). Meaning the agriculture sector is one of the most important sectors, and it provides jobs for about 70% of the population (Fosu-Mensah, Manchadi & Vlek, 2019). This part of Africa and their way of farming is very much dependent on rainfall, as people have limited options for investment (e.g. fertilizers, pesticides, etc.) and irrigation, making it a highly vulnerable agricultural system (Roudier, Sultan, Quirion & Berg, 2011). Hence, Bryceson et al. (2000) found that rural populations are becoming more spatially mobile, occupationally flexible and increasingly reliant on non-agricultural activities. These non-agricultural activities are defined as: “any work that does not directly involve plant or animal husbandry” (Bryceson et al., 2000, p. 3). The larger part of households has one or more non-agricultural income sources, be it at the same time or at different points during the year. Most of these activities involve quick responses to market demand and supply (Bryceson et al., 2000). The process whereby Africa’s population to a smaller extent relies on agricultural activities year by year is called de-agrarianisation. De-agrarianisation is defined as: “a long-term process of occupational adjustment, income-earning reorientation, social identification

and spatial relocation of rural dwellers away from strictly agricultural-based modes of livelihood" (Bryceson et al., 2000, p. 1). Even though de-agrarianisation is part of the livelihood diversification, most people in the UWR of Ghana are still highly dependent on farming activities.

Another characteristic of the UWR of Ghana is, that it is still tremendously shaped by gender inequality. Boys are given the sheer opportunities and encouragement to be in school while girls are mostly discouraged and sometimes even prevented from participating in school (Agana & Millar, 2015). The unequal distribution between males and females is also noticeable in other domains. Women in Ghana cultivate for about forty percent of all land, despite that they are far less likely than men to have control over the lands. Besides, they have almost no rights when becoming a widow, as they do not inherit anything the husband leaves behind, leading to most widows end up homeless (Fenrich & Higgins, 2001).

In conclusion, living and working in the UWR of Ghana is highly shaped by the traditional way of living of the Dagaaba. Inequality is common and most people depend on small scale farming for their livelihood. Though, over the years, traveling, education, contact with other cultures or ethnic groups, and many other factors have begun to change the traditional way of life of the Dagaaba (Nanbigne, 2004).

2.2 The changing climate of Ghana

Climate change is an important topic not to be forgotten for this research. The changing environment can have a substantial impact on people's livelihood. Climate change is a phenomenon that is happening all over the world. The direct effects are often noticeable locally or regionally, think of typhoons, unpredictable rainfall, soil degradation and floods. Global Warming is the main cause of these disasters and according to the Intergovernmental Panel on Climate Change (2018) it is happening faster than ever before. Climate change can be separated in two ways, gradual climate change, also called the slow-onset events (sea level rise, land erosion, drought, etc.) and the sudden-onset events, such as hurricanes, floods and typhoons (Naser, 2011; Piguet, Pécoud & De Guchteneire, 2011). Both the slow-onset and sudden-onset events happen disproportionately in poorer countries of the Global South. This is because those countries already face different challenges such as low GDP, high population growth, poverty, armed conflict, unequal access to services and resources and unemployment (Afolayan, 2001; De Haas, Castles & Miller, 2019; Kates, 2000). Subsequently, Douglas et al. (2008) state that developed countries are the highest contributors to climate change whereas people in the Global South have the lowest ecological footprint (Ewing, Moore, Goldfinger, Oursler & Wackerna-

gel, 2010), which is applicable especially to countries in Africa. Among the continents which are responsible for climate change, Africa is the least contributor (Asante & Amuakwa-Mensah, 2015). This while Africa is more vulnerable to the effects of climate change due to its high poverty rates and large dependence on rain-fed agriculture (Fosu-Mensah et al., 2019). With the highest percentage of the population working in agriculture (Fosu-Mensah et al., 2019; Liehr et al., 2016), Ghana is also very much affected by the consequences of climate change. Several studies have shown that Ghana's climatic conditions have changed in the previous four decades (Dazé, 2013; Dumenu & Obeng, 2016; Kiff, Obirih-Opareh & Symonds, 2017). It recorded a temperature increase of one degree celsius and rainfall declined by about 20%. The consequences that are going to manifest are erratic rainfall, more extreme weather and floods (Dumenu & Obeng, 2016).

The northern part of Ghana will especially experience the impacts of climate change, being one of the driest of Ghana, with an increasing number of droughts, bushfires and floods (Dazé, 2013). Studies reveal that temperature rise will happen in all regions of Ghana, moreover, the highest increase in temperature will be in northern Ghana, with an increase of 2.1-2.4 degrees celsius by 2050 (Kiff et al., 2017). A local research conducted by (Kiff et al., 2017), reports that in the Upper West Region of Ghana the climate has become less predictable, with a delay of the rainy season (from April to May), an increase in heavy rainfall causing floods, longer dry spells and higher temperatures. The research also indicates that climate change will have a greater impact in areas with high poverty rates, besides that, this study shows that rural areas are more affected than urban. Northern Ghana, with most of his population living in rural areas, is thus most likely to be affected. Within the area of northern Ghana, the Upper West region, with the highest poverty rates and most people working as small scale farmers, is especially vulnerable (Kiff et al., 2017). These small-scale farmers have minimal livelihood alternatives and most of their income comes from rain-fed agriculture, relying heavily on a single and already altered rainy season (Antwi-Agyei, Fraser, Dougill, Stringer & Simelton, 2012). The vulnerability of northern Ghana is even more heightened by other human-related and biophysical issues such as overgrazing, deforestation and human-induced bush fires (Stanturf et al., 2011). As a reaction to climate change people are seeking employment elsewhere. Climate change thus can be seen as one of the factors behind de-agrarianisation (Sylla, Nikiema, Gibba, Kebe & Klutse, 2016). Moving away from agricultural practices can be considered as an adaptation strategy. An adaptation strategy is: "a long-term strategy to place the household's income on a broader basis and to fall back on remittances in case of unfavorable conditions like crop failures" (Liehr et al., 2016, p.163). Adaptation can be either positive or negative. Positive if it is by choice and increases security, negative if it is of need, permanent and does not increase security (Yaro, 2006). Livelihood adaptation often involves the inclusion of new activities which are unfamiliar to the household's livelihood past (Yaro,

2006). Livelihood adaptation is thus defined as: "the continuous process of change to livelihoods, often geared towards enhancing existing security and wealth, and reducing vulnerability and poverty" (Yaro, 2006, p. 1283). The degree of adaptation of livelihoods largely depends on the household's position in society, assets, activities and responsibilities, level of education and the amount of social capital (Yaro, 2006). Besides moving away from agricultural practices, migration is an essential part to diversify the household's income: "migration serves as a coping strategy or an immediate reaction to bad conditions and as an adaptation strategy for income diversification in the long run" (Liehr et al., 2016, p. 155). So, migration can be used as an adaptation strategy to climate change. Although there is no direct link between migration and climate change, various researchers have linked climate change to increased levels of migration. Nonetheless, predictions vary greatly with numbers ranging from 25 million to 1 billion people being on the move due to the effects of climate change by 2050 (Naser, 2011; Wyns, 2018). With an estimation of the world population consisting of 9.8 billion people by 2050, that comes down to 0,3 to 10 percent of the world's population migrating because of climate change (United Nations, 2017). The disparity between these numbers is because of different estimates about to what extent and in which way climate change will happen. Also in Ghana, temperature increases are being linked to people searching for greater water availability and livelihood options, leading to rural to urban migration and north to south migration (Kiff et al., 2017). As especially northern Ghana is affected by climate change, many Northerners decide to migrate because of poor agro-ecological conditions in the north combined with easy access to fertile lands in the more humid areas of the south (Van der Geest, 2011).

Already in 1995 Myers gave a definition to people who had to leave their homes because of climate change, he called them "environmental refugees", which is defined as the following:

> "Environmental refugees are persons who can no longer gain a secure livelihood in their traditional homelands because of environmental factors of unusual scope, notably drought, desertification, deforestation, soil erosion, water shortages and climate change, also natural disasters such as cyclones, storm surge and sand floods. In face of these environmental threats, people feel they have no alternative but to seek sustenance elsewhere, whether within their own countries or beyond and whether on a semi-permanent or permanent basis." (Myers & Kent, 1995).

With this description, Myers also takes into consideration that migration because of climate change does not always mean moving from one country to another or leaving on a permanent base, a lot of climate-change induced migration happens within a country. This research uses the term "climate migrants" instead of "environmental refugees". The reason for this is that the term "refugees" implies

forced migration, but the dichotomy between voluntary and forced migration is not that black and white. Next to this, the term refugees can feel as "poor" people in need to migrate, although it can indeed be very smart people finding new ways to cope with the effects of climate change.

Diversification, moving away from agricultural practices or engaging in migration are thus ways to adapt to the changing climate. While traditionally these were the ways to cope with climate change, nowadays many farmers have started to enhance their production by using various irrigation techniques (Laube, Schraven & Awo, 2012). Using irrigation techniques can help cope with the effects of climate change and leads to a decrease in rural-urban migration (Laube et al., 2012). Though it might lead to an increase in rural-rural mobility patterns. Not all communities have access to irrigation systems, which could lead to people moving from communities without irrigation systems to communities with irrigation systems, leading to an increase of movements within one region.

In short, the climate in Ghana and especially the UWR of Ghana is changing. With a high percentage of the people being dependent on farming for a living, climate change has considerable impact on livelihoods. More people switch from farming to other means of living, resulting in de-agranisation. Besides, people are seeking employment elsewhere, leading to an increase in mobility patterns. However, irrigation facilities are also being used as an adaptation strategy, possibly leading to less mobility.

2.3 Patterns of mobility

As said in the previous chapter, migration is often used as an adaptation strategy for climate change. Though, climate change is not the only factor leading to migration, and migratory movements can barely be explained by one single cause. One way of describing people's decision whether to move or not to move is through the threshold approach (Van Der Velde & Van Naerssen, 2016). The threshold approach states that there are three important thresholds that need to be crossed before a person decides to migrate. The first one is the "mental threshold", the mental threshold is about the mindset of people to become a migrant or not. This threshold is influenced by keep and repel factors: "however, keep and repel factors are not always objectively measurable, since they are enmeshed with feelings and senses of belonging" (Van Der Velde & Van Naerssen, 2016, p.4). The second threshold is the "locational threshold", the location a migrant chooses is often not randomly chosen: "there tends to be a certain familiarity with the destination in question" (Van Der Velde & Van Naerssen, 2016, p.5). The last threshold is the "trajectory threshold", this concerns the route to the destination. This trajectory is of greater importance when crossing borders and thus of less importance in internal rural-

rural migration, despite, it should still be taken into account. If all thresholds are passed, the person decides to move. The threshold approach shows that migration can not be explained by one single cause as well as the complicated patterns behind migratory movements. The threshold approach is a good starting point when analysing migration patterns, on the other hand, when looking at mobility patterns it might be too extensive. Mobility might be less of a choice, but more of a necessary means to cope with changing livelihoods. This would mean that the thresholds Van Der Velde and Van Naerssen (2016) discus are crossed faster because mobility is part of the everyday lives of the people in the UWR region of Ghana.

According to Liehr et al. (2016), the vast majority of people who migrate (65%) name the pursuit for jobs and money as one of the biggest motives for migration. Also community neglect, infrastructural development and urban expansion in other areas, can work as motivators for people being on the move (Isaac & Raqib, 2013). Social factors often dominate environmental factors when it comes to the decision to migrate. Liehr et al. (2016) give two reasons for the dominance of social factors. First, most of the motives for migration are highly constructed by socio-cultural ambitions, think of education, curiosity, familial reasons and traditions. The effects of urbanisation and modernity play crucial roles in the decision processes along with institutions, rules, norms and social dynamics with communication. Second, social factors can mask environmental factors behind them, this means environmental push and pull factors are often in the second or third order (Liehr et al., 2016). The environmental factors are important but except under very specific circumstances, they never act alone (Van der Geest, 2011). Poverty, a lack of livelihood opportunities and food shortage are also indicated as factors leading to migration (Kiff et al., 2017). Migration in this case is used as a coping strategy. A coping strategy is a strategic act based on a conscious assessment of alternative plans of action (Snel & Staring, 2001). Also in northern Ghana, reasons for migration are the search for paid employment and food security (Kiff et al., 2017). Especially young men and women migrate in search of fertile farmlands and better economic opportunities in the south (Van der Geest, 2011). The south consisting of more urban areas and mining communities has been the prime destination for years for many migrants from the north (Abdul-Korah, 2007). A recent study by WFP and MoFA in Atuoye, Kuuire, Kangmennaang, Antabe and Luginaah (2017) found that more than three quarters of the households in the Upper West Region had at least one member working or residing as a migrant in another part of the country (34%), interestingly this region also has the highest rate of poverty.

So, urbanisation, poverty, education, climate change, infrastructure and other economic opportunities are all stated as keep and repel factors (Van Der Velde & Van Naerssen, 2016) leading to migration. These macro factors are of course interesting and cannot be overlooked when studying mobility. There are a lot of movements going on from a macro perspective, but where do these move-

ments come from? These migration studies tend to overlook the choices and consequences that are happening on the household level. Looking at these patterns with a mobility perspective will provide more insight into how people make choices and how they deal with the consequences.

A mobility perspective is thus needed to prevent getting stuck in a macro perspective and overlook smaller migratory movements. One of these migratory movements is rural to rural migration. One form of rural to rural migration is north to south migration. North to south migration in Ghana has been ongoing since pre-colonial times, yet, recent migration patterns show a much more widespread migration together with seasonal migration trends (Kiff et al., 2017). Seasonal migration, especially north-south rural-rural migration has been an important movement pattern in West Africa (Anarfi et al., 2003). During the dry season people from the north migrate to the south to seek employment elsewhere, often on farms, they return home when the wet season starts, to work on their own farm again. This type of migration provides important functions: it lessens the pressure on household food stocks, it takes care of the shortage of employment opportunities during the dry season, it is a way to increase food security through remittances and it limits seasonal income variability (Rademacher-Schulz et al., 2014). Seasonal migration has always been used by the northern people as a coping strategy to climate change, as seasonal migration gives people the potential ability to return resources directly to one's own households in a timely manner to fill the production gaps (Rademacher-Schulz et al., 2014). Besides seasonal migration, Kuuire, Mkandawire, Luginaah and Arku (2016) found that in recent decades, migration patterns from the Upper West Region are shifting from temporary seasonal migration to permanent migration. A growing number of people from the north establish farms as a means of livelihood in the south with the intention of staying there permanently. This trend is becoming an important adaptation strategy among people in migrant sending areas such as the Upper West Region (Kuuire et al., 2016). Still, only focusing on seasonal migration or permanent migration is too limited. Nanbigne (2004) shows in his study that even if migration is permanent, most Dagaabe people, when they grow old, have the wish to return home to settle for their old age. Even if they do not want to settle for their old age, they often want to be buried at home. This example shows that when only focusing on reasons to migrate, other important factors and patterns can be left out. Taking a step back and looking at all prevailing movements can reveal new choices and consequences of mobility on a much broader scale.

In conclusion, migratory movements are shaped by numerous macro factors such as climate change. Dominant migration patterns in Ghana are, seasonal migration or permanent north to south migration. However, a mobility perspective is needed to get a better understanding of the choices and consequences that are taking place on a household level and which is leading to a variety of movements.

2.4 Consequences of mobility

In the first paragraph the threshold approach made clear that mobility is not an isolated element, various factors can act as motivators for people to move. Still, most of the existing literature on migration focuses on macro factors leaving possible other explanations out if it. Mobility is not a process on its own, it is shaped by numerous other aspects, one of them being the consequences of mobility. The financial and societal impact of mobility on rural livelihoods in West-Africa has come to increase over the last decades (Liehr et al., 2016) and this increase undoubtedly brings consequences. Mobility not only affects the migrant, but even more so the families left behind. The migrants´s departure can, directly or indirectly, enhance or worsen the income, well-being and consumption of the people left behind (Lucas, 2007). In this chapter the consequences of migration on the sending communities will be discussed.

First of all, studies found an unequal distribution when it comes to the gender of migrants. The men are often the ones who migrate and women are left behind. A reason for this unequal distribution can be the traditional way of life (Liehr et al., 2016). However, Isaac and Raqib (2013) show something different when it comes to migration patterns, specifically for Ghana. They found that both females and males are involved in migration, though the nature of these movements is not explained. In the developing world, it is common for females to leave their ancestral homes upon marriage (Ungruhe, 2011), the majority of women who engage in migration, move because of marriage agreements. So, existing literature is contradicting each other. A possible explanation might be the migration perspective the studies have, as they both focus on one specific movement, often marriage. Looking with a mobility perspective might shed new light on the distribution between men and women and their movements.

Another consequence is brain drain, according to De Haas et al. (2019) brain drain deprives poor countries of their scarce (professional) resources. This could also be the case for communities with high rates of outgoing migration. Skilled labours move away, leaving unskilled people to take care of the community, this evidently influences the community. According to (Kiff et al., 2017) most of the migrants engaged in north to south migration are young and able, leaving an aging population behind. Communities with an aged and unskilled population are undoubtedly affected, resulting in a situation of declining food production, abandoned lands and low level of modern practices applied in production (Kiff et al., 2017). Also Isaac and Raqib (2013) confirm this trend in their research, claiming that able bodied youth are the ones who migrate, with the consequence being a lack of socio-economic development, a lack of socialisation, and environmental degradation. According to them, the youth is normally active in community development and their absence leads to community

underdevelopment (Isaac & Raqib, 2013). Along with community underdevelopment, the migration of able bodied people also brings caring issues. As a result of able bodied men migrating away, women have to perform other chores next to the work they already did, resulting in children becoming malnourished because they do not get much attention (Nanbigne, 2004). Besides that, the care for elderly people is being compromised, as they cannot afford to go to the hospital and at home there are only other elderly to take care of the sick (Nanbigne, 2004).

Additionally, in their research Teye, Boakye-Yiadom, Awumbila and Yeboah (2016) found that outgoing migration also has social counterfactual effects, be it negative or positive. For example, this research shows that migration has positively affected the education of the household members of the migrant. About 62% of the people in their research indicated that migration had enhanced the level of education of their children and or household members. It appears that migration can have an effect on marriage too (Teye et al., 2016). Some people rush into marriage before migrating, others marry two wives, one at the place of origin and one at the place of destination. Migration can also enhance the quality of marriage, when spouses receive better income in the place of destination, sends home money regularly and communicates effectively (Teye et al., 2016). Communication is key to a good marriage, limited spousal communication between the migrant and the one left behind can affect the quality of the marital relationship (Teye et al., 2016).

One of the most important effects on communities left behind, are remittances in the form of money, goods and food. Many houses in the community which are built with cement and roofing sheets are the pride of the household but they could not have been built without help of the remittances of migrant kin (Nanbigne, 2004). Many people who have migrated are confronted with the pressure of demands of family on resources that they can not even afford (Nanbigne, 2004). In many Dagaabe communities people complain that they cannot afford the school uniforms and fees for their children and help is often sought from migrants (Nanbigne, 2004). Remittances tend to be higher amongst migrants who intend to return home, like seasonal migrants (Lucas, 2007). Subsequently, migrants who are separated from their family send more money home rather than family members accompanying the migrant (Lucas, 2007).

In short, as mobility is becoming part of the daily lives of people in the UWR of Ghana, the consequences are more noticeable. Mobility can have both positive as negative consequences. Remittances can help people in the communities left behind, though outgoing migration also brings less security on the communities of origin. Mobility not only brings both positive and negative consequences, but these consequences can, in their turn, lead to movement.

2.5 Conceptual framework

Figure 2.1 provides the conceptual framework of this research. This framework is made to indicate how rural-rural mobility is interwoven in the complex system of rural livelihoods. The vulnerability of households is influenced by both micro as macro factors. One of the biggest outside sources on households is climate change, as rural livelihoods in the UWR of Ghana are subjected to severe environmental changes. How a household reacts to an increase in vulnerability depends on their response strategies, the diversification of livelihoods can be one of them. This means seeking income from alternative sources next to agricultural practices. Both irrigation and migration can be seen as strategies for the diversification of a livelihood. In turn, irrigation can modify the level of migration. Engaging in one of these livelihoods diversification strategies will alter the level of vulnerability of a household. However, it is a never ending loop of changing vulnerability and response strategies.

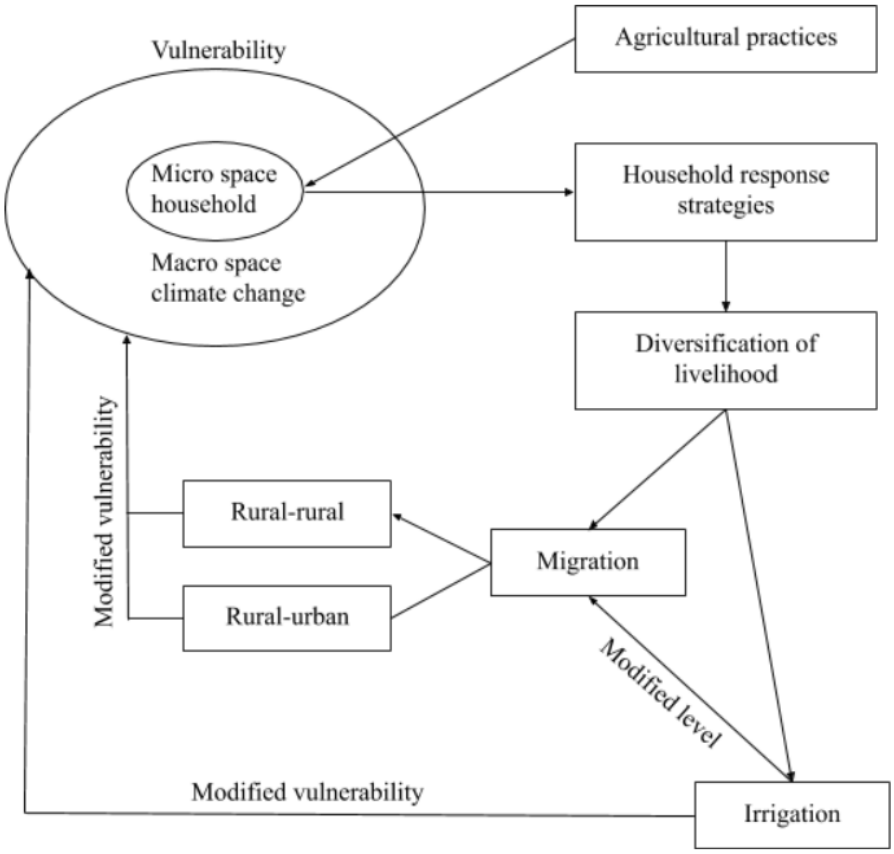

Figure 2.1: Conceptual framework

Chapter 3

Methodology

3.1 Research method

In order to understand rural to rural mobilities in the context of rural northern Ghana, I made use of different kinds of approaches. First of all, as you have read, I have started with a literature review. I have done this to provide an overview of the already existing literature on rural-rural migration. However, this literature is mostly written with a migration perspective. In this research I choose to look at movements with a mobility perspective. To give more meaning to the literature that is now mainly on migration, I choose to make use of a grounded theory approach for the mobility perspective. The first people to introduce the grounded theory approach were Glaser and Strauss. They suggested the grounded theory approach as a method to compare and analyze basic psychological and social processes (Glaser & Strauss, 1967). They proposed that researchers need to work in a simultaneous process of analyzing and collecting data. Already in the early stages of the research, the researcher analyzes the data and looks for the first tentative findings to develop categories (Glaser & Strauss, 1967). Thus, the grounded theory approach is an inductive process, which starts with collecting data and ends in developing a theory. An advantage of a theory based on data is that it usually cannot be replaced by another theory or completely refuted by more data (Glaser & Strauss, 2017). Another advantage of the grounded theory is that it cannot be affected by so-called "exampling": "a researcher can easily find examples for dreamed-up, speculative, or logically deduced theory after the idea has occurred" (Glaser & Strauss, 2017, p. 5). Furthermore, a grounded theory approach is relevant when the study of experiences or social interactions aims to explain a process (Lingard, Albert & Levinson, 2008), in the case of this research the processes are mobility patterns. To encapture all processes behind rural to rural mobility it is important to be open-minded and not let existing theories lead the research. Further, rural to rural mobility is a process that has not been studied extensively yet, which

means theories about rural to rural mobility have not been established. That is why I made use of a grounded theory approach for the mobility perspective.

The grounded theory approach does not take into consideration how the researcher´s points of view, social locations, and privileges influence the process and ideas. Furthermore, a researcher always has some familiarity with the literature, thus shaping their views (Charmaz & Belgrave, 2007). Most grounded theory researchers state that when applying a grounded theory approach, the researcher should avoid conducting a literature review before collecting and analyzing data (Cutcliffe, 2000). Hutchinson looks at it differently, literature review in a grounded theory approach can identify the current gaps in knowledge and many proposed research questions require conceptual clarity (Hutchinson in Cutcliffe, 2000). For this research, there was also a need to identify and clarify existing literature to propose a rationale for the research. During the literature review, I noticed that most literature on patterns of movements only focuses on rural-urban migration or sometimes rural-rural migration, but always looks at movements with a migration perspective. Thus, indicating the need to develop theories about rural to rural mobility. Even though there is a need for a literature review, grounded theory researchers still need to be careful about how detailed and comprehensive they carry this out (Cutcliffe, 2000). Hence, this research does have a literature review, but with most literature focusing on migration rather than mobility, a grounded theory approach is still applicable for this study.

Another feature of the grounded theory approach is its iterative study design, meaning the data collection, reading of theory and data analysis alternate each other during the whole period of fieldwork (Lingard et al., 2008). The information gained from an earlier interview has influenced the next and so on. The collected data was analyzed during the process which helped determine the next step. Moving between collecting data and analyzing data made it possible for me to sharpen, redirect and elaborate on important concepts within the research.

In the grounded theory approach one can make use of both qualitative or quantitative data collection (Glaser & Strauss, 1967). Each of the methods has its own benefits and downsides. According to Glaser and Strauss (2017), in many types of research using both qualitative and quantitative methods can be useful or even necessary: ´not quantitative used to test qualitative, but both used as supplements, as mutual verification and, most important for us, as different forms of data on the same subject, which when compared, will each generate theory´ (Glaser & Strauss, 2017, p. 18). The use of both quantitative and qualitative methods within one research project is called the mixed methods approach (Denscombe, 2008). The choice for a mixed method approach can have different reasons, two of them being: ´(a) some researchers use mixed methods to improve the accuracy of their data, whereas (b) others use mixed methods to produce a more complete picture by combining informa-

tion from complementary kinds of data or sources´ (Denscombe, 2008, p. 272). Both reasons, but especially reason b, is what made me choose to use both qualitative and quantitative methods for this research. Rural to rural mobility is a subject that has not been studied extensively yet, by doing quantitative research I have shed light on the processes of rural to rural mobility. To produce a more complete picture, I used qualitative methods as a complementary source to go deeper into the processes of rural to rural mobility.

3.2 Introducing the field

Figure 3.1: Map of Ghana with own adjustments

The fieldwork of this thesis is conducted in the district of Jirapa in the Upper West Region of Ghana (Figure 3.1). The average age of the district (25) is almost the same as the average age of Ghana in total (24) (Figure 3.2). This region is poorly supplied with natural resources and the per capita income of the population drops far below the national average (Musah, Bonsu & Seini, 2014). The region is among the least developed and poorest regions in Ghana: "nine out of ten people in the region are poor and almost 90% of its population depends on farming in rural areas" (Musah et al., 2014), p. 2428). Compared to all regions of Ghana, the majority of the people of the UWR live in rural areas (49.1% versus 83.7%). Next to this, the average household size in the UWR of Ghana (6.2) is slightly bigger

than the average household size in all regions of Ghana (4.4). The Upper West region has eleven districts, Jirapa with a land area of 1,188.6 square kilometers being one of them (Nyarko, 2014a). Jirapa is located in the tropical continental climate regime (Nkegbe, Kuunibe & Sekyi, 2017) with annual temperatures ranging between 28 and 31 degrees. The only source of water comes from the Black Volta River, which also constitutes as the border between Ghana and Burkina Faso (Nkegbe et al., 2017). The latest census on the district revealed a population of 88,402, representing 12.6 percent of the regional population. Most households in the district are active in agriculture (82.7 percent), but, their activities are limited to only livestock keeping and crop farming, other important farming activities, such as tree planting and fish farming are practically neglected (Nyarko, 2014a). On religious affiliation, the majority of the people living in Jirapa district are Christians (65.9 percent), followed by 18.8 percent being a traditionalist and 10.4 percent belonging to Islam (Nyarko, 2014a). Furthermore, more than half of the population in Jirapa are non-literates (55.1%), which is more than twice as high as the national average of 25.9%. The official language spoken in Ghana is English, although, in Jirapa district only about seven out of ten persons indicated as literates can speak and write both Ghanaian and English languages (Nyarko, 2014a).

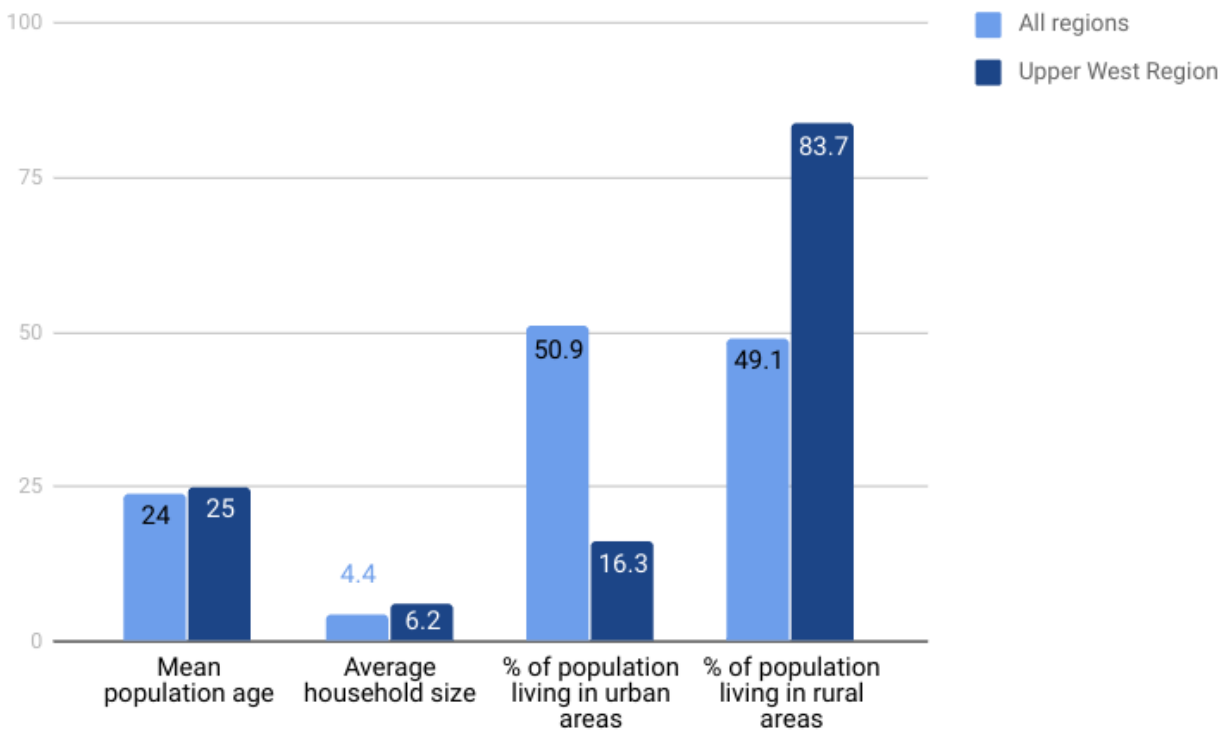

Figure 3.2: Demographics of Ghana versus the Upper West Region (Nyarko, 2014b)

For the fieldwork of this thesis I chose four communities within the district of Jirapa, namely; Piiyir, Konzokalah, Gbetouri and Sabuli (Figure 3.3). The people living in the communities are called Dagaaba people and they speak Dagaare. The choice for these specific four communities has multiple reasons. Piiyir and Konzokalah are the only two communities in the district with irrigation systems. According to the literature irrigation facilities can have an influence on mobility patterns, this would mean I expect to see a difference between the two communities with irrigation facilities and the two without. The communities without irrigation systems are Gbetouri and Sabuli. Gbetouri and Sabuli have a lot of outgoing migration according to Mr. Godfred Bamba from the Jirapa District Assembly (personal communication, January 31, 2020). Besides, the geographical place of the four communities play a part in the decision to select the communities. Gbetouri, for example, is relatively close to the border of Burkina Faso, which could possibly lead to more movements between borders. The size of the communities and the number of households living in them are more or less the same for Piiyir (297), Konzokalah (299) and Sabuli (332), Gbetouri is much smaller with a number of 43 households (Given by Dr. Jarawura from Nyarko, 2014a).

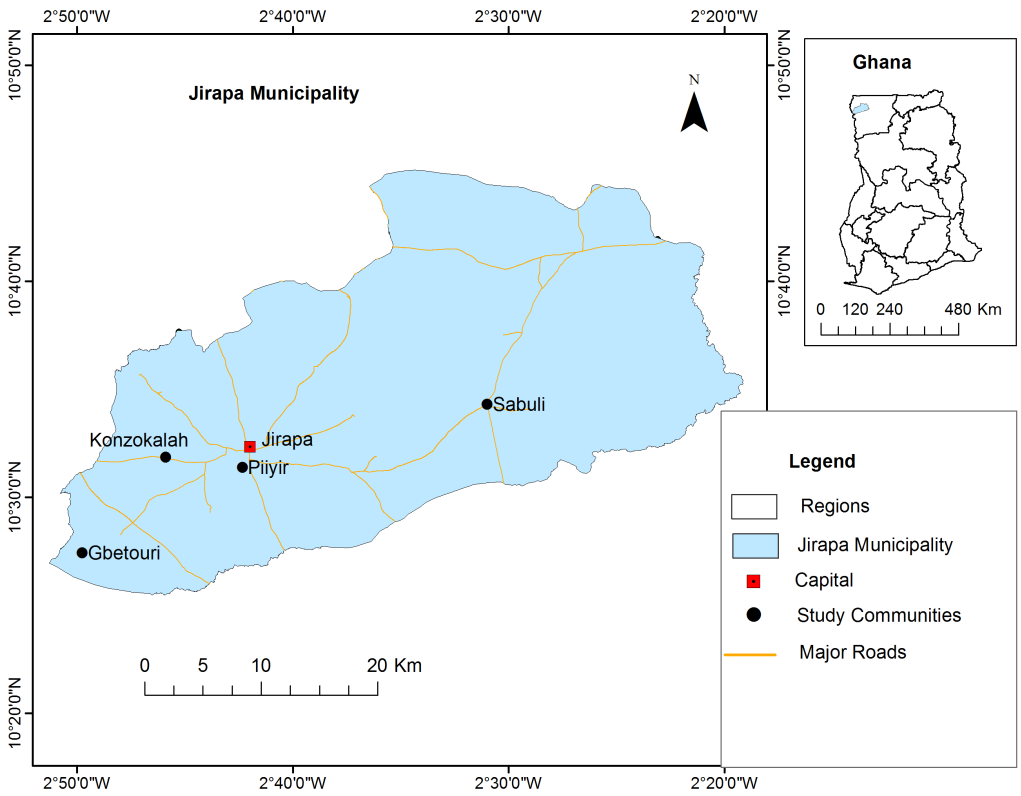

Figure 3.3: Jirapa District and studied communities

3.3 Selecting participants

The fieldwork of this research was conducted in a period of two and a half months in Ghana. During this period I lived in Wa, the capital city of the Upper West Region (UWR). Wa, was the central place from which I collected my data and conducted my research. During this period I was linked to Dr. Francis Xavier Jarawura of the University of Development Studies in Wa, who helped me collect my data. In his turn, he connected me to Victor Kunbuor, a master graduate of economics. During the fieldwork I worked intensely with Victor, he helped me a great deal with collecting the data and sampling the respondents. During the fieldwork I used different techniques for sampling my respondents. Along the way I had to be creative as some developments and unexpected occasions occurred. In this section I will elaborate on how I selected my respondents.

During the first meeting with Victor, we decided on the research site: the district of Jirapa. As explained in the previous section, we chose four communities in the district of Jirapa. Two of them were already chosen before the first field trip, namely Piiyir and Konzokalah. Because of their irrigation systems, these communities are the first two relevant communities for my research. The other two communities were chosen after the first trip to the field on January 31. During this field trip Victor had arranged for us to have a meeting with the district planning officer, Mr. Godfred Bamba of the Jirapa District Assembly. Mr. Bambo indicated two communities with a high number of outgoing migration, namely Gbetouri and Sabuli. That is how we decided on the four communities. Besides to indicating the four communities this field trip was also meant to make a first visit and introduce ourselves. From each community we noted a contact number and asked permission to conduct the research. Before every field trip we used the contact numbers to let the people know we were coming. This was the first step in selecting participants.

The first part of the fieldwork was about the qualitative part of my research. Dr. Jarawura and I had agreed on three individual interviews per community, one with a man, one with a woman and one with a youth. The participants could not be members of the same household. For the focus group discussions (FGDs) we agreed on 8 or more participants per FGD and separated men from women (Figure 3.4)[1]. This was done for a reason, because in the context of these rural villages, the relationships between men and women are still unequal (Agana & Millar, 2015; Fenrich & Higgins, 2001). If we would have done FGDs with men and women at the same time, the women might not feel safe to express their true feelings. Next to this, people participating in individual interviews could not be participants of the FGDs and vice versa.

[1] All pictures are made an used with permission of the people on them.

Figure 3.4: Focus group discussion Sabuli

To select participants, I used the method of stratified sampling combined with convenience sampling. Stratified sampling is used to represent all groups in the sample (Barreiro & Albandoz, 2001), in this case all four communities. The next step is to select participants from these different groups, this was done using convenience sampling. In this type of sampling members of the targeted population meet certain criteria, such as geographical proximity, easy accessibility, availability at the time and the willingness to participate (Etikan, Musa & Alkassim, 2016). In the field this meant Victor and I walked around the community and we asked any member that met the criteria if he or she was willing to participate. To make sure members were not from the same household we moved around the community a lot. We found that every member was more than willing to grant us their time, which made it very easy for us to find enough participants for both the individual interviews as the FGDs.

At the beginning of March it was time for the second part of the fieldwork, the quantitative research. Because most people in Jirapa district are non-literates and do not speak English, the surveys had to be carried out by the research assistants helping me. Victor had assembled three other men to help us, namely: Matthew Kayang, Charles Schamags and Gregory Tati (Figure 3.5). All of them had experience in collecting data. The quantitative part of the research consisted of surveys, one member of the household was supposed to fill in the survey. The sample size was made up by using the following formula of Yamane (1967), depicted in Equation 3.3.1.

$$n = \frac{N}{1 + N(\alpha)^2} \tag{3.3.1}$$

Where n = sample size, N = sampling frame and α represents the margin of error with a confidence level of 95%. The chosen communities have a total of 965 households. With this formula, the total sample size calculated is 283, meaning 71 surveys per community. As Gbetouri has a total of 43 households, we had to cover every household in Gbetouri and 80 surveys for each of the other communities.

The aim of the last field trip was to cover one community a day, which meant every researcher had to carry out around 17 or 18 surveys a day. To find participants, we worked in the same way as we did during the previous field trip, using stratified sampling combined with convenience sampling. To cover most of the community, the research assistants split up and each took a part of the community for their account. This went quite smoothly, in four days we covered every community. Still, we did face some difficulties that we did not take into account before we started. The first day, in Piiyir, there was a funeral, in which most members of the community were taken part. This meant we could not find enough participants, to overcome this, we decided to leave and come back in the afternoon to finish the remaining surveys. The day we went to Sabuli, it turned out to be the market day of Sabuli, this only happens once a week and the whole community is busy selling and buying stuff at the market. Which meant they had less time for us to participate in the research. We knew this already the day before, so to not be affected by this, we took off very early, so that we could start with the surveys before people went to the market.

The process of selecting participants was thus a dynamic one, but in the end we managed to reach the goals we had set, we selected enough participants for the individual interviews, the FGDs and the surveys.

Figure 3.5: The research team

3.4 Research instruments and conducting the research

During my research I made use of three different techniques to gain information from my participants, namely semi-structured interviews, focus group discussions and surveys. In this section I will elaborate on them.

Before I explain the research instruments and the way in which I used them, it is important to point out the unit of analysis and the unit of observation. The unit of analysis are mobility patterns in rural to rural migration. The unit of observation are members of households who have participated or still participate in rural to rural migration. As said before, this research made use of both qualitative and quantitative methods. I will start with elaborating on the qualitative methods.

The qualitative methods used in this research are semi-structured interviews and FGDs. The individual interviews were open and semi-structured using a topic guide (Appendix A). The topic guide was made up of open-ended questions, so the interviews were conducted on a basis of a loose-structure, making it possible for me to deviate from the topic depending on the answers of the people being interviewed (Bricki & Green, 2007). Beforehand I had made a copy of the topic guide and brought this along with me to the interviews. During the interviews, I let the interviewee guide the interview, though, having a copy of the topic guide with me and also memorised in my head, I made sure that I covered all the topics that I had contemplated before.

FGDs are a good addition to the individual semi-structured interviews. Group discussions are helpful because they tell more about the social structure of the community and give more in-depth insight in how opinions and knowledge is formed in a social context (Bricki & Green, 2007). During the FGDs, I worked in the same way by using a topic guide (Appendix B). Nevertheless, during the FGDs, I made it possible to deviate more from the topic guide, as my goal was to initiate discussions among the participants. When a discussion was coming up I did not want to interfere too much, I just wanted to see where it would lead to. When I noticed that the participants deviated too much from the original topic I did interfere and brought them back to the topics I had in mind.

Before starting the research, I wanted to use other qualitative methods next to the semi-structured interviews and FGDs, namely being there and hanging out, and walking interviews. Being there and hanging out, means walking around the village and making small talks to people. In this way the people can get used to the researcher and the researcher can get used to the community. I applied this technique in a small amount in the first two communities, Piiyir and Konzokalah. For these two communities I was able to make a first visit without doing any other research and just get to know the people and the community. Due to time and money I was not able to do the same for the last two communities, Gbetouri and Sabuli. The other technique I wanted to use, was conducting walking

interviews with a key person from each community. A walking interview is less formal and would have generated data that is inspired by the surrounding community. Due to the lack of money I had to make a choice in which techniques I could use, and which techniques I could not use. I decided not to conduct the walking interviews as I thought the individual interviews and FGDs would give me more information.

Furthermore, during all the interviews and FGDs there was a language barrier as the respondents did not speak English and I don't speak Dagaare, the local language. To overcome this language barrier I made use of a translator, Victor. The translator became a producer of my research data who shaped the analysis through his own identity and experience, as changes to language almost always occur during the process of translation (Squires, 2009). I noticed that I found it difficult to work with a translator, as I had the feeling that I was missing large parts of the conversation. After explaining this to Victor, it got a little bit better, though, it is still something I will take into account when discussing the limitations of the research.

Lastly, all interviews took place at a location chosen by the participant. Often this meant we sat in front of the house of the participant or under a tree nearby the house (Figure 3.6). It is important that the social world is studied in its ´natural´ state and let the respondents feel safe in their natural environment so that they can speak freely (Hammersley & Atkinson, 1995).

Figure 3.6: Participant under his mango tree

The quantitative method used in this research are questionnaires (Appendix C). Questionnaires are mostly used to collect data on demographic details, personality traits, attitudes, beliefs, experiences, behaviour or activities (Parahoo, 2008). The questions in a questionnaire can be asked in a variety of formats. For my questionnaire, I made use of multiple and single choice questions, rating scale questions, dichotomous questions and open ended questions. The questionnaire was made in English and because most respondents do not speak English I decided to let the research assistants conduct the questionnaires one by one on each respondent. This meant each research assistant had a pile of copied questionnaires with them and went to the houses of the respondents. The research assistants sat together with the respondents, asked them the questions in the local language and translated them directly to English on the paper. The downside of this method is that it is very time consuming and costly (Bourque & Fielder, 1995). Even so, working with this method made sure the questionnaire was filled in thoroughly, no questions were skipped and when questions were unclear to respondents, the research assistants could explain them. Before conducting the questionnaire in the studied communities, we (me and the research assistants) tested the questionnaire in another community because piloting the questionnaire can enhance the validity and reliability of it (Parahoo, 2008). Although, by testing the survey I still did not anticipate everything. After the first round of surveys, it turned out that one of the researchers misinterpreted what was meant with migration. Because of this he had a much lower number of people who had engaged in mobility. Luckily this problem occurred in the early stages and did not affect all the questionnaires. Although the questionnaire was made with extreme care and was read by several people, in the end it turned out that some questions were not asked in the right way and some interesting information was not asked. During the analyses I noticed these flaws. Preferably I would have asked the same questions about the respondents' family members as I had asked about the respondents themselves, in that way I could have combined the two and have an even larger sample size. However, the questions were slightly different and thus not compatible, which meant I had to run different analyses for both groups.

3.4.1 Collecting data

In the first phase of my research, the qualitative part, I made use of a few different ways of recording data. During the individual interviews and FGDs I recorded the conversations and discussions on my mobile phone, always with permission of all respondents. Recording audio can have huge benefits, such as the inability to record everything on paper and the ability to listen more carefully to what the respondent is saying (Musante & DeWalt, 2010). For me, recording the conversations also had

another benefit. Because I felt that the translator did not translate directly what the respondents were saying, I chose to involve a third party. I sent the recorded audios from my phone to Mr. Dombo (according to Dr. Jarawura he was a trustworthy transcriber), who transcribed all the interviews for me. By involving a third party who could speak the local language and English, I had overcome the difficulty of the translator, translating the answers of the respondents in his own words. Now I had two sources telling me the answers of the respondents. Still, when analysing the transcripts I sometimes read things that I had not heard before, would I have heard them during the interview I would have asked more about the topic or go deeper into what he or she was saying. This meant less information than I would have liked to have. Next to recording the conversations on my phone I made use of a notebook. This notebook was used to make short notes - jot notes to record what happened each day in the field (Musante & DeWalt, 2010). I also used this notebook to make short notes during the interviews and FGDs. I did this to make sure I would have information if the recorded audio on my phone was not usable. During some of the conversations we were not able to sit inside or outside the wind, which made it more difficult to hear what respondents were saying, especially on the recorded audio. By using both the audio and notes in my notebook, I had two methods of collecting data.

The questionnaires have first been entered in Excel and later on transferred to SPSS. Every research assistant had the questionnaires on paper and filled them in in English while conducting the questionnaire. Beforehand, I had coded each variable, linked numerical values to the answers and made an excel sheet in which I could collect the data. Every evening after conducting the questionnaires, I collected the completed questionnaires and I put the information of the questionnaires in the excel output document. The data entry turned out to be very time-consuming and labour-intensive, which meant I had to continue after the fieldwork was conducted. During the process of data entry, I also had to deal with incorrect data, screening and cleaning of the data. Data screening allowed me to correct problems such as extreme cases in my data set (Paltridge & Phakiti, 2010).

Furthermore, another technique used to collect data was keeping a diary (Musante & DeWalt, 2010). During my whole period in Ghana I kept a diary in which I wrote my feelings, personal thoughts and frustrations just like a normal diary which I used to reflect on my own behavior. Important for my research are the parts in which I describe how I experienced going to the field, the communities and the people living in it.

3.4.2 Analysing data

During my research I used different techniques to analyse my data. Because the research is an iterative process, analysing the data and collecting the data alternate each other. In the whole process of the fieldwork I constantly analysed the data and reflected on it during the next steps of the research. During the qualitative research, this meant that after each interview or FGD I sat together with Victor and discussed what could have gone better, or what kind of subject I would like to go deeper into. During the second part of the fieldwork, this meant every evening, after conducting the questionnaires, I scanned them quickly and discussed any occurring problems with the research assistants.

After I got the transcripts of the interviews and FGDs of Mr. Dombo, I read all of them to get a first impression. I decided to analyse the transcript ´by hand´ instead of using computer software, such as ATLAS. Ti. The first step in analysing the transcripts, is open coding, which meant I read every transcript and made notes and short phrases to sum up what was being said in the text (Burnard, Gill, Stewart, Treasure & Chadwick, 2008). In the second stage of analysing the transcript I collected all the notes and phrases in a separate document, crossed out all duplications and reduced the number of categories. During the process of making categories I moved back and forward from the transcripts to the categories many times, to make sure I covered everything. Once I established all meaningful categories, I assigned them colors. The last step in this process was to read the transcripts again, mark them with the corresponding colors, and put all text fragments with the same color together (Burnard et al., 2008).

To analyse the collected data from the questionnaires in the output document of Excel I transferred them to SPSS, the Statistical Package for the Social Sciences, which I used to analyse the quantitative data. Amongst others, SPSS was used to generate cross tabulations, frequencies and perform several tests such as the chi-square test and binary logistic regressions.

As said before this research is an iterative process, which means analysing data and collecting data alternate each other. For practical reasons, the interviews and FGDs were done first and the questionnaire was done some weeks later. During the analysis of the questionnaires I noticed that some valuable information was given. Preferably I would have like to track down those people who gave this information. The order in which the research was conducted was thus maybe not the right approach. Due to time and budget we could not do it the other way around or perform a follow up research.

3.5 Ethical issues

As a researcher it is also important to reflect on ethical issues. In their research Beauchamp and Childress (1983) talk about ethical concerns, they claim that there are four principles of ethical concerns: autonomy, beneficence, non-maleficence and justice. This means a researcher must respect the rights of an individual and must do good. The topic of this research was not directly seen as a sensitive topic, despite that, this does not mean that some individuals might share some information that is sensitive for them. It was therefore important to take care in how to ask a question (Bricki & Green, 2007). Sharing confidential information can betray the trust of participants, hence I ensured the confidentiality of the research. I have done this by guaranteeing anonymity and handling the information in a responsible manner (Serra Mingot, 2018). I was not the only one who was handling the information in my research. So, before conducting the research, I made sure the research assistants also understood that they had to ensure confidentiality. Besides that, I made agreements with Mr. Dombo, who transcribed the audio records for me, to delete all files after he had sent them to me.

Before starting the research every participant knew what he or she was getting into, was well-informed about what participating entails and knew that he/she could end the participation at any time (Bricki & Green, 2007). It was very important for me as a researcher to be clear about expectations which cannot be fulfilled: "don't lead people to believe that you will accomplish more than you are able. Always do what you say you will do" (Bricki & Green, 2007, p. 15). Sometimes I found this to be quite difficult, as most of my respondents were very poor people and often asked me how this research would benefit them. I found it hard to tell them the harsh truth, that this research would not benefit them in any direct way. The best way to be completely honest was to be clear about what I was doing, why I was doing it and what would be done with the information.

3.6 My own position

Lastly, it is important to reflect on my own position as a researcher. As a young female researcher I might have been taken more or less seriously. Serra Mingot (2018) came across some limitations being a young female researcher and states she was often patronized by male respondents and had to follow certain social norms. Also being a white researcher in an African context could have caused some issues. It can create an us-versus-them barrier and can lead to people sharing less information. To overcome this barrier, it is important to focus on things in common and not on the differences (Serra Mingot, 2018). Building up a trustful relation between the researcher and the participant is

very important. For me, it helped that most of the work was carried out by the research assistants. As they are from the same region as the participants and speak the same language, the us-versus-them barrier was lower. This also helped me overcome the barrier of being a young female researcher. Because all of the research assistants were men, they were taken more seriously by the respondents.

Lastly, I always made sure I respected the rules, social norms and traditions of the community. Even though, coming from the Netherlands, I felt like sometimes I had to wait for hours before all the introduction and politeness was over. However, I never showed this and always remained patient and polite. This attitude helped me overcome difficulties I might otherwise had to face.

Chapter 4

Grasping rural livelihoods

On January 8, 2020 I arrived in Accra, Ghana. When I stepped out of the plane, those were my first steps ever in Africa. Driving to my hostel I was overwhelmed with the heat and the smell. Because it was late in the evening I went to bed and decided that the next day would be my very first day to discover Africa. Accra is, of course, a large capital city and after a few days I had made some friends in my hostel and I had seen the "highlights". I felt like I was ready to discover more, discover the Ghana I had flown here for. On January 12, it was time, my plane took off for Wa. With a big smile and a warm hug Dr. Francis Xavier Jarawura welcomed me in Wa. As we drove through Wa looking for some lunch, I was a little bit in shock. Wa was very different from the Ghana I got to experience so far. The heat was more, although the air was dry, the traffic was less, but it still felt very busy, with cars, bikes, people, goats and chickens everywhere. And lastly, it felt way less developed than Accra. Do not get me wrong, I loved it, driving through Wa and I could definitely see myself living here in the next coming months, but a culture shock is almost inevitable (personal field note, January 12, 2020).

You can wonder why I would start with a description of my first days in Ghana, days that I did not even spend in the studied district, Jirapa. In this research I do not attempt to give an elaborate description of all of my experiences and this chapter is not intended as a personal diary. Though, my experiences were useful as a starting point from which I then held conversations, interviews and conducted the research. These personal field notes are not about me, but form the basis to translate the first observations to more complex processes. Next to this, mobility is undoubtedly shaped by the surrounding environment and my experiences in these surrounding environments can help give insight into understanding the choices people make when it comes to mobility.

This chapter is about sub-question one, which is formulated as: How are rural livelihoods constituted in the Upper West Region of Ghana? To answer the question, this chapter will describe the process of going into the field. Throughout this chapter I will make use of some personal field notes to describe the situation in the studied communities. By using my own observations combined with with descriptive statistics of the researched population I have made a framework of how rural livelihoods are constituted in the UWR of Ghana. This framework is necessary in order to understand mobility, as it is undoubtedly related to livelihood strategies.

This chapter is divided into three different parts. The first section is about getting there, how well connected are the studied communities to the main cities and do people have their own transportation? The second section is about living in rural communities in the UWR of Ghana. How does a typical community look like, who is present, who is in charge and are there facilities for education? What are the livelihood opportunities, what is the main occupation and is mobility part of livelihood strategies? The last section is about staying there, which implies a sustainability question. Does climate change influence people's livelihood? Did they adopt any strategies to help cope with the consequences of climate change? Is mobility part of these strategies and does irrigation reverse the dependence on mobility? These questions are being answered in the final section. This chapter closes with a short conclusion.

4.1 Getting there

My first trip to the field! I was very excited when I woke up this morning. I had spoken with Victor about the communities many times now, but today was the day we were finally going to visit them. We had agreed on leaving very early this morning, meaning five in the morning. This was necessary because we had a full day ahead of us, but also because we didn't have our own means of transportation. It could very easily be the case that we would have to wait for one or two hours before the trotro (a very old minivan) could take us to Jirapa. We were lucky, all crammed up with too many people for one van, a chicken on one side of me and a crying baby on the other, we took off in half an hour. The ride was definitely a bumpy ride and we could have been way faster if we didn't have to stop every ten minutes to let somebody enter or leave. But I was really enjoying it, besides Accra and Wa, I had not seen anything from Ghana, so I enjoyed watching outside the window and seeing all the communities pass by as we drove for about one and a half hour to Jirapa town (personal field note, January 31, 2020).

This field note shows some interesting details about rural livelihoods in the UWR of Ghana. Wa is the capital city of the UWR of Ghana and Jirapa town is the capital of Jirapa district. Hence, public transport is made available between the two cities. Public transport is a very important means of transportation in this region, as places are often distant from each other and more importantly, most people do not own a car or even a motorbike. From the studied population only three people indicated to own a car and about one third of the respondents said to have a motorbike (Figure 4.1). Nonetheless, most people did own a bike. This shows the importance of public transport, however there are many problems. As shown in the field note, public transport is very unreliable, the car leaves when it is full and there are not that many cars going during the day. If you are lucky you do not have to wait at all, but it could also be the case that you have to wait for about two hours before it is full. The upside is, that because of these problems, the prices can be low. The fair from Wa to Jirapa town is 10 GHS, which comes down to about 1.60 euros. Though, people working in agriculture receive the lowest average basic hourly income of about 0.69 GHS (Nyarko, 2014b). Which means they have to work at least two days to pay for a one way ticket from Jirapa to Wa. Does this mean it is only the rich who are mobile and can afford to travel? Another problem with the transportation is that it only links the district capital cities to each other. They do give the opportunity to stop the trotro at communities along the road, but only a small number of communities are located directly next to the main road. The studied communities in this research are not next to the main road, which means they are harder to reach.

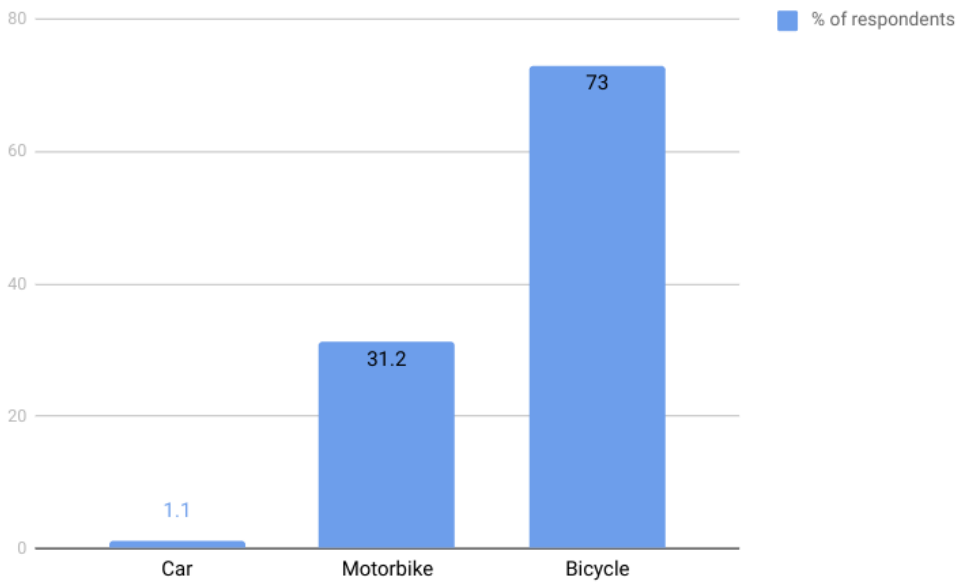

Figure 4.1: Type of transportation

Jirapa town was the center from which we were planning to visit the communities. However, we did not have a car or motorbike and there was no public transport to the communities. Luckily, Victor had made some arrangements with a camboo (tricycle) driver. In Wa you can find a camboo every minute, but Jirapa has only three camboos in the whole town. We decided to rent the camboo for the whole day so that he could take us everywhere (personal field note, January 31, 2020).

So, public transport only brings you so far. In big cities, such as Wa, this problem is solved by using camboos. In smaller cities, such as Jirapa, those means are not widely available. With only three camboos in the whole city, there is too much demand and too little supply. Also, the problem of prices plays a part. This is not the only problem people from the studied communities face.

After Piiyir and Konzokalah we wanted to visit the other two communities, Sabuli and Gbetouri. We still had the camboo to our disposal, so I was optimistic about going there. Though, after a quick conversation between Victor and the camboo driver, they had some bad news for me. The camboo was not able to take us there because of multiple reasons. First of all, the roads were too bad for the camboo to drive on and secondly, we would have been too slow, going there with a camboo would probably take hours, which we did not have that day. Victor promised that next time we would come, he would arrange for us to have a motorbike. He had a friend in Jirapa who could hopefully borrow his motorbike to us in exchange for a small payment (personal field note, January 31, 2020).

This field note shows that some of the communities cannot even be reached with public transport. Not only because it would cost way too much, but primarily because of bad roads and distance. The distance between the studied communities and Jirapa differs per community. Piiyir is most close, but still if you would have to go on a bike, it would take you an hour. Some of the farms of the respondents are also far from their houses, since they cannot reach them with public transport and most of them also do not have their own transportation, the only option left for them is to walk: "we walk to the farm on a daily basis and return home" (Regina (40), interview, February 12, 2020) and "we will spend up to six hours by foot to get to the farm" (Jonas (23), interview, February 12, 2020).

This section shows that getting there is not as easy as it might seem. As most people do not have their own means of transport (by bike you cannot get very far) which means they are dependent on public transport, which is limited and expensive. Rural livelihoods are undoubtedly shaped by their remoteness to cities and mobility is key here.

4.2 Being there

After we decided we had seen enough from the dam, we drove back to the center of Piiyir where we stopped close to some people sitting under a mango tree. They were looking very curiously at the camboo and especially at me. When we stepped out Victor explained to them who we were and what we were coming to do. This was our first visit to the community and we just wanted to make some acquaintance. They were all very friendly and invited us to sit next to them on a wooden bench that some children had to bring first. Most of them were women but there were also two men and some children. It turned out that one of the men was the chief of the community and we paid our respects to him. The women were busy making and drinking pito (Figure 4.2), a locally brewed beer, and invited us to drink with them. They had some used bottles in which they kept the beer and served it in a calabash. Of course I could not turn it down and I was very curious what it would taste like. Note, it was ten in the morning, for me normally not the time to drink beer. It tasted different from the beer I was used to, but it was good! (Personal field note, January 31, 2020).

Figure 4.2: Drinking Pito in Piiyir

This field note has a lot of aspects in it. First of all, it shows the importance of the chief in rural communities. The chief plays a central role in the community and before you enter you are expected to pay a courtesy to the chief. Secondly, what was striking was that there were mostly women. Despite that, when looking at the research population the over-representation of women does not show (Table 4.1). The over-representation of men in the research population can be because of previous indicated differences between men and women in the UWR of Ghana (Agana & Millar, 2015; Fenrich & Higgins, 2001). Next to that, it is important to recognize that the majority of the participants is adult and in their late fifties or sixties (Table 4.1). The average age of the respondents may influence the outcome of the research and is therefore important to keep in mind when analysing the results.

Table 4.1: Characteristics of research population

Variable	**Frequency**	**Percentage**
Community		
Piiyir	78	27.4
Konzokalah	78	27.4
Gbetouri	42	14.7
Sabuli	87	30.5
Total	**285**	**100**
Gender		
Male	168	58.9
Female	117	41.1
Total	**285**	**100**
Marital status		
Not married	9	3.2
Married	239	83.9
Widow	37	13
Total	**285**	**100**
Age		
Under 18	4	1.4
18-25	12	4.2
26-35	32	11.2
36-45	52	18.2
46-55	46	16.1
56-65	66	23.2
66+	73	25.6
Total	**285**	**100**
Head of household		
Male head	152	58.9
Female head	51	41.1
Total	**203**	**100**

Although not indicated in the literature, when looking at the head of the household, it is often the men who are the head of the household (Table 4.1). Still, a substantial number of females indicated to be head of the household, which is remarkable in a rural context. To explore the characteristics of the research population more in depth, the following cross-tab was made (Table 4.2). Table 4.2 shows that this number for a large part is composed of female widows, almost three quarter of the female widows is a household head.

Table 4.2: Cross-tabs of household head versus marriage by gender

			Household head				
Sex			Yes	Percentage	No	Percentage	Total
Male		Yes	144	92.3	12	7.7	156
	Married	No	3	50	3	50	6
		Widow	5	83.3	1	16.7	6
		Total	152	-	16	-	168
Female		Yes	28	33.7	55	66.3	83
	Married	No	0	0	3	100	3
		Widow	23	74.2	8	25.8	31
		Total	51	-	66	-	117

According to the literature most people in northern Ghana rely on agriculture (Liehr et al., 2016). From all respondents, a large majority indicated themselves as crop farmers (Table 4.3), which is in line with the literature. Almost all crop farmers own land and most of them own more than two hectares. People who depend on other income sources often do not own any land. Income sources that are named as “other” are for example hairdressers or dependent on others for support. The people who were being interviewed and who participated in the focus groups were also mostly farmers. There were some of them who said to have an additional source of income next to farming: “I do retail sales of akpeteshie (a local hard liquor) during the dry season” (Jonas (23), interview, February 12, 2020). Some people are thus looking for ways to diversify their source of income, but the main occupation remains farming.

Table 4.3: Cross-tab main income and size of land

		Size land				
		<1 hectare	1-2 hectare	>2 hectare	None	Total
Main income	Crop farming	53	90	106	2	251
	Animal rearing	0	2	4	0	6
	Trading	1	0	2	5	8
	Civil service	1	2	1	2	6
	Other	6	1	0	7	14
	Total	61	95	113	16	**285**

4.2.1 The importance of education

What I noticed next, was this little boy playing with a car made out of old tin cans. It was sad but at the same time very nice to see the boy this happy with this little. Which reminded me that children do not need that much to be happy. Also the adults looked happy. Of course I do not know their whole story and I do not know what challenges they are struggling with, but at the first sight they seem happy (personal field note, January 31, 2020).

At the time it seemed very normal for this kid to be playing around, he was one of the many kids running around the community. But during the time of the visit it was around ten in the morning on a Friday. Why was he not in school? The statistics show that only a small percentage of the respondents went to school (Table 4.4). From the respondents who did complete education most of them were male (Table 4.4). When looking at other members in the family the numbers are not much higher, almost sixty percent of the respondents indicated that nobody in their family had completed any form of education. Although on average respondents have three people in their family who are currently going to school. The main reasons not to go to school given by respondents are: I dropped out of school, my father (parents) did not enrol me in school/I was not send to school, because I had to work (farm, graze cattle, babysit, etc.), I don't know, because of financial difficulties or because I refused to go to school (ignorance of benefits of education). These reasons show that many of them did not even get the chance to go to school, mostly because their parents did not enrol them in school. Working and earning money is more important than going to school, because otherwise they cannot cope financially. The fact that the level of school attendance is low in rural communities is important to notice because it can influence people's opportunities later in life.

Table 4.4: Education

Variable	Frequency	Percentage
Gender		
Male	30	17.9
Female	12	10.3
Level of education		
None	243	85.3
Primary	4	1.4
JSS/JHS/Middle	19	6.7
O/A level/GCSE	2	0.7
Vocational/technical	14	4.9
HND	2	0.7
Bachelor	1	0.4

4.2.2 Roofing sheets to improve your status

When they showed us the communities and their houses it hit me a little bit. I had seen Accra, I had seen Wa, I had seen Jirapa, but the houses in these communities were different, they showed these people are poor. Most of the houses were made of clay, some of them had an iron roof, but a lot just had straw on them. Some houses had old bikes in front of them and pots and pans were lying everywhere. For me it looked like total chaos as animals were walking everywhere, especially chickens and goats. You can imagine that the smell was also not that great. Next to this, I kept getting sand in my eyes as the land was very dry, the wind very strong and there was no protection against the wind because there were not that many trees (personal field note, January 31, 2020).

So, living in these communities is very different from living in a city, even a small city as Jirapa is not the same. First of all, the literature already explained most houses are made of clay, this was indeed the case. In the literature it also became clear that a person's house can reveal some kind of status (Nanbigne, 2004). Having an iron roofing sheet covering your house indicates a wealthy person. In the interviews Maaleyenge told he had gone to travel especially to come back and improve his house: "we travelled there to acquire wealth to return to our ancestral land to develop the place." Very proudly he added that "at last I have bought some roofing sheets to build a house" (Maaleyenge (50), interview, February 12, 2020). So, meeting certain criteria, such as having a roofing sheet, is very important to gain more prestige in the community. Maaleyenge could not have afforded them if he did not engage in some type of mobility. Other goods or properties can also be indicators for the well-being of a household. It is often implied that rural livelihoods are egalitarian, yet, there are not. Figure 4.3 shows the division of goods between the respondents. Is having a motorbike or iron sheets

on top of your house enough to participate in the modern economy and be happy with living in a rural area? Or do these improvements only lead to more expectations?

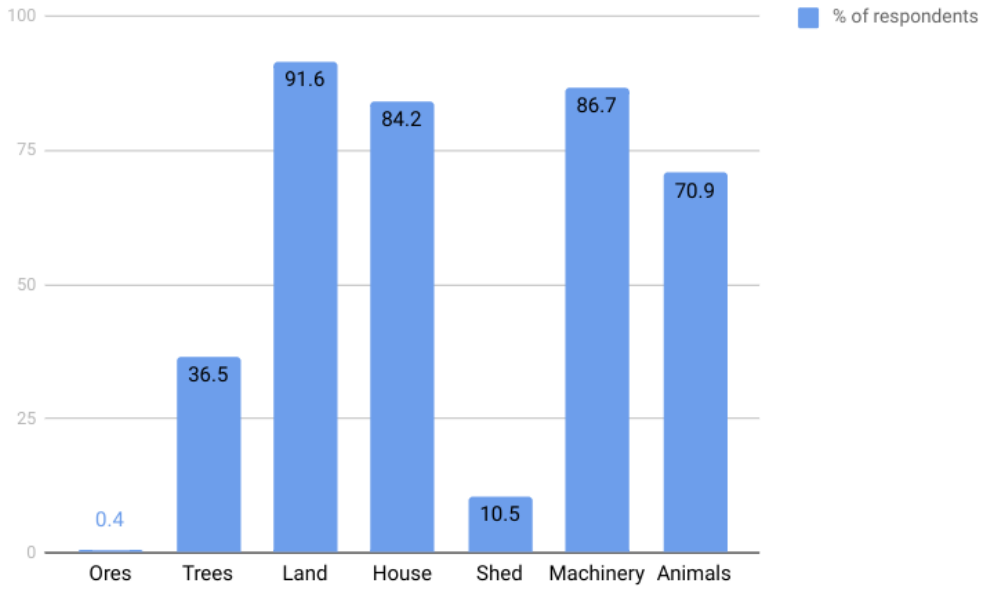

Figure 4.3: Division of goods

4.2.3 Multi-sided households

At six in the morning we drove into Gbetouri on our motorbike (Figure 4.4). Dust was blowing everywhere and the animals and people were slowly waking up. We parked our motorbike next to one of the houses and looked for people who could point us to the chief. Curious people were coming out of their houses and pointed us towards a house in the far distance. Gbetouri is the smallest of the four communities, people-wise, but it has a lot of land. So we decided to step back on the motorbike and drove to the chief's house. The chief looked like an old, but friendly man. After we paid our respects he granted us time for an interview. During the interview some small children were running around us, his grand-kids. One by one also some older boys (I estimate somewhere around their twenties or thirties) showed their interest in the interview. It turned out that most of them normally do not live in Gbetouri, but only come visit some weeks every three months. That all of them were in Gbetouri at the same time was a coincidence, one of the brothers was sick so everybody came home to help the family and stayed home as long as necessary (personal field note, February 13, 2020).

Figure 4.4: Riding on the motorbike with Victor

In the literature review it already became clear how difficult it is to speak about one household in a rural context (Posel et al., 2006). This field note shows that there is not such a thing as one household in a rural context. At one point there might be ten people eating from the same pot and the next day it could be that there are fifteen people. What it also shows is that people do not come to visit for just one day, or maybe even one week. As described in section number 4.1. Getting there, it is not easy and cheap to reach the communities, especially Gbetouri which is the most remote one of the four. So when they are visiting it makes sense that they are staying for multiple weeks. Because of this, it is difficult to speak of one household.

4.3 Staying there

Today I was driving home from University with a camboo, nothing special anymore after more than two months in Ghana. However, I wrote this particular ride down because there was one interesting part. I always like it when the driver starts talking to me and today I had a very chatty driver. As it takes about half an hour to get home from the University, we had a lot of time to talk. He told me he is a farmer normally but during the dry season he rides the camboo to earn some extra income. But the reason I wrote this down is because he told me the first rain had fallen in Tamale, he was very happy about that and hoped it meant it would soon begin to rain in the Upper West Region too. I found it remarkable that people were talking about when and where it rained, even though Tamale is miles away. I think it really shows how important the rainfall pattern is for them and how reliant they are

on it. As I stepped out of the camboo and walked the last hundred meters to my house, I looked at the sky and indeed noticed the change. I was used to dust and now, for the first time, I could see clouds and I can tell you I have never been happier about seeing clouds than that moment (personal field note, March 13, 2020).

As became clear from the literature, the climate in Ghana is changing. They are experiencing longer dry spells, temperature increases, erratic rainfall, more extreme weather and floods (Dazé, 2013; Dumenu & Obeng, 2016; Kiff et al., 2017). But do the people themselves also experience these changes? This section is about staying there, discussing what factors ensure that people stay in their community. With changes in the weather is it even sustainable to stay in the area? Irrigation systems are often mentioned as sustainable options for people to diversify their livelihood, but do they really help people stay in their communities? And is that even desirable?

First of all, the results from the survey show that the respondents are indeed experiencing changes in the weather which are in line with the literature (Figure 4.5). Most respondents are claiming to experience an increase in drought together with more intense droughts. Additionally, they are also stating that the temperature has increased. The frequency and intensity of floods however, are most respondents not sure about, and if they did notice a change, they claim that the frequency and intensity has decreased. About the rainfall pattern they were very clear, rainfall has decreased.

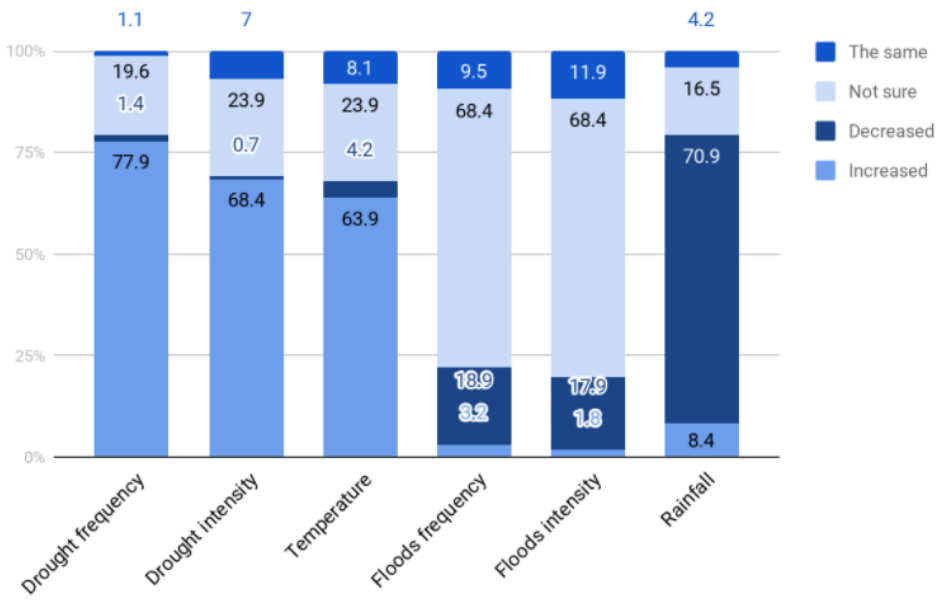

Figure 4.5: Perceived climate change

During the interviews and FGDs the same message was being transferred, the sun is too hot, the dry spells are too long and the rainfall is too unpredictable, in their research Jarawura and Smith (2015) found something similar. Most respondents link the change in the weather to the month they start farming:

- "Yes, there have been significant changes in the weather, previously, we started crop planting in the fourth month, but now, planting begins in the fifth to sixth month as a result of changes in the rainfall pattern" (Sobar (40), interview, February 13, 2020).
- "We used to prepare and plant yam in the third month of the year, but nowadays we prepare and plant in the fourth month because the rains don't set in early" (John (42), focus group, February 12, 2020).
- "Previous rains used to come three months after Christmas, but these days it starts in the 6 month of the new year and before crops grow the season is almost at the end" (Salamatu (37), focus group, February 13, 2020).
- "Previously, we got rains between March and April. However, the pattern has changed and rains now come in June and or July and this affects crop yields negatively" (Tangnaa (32), focus group, February 13, 2020).

Do the respondents also know why this change is happening? A large part of the respondents said the change in the weather is the work of God or they simply did not know why the climate is changing. Some respondents also gave other reasons. Cutting down of trees, bush burning, deforestation and environmental degradation were also being proposed as possible reasons. Some respondents do know environmental degradation affects their yields negatively: "previously, the forest used to contribute towards the rainfall pattern. However, because of deforestation, we have erratic rainfalls and that affects crop yields negatively" (Gariba (80), focus group, February 13, 2020). The same respondent also suggest a strategy to fight climate change: "I suggest tree planting to combat deforestation as an alternative to improve the rainfall pattern" (Gariba (80), focus group, February 13, 2020). Nevertheless, only a small percentage of the respondents claims to have adopted a strategy to cope with the changing climate. The largest part, almost eighty percent, has not made any changes. From the people that have adopted a strategy, the most common strategies are planting more trees (like mango cashew), using (natural) fertilizers, keeping more livestock, early land preparations or asking the help of God. Although mobility and irrigation are being mentioned as adaptation strategies in the literature, they are not specifically mentioned by the respondents.

4.3.1 Water works

The first community we were visiting was the closest to Jirapa town, namely Piiyir. Driving on a sandy road filled with holes we arrived there. This community had an irrigation system in the form of a dam. We decided to first take a look there. From the center of Piiyir it was walkable to go to the dam, but I would estimate that that would take about half an hour to one hour. So we went there with the camboo. The only irrigation systems I had seen so far were the rice fields in Bali, but this was completely different. Next to a dam, there was a large lake and next to this lake everybody had their own little piece of land. There was only one guy working at the land, with a shovel in one hand and a water hose in the other to spread the water equally over the land (Figure 4.6). Some small green crops were popping up and enthusiastically he showed them to us (personal field note, January 31, 2020).

Figure 4.6: Man working his irrigated land

Although irrigation is not mentioned by the respondents as a strategy to cope with climate change, literature does suggest irrigation as an adaptation strategy (Laube et al., 2012). What does it mean to have irrigated land in an otherwise dry area? Piiyir is one of the two communities in Jirapa district with irrigation facilities, though, this does not mean everybody can use these facilities. From all the respondents of Piiyir, only five indicated to use irrigation systems at their land (Table 4.5). Meaning the dam only benefits a small number of people. During the focus group in Piiyir the respondents complained about not being able to use the irrigation facilities: 'we have a dam, but I don't have capital to start the irrigation farming" (Faustra (55), focus group, February 12, 2020). Next to not having

the capital to start irrigating land, the respondents face other problems. They claim that whoever gets there first has access to the land. After the dam was constructed, the people that heard of the allocation of land around it were the first to come and got the land. They (the respondents) did not get the information in time so they were left out (focus group, February 12, 2020). Having irrigation facilities could solve some of the problems people face during the dry season: "it can solve our problem but some of us don't have access to the land to engage in farming because it is limited" (Toyuzie, focus group, February 12, 2020). Not having access to the dam and therefore not being able to farm during the dry season leads to more mobility according to the respondents. Next to this, according to the field note, there was only one man working on the fields. Is it a one man´s job? If so, it seems logical that it would never be beneficial enough for the whole community to rely on.

As we went to Konzokalah I learned more and more about different ways of irrigation. Here we were welcomed by a very enthusiastic man working on his land together with his wife and his son. His crops looked more mature than the ones we say earlier in Piiyir. He told us the water was coming from a water tank funded by some European program. I asked him if he remembered what program, but all he could remember was that some people came some years ago and installed the water tank and pump. He was, though, very grateful for it. He explained that without the water he could not farm during the dry season, so he was very much dependent on it. When we were done looking around his farm (he was very enthusiastic and did not stop talking about his crops) we moved around Konzokalah a bit and found some other very green strips of land surrounded by dust and arid pieces of land (Figure 4.7). One was very remarkable, as it was not attached to any water tank and not close to the dam. We say this young guy, with really big muscles carrying water up and down from the lake. He told us this was the only way in which he could do some small scale farming and earn some money during the dry season (personal field note, January 31, 2020).

Figure 4.7: Green irrigated land in a dry area

In contrast to Piiyir, Konzokalah has more irrigation facilities. When looking at the statistics almost half of the respondents from Konzokalah indicated to make use of irrigation systems (Table 4.5). Konzokalah is also the only community with multiple irrigation systems. Some of the fields are attached to the water tank, some of the fields are close to the dam and as you could read, some people are very inventive and strong minded and just carry the water up and down. How sustainable is this system? The guy who was carrying the water was still very young, but in maybe ten or twenty years he cannot do this anymore. This could mean he needs to find other ways to diversify his livelihood and maybe cannot stay in this community forever.

The most common irrigation system used in Konzokalah is a dam. Do these irrigation systems provide enough income for everybody in the community? Does this mean less people have to be mobile to be sustainable? One of the respondents of the focus group in Konzokalah indeed claimed that because of the dam, he did not migrate anymore: "why don't you migrate anymore these days?" "I personally don't go again because of the irrigation farming, with the help of the dam" (Neonintele (35), focus group, February 12, 2020). Having irrigation facilities can thus influence mobility negatively. However, people from nearby communities might be motivated to move to the communities with irrigation systems, influencing mobility positively. Whether having irrigation facilities is significantly associated with being less mobile will be analysed and tested in chapter 6.

Lastly, the irrigation facility is funded by some European program. Apparently there is an European program that invests in irrigation systems in the UWR of Ghana, why would they do that? Is it to provide the people with means to cope with climate change? Or is it to ensure people stay

in their region and not move to cities or are there other reasons? Unfortunately, it remained unclear which European organisation is behind the funding and therefore also what reasons are behind it. Although it is not clear what program funded this project it is interesting to find out that this program has some limitations. Not everybody has equal access to the facility and some people do not have the capital to start the irrigation farming. What were the intentions of this program? At first sight it seems desirable to build a dam, though, the implementation should be carried out carefully.

Table 4.5: Irrigation facilities

Variable	Frequency	Percentage
Irrigation facilities		
Yes	55	19.3
No	230	80.7
Total	**285**	**100**
Type of irrigation facility		
River/stream	10	18.9
Dam	36	67.9
Well/dugout	4	7.5
Borehole	3	5.7
Total	**53**	**100**
Households with irrigation facilities		
Piiyir	5	6.4
Konzokalah	35	44.9
Gbetouri	8	19
Sabuli	7	8

4.4 Conclusion

This chapter is meant to give an answer to the first sub question and to provide as some kind of framework for the way rural livelihoods are constituted in the UWR of Ghana. It showed that, first of all, most of the communities are very remote and not accessible. Still, most people are reliant on public transport as they do not have their own means of transportation. The majority of the people living in the communities did not complete any form of education and the main income source is crop farming. Although most of the respondents indicated to have noticed changes in the weather, the largest part of them did not adopt any strategy to deal with the consequences of climate change. Irrigation is not named as an adaptation strategy as most people do not have access to irrigation facilities. In short, the way rural livelihoods are constituted forms the base from which mobility patterns emerge. With this information in mind we can move on to the next chapter that will go deeper into the processes and patterns of mobility.

Chapter 5

Perplex mobilities

> ”The most important of the several variants of rural-rural migration as a response to climate change in the study areas is the kanako type, where an entire household or part of it migrates during the wet-season to an interior rural area to make farms in marshy lands, mainly for their ability to retain water and moisture. These marshy lands are said to be more resistant to short spells, drought and irregular rainfall.” (Jarawura & Smith, 2015, p. 256)

Jarawura and Smith show just one of the many forms of migration that can occur. When speaking of migration, bush-farming is often not mentioned, together with many other forms that can be overlooked when speaking of migration. This chapter will therefore focus on all prevailing mobility patterns that arise in the UWR of Ghana. Central to this chapter is sub-question two: What are the prevailing rural to rural mobility patterns in the Upper West Region of Ghana? The chapter will primarily be based on quantitative data coming from the questionnaires of this research. However, qualitative data, coming from the interviews and focus group discussions, will be used to back-up the quantitative data. The survey was split up into two parts, the first part, the largest part, was composed of questions directly about the respondent. The second part was about movements of family members of the respondent. In both parts questions about mobility were asked, however, these questions cannot be combined into one analysis because they differ too much from each other. Nonetheless, both analyses do say something about mobility patterns, so, they will both be used to answer the second sub-question.

The first part of this chapter will describe the prevailing mobility patterns and will focus on rural-rural mobility versus rural-urban mobility. The second part of this chapter will take a closer look on mobility patterns specifically in northern Ghana. This division and order of analysing is done with a purpose. To understand the differences between rural-rural mobility within northern Ghana

and rural-rural mobility elsewhere one first has to understand the patterns and processes of rural-rural mobility in general. Therefore, this chapter will start with the division between rural-rural and rural-urban mobility.

5.1 Rural versus urban

Before understanding rural to rural mobility patterns, we have to analyse whether people actually engage in mobility or not. This section will look at all prevailing mobility patterns given by the respondents. First of all, from all respondents, the majority indicated to have been mobile at least once in their life. The community with the highest percentage of people who have engaged in mobility is Sabuli, with more than eighty percent of their people having lived somewhere else at least once in their life (Table 5.1). Piiyir is the community with the lowest percentage of people who have been mobile. Additionally, respondents were asked about the movement of family members. From all respondents, the majority indicated to have at least one family member who is or has been mobile (Table 5.1).

Table 5.1: Characteristics of mobility

Variable	**Frequency**	**Percentage**
Community		
Piiyir	33	42.3
Konzokalah	47	60.3
Gbetouri	23	54.8
Sabuli	71	81.6
Mobility family member		
Yes	187	65.6
No	98	34.4
Total	**285**	**100**

With the majority of the respondents and also the larger part of the respondents' family members having been mobile, mobility is definitely part of their lives. However, what are the most prevailing patterns? According to the literature, seasonal migration has been an important movement pattern in north Ghana (Anarfi et al., 2003; Kiff et al., 2017; Rademacher-Schulz et al., 2014). During the interviews and FDGs this pattern also appeared. A large part of the interviewees said to move every year for three to six months during the dry season: "some of my siblings have cocoa farms so I migrate to support in their farms during the dry season particularly, after harvesting, but I return home

after three months and specifically during the wet season to continue with my farming activities at home" (Anenyang (50), interview, February 12, 2020). And: "there was joy in migration because we go to places of interest, however, I often returned home during the wet season to take care of my household" (Naa Dah (72), interview, February 13, 2020). The pattern of seasonal migration was also found through the questionnaires. According to the questionnaire most people move only for a limited time, the duration of their movement is either between three or six months or longer than one year, but still temporary. Half of the people who move, move during the dry season (Table 5.2). All these factors indicate a seasonal migration pattern. A typical feature of seasonal mobility is that it often consists of a rural-rural pattern.

Another number from Table 5.2 that needs to be highlighted is the number of permanent migration. This number is composed of people who have moved from another community to one of the research communities. After further analysing this number, it turned out that this number consists of mostly females, who have moved because of marriage. From the 27 respondents who have move permanently, 22 of them have done this for marriage reasons.

Table 5.2: Nature of mobility

Variable	**Frequency**	**Percentage**
Duration		
Permanent	50	28.9
Temporary	123	71.1
Total	**175**	**100**
Length		
One month	3	2.4
Three months	26	21.1
Six months	27	22
Nine months	8	6.5
One year	10	8.1
More than one year	49	39.8
Total	**123**	**100**
Season		
Wet season	4	3.3
Dry season	62	50.4
Both	57	46.3
Total	**123**	**100**

The pattern of rural-rural mobility was also found among the respondents of this research. From all the respondents who have moved once before in their lives, the majority has moved to a rural area (Figure 5.1). As all respondents life in rural areas and most of them move to other rural areas, they have therefore engaged in rural-rural movements. When looking at the participants' family members, the majority, likewise, has moved to rural areas, though being a slightly lower percentage. Rural-rural mobility is thus a prevailing pattern, but why would people prefer the rural over the urban?

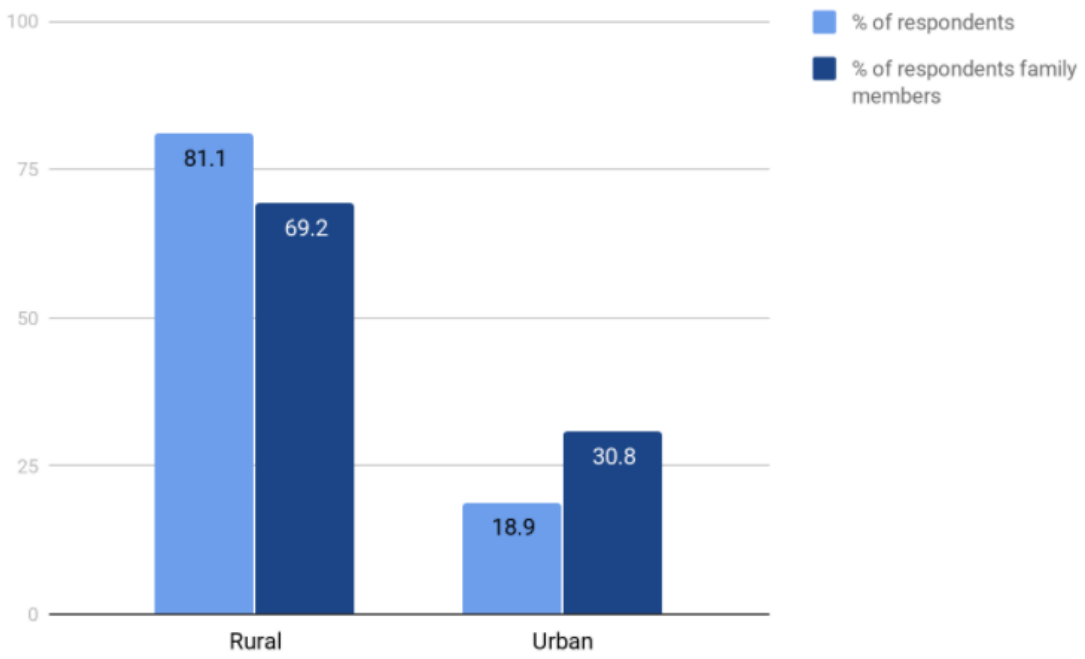

Figure 5.1: Rural-rural versus rural-urban mobility

After a long day of speaking and interviewing a lot of people I was very tired, though, I wanted to write this particular interview down, as I was very struck by this girl. Davoro is a young girl, seventeen years old, is married and has a son of two years old. I spoke with her about her wishes and chances. She was learning to become a seamstress and had the dream to open up her own shop one day. At the same time she wanted to move to the city very badly. But she knew, she did not get the same chances to build a shop in the city as she would have in the Sabuli, the community she was living in now. To her it felt like a choice between being stuck in the community, but with the benefits and freedom of having her own shop. Or living a more adventurous life in the city, but with higher income insecurity (personal field note, February 13, 2020).

The choice between rural or urban areas is not an easy one. Both of them have pros and cons. According to the interviews and FGDs most respondents travel to other rural areas because of poor yields back home and limited chances to develop. The choice for rural areas over urban areas is often because respondents lack the necessary skills to cope in urban areas. "I know only the rural areas, I am not educated and I have no skills to earn a living in the urban area, I cannot also buy and sell because I don't have skills for bookkeeping, the only thing I can do best is crop farming, and this is found in the rural settlements, that is the reason I always migrate to the rural area." (Sobar (40), interview, February 13, 2020). Most respondents are farmers and are only skilled in working the land. As farming can only be done in rural areas, they make the logical connection that they would not been able to find work in urban areas: "it's because of money that is why we go to the rural areas, because there is money in farming preferred to the urban areas, where we end up washing dishes which we earn small money" (Kuuyeafou (40), focus group, February 13, 2020). Most respondents said something in line with Sobar and Kuuyeafou, even though, there were some respondents who did prefer the urban over the rural: "I will not move from a village to another village, I will prefer the urban. Why? Like I said, how can you move from one village to the other? I will rather stay here because if I move to another village I might not get the opportunity to do my business again" (Samika (29), interview, February 13, 2020). This respondent owned a little shop in the community. This shop turned out to be the main reason not to move to another rural area, because she might not get to rebuild the shop in another community. That is why, if she moves, she prefers to move to an urban area.

The framework of the study in chapter two suggested that rural-rural versus rural-urban mobility is influenced by various socio-economic factors that determine the mobility households or individuals engage in. Being skilled or unskilled, as stated in the quotes from the interviews, could be a factor leading to rural-rural movements rather than rural-urban movements. The literature also suggests that various socio-economic characteristics, like gender, education, size of land and marital status can influence movement patterns (Isaac & Raqib, 2013; Kiff et al., 2017; Liehr et al., 2016; Van der Geest, 2011). Households and communities are differentiated by these characteristics. A Pearson's chi-square test of contingencies (with $\alpha = .05$) was used to evaluate whether the dependent variable: the type of mobility (rural-rural versus rural-urban) is related to the independent variables: socio-economic factors like, gender, marital status, head of household and size of land. Table 5.3 shows the cross-tabulation of the dependent variable and the independent variables. None of the variables show a significant relation between the type of migration and the socio-economic factor. What is notable though, is that for almost every category about eighty percent engages in rural-rural mobility instead of rural-urban. Another remarkable number is that more than ninety percent of the people that do not

own any land engage in rural-rural movements. However, when analyzing this number it turned out that this number consists of women who move for marriage reasons.

Table 5.3: Percentage distribution of socio-demographic characteristics by type of mobility of respondents

Variable	Rural-rural	Rural-urban	Total %	N
Gender				
Male	79.6	20.4	100	93
Female	82.9	17.1	100	82
Total N	142	33	-	175
	$\chi 2$ = .321 P = .571			
Marital status				
Yes	87.5	12.5	100	24
No	80.1	19.9	100	151
Total N	142	33	-	175
	$\chi 2$ = .735 P = .391			
Household head				
Yes	80.8	19.2	100	130
No	82.2	17.8	100	45
Total N	142	33	-	175
	$\chi 2$ = .046 P = .830			
Size of land				
$<$ 1 hectare	74.4	25.6	100	39
1-2 hectare	86.9	13.1	100	61
$>$ 2 hectare	78.1	21.9	100	64
None	90.9	6.3	100	11
Total N	142	33	-	175
	$\chi 2$ = 3.554 P = .314			

As said in the introduction, respondents were not only asked about their own movements, but also about the movements of their family members. Not all characteristics that were asked to the respondents were asked about the family members, so a direct comparison cannot be made. Still, as the total number of family members that has been mobile is 385, interesting analyses can be done. Again a Pearson's chi-square test of contingencies (α = .05) was used to evaluate whether the dependent variable: the type of mobility (rural-rural versus rural-urban) is related to the independent variables: socio-economic factors. The only socio-economic factor that was asked about the family members is the gender. Table 5.4 shows the cross-tabulation of the dependent variable (type of mobility) and the independent variable gender. The chi-square test was statistically significant $\chi 2$ (df = 1, N = 339) = 10.644, p = .001. A higher percentage of males (71.7%) engages in rural-rural mobility opposed

to females, with only half of them engaging in rural-rural mobility. This is consistent with the assertions of the interviews and FGDs that males are those who normally move to rural areas, especially to engage in seasonal migration. This trend was not found in the previous section, when testing the movement patterns of the respondents themselves.

Table 5.4: Percentage distribution of socio-demographic characteristics by type of mobility of respondents' family members

Variable	Rural-rural	Rural-urban	Total %	N
Gender				
Male	71.7	28.3	100	279
Female	50	50	100	60
Total N	230	109	-	339
	$\chi 2$ = 10.644 P = .001			

Next to the socio-economic characteristics, the nature of the movement can associate with the choice between rural versus urban. According to the literature, people who engage in rural-rural mobility often move for a limited time, mostly during the dry season and for farming purposes (Rademacher-Schulz et al., 2014). A Pearson's chi-square test of contingencies (α = .05) was used in determining the association between the type of mobility, the dependent variable: rural-rural mobility versus rural-urban mobility, and the independent variables which are being labeled as the characteristics of the nature of the movement. These variables include the reason, the duration and individual movement. Because the sample size of the respondents was too small to perform this test, these tests are only done with the sample size of the respondents' family members who have been mobile. Table 5.5 shows the results of these tests. There is no significant relation between the duration (temporary or permanently) and the type of mobility. However, there is a significant relation between the type of mobility and the reason $\chi 2$ = (df = 3, N = 359) = 108.957, p = .001. Consistent with the literature most people who move to rural areas move with the reason to practice farming. Next to this, as found in the interviews and FGDs, a high percentage of people who move to rural areas move because of marriage. Lastly a significant relation between type of mobility and moving individually was found $\chi 2$ = (df = 1, N = 359) = 5.243, p = .022. People who move to urban areas tend to move alone more than people who move to rural areas.

Table 5.5: Percentage distribution of nature mobility by type of mobility

Variable	Rural-rural	Rural-urban	Total %	N
Reason				
Farming	90.5	9.5	100	199
Other job	42	58	100	88
Marriage	81.8	18.2	100	22
Education	32	68	100	50
Total N	251	108	-	359
	$\chi 2$ = 108.957 P <.001			
Duration				
Permanent	29.1	70.9	100	86
Temporary	30.9	69.1	100	269
Total N	247	108	-	355
	$\chi 2$ = .098 P = .754			
Individual				
Yes	64.5	35.5	100	183
No	75.6	24.4	100	176
Total N	251	108	-	359
	$\chi 2$ = 5.243 P = .022			

Additionally to the Pearson's chi-square test, a binary logistic regression was performed to analyse the relationship between the dependent variable, the type of mobility (rural-rural versus rural-urban) and the independent variables. This model is only performed for the respondents themselves and not their family members, as the questionnaire did not reveal enough information about them. In order to estimate the probability of moving to a rural area based on individual characteristics the first model was performed. Table 5.6 shows the model involving individual characteristics and the type of mobility. The model parameters indicate that none of the variables is significantly associated with the type of mobility at a 95% confidence level. Model 1 only explains for 1.5 percent of the variation in the type of mobility, which means the largest part, about 98.5 percent of the variation was not explained by the variables.

Table 5.6: Model 1. Binary logistic regression parameter estimates of the model on individual characteristics and type of mobility

Variables	Coefficients (Beta)	Standard Error	Significance	Odds Ratio (Exp B)
Gender				
Female (RC)				
Male	0.414	0.506	.414	1.512
Education				
No (RC)				
Yes	-0.577	0.655	.378	0.561
Marital status				
Widow (RC)				
Married	-0.378	0.584	.518	0.685
Unmarried	-0.296	1.331	.824	0.744
Household head				
Yes (RC)				
No	-0.113	0.549	.837	0.893
Constant	-1.222	0.621	.049	0.295
Model R^2	0.015			

Model 2 in Table 5.7 shows the completed model for the type of mobility. Besides the individual characteristics from Model 1, this model includes the household characteristics. The binary logistic regression predicts how likely the respondent is to engage in rural-rural movements based on individual characteristics and household characteristics. The model explained 4.6 percent of the variation in type of mobility, which is an improvement of Model 1. The more variables were added, the better the variation in type of mobility was explained by the model. Even so, the largest part, about 95.4 percent of the variation is still not explained by the variables. Again, none of the parameters show a significant association at a 95% confidence interval.

Table 5.7: Model 2. Binary logistic regression parameter estimates of the model on individual and household characteristics and type of mobility

Variables	Coefficients (Beta)	Standard Error	Significance	Odds Ratio (Exp B)
Gender				
Female (RC)				
Male	0.456	0.570	.424	1.578
Education				
No (RC)				
Yes	-0.475	0.689	.491	0.622
Marital status				
Widow (RC)				
Married	-0.446	0.601	.458	0.640
Unmarried	-0.398	1.360	.770	0.672
Household head				
Yes (RC)				
No	-0.145	0.577	.801	0.865
Size of land				
None (RC)				
<1 hectare	1.062	1.164	.362	2.892
1 - 2 hectare	0.154	1.194	.897	1.166
>2 hectare	0.702	1.189	.555	2.018
Irrigation				
Yes (RC)				
No	0.132	0.529	.803	1.141
Constant	-1.791	1.256	.154	0.167
Model R^2	0.046			

In short, rural-rural mobility is more prevailing than rural-rural mobility, with most respondents having moved to rural areas. Socio-economic factors do not influence the choice of rural-rural versus rural-urban mobility. However, when looking at the sample size of the respondents' family members, a significant relation between gender and the type of mobility was found, with mostly men migrating to rural areas. Besides socio-economic factors, the nature of the movement can associate with the type of mobility, especially the reason and moving individually or not relates to the type of mobility. People who move with the reason to farm or to marry are more likely to move to rural areas.

5.2 North versus South

”We travel down south to labour for farm owners locally called PAA or pick up cashew seeds on farms, the money made is used to buy grains in times of food shortage” (Abdul-Aziz (24), focus group, February 13, 2020). As stated in the previous paragraph, rural-rural mobility is a frequently occurring pattern, most people move from one farm to another, but where are these farms located? And, almost as important, who are these farms owned by? PAA is a practice that is often mentioned by respondents, it means they work on other people’s farms for wages. Some respondents also work on land of their family or buy their own land: ”I don’t have to pay or beg for a farm land to cultivate my crops, the land belongs to my parents. We often pay some money for parcels of farm lands when we migrate to the south to farm in rural areas” (Anenyang (50), interview, February 12, 2020).

The interviews and FGDs revealed a strong north to south flow. Respondents claim to travel down south in search of greener pastures: “we have travelled in search of greener pastures, to farm crops such as yam, groundnuts, maize and peanuts for better yields because the southern part of Ghana has more fertile land than here, we get bumper harvest there than here, we are also able to labour on other people farms for some wages which benefits us a lot, agricultural crops are more profitable over there than here” (Maaleyenge (5), interview, February 12, 2020). The previous paragraph only focused on rural-rural movements, and did not take into account where the rural area was located. Other, possibly smaller, movement patterns can quickly be forgotten when only focusing on the bigger picture. Because this research tries to explore all possible movements, this paragraph will focus on rural-rural mobility within northern Ghana. The same tests as in the previous chapter are performed (Pearson’s chi-square test and binary logistic regression). Though, this time the dependent variable, the destination of mobility is divided into people who engage in rural-rural mobility within northern Ghana and people who go elsewhere. The people who move elsewhere can still engage in rural-rural mobility, but they move to the southern part of Ghana. Also people who move to urban areas in northern Ghana are part of the “elsewhere” group. The first test was performed for respondents and their socio-economic characteristics, like gender, education, head of household and the size of their land. A Pearson’s chi-square test of contingencies ($\alpha = .05$) was used in determining the association between the destination of mobility, the dependent variable: rural and north versus elsewhere, and the independent variables: socio-economic characters. Table 5.8 shows the cross-tabulation of the dependent variable and the independent variables. Regarding the socio-economic characteristics, there was no significant relation between the destination of mobility and the gender. The same applies to education, the size of their land and being head of a household.

Table 5.8: Percentage distribution of socio-demographic characteristics by destination of mobility of respondents

Variable	Rural and north	Elsewhere	Total %	N
Reason				
Male	37.6	62.4	100	93
Female	42.7	57.3	100	82
Total N	70	105	-	175
	$\chi 2$ = .463 P = .469			
Education				
Yes	33.3	66.7	100	24
No	41.1	58.9	100	151
Total N	8	16	-	175
	$\chi 2$ = .515 P = .473			
Household head				
Yes	36.2	63.8	100	130
No	32.9	48.9	100	45
Total N	70	105	-	175
	$\chi 2$ = 3.116 P = .078			
Size land				
$<$ 1 hectare	28.2	71.8	100	39
1-2 hectare	37.7	62.3	100	61
$>$ 2 hectare	46.9	53.1	100	64
None	54.5	45.5	100	11
Total N	70	105	-	175
	$\chi 2$ = 4.625 P = .201			

Next to the characteristics of the respondents with the destination of mobility, again the characteristics of the respondents' family members are being tested. Only the gender of the respondents' family member can be tested as other characteristics like marital status or education were not asked. Likewise, a Pearson's chi-square test of contingencies (α = .05) was used to evaluate whether the dependent variable: the destination of mobility (rural and north versus elsewhere) is related to the independent variable: gender. Table 5.9 shows the cross-tabulation of the dependent variable and the independent variable gender. The chi-square test was statistically significant $\chi 2$ = (df = 1, N = 339) = 9.158, p = .002. A higher percentage of females (37.9%) engages in rural-rural mobility within northern Ghana opposed to males.

Table 5.9: Percentage distribution of socio-demographic characteristics by destination of mobility of respondents' family members

Variable	Rural and north	Elsewhere	Total %	N
Gender				
Male	19.3	80.7	100	243
Female	37.9	62.1	100	58
Total N	69	232	-	201
	$\chi 2$ = 9.158 P = .002			

I really enjoyed the focus group discussion in Gbetouri, we had a big group of women of all ages, all very keen to speak to me. It turned out that none of them were originally from Gbetouri, something I already expected, because I knew from the literature review that most women marry into a community. Even so, it was still interesting to see this in practise. As all of them were very enthusiastic I did not want to stop them whenever they spoke of their migration to Gbetouri, that is how I ended up in a very long discussion about marriage and belonging. Very interesting, but not one hundred percent the topic I wanted to discuss (personal field note, February 13, 2020).

Similarly, for rural-rural mobility within northern Ghana, the nature of the movement can be associated with the choice between rural and north movements or elsewhere. The field note shows that many women move within northern Ghana for marriage. To test the association between the destination of mobility, the dependent variable: rural and north versus elsewhere, and the independent variables, which are being labeled as the characteristics of the nature of the movement, again a Pearson's chi-square test of contingencies (α = .05) was used. The independent variables, the characteristics of the nature of movement include the reason, the duration and individual movement. For these tests also applies that the sample size of the respondents was too small, so these tests are only done with the sample size of the respondents' family members who have moved. Table 5.10 shows the results of these tests. There is no significant relation between the destination of mobility, the duration (temporary or permanently) and moving individually. However, there is a significant relation between the destination of mobility and the reason $\chi 2$ = (df = 3, N = 359) = 30.605, p = .005. Consistent with the literature (Ungruhe, 2011), interviews and FGDs the results show that the main reason to move from one rural area to another within northern Ghana is marriage. Remarkable to notice is that farming is the least mentioned reason to move to a rural area within northern Ghana. Still, almost seventeen percent of the people move within northern Ghana for farming purposes. Are they bush-farmers, as stated in the article of Jarawura and Smith (2015), did they create new opportunities or do they see this as their last resort?

Table 5.10: Percentage distribution of nature of mobility by destination of mobility

Variable	Rural and north	Elsewhere	Total %	N
Reason				
Farming	16.7	83.3	100	162
Other job	22.4	77.6	100	85
Marriage	68.2	31.8	100	22
Education	26.5	73.5	100	49
Other	0	100	100	4
Total N	74	248	-	322
	$\chi 2$ = 30.605 P <.001			
Duration				
Permanent	25.3	74.4	100	79
Temporary	20.9	79.1	100	239
Total N	70	248	-	318
	$\chi 2$ = .668 P = .414			
Individual				
Yes	26.8	73.2	100	168
No	18.8	81.2	100	154
Total N	74	248	-	322
	$\chi 2$ = 2.872 P = .090			

Subsequently, for the difference between rural and north and elsewhere a binary logistic regression was performed to analyse the relationship between the dependent variable, the destination of migration (rural and north versus elsewhere) and the independent variables. Again, these models are only performed for the respondents themselves and not their family members, as there is not enough information about them. In order to estimate the probability of moving to a rural area within northern Ghana based on individual characteristics the first model was performed. Table 5.11 shows the model involving individual characteristics and the destination of mobility. The model parameters indicate that apart from head of household none of the variables is significantly associated with the destination of mobility at a 95% confidence level. Model 1 only explains for 4.4 percent of the variation in the destination of mobility.

Table 5.11: Model 1. Binary logistic regression parameter estimates of the model on individual characteristics and destination of mobility

Variables	Coefficients (Beta)	Standard Error	Significance	Odds Ratio (Exp B)
Gender				
Female (RC)				
Male	-0.235	0.403	.560	0.790
Education				
No (RC)				
Yes	0.298	0.475	.530	1.347
Marital status				
Widow (RC)				
Married	0.277	0.481	.564	1.319
Unmarried	1.757	1.272	.167	5.793
Household head				
Yes (RC)				
No	0.856	0.432	.047*	2.354
Constant	-0.407	0.511	.425	0.665
Model R^2	0.044			

Model two in Table 5.12 shows the complete model for the destination of mobility. Besides the individual characteristics from model one, this model includes the household characteristics. The binary logistic regression predicts how likely the respondent is to engage in rural-rural movements within northern Ghana based on individual characteristics and household characteristics. The model explained 9.1 percent of the variation in destination of mobility, which is an improvement of Model 1. Though, still 90.9 percent of the variation in the model is not explained by the variables. Again, being a household head is the only variable in the model that is significantly associated with the destination of mobility at a 95% confidence interval.

Table 5.12: Model 2. Binary logistic regression parameter estimates of the model on individual and household characteristics and destination of mobility

Variables	Coefficients (Beta)	Standard Error	Significance	Odds Ratio (Exp B)
Gender				
Female (RC)				
Male	-0.135	0.456	.767	0.874
Education				
No (RC)				
Yes	0.518	0.514	.314	1.679
Marital status				
Widow (RC)				
Married	0.120	0.497	.810	1.127
Unmarried	1.683	1.312	.200	5.381
Household head				
Yes (RC)				
No	0.935	0.457	.040*	2.548
Size of land				
None (RC)				
<1 hectare	1.514	0.781	.053	4.545
1 - 2 hectare	1.045	0.762	.170	2.842
>2 hectare	0.592	0.773	.443	1.808
Irrigation				
Yes (RC)				
No	0.084	0.440	.849	1.087
Constant	-1.334	0.856	.119	0.263
Model R^2	0.091			

In conclusion, when comparing rural-rural mobility within northern Ghana with rural-rural mobility in general most results are the same. The main difference between the two is the high representation of women in rural-rural mobility within northern Ghana. The over-representation can also explain the significant relation between destination of mobility and reason, as the main reason to move to a rural area within northern Ghana is marriage. Another remarkable difference is that farming is mentioned as the main reason to move for rural-rural mobility, but for rural-rural mobility within northern Ghana, farming is the lowest.

5.3 Conclusion

This chapter has investigated mobility patterns in the studied communities. Mobility is found to be a common phenomenon in the studied areas. Most movements are temporal, largely seasonal and mostly rural-rural. When looking at rural-rural mobility a significant relationship was found between the gender of respondents and the reason to move. Most of the respondents who engage in rural-rural mobility are male and the main reason to move is for farming purposes. These rural-rural patterns are from people who move all around Ghana. To explore the richness of rural-rural mobility, a division between people who move from a rural area to another rural area within northern Ghana and people who move elsewhere was being made. These results show an association between rural and north mobility, females and the main reason being marriage. This is in line with what was found during the interviews and FGDs, almost every woman indicated to have moved from the community of origin to the community of her husband.

Chapter 6

A devil's bargain

"Three of my children, two males, one female have migrated there, currently doing what I used to do over there." "Does this affect the household left behind?" "Yes, it does, their absence negatively affects the workforce here, the workload increases because workforce at home reduces and this negatively affects food security and income, for instance, gardening becomes very difficult for me during the dry season when they travel away. However, their migration is necessary as they work for money and send remittances back home which supports food security, maintenance and development of the household" (Anenyang (50), interview, February 12, 2020). A devil's bargain: no more money or less security?

As stated in the previous chapter almost every member of every household has, at one point in their lives, engaged in mobility. Being mobile is often a necessary means to diversify one's livelihood. However, some people fail to see that mobility can also have negative consequences. This chapter will focus on sub-question three: how does rural to rural mobility influence the migrants' livelihood and that of their households in the community of origin? Besides analysing the consequences of mobility this chapter will also focus on possible adaptation strategies to diversify one's livelihood. Irrigation systems are often mentioned as a way to reverse the dependence on mobility (Laube et al., 2012), but does it really work that way? And what effect do irrigation systems have on remittances? This chapter will primarily be based upon qualitative data from the interviews and FGDs combined with quantitative data about the use of irrigation systems. This chapter is divided in three parts. The first section will focus on the positive effects rural-rural mobility brings to the households in the community of origin. The second section will also highlight the negative consequences rural-rural mobility can bring. The last section will focus on the use of irrigation systems as an adaptation strategy. The chapter will close with a short overview.

6.1 Remittances

As became clear in the literature, remittances are one of the most important effects of mobility on communities of origin (Lucas, 2007; Nanbigne, 2004). According to the respondents, most people who engage in mobility send money home: "we send money and other consumable goods home to support the family back home" (Ta-Eng (77), interview, February 13, 2020). Through remittances projects back home are being funded: "we travelled there to acquire wealth to return to our ancestral land to develop the place" (Maaleyenge (50), interview, February 12, 2020). So, remittances are being used for the upkeep and improvement of the household: "other younger ones still migrate and send remittances home which is used for the maintenance and development of the household" (Anenyang (50), interview, February 12, 2020). How do the people send remittances home? Some respondents bring the money or goods with them when they travel home, but the most heard approach is sending money through the mobile money system: "how do you receive money from relations?" "Through the mobile money transfer" (Naa Dah (72), interview, February 13, 2020). Not only is the money used to develop houses, the money is also necessary for supporting education. A large proportion of the respondents claim that without the money of family members, working and living elsewhere, they could not have send their children to school: "that is what we use to buy school uniforms and books for the children" (Jonas (23), interview, February 12, 2020). Lastly, remittances are being used to improve farming conditions at the community of origin: "part of the money is also used in buying farm inputs such as fertilizers and improving seeds for farming purposes" (Jonas (23), interview, February 12, 2020). However, according to one of the respondents, conditions in the south are also changing and thus the remittances they receive: "we are doing our best here through the farming and the dry season gardening. We depend on these for our livelihood here. However, we still receive remittances from our siblings in the south in the form of fertilizers and cash for our farming purposes although things have also changed significantly over there now" (Anenyang (50), interview, February 12, 2020). What do the changing conditions in the south mean for them?

As most of the respondents claim to be dependent on the remittances of family members who engage in mobility, mobility is mostly seen as bringing positive consequences to the community of origin. Or does it also have negative impacts?

6.2 Less security and an increase in workload

The previous section highlights the positive impacts of mobility on communities and people left behind, however, the unintended negative consequences are often forgotten. During the interviews and FGDs these consequences came forward very clearly and are divided in two different ways. Both issues however arise, because of the young people moving away from the community: "the migration of the younger ones has negative impacts on the household and the community at large" (Naa Dah (72), interview, February 13, 2020).

The first thing that emerges are security issues: "in my view, the women sometimes feel insecure because in times of danger, they cannot fight back because there is no strong man to shield them from the danger" (Sobar (40), interview, February 13, 2020). As Sobar explains, the out-going mobility of mostly men decreases the security of the women left behind. But not only the out-going mobility of men brings security issues, as it is often the young ones who move away from the community, the older ones and the children are left behind. Bonizie experienced first hand which negative effects out-going mobility can have. She told us how not long ago thieves had stolen her cattle: "yes it affects us largely, a lot of issues, for instance if you leave your animals with the kids, and bad people realize that the mature ones are not home they will steal from the kids, like they did with the cattle" (Bonizie (72), focus group, February 13, 2020). Not only Bonizie, but also other respondents claim to have been the victim of thieves. One of them is Gariba (77), who is too old to be picking his own trees and his children are not here to help him: "it is often difficult to cater for my animals, the young ones usually drive the animals in the evenings home, but once they are away, the animals are often at the mercy of thieves and the harsh weather. For instance, I have a casiu farm and it's fruiting as we speak, however, I'm very old and cannot go and pick the nuts. People are currently picking the nuts to their own benefits, if my children were here, that would have become a source of income to the household. Meanwhile, by the time my children will return, the nuts would have all gone" (Gariba (77), focus group, February 13, 2020). So one of the issues emerging because of outgoing mobility is a loss of security.

The second issue that comes up is an increase in workload. As the young people move away, they leave the lands to the elderly to sustain. One of the effects often mentioned by respondents is the lateness in preparing the farm for the coming year (Noryerao (40), focus group, February 13, 2020). The elderly are not with enough capable people to prepare the lands, so: "the migration of the younger ones has negative impacts on the household and the community at large, the aged suffer in their work when the younger ones migrate. Some migrants return on a yearly basis to support the farming process and return during the dry season" (Naa Dah (72), interview, February 13, 2020).

Also Sobar confirms the increase of the workload: “yes, it does because the workload increases as we travel away, and people back home often suffer in dealing with farms and other related issues” (Sobar (40), interview, February 13, 2020). According to Bayuo, it is not only the workload that increases, but it can also bring shame to the elderly as they are not capable of managing their own properties anymore: “also the workload back home increases because of migration, for instance if your wall falls down, as an old man, I cannot rebuild it, if the young men were to be home, it’s just a matter of a day or two and the walls are rebuilt. Sometimes, it brings some shame to us because passersby often see whatever is happening in your household through the broken walls” (Bayuo (85), focus group, February 13, 2020).

So, Anengyang (at the beginning of this chapter) showed the complex dilemma they are in. On the one hand mobility is necessary. Without remittances a lot of projects in the community of origin would have failed, children would not have gone to school and farms could not be maintained. On the other hand, outgoing mobility does not only have positive effects. The negative effects are often forgotten, but need to be taken seriously. A loss of security and an increase in workload puts a lot of pressure on the people left behind. A devil’s bargain is what remains, no more money through remittances? Or less security and an increase in workload? Your choice.

6.3 Irrigation versus mobility

One of the strategies to overcome the complex dilemma described in the previous section irrigation. With the extra income earned by irrigation systems people can facilitate projects in their communities that they otherwise would have needed to fund through remittances. Besides that, having irrigation facilities is often linked to a reduction in mobility (Laube et al., 2012), which would mean the increase in workload and decrease in security is being reversed. So the idea of irrigation facilities is helping people out of income insecurity which would lead to a bigger focus on opportunities within the rural context of the region. Is it really that simple? Do irrigation facilities indeed solve the problems described above? This section will focus on the link between irrigation facilities and mobility.

“Why don’t you migrate anymore these days?” “I personally don’t go again because of the irrigation farming, with the help of the dam” (Neonintele (35), focus group, February 12, 2020). This quote was already used in chapter four and shows the importance of irrigation systems in relation to mobility. Chapter four gave a more descriptive analysis of the relation between irrigation facilities and mobility, in this paragraph the relation is being tested. As explained in the methodology, the choice for the four specific communities was not coincidental. Two of the communities (Piiyir and

Konzokalah) have irrigation systems, so according to the literature these two communities should have less outgoing movements than the other two (Laube et al., 2012). A Pearson's chi-square test of contingencies (α = .05) was used to evaluate whether the dependent variable: being mobile is related to the independent variable: a specific community. Table 6.1 shows the cross-tabulation of the dependent variable and the independent variables. A significant relation was found between being mobile and a specific community $\chi 2$ = (df = 3, N = 285) = 27.707, p <.001. Sabuli, by far, has the highest number movements, followed by Konzokalah. Piiyir has the least movements. This finding is remarkable, as Sabuli does not have irrigation facilities and Piiyir does. Apparently having irrigation facilities in a community does not lead to less movement. This could be because not every household has equal access to the facilities. The interviews and FGDs revealed that most households don't have access at all. If that is the case, this test does not show the right results. In order to find associations, the test is performed again. This time the dependent variable is being mobile and the independent variable is having irrigation facilities. In this test it did not matter what community somebody was from, in only mattered if they had access to irrigation facilities or not. A Pearson's chi-square test of contingencies (α = .05) was performed to test the relation. Table 6.1 shows the results. A slightly higher percentage of people who do not own irrigation systems (62.6%) engages in mobility, though no significant relation was found between the two variables.

Table 6.1: Percentage distribution of mobility by irrigation

Variable	**Mobile**	**Not mobile**	**Total %**	**N**
Community				
Piiyir	42.3	57.7	100	78
Konzokalah	60.3	39.7	100	78
Gbetouri	54.8	45.2	100	42
Sabuli	81.6	18.4	100	87
Total N	174	111	-	285
	$\chi 2$ = 27.707 P = <.001			
Irrigation				
Yes	54.5	45.5	100	55
No	62.6	37.4	100	230
Total N	174	111	-	285
	$\chi 2$ = 1.214 P = .271			

6.4 Conclusion

This chapter showed the consequences of being mobile. On the one hand, it can improve the lives of the people left behind through remittances. At the same time, it can also decrease their security and increase their workload. According to the literature irrigation facilities can help overcome these problems, having access to irrigation facilities reduces the need to be mobile. This relation, however, was not found when analysing the data. So apparently, having access to irrigation facilities does not lead to a decrease in mobility. People are still seeking livelihood opportunities elsewhere. The overall conclusions in the next chapter elaborates on what this finding means.

Chapter 7

Discussion and conclusion

”There was joy in migration because we go to places of interest, however, I often returned home during the wet season to take care of my household” (Naa Dah (72), interview, February 13, 2020).

This quote shows that migration is more than just moving from one place to another and more than just a necessary means. The aim of this research was to gain insight on how mobility in the UWR of Ghana is shaped, this was done following the main research question:

How do various forms of rural to rural mobility affect livelihood opportunities of communities in the Upper West Region of Ghana facing increasing climate change?

This research used a grounded theory approach, this had everything to do with the choice for a mobility perspective. As most literature focuses on rural-urban migration, this research has shed new light on the migration debate by focusing on rural-rural movements, since several studies indicated the need to investigate rural-rural patterns (Jarawura & Smith, 2015; Mberu, 2005). When discussing movements, this research did not focus on migration, but rather on mobility. What did the mobility perspective bring? Migration often entails assumptions about when a person is perceived as a migrant, he or she needs to move for a certain period of time and travel a certain distance. It is often a more divers and continuous process. Looking at these patterns from a mobility perspective was necessary to include more dichotomous forms of capital and flows. Some of these flows are century old patterns, such as the movement of women for marriage reasons. Also seasonal migration is a pattern that is deeply woven into rural livelihoods. Nonetheless, there are much more diverse patterns going on than the ones that may seem logical at first sight. By using the grounded theory approach for the mobility perspective, I have focused on possible alternative movements that other studies might

have overlooked when focusing solely on a migration perspective. Looking from a grounded theory approach enabled me to gain deeper insights in how mobility affects rural livelihoods. The conclusion of this chapter shows how divers and complex mobility in rural livelihoods is. The chapter will start with a discussion, subsequently the conclusions are given and lastly, recommendations are made.

7.1 Discussion

7.1.1 Altered mobilities

Mobility already begins with entering a rural community. Getting there is not that easy, as most people do not own any form of transportation, except for a bike. Thus, public transport is an important means of transportation. The studied communities were all located far from the main road, which means public transport cannot even take you there. What does this implicate for the people living there? And how does it affect their mobility? Logically, the accessibility of a community influences the level of mobility. As it is not easy to commute between communities and cities or communities and other communities, people tend to move sooner and for longer periods. Still, the accessibility of a community is not the only reason for people to be mobile.

Chapter five explored the reasons and nature of mobility further. Most of the respondents and respondents' family members have at one point in their life engaged in mobility (rural-rural or rural-urban). By far, the largest part of the respondents engages in rural-rural mobility over rural-urban. These patterns are characterised with a mostly temporal, three to six month movement, in the dry season, indicating a seasonal migration pattern. This seasonal migration pattern was also found during the interviews and FGDs, as most respondents indicated to move to the southern part of Ghana every year during the dry season. The main reason to move is because of bad farming conditions in the north during the dry season. To earn some income to bridge the gap between the farming seasons in the north, people work on other people's farms, a practice that is called PAA. Although most literature reveals a strong rural-urban pattern, this seasonal migration pattern is not a new one. What factors make people choose to move to a rural area instead of an urban one? Education turned out to be an important element when it comes to the division between rural-rural and rural-urban mobility. This thesis started with a quote from the interview with Tangnaa, who said he is not educated enough to move to urban areas. In the largest part of the communities some level of education is being offered, yet, most people do not get the opportunity to participate, this is mostly due to financial difficulties of their parents. The lack of education turned out to be one of the main aspects not to move to urban

areas. This is remarkable, as the largest part of the urban economy consists of informal jobs. Apparently, even in the informal sector some level of skills is necessary. The quotes from the interviews showed that people very well know what it takes to be successful in urban areas, though, they claim to not possess those skills. A skill that most people do have is farming, as the majority of the people rely on farming for their income. However, rightfully, the respondents state that farming cannot be done in urban areas, so whenever they want to move, they move to rural areas. A certain type and level of skills is thus necessary to move to urban areas. Should people in rural areas get the same opportunities and should they get educated in a different manner? Do the people themselves feel like they are being left behind and lack the opportunity? Respondents from the interviews simply stated to lack the necessary skills to cope in urban areas, although, they did not indicate whether or not they found to have less opportunities.

7.1.2 Adapting livelihoods

"The sun is too hot." This was a regularly heard phrase during the interviews, FGDs and surveys. According to the literature, the effects of climate change are highly noticeable in the UWR of Ghana, with more severe drought, erratic rainfall and a temperature increase (Dazé, 2013; Dumenu & Obeng, 2016; Kiff et al., 2017). The people themselves indicated to experience the same changes as stated in the literature, more droughts, less rainfall and higher temperatures. Consequences of the changing climate are prolonged dry periods, which means less fertile lands and thus less income. As said before, mobility can be used as a strategy to cope with climate change. Although mobility is not directly named as an adaptation strategy by the respondents. Respondents name planting trees, applying fertilizers or asking the help of God as strategies. This finding is peculiar as most respondents do engage in mobility, still, they do not perceive mobility as an adaptation strategy.

Moreover, irrigation systems are not mentioned by respondents as adaptation strategies. Although, literature suggests the application of irrigation systems is often used as an adaptation strategy (Laube et al., 2012). Next to being an adaptation strategy, literature claims that having access to irrigation facilities leads to less mobility. By logical reasoning, one could imagine that a community with an irrigation facility means people have found measures to earn income during the dry season so they do not need to engage in mobility anymore. However, the data of this research showed that the communities that do have irrigation facilities actually have higher mobility numbers than the ones that do not. Furthermore, during the interviews and FGDs it became clear that not everybody has equal access to the facilities, as only a limited number of people made use of the irrigation systems.

This inequality can explain the lack of correspondence between irrigation facilities and the level of mobility. When looking on an individual level and not at a community level, people who have access to irrigation systems are more mobile than people who do not. Thus, in contradiction to the literature (Laube et al., 2012), people who have access to irrigation facilities are not less mobile. One of the misconceptions researchers or policy makers often have is that when addressing poverty at its roots, migration is not necessary anymore. When in fact, this turns out not to be the case. This actually has a very logical reason that people tend to forget. Residents who have access to irrigation facilities often have more capital, having more capital means more possibilities to engage in mobility and more possibilities to move to cities or rural areas in the south. So, these poverty reduction plans are actually working the other way around and contribute to an even larger gap between households. When addressing poverty one thus has to be very careful how to implement interventions and what outcomes they will bring to individual households.

7.1.3 New opportunities or further marginalization?

The title of this research pointed out the urgency of the research: new opportunities or further marginalization? When we speak of rural livelihoods in northern Ghana, do we speak of a marginalised group? Do they see themselves as being marginal? Are they in a critical situation and do they need help? Answering these questions depends on the perspective one has. Looking from a government perspective might give different outcomes than when looking from the perspective of rural residents. It is their ancestral land, their home, where their connections lie. By increasing their rural-rural mobility, did they find new opportunities? Or are they becoming further marginalised? Rural livelihoods are often seen as egalitarian, but the data pointed out they are not. Different levels of welfare make people want to strive for more. What are they striving for? To improve their house with roofing sheets? To own a motorbike? According to the interviews and FGDs, these goods indicate a person's well-being and progress. But is it enough for them to participate in the 'modern' world or does it lead to new expectations? And therefore, maybe even an increase in mobility to finance these new expectations. Unfortunately this research did not link the level of goods to the level of mobility.

To explore the question of new opportunities or further marginalization more, a division between rural-rural mobility within northern Ghana en mobility elsewhere was made. Rural-rural mobility within northern Ghana is often seen as the least favorable position. In the analyses it turned out to be mostly women who engage in a rural-rural pattern within northern Ghana, the main reason for this movement is marriage. Education could be one of the most influential factors when it comes to the

position of women, without education their chances are limited.

Next to the position of women, the position of another group needs to be pointed out. The main difference between mobility elsewhere and rural-rural mobility within northern Ghana is moving for farming purposes. Where moving for farming purposes is reason number one when it comes to mobility elsewhere, it is the least mentioned reason for rural-rural mobility within northern Ghana. Does this mean moving within northern Ghana for farming purposes is not profitable? Despite that, there is a small group of farmers who do move within northern Ghana. Although this group is small, the movements are happening and do shape people's livelihoods. According to Jarawura and Smith (2015) a new type of rural-rural mobility is becoming more prominent, namely bush-farming. Are these bush-farmers extreme risk seekers? Or did they adopt the necessary skills to cope in rural livelihoods that are more subjected to climate change? Is moving within northern Ghana their only choice? Or did they find a gap in the system and are they explorers finding new inventive means to diversify their livelihoods?

7.2 Conclusion

This research has sought to understand the complex mobilities that are happening in rural livelihoods and that are embodied in a changing climate. These patterns are more complicated than they seem at first and are often characterised by a rural-rural pattern.

First of all, there is a misconception when it comes to rural livelihoods and the level of mobility. Often it is assumed that when the welfare and well-being in rural livelihoods improves, the need for mobility reduces. The same applies the other way around, when the circumstances are bad, it seems logical for people to want to migrate. Instead, this research reveals the opposite and points out that the reality is much more complicated. By addressing poverty one could actually facilitate mobility. This research revealed that having access to irrigation facilities does not lead to less mobility and thus people do not perceive these facilities as offering enough income security. Having access to an irrigation system could give people the extra capital they need to engage in mobility. This would mean irrigation is not recognized as a safe option, but rather as an option that brings more capital by which other income sources can be achieved. Developmental organizations could see this as a failure, irrigation systems were supposed to decrease mobility and return the focus on local rural livelihoods. They could also see it different, irrigation systems did improve rural livelihoods, but not in such a manner that people only want to focus on rural local opportunities. This could be due to a lack of trust in the systems. Or people do not want to be too dependent on one source of income. Engaging

in mobility can therefore be seen as a measure to diversify income sources in order to guarantee the well being of the rural residents.

Next to (social) security and opportunities, the first quote of this chapter ”there was joy in migration because we go to places of interest” (Naa Dah (72), interview, February 13, 2020), shows there are more reasons behind mobility than just income security. Even though irrigation facilities might increase income security, they do not take away the interest and joy people may find in migration. Especially the younger generation wants to explore their options, even if they are just temporary.

Second, this research shows the importance or rural-rural mobility. As indicated in the introduction, rural-rural migration is often forgotten in the migration debate, although very important in developing countries (Jarawura & Smith, 2015; Lucas, 2007; Mberu, 2005; Rademacher-Schulz et al., 2014). The majority of the respondents indeed participated in rural-rural movements, though most of them migrated to the south of Ghana. Movements within northern Ghana are mostly done by females, these marriage arrangements are century old patterns. Ungruhe (2011) indicated that the majority of women who engage in migration move because of marriage. This research also found these patterns, however, the number was much lower than previous studies demonstrated and more women also engage in other movements. This shows that although this pattern is still happening, other dynamics are also present. There is still a strong rural-rural movement. People do not have the opportunity to thrive in urban areas because of a lack of (social) capital. The relationship between mobility, livelihood trajectories and local/rural opportunities is thus more complex than literature at first seems to point out. Mobility is interwoven in a number of factors that influence people’s choices.

Coming back to the main question: How do various forms of rural to rural mobility affect livelihood opportunities of communities in the Upper West Region of Ghana facing increasing climate change? In short, we can conclude that livelihood opportunities of communities are indeed influenced by rural-rural mobility. Yet, we can not speak of one rural-rural pattern and thus not one affect. As these communities face increasing environmental changes, livelihood diversification strategies are used, such as the application of irrigation systems. In spite of these measures rural-rural mobility remains to play a crucial part in the lives of the people in the UWR, which shows how deeply interwoven mobility is in their livelihoods.

7.3 Recommendations

"In literature and in life we ultimately pursue, not conclusions, but beginnings." (Sam Tanenhaus, Literature Unbound).

The previous sections provided the discussion and the major points of conclusion for this research. Following the discussion and conclusion, this last section presents recommendations and thus acts as a beginning for other studies or new policies. First of all, as rural-rural mobility is an essential part of rural livelihoods more research about these movements is ever recommended. However, from this research some specific fields turned out to be especially interesting and in need of further analysis.

First of all, the role of education on mobility needs to be investigated. Although this is not the main point taken away from this research, the lack of education did turn out to be one of the main reasons not to move to urban areas. Naming the lack of education implies some level of skills is needed, even in the informal economy of urban areas. More research needs to be done exactly on the role of education systems to combat poverty or more generally just as measures to support rural livelihoods.

Secondly, more research is necessary about the role of irrigation systems on the level of mobility. What role do irrigation systems play in the battle against poverty? More generally, this research pointed out that combating poverty is not as easy as it might seem and that it can have reverse outcomes. Nevertheless, this does not mean these approaches have failed. On the contrary, it only means one needs to look differently at policy interventions. The main question when developing policy is, to ask what goals these interventions want to accomplish. Do they want to focus on local opportunities or on opportunities of rural residents? They might seem the same, yet, this research pointed out that they are not. Subsequently, one needs to take in mind policy did not necessarily fail when outcomes turn out to be different from what was intended.

Lastly, although it only entails a relatively small group, further research needs to be done about the patterns and motives of people who move from one rural area to another within northern Ghana for farming purposes. Further research could focus on chances within northern Ghana. What motivates people to move within northern Ghana, is it their last resolve? Or are they pioneers finding out new and inventive approaches for living in the harsh circumstances of an area subjected to climate change?

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